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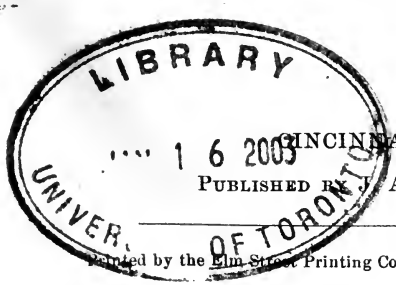

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THE
CINCINNATI MEDICAL NEWS.

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ORIGINAL CONTRIBUTIONS.

Aural Polypi.

BY W. R. AMICK, M. D., CINCINNATI, OHIO.

A PURULENT discharge from the middle ear, as a result of chronic inflammation, frequently results in the formation of granulations, and from these we may have polypi develop. It is generally considered that a purulent discharge from the middle ear is the most prolific source for their development; yet there are cases in which they are found without being preceded by a discharge of pus. As a purulent discharge from the ear is generally the result of inflammation of the mucous membrane of the tympanic cavity, we find that here is where the attachment of the polypus is generally located. There are cases where the attachment is external to the drum-head, in the external canal.

From the anatomy of the ear, it is evident that, in order for a polypus to make its appearance in the external auditory canal, having its origin or root in the middle ear, that, necessarily, there must be a perforation of the membranum-tympani. This perforation may be caused by pressure from the polypus, but is more frequently the result of the inflammation. The drum-membrane is sometimes ruptured by the pressure of the purulent material imprisoned in the cavity of the tympanum. This membrane being intact would prevent the pus from escaping into the external auditory canal; the mucous membrane of the eustachian tube, being swollen and thickened, would close that canal. The inflammation continuing, more pus would constantly be secreted, adding to and in-

creasing the pressure, until, finally, the membranum-tympani would be ruptured, and allow the purulent material to pass into the external canal. After the drum-membrane has been ruptured, in some cases, at least, it appears the pressure was so great as to destroy its vitality or impair its nutrition, and in a short time the entire membrane is gone. In other cases there may be a small opening through which the purulent material passes, the rest of the membrane being intact. Through this small opening the polypus will also protrude.

Where there is only a small opening in the membranum-tympani, the inspection of the middle ear is limited, or *nil*. But in those cases where there is a complete destruction of the membrane, a very fair view of the tympanic cavity can be obtained. In some cases we find this cavity completely filled with granulations, and granulations are undeveloped or incipient polypi; and in this location, all that is required is for the conditions to be favorable, and they will develop. But we may have a single granulation form, extend its attachment deeper into the tissue, and speedily develop into a polypus, without being preceded by, or attended with, other granulations. After a polypus has once made its appearance, it generally develops rapidly, and in a short time it will fill, not only the cavity in the tympanum, and the perforation in the drum-membrane, but also the external auditory canal. Polypoid growths may sometimes disappear by a process of exfoliation and degeneration. They sometimes disappear by spontaneous detachment, or the pedicle becomes contracted and so much attenuated, that the simple process of syringing the ear will detach and remove the polypus. In the majority of cases, however, active treatment is required in order to remove or destroy the new formation.

Dr. Politzer says that the pathological alterations in the veins and lymphatics of the mucous membrane of the tympanum, in cases of chronic purulent discharge, with perforation of the membranum-tympani, consist chiefly in dilatation. In some instances, the veins, especially on the under surface of the mucous membrane, covering the promontory, are greatly widened, very tortuous, with here and there large dilatations. He concludes that in chronic inflammation of the lining of the drum-cavity, large numbers of new vessels are formed. The walls of the

bloodvessels are often opaque and thickened, being infiltrated with a granular exudation and pigmented; or, in other cases, the vessels may be filled with blood-globules, while the walls are thinned at some points, and, consequently, dilated here and there.

The changes in the lymphatics of the mucous membrane of the tympanum are much less common than the alterations in the bloodvessels. The altered lymphatics have been found in new connective tissue growths, in the cavity of the drum, when affected by chronic, purulent inflammation.

Case I.

August 10, 1878, Nettie G., Aet. 34.—Never had any aural trouble previous to the present time. Three days ago she noticed that pain was produced when she would move the left auricle; and, by placing the finger in front of the tragus and making slight pressure, it would be more pronounced. As the trouble gradually increased from that time, and considerable swelling had taken place, with constant pain, she became alarmed, fearing that she would lose her hearing in that ear. An examination found the external canal entirely closed, from the extensive swelling that had taken place. The pain was so intense that she could not rest at night, and could not bear to have the auricle moved. Any examination, farther than a mere inspection of the auricle, could not be made. Could not hear the watch on contact. Complained of tinnitus aurium, but the pain was the chief factor. Ordered leeches, to be followed with warm applications. The following day the swelling was sufficiently reduced to see the cause of the trouble, which consisted of a furuncle in the anterior portion of the external auditory canal. This was opened, and a small amount of pus escaped. A few days afterward she again presented herself, with a polypus about the size of a hazel-nut, located at the point where the furuncle had been incised. It had a sessile base, and bled when rubbed with a probe. This was cut off as near the attachment as possible, and the root treated with caustic. In a week's time it had entirely disappeared, but was followed in a few days by another furuncle and in the course of another week a third one. These were treated the same as the first, and disappeared; but were not followed by polypoid growths.

She was placed upon a tonic and alterative course of treatment.

After the furuncles in the right ear had disappeared, one made its appearance in the left auditory canal. This, however, was smaller than those in the right ear, and did not cause so much pain. After this, she had no more trouble from this source, and her hearing power became normal.

Case II.

April 16, 1878, Mr. J. K., Aet. 24.—Young man, healthy and well developed. Never had any previous aural trouble. A few years ago he had a venereal sore, but was not positive whether it was of the hard or soft variety. Inclined to think it was of the latter, yet never had discovered any of the secondary manifestations. Had a number of furuncles appear at different places upon his body, and one in the right external auditory canal. The swelling that was caused by the one in the ear, although considerable, was not sufficient to entirely close the canal. In his Job-like condition, he, of course, suffered with intense pain; but, unlike the good old man, instead of brooding over his affliction and wondering what sin he had committed that caused such suffering, he applied for relief. Leeches were applied, followed with warm applications. He was also put upon an anti-syphilitic course of treatment. The second day after this, the furuncle was opened, followed with an escape of pus. The swelling partially disappeared after this, but was not very painful. After this did not see him for more than a week, when he returned with a pedunculated polypus about the size of a pea, located at the original site of the furuncle. This was removed with the knife, and the root treated first with caustic, and, afterward, with acid. Since then he has been entirely free from the trouble.

Case III.

Mrs. C. S., Aet. 24.—With the exception of the trouble caused from her ear, has generally had very fair health. When about four or five years of age she had a growth make its appearance in the left ear, where it has remained ever since. Does not know whether previous to that time she ever had any aural trouble or not. Has been troubled a great deal with vertigo and headache. This would be more or less continuous, but worse some days

than others, with no regularity as regarded the periods. For some time has been troubled with a purulent material, which would pass into the throat and then be expectorated. Has been unable to hear any sounds with the (left) ear for about fifteen years.

On examination find the external auditory canal completely filled with a polypus—pressing the tragus outward about a quarter of an inch more than its fellow. It occupied all of the cavity of the concha, and protruded outward farther than the tragus. Pressure upon the polypus or upon the tragus would cause pain and vertigo. If the pressure was increased, or if traction was used, or a rotary movement made, it would produce intense pain and vertigo, the face would become blanched, the prolabia pale, vision would be lost, a sighing or gasping for breath, and a sensation as if she was reeling over, and falling with a rotary movement into an abyss of darkness, with a short period of blunted sensibility. This would be followed with a cold perspiration over the face, especially on the forehead. There was a purulent discharge from the ear, both externally and through the eustachian tube; as frequently pressing upon the polypus would increase the amount of purulent expectoration. Neither the voice nor the watch could be heard, but a more or less constant roaring or humming sound was experienced, which was very annoying. The polypus was rough, presenting numerous projections or nuclei. It was not very sensitive to contact. The projecting portion was free, but that part of the tumor in the external canal was surrounded with a tough, inelastic fibrous membrane, which produced a grating sound when cut with a knife. On account of the size of the polypus, its close contact with the canal, and the disturbance produced when it was manipulated, it was impossible to pass a wire around it. As she would not consent to take an anæsthetic, there was nothing left but to snip off what could be reached with the scissors, or incise portions of it with the knife, and then use local applications; which, in this case, consisted of caustic (lunar) and chromic acid.

As the polypus disappeared, the hearing power returned, until she could hear the watch very distinctly. At the last trial, although the attachment was not destroyed, she heard the watch four inches. The final result will be given at some future time.

Headaches.—Their Causation and Symptomatology.

BY E. A. COBLEIGH, M. D., ATHENS, TENNESSEE.

We discussed the four great classes of head-suffering in last month's News, founding the classification on the pathological state of the cerebral region at the time of, or during, the attacks. And now we come to the practical deductions resulting from this method of division—to the etiology, symptomatology and therapeutics of headache. Of course the same proximate causes of headache—*i. e.*, vascular disturbances and loss of neural equilibrium—obtain in both idiopathic and symptomatic cases. But in the former, we usually can not go behind the head itself for evidences of primary disorder, and in the latter, we are able to do so in most cases. In all instances, our effort for relief ought to be removal of the cause or causes giving rise to the disturbance. And right here the obstacles begin to block our way. Often it is difficult, many times utterly impossible, to ascertain the true agencies operating in the origination of the pain—the pain itself being the only evidence of abnormal condition of the body. Happily, the vast majority of headaches are obviously caused by derangements, which the close observer may ferret out and either cure or relieve. But in those cases, where we are foiled in our efforts thus to trace back the sequence from effect to ultimate cause, the utility of the pathological classification adopted in my previous article manifests itself, and the necessity forces itself upon us of addressing our remedies solely to the *proximate* cause of the pain; or, more properly, the *condition* on which it depends. And, to be useful, the four factors—cephalic repletion, anæmia, toxæmia, and neurotic irregularity—must be kept prominently in view, though the nicest discrimination is often necessary to decide which one, or which combination of them, is involved in any particular case.

We come, then, to the adoption of an etiological rule—almost, if not quite, an etiological axiom—as follows:

Anything which powerfully disturbs the equanimity of the circulation in the cerebral region *may* cause headache. This includes changes, both of quality and quantity. And the fact, that thousands of persons daily undergo the operation of causes which powerfully disturb the

circulation there, without experiencing any pain therefrom, does not vitiate the correctness of the proposition. Headache does not always result, even where the disturbance is so great as to cause other disorders of sensation or intellection, any more than malaria always strikes down him who breathes the poison, or always causes ague when it does prostrate its victim. This is the cardinal principle on which my own practice in headache is founded; and I only wish that it was not necessary, in the present state of our professional knowledge, to couple with it the supplementary proposition, that many cerebral impressions, of sense or mind, cause headache, *without* demonstrable vascular or hæmic changes. And, in adopting the second statement, I am led to believe, from observation, that cases falling under this rule are far less common, and the true original causes of their suffering more easily and more often found out, than are those of the former class.

We see, therefore, that by the foregoing propositions the exciting causes of headache, to speak figuratively, are almost as numerous and varied as the whims of the human mind. And we find it in practice even so.

Dismissing from consideration, except, perhaps, incidentally, symptomatic headaches, properly so classed—which, of course, are the most numerous in practice—I would limit myself strictly to the discussion of the less common, but equally important, class of so-called idiopathic cephalalgias. This includes the two great varieties of the authors—nervous headaches and "sick" headaches—based on the attendance or non-attendance of symptoms of chylopoietic disorder, a basis calculated to rear a superstructure of false pathological ideas and mistaken practice; arbitrary, unsatisfactory, and worthless, despite its simplicity and apparent convenience. I enter my protest against this common and shiftless mode of classing cephalalgias, which is largely to blame for the prevalent notions among doctors that there are but two kinds of headache, and, consequently, but two methods of routine treatment which ought to be applicable to, and successful in, all curable cases. To it may be attributed much of our slowness in investigations, our lack of satisfactory results in treatment, and the odium of failure cast upon us by the people.

Of all idiopathic headaches, the great ultimate cause is

predisposition, either hereditary or acquired. This predisposition may consist in the possession of a nervous temperament solely; it may involve diathesis, as the scrofulous, gouty, rheumatic, tubercular, syphilitic, etc.; or it may depend on the existence of unmanifested local disorder in one or more of the great organs, as the lungs, heart, liver, kidneys, uterus, stomach and bowels. Predisposition once stamped on the individual, very trivial exciting causes often suffice to call it into activity.

No civilized race of mankind—and, probably, the rule holds also with the barbarous—and no condition of life, no age or sex, seems exempt from this tendency. The reason is obvious: the head contains the great organ of life, and is subject to the operation of innumerable causes of diseased action, by transmission over its telegraphic wires of communication with the world without and within the body.

The predisposition existing, mental emotion, excitement or depression, irregularities of habit, excesses of various kinds, exposure, deprivations, overwork, lack of exercise, constipation, worry, these and a host of other things bring on an attack. It is unnecessary, and would be futile, to attempt an enumeration of all the exciting causes of cephalalgia. Every medical man has learned the most common, and is nearly every day meeting new ones, to him, at least.

I mentioned above some of the diatheses which tend many times to produce cephalic pain. Strictly, such headaches are merely sympathetic, and often obviously so; but, again, they come on when the diathesis has not yet manifested its true character, or, having previously done so, has ceased to otherwise show its continuance in the economy, in these instances causing the resulting head-pain to be usually regarded as idiopathic. For this reason, I will devote here a little space to their consideration. That the cerebral disturbance in these diathetic cases belongs mainly to the toxæmic variety, I am satisfied; though hyperæmia, and, more rarely, anæmia, may coexist. This is so in syphilis, in rheumatism, gout, scrofula, erysipelas, gangrene, scurvy, in many fevers of the septic and zymotic kinds, in narcotic poisoning, in cholesteræmia, uræmia, and other conditions, including, perhaps, some cases of dyspepsia and constipation. When the existence of these conditions is ascertained—and efforts

to exclude them in diagnosis should always be made in obscure cases—the self-evident indication of treatment is to remove the systemic state involved in the causation of the cerebral pain. Chronic headaches, and even recurrent acute attacks, can frequently, by careful questioning and patient watching, be traced thus to their true source.

The symptomatology of cephalalgia is large, and too well known by the profession for me to discuss it at any length. So I merely propose calling attention to some of its more rare manifestations (for we know that different cases present very different trains of phenomena), and to the general symptoms as diagnosticating the several varieties of hæmal or neurotic states. And I anticipate, by remarking that there are no pathognomonic criteria by which, singly, we can assign the pain, in an individual instance, to its proper class. Only by taking the manifestations collectively, as they occur in each case, can we ever positively announce the kind of headache with which we have to deal. There may be a pallor of the face associated with high internal congestion, and *vice versa*. And we must ever bear in mind that the several varieties frequently blend in the same patient. While, therefore, we deny pathognomonic distinction to the single symptoms, and while freely admitting that those physicians of widest experience are not unfrequently led to erroneous diagnosis of the existing condition, by this very uncertainty, as to the true significance of the manifestations, we can yet assume, with perfect assurance, that *most* cases are susceptible of accurate appreciation if due care is exercised in observation and close discrimination.

In a majority of cases headache threatens, by some one or more signs, for a variable time, before its final onset. These evidences of impending pain may be trivial and last a long while, or they may be brief and more intense. The unpleasant sensations are usually referred to the head, but not rarely occur first at some other point. I have known cephalalgia prognosticated by the experienced victim by a temporary and partial hemiplegia, by pain or aching in the fingers, soreness of the calves of the legs, feelings of bodily constriction, etc.; in one case, by partial aphasia, recurring at different attacks, and passing off as the pain intensified. These prodromes of headache sometimes recur, again and again, for many years, without permanent impairment of the patient's health; though so

marked at times as to be sufficient to alarm the physicians witnessing them for the first time, and lead them to think serious brain disease impending.

Irregularities of sight, hearing and taste are so common as to fall under every practitioner's notice in their manifold forms. The same is true of stomachic and intestinal disorders; but so much importance has been, and still is, commonly attributed to these symptoms, as to deserve more than passing notice. I do not pretend to deny that very many headaches arise, primarily, from chylopoietic disturbances; but because this is so obviously the fact, have we not been led into error by it, and too often put the cart before the horse in our treatment? My observation and experience is only that of one individual, and limited, of course; yet so far as it goes, it has caused me to assume that in the majority of these very cases the head is first at fault and the complications arise later. We know that serious cerebral lesions almost always bring on gastric error of action, intestinal torpor and biliary inactivity. We are also aware that most acute idiopathic headaches tend to spontaneous recovery in the course of a day or so. Put these two facts together. We take a case of cephalalgia—there is gastric acidity, or the bowels have not acted as usual. We administer an antacid and a purgative. The acidity, perhaps, vanishes, perhaps not, and there is a full stool. The patient goes to bed, and arises next day, well. This is repeated month after month, for years, and we complacently credit ourselves with a cure. Take the same patient, give him no remedy at all, and in a vast majority of cases he will go through the same sequence of pain, rest and recovery in the same order and same length of time. Was that a headache of digestive origin? Not a bit of it. And this is the usual course, whence arises our "sick headache," and our antacids, purgatives, emetics, etc. There are cases where such a course is wise and proper from acknowledged excesses in eating and drinking; but when appetite and diet have remained as usual, and the head-pain supervenes, is it not more rational to lay the blame on the cerebrum at once, and treat it accordingly? Most acute cephalalgias, if not of very brief duration, are sooner or later attended by some disturbance in the alimentary canal. Cathartics, emetics, etc., very often not only fail to relieve the suffering, but actually aggravate it in intensity and duration.

And, equally often, when they do relieve it, it is by reducing hyperaction in the head on the principle of revulsion.

Added to these deductions, as to the secondary nature of anorexia, constipation, nausea and emesis, we have further proof that the cerebrum first suffers, in those cases where disorder of the special senses, uneasy sensation in the head, pupilary dilatation and its opposite, occur long before any gastric uneasiness is felt. Again, I believe that this is so not seldom even when deranged appetite first heralds the approach of a paroxysm; the brain, presiding over the stomach to a great extent, reflecting to that organ perverted impressions, which, in turn, react on the cerebrum, and intensify its own disturbance. Lastly, we meet in practice scores of patients who have attacks of headache not only coming on with the unvarying regularity of clock-work, at certain periods, but going off in like manner after a definite duration. No indiscretion or excess hastens their advent or prolongs their continuance. Such is the case in my own person. Unless interfered with by medication my attacks observe an unbreaking cycle, fasting or eating, calm or excited, with my stomach quiet or vomiting excessively, however my conduct *during* the period of pain may increase or diminish its *intensity;* nothing I do will bring it on before its regular time or prolong its duration. I know about when to expect it, and can arrange my work accordingly; and it invariably goes off precisely at daylight or dark. In some of these cases, now under consideration, the appetite remains unimpaired. I have known it to become voracious after the headache had continued for several hours. Frequently food is not only relished, but causes relief from the suffering; and an empty stomach will sometimes aggravate the pain.

Leaving, now, without further discussion, the general symptoms of headache, as such, we come to consider such as indicate the various blood conditions on which my classification is based. And we will take them up one by one, after observing that many of these signs of abnormal state or action are common alike to all. Pain is an instance, flashes of light, tinnitus aurium, etc.

Congestive or hyperæmic cephalalgia stands first in order, and will be first treated on. At the commencement of the attack, this form, like the rest, may develop insidiously and in a slow manner. More frequently,

however, it is more pronounced in its characteristics from the start, rapid in its progress, and intense as regards the suffering. Sometimes it begins with sensation of chill, formication, numbness; sometimes there is fullness across the frontal, temporal, or occipital regions, the aural sounds and optical allusions are more intense and are rapidly replaced by the pain; this is of a tensive or throbbing character, and all the phenomena are increased in most cases by movement, jars, bright light, harsh sounds, stooping, conversation, thought requiring close attention, and everything that stimulates the brain. Even assuming the recumbent position usually aggravates the neuralgia for a longer or shorter time. In typical cases the eyes are injected and suffused, the pain excruciating, and all the symptoms of an active character. Thought is more active at the start owing to the stimulus of an undue quantity of blood, except where the congestion is passive in its nature and involving the retention of too much venous blood. In these latter instances, the venosity changes the type of symptoms from acuity to those of hebetude of mind and body alike. And even in the active cases this dullness often supervenes when the hyperæmia reaches its height, the cerebral vessels becoming gorged, and reaction from a stimulated to a debilitated state of the brain taking place.

These are typical attacks, attended by arterial throbbing, quickened and bounding pulse in the active, and by full, slow pulse in the passive variety. Nausea usually comes on early, vomiting, when it occurs, is full and free, sometimes inducing reaction and recovery, again merely relieving for a brief period, and occasionally even aggravating the pain. It is a large number of cephalalgias which falls under the class now being considered, and, I am convinced, the measures for relief at our disposal are mostly adequate and efficient in cases where they are vigorously and properly applied.

But are the symptoms always thus clearly marked? By no means. This is only a map to go by, a model for comparison, a standard by which to judge cases as they more or less approach it in perfection. Only when we have the higher grades of fullness of the larger vascular trunks, can we expect such clear sailing in diagnosis. Capillary repletion may occur with very trifling evidences of the fact. Frequently we can only suspect it on general principles, and must rely for verifying our suspicion on the

obvious action of the therapeutic measures resorted to. That it often exists when the indications are obscure, or tend to lead the judgment in other directions, I have proved to myself in this very way. The evidences of simple capillary plethora, like those of capillary anæmia, are mostly those of pure irritability, and, to rightly decide which is which, close attention must be paid to other things, such as the patient's general condition of plethora or otherwise, digestion, nutrition, etc., at the same time that we bear in mind, and make due allowance for, the fact that cerebral congestion may and does occur even in the system of him who is anæmic. Then, too, we can decide much on the nature of the exciting cause of the headache when traced, whether sudden or slow in its action, violent or not, stimulating or depressing in character. Like our diagnosis in other diseases, much must depend on the readiness and judgment of the physician, and trifles, only discovered by attention and patience, may sway his mind for right or wrong accordingly.

Hyperæmic headaches occur more frequently than those of anæmia, as the term is used here. Why? Because the anatomy and physiology of the cerebral substance more readily admits of compression from fullness of its vessels, than of expansion from its inherent power when vacuity occurs; because the brain's integrity may remain under heightened stimulus when it would perish under a corresponding degree of deprivation; because anæmia of the system at large is less frequent than its opposite, and less readily rectified by the physiological powers of the economy without detriment to itself; because, when anæmia does exist temporarily, the compensatory forces of the system soon convert the condition into one of spanæmia by absorption of fluids, and thus make the blood as great in quantity as usual. Neither hæmic state, however, by its very nature, can exist—using the terms literally—long at a time, without permanent and increasing pathological cell changes, leading to organic mischief.

In anæmia of the head what manifestations do we encounter? Usually the converse of those met with in hyperæmia. Cerebral action is lessened and irregular—strictly below par. And the economy necessarily suffers from depression in like manner from the lowered vital action of its great controlling organ. Though sensory disorder may be of a high grade and general weakness

greater than in hyperæmia, the pulse lacks fullness and force, intellection is eccentric, the stomach less actively disturbed, and indolence of the other organs marked. These headaches are comparatively rare as idiopathic affections. The causes being mostly, to a greater or less extent, mechanical in nature, and more or less permanent, show their true character, and enable us readily to pronounce the cephalalgia symptomatic.

We now come to the consideration of another numerous and important class of headaches—those of toxæmia. This source of cerebral disturbance is fully as prolific of mischief as hyperæmia, and falls under our observation as often. But that the treatment is as easy or successful I am unwilling to affirm, because, even when we fully recognize the poisoned state of the blood—and often we can not even do that with certainty—there is trouble to determine *what* poison we have to deal with, or how to hasten, by remedies, its disappearance. Ignorance forces us to bide nature's own time for elimination.

How do we recognize toxæmia in practice? Too often it is a complicated job. Sometimes, by the accompanying symptoms which are known to indicate certain narcotic poisons, uræmia, cholesteræmia, etc. In other cases we can only form our opinions from the history of the patient, his habits, exposures, the state of his general health; and even the interrogation of his organic conditions, *seriatim*, by the various means known to our art, often becomes necessary. There are few, or no symptoms which can be relied on to indicate the different toxæmias as solely involved in headache. In a majority of cases, however, other manifestations do occur, sooner or later, pointing to poison of some kind in the blood. Failure of secretion or excretion on the part of an organ, of oxygenation by the lungs, elimination by the skin or kidneys, the inhalation of noxious gases or contaminated atmosphere, indulgence in alcohol, arsenic, opium, etc., the development of rheumatic, syphilitic, scrofulous or other cachectic conditions, these and a host of additional considerations are involved in diagnosis and must influence treatment. We are here obliged, in many cases, to adopt the rule, so frequently necessitated in general practice, of reaching our final decision by the process of exclusion.

It is evident that in reality all toxæmic headaches are symptomatic. Our only difficulty lies in tracing them.

This we can not always do, even where suspicion points strongly toward, or the collective manifestations satisfy us of, the existence of some unrecognized *materies morbi* in the vital fluid. And, further, few toxæmic cephalalgias are purely so. They almost always partake, more or less, of the peculiarities of some one or other of the two remaining hæmal forms, hyperæmia being most commonly associated with toxæmia.

Lastly, we take up that variety of headache which I have denominated the neural form—simply because we are unable, at present, to demonstrate or recognize, in practice, any distinctive features of vascular, or blood changes. And as to the subject of diagnosis, but few words are necessary. This class is the cesspool to which we consign all cephalalgias that can not be otherwise disposed of. With the practitioner it grows beautifully less as his experience widens and his closeness of observation increases. It is to be hoped, and the probabilities are, that time will still further lessen the number of headaches which will continue to be called only neurotic. And even now treatment often demonstrates that the real condition is other than nervous in simplicity.

When the closest investigation and scrutiny fail to discover any lesion or perverted action outside of the nerve substance, and especially when therapeutical measures, otherwise directed, fail to remove the pain, then we are justified in regarding the disturbance as dependent on irregularity of the neural-tissue action, or change attributable to that subtile spark which plays along the trunks from periphery to center. But we must recollect that, not unfrequently, when this form obtains at the beginning of an attack, it is either only the first manifestation of blood change, or is supplemented by such occurrence later in its progress. And to note these variations and sequences, as well as to differentiate the primary types of cephalalgia, is not only our duty, but involves the success of any treatment instituted and the reputation of the doctor. Patience—one of the essentials of perfection in medical practice—nicety of observation, discrimination and judgment, must all be brought to bear in differentiation, and sometimes even remedial experiment—legitimate always when carefully done and unavoidable—is both useful and absolutely necessary. This latter is particularly the case when patients suffer periodical attacks

for years and are under the physician's observation all of that time. Here, one experiment, though perhaps at the time uncrowned by success in cure, or even productive of unpleasant results temporarily by aggravation of the pain, may demonstrate the true nature of the headache and enable future efforts to result in grateful relief.

I had hoped to include the subject of treatment in my present essay, but it has already lengthened out sufficiently for a single reading, wherefore I defer the discussion of therapeutics to a future time.

Annual Address Delivered Before the American Academy of Medicine.

At Easton, Pa., Sept. 17, 1878, by FRANK H. HAMILTON, A. M., M.D., LL. D., President of the Academy, Surgeon to the Bellevue Hospital, New York.

Concluded.

So far as my experience and knowledge extend, the professors, and all employed as teachers in our medical colleges (I have no knowledge of the irregular medical colleges, and do not, therefore, allude to them), are, with few exceptions, men of intelligence, of large practical experience; and if they are not all profound scholars, they are seldom wholly unqualified in the departments which they attempt to teach. We have in our country, scattered here and there, a great many thorough scholars; and medical colleges in most cases choose these men for their vacant professorships. It is generally for their own interest to do so; and such being the fact, they are certainly, as a rule, very likely to select the best men.

It is not intended to say that all of our best men have found places in the colleges. The colleges are not yet sufficiently numerous for that. There are, no doubt, as many good men outside of the colleges as there are in; and it does not always happen that the best men are chosen, but it must be admitted by any one familiar with the names of the gentlemen to-day connected with our medical colleges, that, in the main, the selection has been judicious.

Moreover, these men, holding the positions of professors in our medical colleges, are in general as sincerely desirous to raise the standard of medical education as are the

members of the profession at large. I think I may say that they are more so. Each of these professors, in consequence of his own superior attainments in his special department, necessarily desires a higher standard of attainment in his pupils, and feels a greater mortification at their failure.

Nevertheless the fact remains, and is notorious, that these colleges graduate and license to practice, a great number of men who are totally unqualified; and you may find some difficulty in understanding how this fact can be made consistent with the reputation for honesty, intelligence and sagacity which I have accorded to a majority of the gentlemen who control these institutions. The arguments will naturally assume the character of an apology, or justification, and may be stated briefly as follows:

1. The present system of education in this country is, as I have shown, hereditary: having been imposed upon us while we were still in a colonial state. It is a sort of King's evil, therefore, for which we were not originally responsible. There are many features of American institutions, society and customs for which our venerated mother is alone or mainly responsible. Of most of these we are justly proud; but there are some things inherited from the same source which were of doubtful advantage to us—such as the system of medical education, the system of slavery and the habit of boasting. In reference to either of these matters it does not become the people of Great Britan to lift the head and point the finger at us.*

2. We have not only inherited an imperfect system of medical education, but the nature of our political institutions is such that the system has proved to be more especially unsuited to our wants, than it is to the wants of Great Britain. The Federal or General Government of these States refuses to assume the charge of education, and for reasons which lie at the foundation of our political system. This is not, and need not be, the fact in Great Britain, or under any other system of government known to us.

3. The States, as has already been said, have almost uniformly neglected to endow medical colleges, or to

* Dr. Malpother, Prof. of Physiology in the Royal College of Surgeons, while paying our physicians and surgeons many flattering compliments, speaks of the "prevalence of quackery and the generally low state of the profession" among us.—*Med. Gazette* (New York), Nov. 26, 1870.

establish a proper standard for medical education. And it is questionable whether, in the light of our late experience, either the colleges or the profession at large would accept endowments upon such conditions as the States are almost certain to impose, namely, the supervision and control of all matters pertaining to the kind and character of the instruction to be given.

4. The result is, and must continue to be, that the management of medical education is left entirely to the people, or, perhaps I might say, to the profession. It is the same in the departments of law and divinity in this country; each department being the author and administrator of its own system of education, and of licensing.*

Consequently, also, all the medical colleges, or almost all, are private corporations, or, to use an expressive Americanism, they are private "enterprises"—a term which implies a "venture." And if it were not for this element of venture and enterprise in our profession, we would be without medical colleges altogether.

Let us consider the nature of these private enterprises, the claims which the public has upon them, and their ability to meet and satisfy these claims.

Almost every medical college in this country has been planned, organized, equipped and carried on by ambitious and aspiring medical men; and there is not perhaps one, however it may have originated, which could have been sustained without their special efforts, money and personal sacrifice. From their often scanty means they have purchased grounds, erected or rented suitable buildings, and supplied them with the apparatus for teaching. And much of this property is now heavily encumbered with debts for which the faculties are responsible. They have established hospitals and dispensaries, performing their services in these, in all cases, without compensation, in order to secure clinical instruction for their pupils—they have labored for their students, in season and out of season, with an assiduity and devotion, which in almost any other calling would have commanded a large pecuniary return,

* We have often heard it intimated by gentlemen of the legal profession and by gentlemen of the profession of divinity, that the condition of things is not much better with them than with us. They lament the decay of culture and courtesy in their ranks; but we must leave them to deal with their own problems in their own way. For the present we have enough to do to solve our own.

and which we do not think has been surpassed, if indeed it has been equaled, by the professors and teachers of medicine of the old world.

They have done all this, and much more in many cases, as a private venture, in a field left unoccupied by the State or General Government, with no hope or expectation of pay, beyond a slight pecuniary consideration, wholly unequal to the time and talent and money invested and the increase of their reputation as experts in the departments they attempt to teach.

As we have before stated, a few of the medical colleges have attempted a forward movement; but their slow and unequal steps show conclusively, that while the head and heart are willing, and are urging them in the right direction, the feet are dragging heavy fetters. Not one of them has ventured a step beyond what was deemed safe in a pecuniary point of view. Nor will they! Harvard, connected with the oldest University in the United States, and situated in the midst of our most wealthy and most highly educated people in our country, has, after much hesitation, and in the face of considerable opposition from its own faculty, adopted some of the needed reforms. But it will be remembered that Harvard Medical College has always had a larger proportion of Bachelors of Arts among its matriculants than any other American school, except the University of Virginia—the proportion being probably 30 or 35 per cent; and the faculty, therefore, incurred very little risk of diminishing the number of their pupils, by demanding either the degree of Bachelor of Arts, or a not very exacting preliminary examination, conducted wholly by themselves. These gentlemen, who rank among our most distinguished medical men, will not pretend to say that in this, and the few other excellent reforms they have made, they have done all they would be glad to do, nor all that was needed.

In according to the University of Pennsylvania, also, praise for its recent action, we must not imagine that she has been actuated by a higher sense of duty, or a better code of morals, than has hitherto actuated her own board or than continues to control the conduct of her sister colleges. This college actually fell back from her original standard; a thing which, so far as I know, no other has done; and this retrograde movement she has made twice. First in 1811, when she abolished her preliminary require-

ments, and second in 1852, when she "sorrowfully abandoned," after "six years of steadily diminishing classes," her slightly lengthened course of studies.*

Within the last year, having received a permanent endowment for one of her professorships, and a temporary guarantee for the remainder, she has ventured once more upon important reforms; but, not to speak of other omissions, she has omitted what we regard as most important, namely preliminary qualifications, In this respect Harvard, and two or three other colleges have done better than the University of Pennsylvania, if a preliminary examination by its own faculty has any value. "It was not thought feasible," says Dr. Pepper, "to insist upon this immediately; but all are agreed that it must be established as soon as possible."

Why was not this feasible or possible immediately? Why had not the "fullness of time" come for this as well as for the other reforms adopted?

The only answer which suggests itself is, that the permanent endowments are not secured, except in part; and if there was any sort of a gate at the entrance, obstructing the free admission of students, even a turnstile, requiring one to pass at a time, the classes might diminish in size, and the income from fees, which contribute to support the guarantees, fall off. This would possibly cause the withdrawal of the temporary guarantees, and the upshot would be that the college would have to retrace its steps once more. The faculty has done wisely, no doubt, to accept a free interpretation of the words of Epictetus, "and above all things, the door is open."

That for which my venerable and much respected Alma Mater deserves commendation is, the successful effort to endow, even partly, her professorships, and to secure a temporary guarantee of the remainder; but with these excellent buoys at her waist, she has no reason to take special credit to herself, because she ventures into a little deeper water than others have dared to, who have nothing but their own muscle to keep themselves afloat.†

* Prof. Pepper's address.

† The first full permanent endowment of a professorship in this country was made by the widow of the late distinguished surgeon, Dr. J. Rhea Barton, of Philadelphia.

By a letter just received from Prof. Cabell, of the University of Virginia, I learn that the Medical Department of the University is mainly supported by an annual state appropriation of $30,000; but that quite recently Mr.

No, gentlemen, there is no very great difference in matters of duty or of conscience among medical men at home or abroad—in office or out of office—in professorships or out of professorships. They are all about equally desirous of improving the standard of medical education, but not many in either rank will hold the standard very high, or very long without something in their stomachs. A standard-bearer must have something substantial inside his belt.*

Now and then, in the course of my life, I have seen men who honestly thought they would revolutionize and reform this whole matter, at all hazards, if only they had the opportunity; but who having been made professors and given the opportunity, have done no more than those whose who preceded them. They were sincere in their convictions as to what ought to be and might be done; but after more or less prolonged and ineffectual struggles to extricate medical education from its toils, their limbs have gradually become relaxed, as if from sheer exhaus-

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Corcoran, of Washington, has fully endowed one professorship, and has partially endowed two others.

The Commissioner of Education in his annual report for 1874, after enumerating the donations to educational institutions for the past year, says:

"While the total benefactions to education in this country for the past year were, so far as ascertained, $6,053,304, these several schools ("the medical—including all classes, also pharmacists and dentists"), which so directly affect human life, have received for the year only $308,466, and a total income of $24,000 from permanent funds, they being almost entirely dependent upon their tuition fees, which amount to $520,593."

The Commissioner further remarks: "Considering how closely these schools affect the life of every individual in this country, many of the details reported will excite surprise."

In the report for 1876, the total amount of benefactions for educational purposes for the preceding year, so far as ascertained, was $4,691,845, of which only $36,750 had been made to the 102 colleges (including Irregulars, Colleges of Pharmacy and Dentistry). The value of the grounds, buildings, and apparatus belonging to the institution is reported as $3,489,800.

* That the medical men at large do not feel a deeper interest in this matter than do the professors in the medical colleges, and that they can not be more safely intrusted with our educational interests than the colleges, unless other coincident changes are adopted, is sufficiently shown by the signal failure of county and state censors to do their duty when empowered to examine candidates and grant licenses. In this State they have never demanded a higher grade of qualifications than the colleges; and the writer has seen more than one case in which a candidate, rejected by the colleges, has been forthwith admitted by the licensing boards. Neither County nor State censors are, in a majority of cases, chosen on account of any special qualifications which they are supposed to possess as examiners, and it can not be thought strange, therefore, that they should license incompetent men. A stream can not rise above its source.

tion, and they are to-day as quiet as the dead. "Let not him that girdeth on his harness boast himself as he that putteth off." For myself, I am obliged to say, that I have not always entertained or expressed the opinions I now hold upon this subject; but that a later and more careful study of the whole matter has forced the conviction that in endowments alone can be found a remedy equal to the emergency. And these endowments must be unconditional—carrying no such restraints as are almost certain to accompany State benefactions.

Whenever there shall be one or more medical colleges thoroughly endowed, situated in cities of sufficient population to insure an abundance of clinical and dissection material, a reform will follow as complete as the most zealous student and lover of medicine could desire. The faculties of our colleges will be occupied then solely in teaching, and they will readily accept of those two most important reforms—the complete separation of the business of teaching from the business of matriculation and of licensing to practice. Neither of which reforms, you may be quite sure, will be made while the professors are dependent upon the students for their fees.*

It is not certain but that for a few years the numbers would be small, but in an endowed school this fact would not affect its permanency; and if it happened that for a time most medical students would seek a shorter and easier, and cheaper road through those colleges whose curriculum was less severe, it would not be long before the public, even, would understand the difference between the qualifications implied by the respective diplomas. As between those colleges which have already adopted partial reforms and those which have not, the difference is too little to insure the attention and respect of the people; but when the difference is made as wide as it ought to be, it will be promptly recognized and appreciated.

Admitting, then, that we can not look for help in this matter to either the Federal or State Governments; and that the medical colleges can not or will not—for the facts remain the same, whatever the motives may be—admit-

*The same view of this matter was taken by Dr. Baldwin, in his address as President of the American Medical Association, only that he thought the Federal Government should undertake the endowment of the professorships, a thing which we consider impracticable, or rather impossible.

ting, I say that the colleges can not or will not furnish us with better doctors without guarantees of better pay; admitting that these guarantees or endowments have not yet been made, and are not likely to be made very soon; what then remains to be done? Are we to fold our hands and let things take their own course whatever way they may drift? I think not.

Public Sentiment.

There are many things which we can do more or less effectively. We can labor to create a sound public sentiment, which shall in some measure influence medical colleges and medical men, but more especially to create a sound sentiment among the young men who are contemplating the study and practice of medicine. They must be persuaded that it is unbecoming for them to enter upon the study of a learned profession without suitable classical and scientific knowledge and without mental discipline; that it is impossible for them without this knowledge and discipline to make any respectable attainments in the science of medicine—and that it is shameful for them to enter upon the practice of medicine, and attempt to minister to the physical sufferings of their fellow-beings, without a competent knowledge of their science.

We are not the first to have discovered and to have employed this mode of meeting the difficulty. Almost the entire medical profession in this country, including even most of that very large proportion who have not had the advantages of a thorough preliminary training, are urging its utility or necessity; the medical associations have, in all parts of the United States, again and again declared its importance, and especially is this true of the American Medical Association. The American medical journals have unanimously insisted upon radical changes in this respect; the professors and the alumni of medical colleges at their annual commencements, and in their social gatherings, have reiterated the same sentiment; but, as we have seen, the work of reform in this direction is not yet accomplished. They need further help, and we have put our hands together to help them.

Our association is not intended as a substitute for any other association of medical men; but we propose to supplement their labors. We fully believe that we can be useful in some small degree, and we shall not cease our

efforts or disband our organization, until the needed reforms are accomplished.

In conclusion, gentlemen, as an encouragement in our efforts by example, by diffusion of information, by argument, by persuasion, and by incentives to accomplish ends for which there are at present no other means provided, we are permitted to say, that the picture which we have presented to you of the condition of medical education in this country has a reverse, which has not been shown to you. While it is true that the legal or accepted standard is very low, so that multitudes are admitted to practice without proper qualifications, there are a great many notable exceptions. Many young men, educated in our colleges and hospitals, enter the practice of medicine with as much theoretical and practical knowledge of their profession as is demanded in the best schools of Europe; and most of these young men continue to labor in their studies and in original research, faithfully and successfully. The world, while looking with a certain degree of surprise upon our system of education, has not been permitted to look upon our medical men, and our progress in original research and discovery with contempt. It is compelled to accept of the paradox, that in spite of our imperfect system of education, a large number have thoroughly mastered our science. The world acknowledges our discoveries, accepts our improvements, and reads our books.

I offer these facts as an encouragement for us to proceed in our humble efforts to create a proper public sentiment, because these are the only means which can be at present employed; and especially because the pressure of public sentiment has been the sole means hitherto employed, and, as we have seen, it has not been without its fruits.

We have many ripe scholars and skillful physicians, who were educated at home, because, although preliminary education may not be demanded of the matriculants, it is often possessed by them, their education having been acquired either in established and accredited colleges, after a thorough and complete course of study, or under private instructors, and by their own unaided efforts. Our best students, while actually employed in the study of medicine, work very hard; and the harder, perhaps, because of the brevity of the periods of instruction.

Many of our graduates, also, do not enter upon the regular practice of this profession, until they have devoted several additional years to study and to the hospital practice, under experienced teachers and practitioners.

I have examined young men for licenses to practice, and have been brought into contact with gentlemen of my own profession, educated abroad and at home, enough, to convince me that we have as thorough scholars and as able practitioners, of our own production, as can be found anywhere; and perhaps as many in proportion to the population as elsewhere, and all that are actually required for the wants of the people. But there is not one of these men, be they few or many, who have attained the knowledge of medicine or of surgery which they possess, without study. Genius and good common sense are valuable attributes, and contribute greatly to success in any sphere of life; but in medicine they can never take the place of solid scientific acquirements. They will not supply a knowledge of anatomy, physiology, chemistry, pathology, or of any one of the many branches of medical science; and without a knowledge of these subjects genius can not guide the knife, or administer safely the medicine. If we have skillful surgeons and physicians they were made such by long and diligent study; and of the studies necessary for the acquisition of medical knowledge the preliminary academic and collegiate are of first importance.

Let me not be misunderstood. There is not one of those men known to you or to me, who have acquired undoubted skill, and a deserved reputation, except by long and diligent study. For it to be otherwise would be as impossible as to calculate eclipses without the previous study of the science of astronomy. There may be men who have acquired an extended reputation, and a remunerative practice, and who have never been students; but these men have not the skill they are supposed to possess, nor a deserved reputation, and they are only the more dangerous because they have a reputation. Genius and worldly-wisdom are terms whose ample significance covers often such qualities as audacity, mendacity, cunning and legerdemain, or successful imposture.

I am honored by the splendid scholarship and well-earned success of a large number of young men whose diplomas and licenses to practice I have signed. I am

proud of the world-wide and merited reputation of many of my professional brethren, but it can not be denied, that in the enormous excess which the figures have placed before us—an excess far beyond the wants of the people—there are to be found many thousands who have never been subjected to the proper tests of their ability, and from which sources the ranks of empiricism are mainly supplied; who are totally unqualified, and who ought not, in mercy to the people, and in justice to those who honestly earned their diplomas, ever to have received a license to practice.

It is too late to remedy this now. Nothing but a deluge would exterminate them; but we may at least hope to limit their propagation, by a more careful sifting of the seeds in future, and by intelligent culture of the growing plants.

Diagnostic Importance of Symptoms.

Read before the Medical Society of the State of West Virginia.

BY JOHN C. HUPP, M. D., WHEELING.

ALL elementary medical studies and instructions are wasted unless they lead to something practical. The study of symptoms is a very broad one in its application to practical medical life; and no course of medical study or instruction can be satisfactory that does not embrace their scientific and practical features as a basis.

Symptoms are the signals by which we learn that disease is present, the evidence upon which the whole art of medicine proceeds. Hence, the importance of their accurate interpretation. And hence, the cultivation of the study of symptoms not only assists the judgment concerning the seat and nature of disease in an given case, but, also, concerning its course, termination and treatment. The primary matter for consideration and determination when called to a patient is to attempt to ascertain satisfactorily the nature and seat of his disease. This oftentimes is attended with great difficulty and occasionally the disease eludes recognition. It has been well said that Nature does not limit herself in her irregularities any more than in her rules. The detection of disease is the close observation of symptoms and of correct deduction from

these manifestations. Ability to recognize morbid signs is the first requirement for an accurate diagnosis. In determining the nature and seat of disease, the main difficulties are to know where to look and what to look for. Experience, observation and an intelligent study and interpretation of symptoms are essential aids in determining the diagnosis and also the prognosis and treatment of any disease. But it is oftentimes much easier to give than to follow the advice: "*Start right, proceed right, go on.*"

Neither students nor practitioners of medicine always clearly diagnose or recognize disease. Doubtless, the most experienced are sometimes obliged to prescribe for a malady, although in great uncertainty, perhaps in total ignorance, respecting its nature and situation. Obviously the treatment and course to be pursued in any given case should always be based upon a careful, systematic and well-digested personal examination.

When brought to the bedside of a patient for the first time we can not approximate an accurate opinion of the case until its history and prominent symptoms have been learned. It is true that the pulse, the appearance of the countenance and tongue, and the state of the skin, etc., etc., each separately, or grouped together, may serve to enlighten us as to the diseased action of various organs, and enable us to see some of those peculiarities of disease which are so pregnant with meaning.

That general condition expressed by the term collapse brings before the observer a train of symptoms which once seen, their character and significance will always, thereafter, be promptly recognized. But, in any given case, what is the proximate cause of the collapse, is the great desideratum.

The therapeutical management of any case of collapse, whether it be induced by colliquative dejections as in cholera; by hemorrhage, or otherwise, may not, in the main, materially differ; but that a discrimination of the diseases from each other possesses an importance second only to their treatment and is, indeed, prerequisite thereto, must be apparent.

A patient may have agonizing abdominal pain with or without vomiting. What causes the pain? Is it occasioned by ingesta; by impacted fæces; by strangulated hernia, or some other cause? Before the initiative treatment is instituted, discrimination between these diseases

is very essential. I have seen cases of as intense, as intolerable abdominal pain, occasioned by imprudence in eating, or by imperfect mastication of otherwise wholesome food, and which caused as great anxiety and alarm to the patient and bystanders, as could be produced by any other cause.

About two hours after he had partaken of his dinner, I was summoned to A. C——n, of East Wheeling, a robust man, a carpenter by occupation, who, the messenger alleged, had "*the cramps.*" His cries of distress had brought the whole household into his room, where a moral whirlwind was raging. His abdominal pain was persistent, intolerable; he moaned, groaned, rolled, tumbled, and, filled with alarm, was anxiously appealing for relief. His countenance was pale, anxious; features pinched; surface cool, clammy. Prompt relief was imperatively called for, to avert, as we conceived, impending convulsions. Patient alleged that he had partaken, in moderate quantity, of "simple and wholesome food for his dinner." Believing differently, I administered a *heaped* tablespoonful of pulverized mustard-seed suspended in a pint of cool water. In less than five minutes the wash-basin, in front of patient, was more than half filled with squares and segments of *sad, unmasticated* "*chicken pot-pie*"—the contents of his stomach! Patient, with apparent satisfaction, having inspected the mass of heavy, tough, elastic, undigested and indigestible emitted ingesta, turned from it expressing himself completely relieved.

Under these circumstances patients will insist that they have eaten nothing but the blandest and wholesomest food, until an *emetic* has brought to the astonished view the offending ingesta.

Several years ago I was summoned to a child of Mr. W——de, on Clay Street, comatose and dying, which condition followed convulsions, occasioned by eating liberally of uncooked dried apples.

On Christmas occasion, 1875, Mr. C. H. D.'s son, aged about seven years, while spending the holiday with children of a relative on Wheeling Island, was found lying unconscious on the sward, near the yard fence. It was inferred by some who were present, when the boy was first discovered in this predicament, that "he had fallen from the fence and broken his back." Accordingly, to a case of that unfortunate character of injury, I was summoned.

I found there a doctor, who happened to be at the house on that occasion, and the alarmed, distressed, and anxious relatives assiduously employed in administering to, as they supposed, the fatally injured boy. He was lying upon the floor, midway between open doors, with liberal applications of cool water, by wet cloths, to his head. The contortion of the muscles of the face; the purple hue of the lips and countenance; the characteristic *hiss* which blew froth out between the clenched teeth; the clenched fists; the rigid limbs; the jerk; all these symptoms in contravention of the already expressed opinion, forced upon me the recognition of convulsions, *not*, however, the result of a "*broken back*," but produced, as I conceived, by the variety, quantity and quality of the articles eaten by the boy on that Christmas occasion. The efficient action of an emetic verified the correctness of my diagnosis, and brought the boy immediate relief. Nevertheless, the newspapers of the following morning heralded the terrible accident, to *this* boy, "who falls from a fence and breaks his back!"

Mrs. Joseph D——n, of Ritchietown, while doing a large washing, became pained in her right groin, which she attributed to an enlarged and tender "*waxen kernel*." Cause of the enlargement was, as she alleged, exposure to cold and wet, incident to the day's work. She complained of a sick stomach and had vomited. The tumor was about the size of a small cherry. It was a knuckle of the bowel, escaped beneath and pressed upward and backward over Poupart's ligament, which I failed to reduce. Dr. Bates came and likewise failed. Dr. Frissell rendered assistance and was also unsuccessful, both before and after the patient was chloroformed. The ordinary operation for strangulated femoral hernia was successfully performed by Dr. Frissell. Patient recovered.

Very early in my medical studies I was taught by my preceptor, Dr. F. Julius LeMoyne, that a fatal result must, with great certainty, follow any neglected case of strangulated hernia.

December 1, 1844, I had the honor to accompany Drs. LeMoyne and Stevens, then the leading surgeons in Washington, Pa., to operate on Mrs. ——, for strangulated umbilical hernia. This case of hernia had been of long standing, and, ordinarily, reducible. A cold, accompanied with frequent and protracted spells of coughing, ren-

dered it impossible, on this occasion, for Mrs. —— to keep her hernia reduced, which, promptly, became strangulated. Having always, previously, been able to effect reduction without assistance, she, on this occasion, delayed to call for surgical aid, until sphacelation of the constricted bowel had occurred. The operation, however, was promptly and neatly performed by Dr. LeMoyne. Stercoraceous vomiting and death followed on the same day. One of the most important surgical lessons of my life, taught me on that solemn occasion, has, doubtless, been the principal cause why I have never had, in my practice, a fatal case of strangulated hernia.

Mr. Wm. North's son, aged about twenty-two years, living on the waters of Short Creek, Ohio County, while in the loft kicking hay into the rack, experienced an "uneasy sensation in his left groin." Examining, he discovered "*a lump*" at the point of uneasiness, which interfered with locomotion, and, consequently, with the duties of his avocation, that of a farmer. The physicians of his neighborhood, undecided as to the true character of the malady, or tumor, advised Mr. North to bring his son to Wheeling, which, accordingly, he did. Patient came under my observation, April 23, 1878. Several days had elapsed since the tumor made its appearance. The appetite was not impaired, nor was there any interference with the alvine discharges. The gait was slow and measured, with the trunk inclining forward, and to the left, slightly. The face was pale and countenance somewhat anxious, indicative of the alleged persistent uneasiness. A tender, doughy tumor, about the size of a small almond, was found low down in the left groin, *apparently*, immediately *above* Poupart's ligament. Semi-flexing the lower extremities upon the trunk, and placing the ends of the fingers upon the origin of Poupart's ligament, I succeeded, with difficulty, on account of the tenderness of the parts, in tracing the ligament *above the tumor*, to its insertion. I concluded that the case was one of irreducible femoral hernia, omental in character, in which opinion I was corroborated by Dr. Frissell. At eleven o'clock A. M., on the following day, patient was chloroformed, and, ably assisted by Drs. John Frissell and E. A. Hildreth, of Wheeling, and Thomas McKennan, of Washington, Pa., the hernia, after protracted efforts, was, at length, completely and satisfactorily reduced by taxis.

More recently, I was called to Mr. Meyer Heyman's child, on Chapline Street, in convulsions, which promptly subsided after the use of the ordinary remedies. I learned that previously the child had been "*brashy*"—had had, frequently, "*spells*" of diarrhœa, attributed to dentition. Although the child was strictly dieted, it continued to be subject, from time to time, to attacks of diarrhœa. The diarrhœa usually, however, subsided spontaneously, otherwise, promptly yielded to a few doses of the sub-nitrate of bismuth. Subsequently—the child being about four years old—I was recalled on account of the discovery of "*something unusual*" in the child's dejections. On inspection, I detected segments—unmistakable evidence—of tape-worm (tænia solium)! At bedtime a brisk cathartic was given. Two ounces of pumpkin-seed (pepo. semin.), pounded to a pulp and well-rubbed up with one drachm of fluid extract of male fern (*Fl. ext. filicis ether*) were given the next forenoon on an *empty stomach*, and about two hours thereafter, the following given at one dose:

℞ Granati Radicis, dr. ii.
Peponis Seminum, oz. ss.
Extract. Filicis Ether., f. dr. ss.
Pulv. Ergotæ, dr. ss.
Pulv. Acaciæ, dr. i.
Olei Tiglii, gtt. i.
Misce.

The pomegranate bark and pumpkin-seed were thoroughly bruised, and, with the ergot, boiled in four ounces of water for fifteen minutes, then strained through a coarse cloth. The croton oil was first well rubbed up with the acaciæ and extract of male fern, and then formed into an emulsion with the decoction, as directed in *Napheys' Therapeutics.*

This dose produced two or three feculent passages in less than two hours after it was administered. Imme diately after that the injection of a large quantity of warm water into the colon, as advised by Prof. Mosler, of Germany, at once brought away the mischievous tenant —this unbroken portion measured sixteen feet!

A patient may be struggling in violent convulsions. What causes them? Are they occasioned by peripheral irritation? Are they connected with lesions affecting the

cerebro-spinal system? Are they hysterical, epileptiform, idiopathic, uræmic?

Recently, called in consultation, I saw a boy, in his teens, who had been sick nearly three weeks, and who, within the twelve hours then last past, had been having repeated convulsions. After a careful examination I arrived, by pure exclusion, at the opinion that the convulsions were uræmic, which opinion an examination of the urine verified. Previously the kidney complications had escaped attention.

Similar problems may offer, for solution, in the investigation of any given case. Again you see that peculiar pallid or dingy hue of the patient's skin; the leucophlegmatic and even waxy aspect which stamps the victims of blood-impoverishing diseases. These evidences, with others in the background to be sought out, sifted and weighed with discrimination, may serve as guides to lead us out of the Serbonian bogs of abstruse hypothesis and dogmatic error to the *terra firma* of truth—to the real nature and seat of the disease. How extended and how varied, therefore, must be that knowledge necessary to work out a conclusion regarding the character and seat of a malady? And then, the disease having been satisfactorily located, it is essential to know whether the disease, thus located, is a primary affection or one secondary to and incidental to the subjects of some other malady. Oftentimes a secondary affection serves to arouse and direct attention to the primary disease upon which it depends. It is well known that dropsy is an incidental symptom or secondary consequence of a series of maladies. Nausea, vomiting, flatulent distention, diarrhœa, are frequent companions of certain maladies. Headache, drowsiness, delirium, epileptic seizures, apoplexy, are secondary complications of diseased action of various organs.

The circumstances under which this category of symptoms—these manifold secondary affections arise, all of which are common enough in various complaints, lead into new and partially, perhaps totally, unexplored territory, where every step encounters unexpected intricacies and perplexities.

The respiratory apparatus; the circulatory and nervous systems; the blood; the functions of organs and their secretions, loom up for investigation and inquiry in making

deductions and discrimination in any given case. Then the various diseases capable of producing all, or even some, of the striking symptoms observed are to be enumerated. And then, perhaps, the real mischief, if brought to light at all, can only be done by the process of pure exclusion. When we look at the sciences merely of etiology, semeiology and general pathology, we are surprised at their great magnitude and the vast fields of learning which they open.

To understand the causes of disease; to comprehend and properly interpret the symptoms of disease, and to know disease pathologically—what an interminable empire!

To pronounce on the seat of a malady an accurate knowledge of anatomy is essential. To appreciate the aberration of functions a knowledge of physiology is indispensable. Indeed, there is no end to the extent of knowledge that may be brought to bear in working out deductions as to the nature and location of disease.

"Every fresh acquirement tends to enlarge our powers of insight. Just as in nature, the higher we ascend, the more fully lies the view before us."

Verily, the words of the Roman poet are as true to day as when uttered hundreds of years ago:

"*Felix, qui potuit rerum cognoscere causas.*"

Tincture of Iodine in Nasal Catarrh.

BY JOHN M. SHALLER, M. D., CINCINNATI.

In Cohen's practical and valuable work on "Inhalations," he advises the use of iodine in nasal catarrh, with notes of the case of M. Luc. I had the opportunity of trying the remedy in four cases of acute, and one case of chronic coryza, with good results, namely, a cure of the acute cases in a very short time, and decided improvement in the other. If there is anything aggravating and annoying on a cold day, it is the constant dribbling from the nose, sneezing, blowing it constantly, and, with in many cases, severe headache and fever. To relieve these troubles, opiates, liq. ammon. acet., or ammon. carb., with a foot-bath, are often given with good results and success. It is ofttimes difficult and impossible to have your orders

carried out fully, and the liability of catching fresh cold, after the secretory system has been freely opened, is to be thought of. The simpler the medication, the easier taken; and having direct action on the diseased surface is, with the majority of people, *the* treatment.

Iodine inhalations may be used in all stages of the coryza; and, if thought absolutely necessary, internal medication may also be used. In the four cases iodine was used alone; began treatment on the first and second day of the trouble in the following manner: ℥ss of the tincture was placed in a ℥i vial and held in the hand, placed under the nose, with the mouth closed—ten or twelve inhalations being made, there was then a rest of two or three minutes and ten or twelve inhalations again were made, continuing in this way from fifteen minutes to one hour, fifteen minutes three times a day, or one hour once a day, as it seems to agree with the patient. The heat of the hand is sufficient to volatilize the iodine.

In two cases the trouble cleared up the day treatment began, after one hour's inhaling. In the other two, severe symptoms of headache, sneezing, and the acid mucus, were checked, with the clearing up of the coryza, with the exception of very slight burning in the throat the next day. The headache is what worried them the most, which was relieved in a very short time. In the case of chronic catarrh, of over two years' standing, with headache almost constantly, it was relieved after two days' inhalations of fifteen minutes each, three times a day.

That it relieves this apparently trivial but annoying complaint in a short time, with a simple means, is worth the trial of every physician, and I would like to hear more from it. It produces its effects, probably, by depleting the mucous membrane, causing a slight watery discharge; neutralizing the acid mucus, preventing it from excoriating the upper lip, which is so often seen.

There is nothing original in the use of this remedy. That coryza will get well of itself in a week, or so, in a great number of cases, is an excuse often used; and in the chronic cases, because they are stubborn, we do not like to trouble with them, and, consequently, they must fall into the hands of quacks, who reap a rich harvest.

Selections.

Remarks on Extract of Malt and its Combinations.

From a paper read by J. J. Mulheron, M. D., at a meeting of the Wayne County Medical Society.

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I appreciate the fact that many of our more conservative members are inclined to look with distrust on many of the new preparations which enterprising pharmacists are giving to the profession. This feeling, it must be admitted, has too much foundation in the impositions which unscrupulous manufacturers have practiced; but there is a possibility of carrying it too far. The profession of this country, besides being intensely practical, is also tolerably discriminative; it soon learns what estimate to place on anything it has put to practical test, and the fact that an article is spoken of with favor some years after its introduction is pretty good presumptive evidence of merit. This time-test successfully withstood should justify a trial of any remedy by the most conservative. * * * Among articles of comparatively recent introduction in this country may be mentioned Extract of Malt, prepared after the method of Trommer. Although for a long time enjoying the confidence of the profession of Europe, and particularly of Germany, it has been before the profession of this country for only about five years. It has stood the time-test alluded to, and is to-day more popular than at any time since its introduction. Its combinations with other articles have increased its popularity, and these combinations are, perhaps, more generally employed than either of their constituents.

My experience with Extract of Malt has been confined to its use in diseases of malnutrition and mal-assimilation. In such affections the stomach and the digestive portion of the intestines are primarily involved, and these failing in their functions, decomposition takes the place of digestion, and we have absorption of unnatural products, with the long line of disorders which follows, and to which a variety of names are applied.

Before any local trouble manifests itself dyspeptic symptoms call for relief, and the failure in the digestion of carbonaceous ingesta is rapidly followed by loss of

weight, sometimes even to emaciation. Theoretically, then, the remedy indicated at this stage is one which shall improve digestion. The whole gamut of the materia medica has been run for such a remedy. Tonics, alteratives, sedatives, stimulants, etc., have in turn been tried and found wanting. * * * An analysis of Extract of Malt suggests this article as a valuable agent, and its employment quite justifies the hope inspired of such analysis. Besides its tonic properties, it is rich in food (glucose) which has undergone an important step in the process of digestion. In the latter property it possesses a great advantage over cod-liver oil, which so often not only offends the impaired stomach, but which is, under most circumstances, so difficult of digestion.

It is further valuable because of its property of emulsifying cod-liver oil, and thus aiding in the digestion of the latter, and, indeed, it is in such combination that I have had most experience in its use. In several cases in which I regarded the oil as indicated it positively disagreed, but became perfectly tolerable when given in emulsion with the malt extract.

In support of the proposition that Extract of Malt merits a thorough trial at the hands of the profession, I submit the following reports from cases which have been under my charge:

Mrs. R. consulted me three years ago last May for an annoying cough. I ascertained that her health had been failing for some time and that she had lost flesh appreciably. She complained of dyspnœa on the slightest exertion. Expectoration was very scanty and of tenacious mucus, with occasional streaks of blood. Digestion very imperfect, with much acidity and eructation. Appetite very poor. Inspection revealed diminished expansion in the infra-clavicular portion of the left lung. Percussion elicited but slight dullness. Auscultation showed respiration to be interrupted in its rhythm and somewhat bronchial. Here was a case of incipient fibrous phthisis, a diagnosis made more clear by its subsequent history. I placed her on cod-liver oil, and ordered a mixture for the relief of the annoying cough. The latter had the effect of giving slight relief, but the oil was not tolerated. After three months it was painfully manifest that the disease was progressing.

Shortly after this she became pregnant, and this was

followed by an improvement of all the symptoms referable to the lungs. With the exception of a slight roughness in the respiratory murmur, no trace of the lung difficulty remained at the sixth month of pregnancy. At the seventh month, however, she miscarried; the child lived thirteen hours. Immediately after the unfavorable lung symptoms returned with increased severity, and continued in spite of treatment. I then placed her on Extract of Malt. After taking two pints of the plain extract, an improvement in her digestion and in her general symptoms was noticeable. I then gave her the combination of the extract with cod-liver oil. After a bottle of this (which agreed perfectly) had been taken, she was able to leave her bed for the first time since her confinement, three months previous. She has since been taking regularly the malt with the oil in combination, and on a visit to her yesterday, I found that the disease had made no progress since my last examination, some three months ago. The respiration sounds have improved, if anything, and I am led to hope that ultimate permanent good may follow the treatment. I can not but believe that had Extract of Malt been resorted to when I was first consulted, a train of very threatening symptoms might have been averted.

Miss W., aged nineteen, consulted me October 5, 1877. Hers was a typical case of chlorosis. She had consulted, and had been treated by several of our leading physicians, but without benefit. Supposing that the usual remedies in such cases had been employed, I placed her on Extract of Malt with cod-liver oil and iodide of iron. The improvement which followed was very marked, and after the sixth pint had been taken, menstruation, which had been suspended for several months, was re-established, and after taking two more pints further medication was considered unnecessary.

I regard the combination of the Extract of Malt with pepsin as one of the most valuable additions to our list of physiological medicines, and, without taking up your time with the details of cases in which I have employed it, I know of no remedy of such wide application and of such service in functional dyspepsia. In that deplorable condition of the stomach following the drunkard's prolonged debauch, Extract of Malt with pepsin is of great benefit. In the emaciation and condition of marasmus, following the summer diarrhœa of children, it is also a sovereign

remedy. The hints on epidermic medication in a recent number of the *Michigan Medical News*, by Dr. Wade, of Holly, led me to apply it in the manner recommended, and with very favorable results.

Extract of Malt is by no means a specific remedy, and though I have employed it in tuberculosis with little or no benefit, yet I regard it as inferior to no other agent in such cases, while its combinations constitute the most valuable means in our hands.

The Theory of Germs, and its Application to Medicine and Surgery, by Pasteur, Joubert, and Chamberland.

BY JOSEPH WORKMAN, M. D., TORONTO.

From Canada Lancet, of January 1st.

I HAVE many times stated before this Academy that there exists microscopic ferment creatures, possessing various physiological properties, from the *mycoderma aceti*, essentially an air-living organism, to the ferment of beer, which is at once an air and an airless living one, and I have often insisted upon this circumstance, that life which is manifested for even a very short time without any participation whatever of free oxygen, carries with it the phenomena of fermentation.

We have seen in the vibrio of septicæmia a *microbio* exclusively *anerobious* (living without air), which therefore could not be developed unless *in vacuo*, or in the presence of inert gases. It must therefore be a ferment. This is the fact. Whilst the multiplication of the vibrio by scissure continues, its life is accompanied by an evolution of hydrogen, a little nitrogen, and minute quantities of putrid gases. These gases do not cease to be produced until the moment in which transformation of the vibrio into corpusculous germs is about to take place. This evolution of gases during the life of the vibrio explains the very rapid tympanites of animals dead from septicæmia, and the emphysematous state of the connective tissue, particularly in certain parts of the body, as the groins, and axillæ, where the inflammation is sometimes excessive. I ought to add that all vibriones are not anerobious; that one of the most common, frequently found

on the surface of infusions of vegetable organic matters exposed to contact of air, a vibrio very flexuous and very rapid in its movements, is exclusively aerobious (living in air), absorbing oxygen and exhaling carbonic acid almost in equal volume, exhibiting thus the physiolgy of the *bacteria carbunculosa*. Want of time prevents me doing more than allude, in the passing, to this vibrio, which should give occasion for observations of much interest. This vibrio is inoffensive—being introduced beneath the skin, it produces merely local disorders of little importance. Comparing this innocuousness to the virulence of the septic vibrio, one might believe that the mode of life so different in these two vibriones, the one living *in* air, the other *out* of it—may explain the oppositeness of their action on the economy. The effects, however, of the *bacteria carbunculosa* do not permit us to remain in this belief. If this aerobious vibrio is inoffensive, it is because it can not live in the temperature of the bodies of animals. At 28° C. (100.4° F.) its movements and its multiplications are suspended, and if then inoculated, it disappears under the skin, as though digested, if we may so speak. Scientific novelties often clash with our preconceited ideas. What is all this rumpus, exclaim certain persons, about your bacteria, and your vibrones? Do we not see these infinitesimals budding in all parts? Are they not seen to abound in the dressings of the convalescent, and to abound even in the wounds in progress of cure? Has the least danger therefore resulted? I answer—What infinitely small things are you talking about? We have demonstrated that by the side of these very dangerous vibriones, there exists others very harmless, and certainly these last are far from being the only microbios devoid of all virulence. Having been led by the verification of the cause of the innocuousness of the *vibrio aerobious*, of which I have spoken, to institute numerous experiments as to the limits of resistance of microscopic beings in diverse temperatures, and having known that the *bacteria carbunculosa* is not developed, or only with much difficulty, in a temperature of 44°C. (111.2°F.), in certain liquids of culture, we thought this was an explanation of a well-known, though very mysterious fact, to wit: that certain animals are refractory to the carbunculous poison. It was impossible for us during the last year to produce carbuncle in hens. The temperature of

about 42° C. (107.6° F.), in the gallinaceæ, united to their vital resistance, opposed the development of the *bacteria carbunculosa* in the bodies of these animals.

If this conjecture was well founded, we should be readily able to transmit the carbuncle to hens by lowering their temperature. The success of this experiment was immediate. Inoculate a hen with the legs immersed in water at 25° C. (77° F.), which suffices to bring the temperature of the body down to 38° C. (100.2° F.), which is the temperature of animals susceptible of contracting carbuncle, and in twenty or thirty hours the hen dies with all the body invaded by *bacteria carbunculosa*. Certain inverse experiments have given us favorable results—that is to say—by elevating the temperature of animals which contract carbuncle, we have been able to preserve them from this terrible, and at present incurable evil.

To argument or limit the enormous potency of these infinitely small things, and to dispel the mystery of their action by a single change of temperature, is one of those facts most fitted to demonstrate what may be hoped for from the aid of science, even in the study of diseased conditions most obscure.

Let us now return to our septic vibrio, and compare it, under the relation of the formation of its germs, to the *bacteria carbunculosa*, in order the better to be convinced that microscopical organism enjoy varied physiological properties, and that we should expect from their part, very diverse morbid manifestations. Careful experiments have taught us that the septic vibrio not only can live and multiply in a vacuum the most perfect, as in the most pure carbonic acid, but that also it here produces its germs, and that free oxygen is not necessary, in any form whatever, for their function. But the *bacteria carbunculosa*, on the contrary, becomes, in a vacuum, or in pure carbonic acid, absolutely unfitted not only to live, but even to be transformed into corpusculous germs.

This last investigation is, however, one of the most delicate. If the smallest quantity of air remains in the tubes in which establishment of a vacuum is sought for, and in which the *bacteria carbunculosa* is cultured, corpusculous germs appear, and to such a degree that the most perfect air-pumps often fail to prevent the phenomenon. It was necessary to combine the operation of the pump with that of liquids capable of absorbing the slightest traces of oxy-

gen, before we could be convinced that this bacteria is essentially, in every period of its existence, aerobious.

What a difference there is then between the vibrio septica, and v. carbunculosa! and is it not wonderful to see beings so dissimilar in their modes of nutrition multiplying in the animal organism?

Another question, not less interesting, is to know if the corpusculous germs of the *vibrio septica*, after formation *in vacuo*, or in pure carbonic acid gas, are not liable to become developed from small quantities of oxygen. Physiolygy knows to-day no germination possible without contact of air—yet experience proves that the germs of the septic vibrio are absolutely sterile in contact with oxygen, whatever may be the proportion of this gas; but with this condition, that there is a certain relation between the volume of air and the number of the germs; for the first germination, stealing the air which was in solution, may become a protection to the remaining germs, and it is thus in strictness the septic vibrio can be propagated, even in presence of very small quantities of air, whilst this propagation does not take place under a free supply of air.

A curious therapeutic observation is here suggested. Let us suppose a wound exposed to the air, and in a putrid state which might cause the patient septicæmia, and without other complication than might result from development of the septic vibrio.

Now then, theoretically at least, the best means to which recourse could be had, to impede death, would consist in incessantly washing the wound with water showered over it, or in directing over it a free current of air. The adult vibrones, on the point of scission, would die in contact with air; or would become sterile. Yet more: there may be cast over the surface of the wound, air surcharged with the germs of the septic vibrio, or we may wash the wound with the water holding in suspension millions of these germs, without provoking the least septicæmia. But then, in such conditions let one single blood clot, one single fragment of dead flesh be lodged in a corner of the wound, then by the aid of the oxygen of the air, be it ever so small in extent, these septic germs, in less than twenty-four hours, give place to an infinity of vibriones, which reproduce by scission and in a short time are capable of producing septicæmia. The numer-

ous cultures which we made of the septic vibrio have enabled us to verify some curious facts of the natural history of microscopic organisms.

One of the liquids used by us for the culture of the septic vibrio was the extract which is called in commerce the *caldo Liebig*, which, after dilution in ten parts by weight of water, and having been neutralized, or rendered slightly alkaline, was raised during a quarter of an hour to a temperature of 113° C. (235.4° F.), so as to turn it absolutely imputrescible under contact with pure air. We have said that the septic vibrio is formed of minute threads which move. This is particularly the aspect under which they are met with in the abdominal serosity, or in the muscles of animals dead from septicæmia; but it is often associated in the muscles, especially of the abdomen, with small corpuscles generally immovable, having a lenticular form. These lenticles, which have sometimes a corpusculous germ in one of their extremities, were for a long time a source of embarrassment, and a mystery to us; our experiments in culture have taught us, however, that they are no other than one of the forms of the septic vibrio.

Sometimes the lenticle is terminated on one side by an elongated appendix, having thus the form of a bell-tongue. We have likewise seen the septic vibrio under the form of minute twigs, extremely short and gross, or very much attenuated; but that which is most surprising is the facility with which the septic vibrio can be reproduced without manifesting the least movement, a facility combined with a great diminution of virulence, though this does not altogether disappear.

For a considerable time we thought we had two, or several forms of vibriones, of divers forms of virulence, and that by our cultures we obtained separations more or less complete between these diverse vibriones. It is not so. We have not met, in septicæmia properly so called, any but one vibrio, in which our means of culture caused change of aspect, or facility of propagation, and virulence.

The best proof that. in our culture, indefinitely repeated, we have had, that it is a specific vibrio is that those cultures may be raised in their commencing virulence by changing their liquid. Let there be reproduced ten, twenty, thirty times, consecutively, the septic vibrio in the *caldo Liebig*, and then let there be substituted for the *caldo*, sanguineous serum slightly charged with fibrin-

ous coagula, the new culture will furnish a very virulent septic vibrio, killing, for example, with $\frac{1}{2000}$ of a drop, and the blood and serosity of the animal dead will immediately acquire a virulence yet infinitely greater, with the habitual forms and movements of the septic vibrio.

We have shown by the preceding facts, how premature, in the actual present state of our knowledge, are the classifications and nomenclatures proposed for beings which, in their aspect and properties, through external conditions, can change to such an extent as we have instanced.

In the study of microscopic beings, every method which can be availed of for separation of the numerous species, whose association is so frequent, is indispensable. The peculiarities of those ferments which live without air placed us on the track of these methods. I will allude to culture *in vacuo*, opposed to that in presence of atmospheric air. If the germs of an aerobious organism are met with, mixed with those of an anerobious one, they can only be seperated by culture *in vacuo*. The same will happen equally in a mixture of germs of a species which is at once aerobious and anerobious. Applying this method, and associating with it others known; sometimes, too, taking advantage of a happy accident, as we always do in a long course of investigation, we have found that the atmosphere and the water, those grand reservoirs whence converge the microscopic destructions of all that has life, contained very numerous species, both of the aerobious and the anerobious. Without entering into premonitions of our observances, we may say, in a general way, that the inoculation of these organisms often induces fatal disorders, which appear even to constitute affections, as novel in the specific character of their action, as in the nature of the organisms inoculated in them. The septicæmia, for example, with which we have already been occupied, is not unique. The air and the water contain germs of a vibrio a little less in diameter than that of the septic vibrio—more rigid, less flexuous, and slower in its movements. In another communication we shall describe its effects.

The following experiments make known another method of separation of microscopic germs which at some points enter into the subject already treated of. Take a quantity of fresh meat, of any weight whatever; let it be a

large quarter of mutton; then after having passed it rapidly over fire, in all parts of its surface, pass through the thickness of its tissues the blade of a bistoury, passed in like manner through a blaze; let fall into the cut thus made a few drops of common water, or introduce a small rag of cotton which has been exposed to the current of the air of the street; afterward cover the quarter of mutton with a bell glass. Make the same experiment on a similar mass of flesh passed over fire, and some drops of water perfectly deprived of living germs, which is done by raising the water to 120°C. (248° F.). If we consider that muscular flesh readily absorbs oxygen, and evolves an almost equal volume of carbonic acid, we shall readily comprehend that these drops of water are found as if inseminated by aid of the atmospheric air in presence of a culture favorable for the development of certain germs; besides it is easy to fill the bell-glasses which cover the flesh with pure carbonic acid. Observe now, what occurs in a day, or two at most, in a temperature of 30° to 40° C. (86° to 104° F.). The quarter of mutton with the pure water shows no microscopic organisms in any part; whilst, on the contrary, that with the common water, although it may not have received more than a drop of the water of the Seine, or some other dirty water, containing in every part of its mass, and even over its entire surface, anerobious vibriones, more or less rapid in their movements and their propagation.

The experiment is still more notable when there has been deposited in a central point of a piece of flesh a drop of a culture of a vibrio in a state of purity, *i e.*, without intermixture of other species. The septic vibrio, among others, penetrates, and multiplies with such facility, that every microscopic bit of the muscle presents them in myriads, and their corpusculous germs also. The flesh, in these conditions, is totally gangrened, green on its surface, tumefied with gas, easily sundered, and forming a sanious fetid pulp. What a convincing demonstration, though indirect, of vital resistance, or to use an expression more vague, and at the same time more clear, of the influence of life in combating the consequences, so often disastrous of wounds in surgery. By the water or sponge with which we wash, or the lint with which we cover a wound, we may deposit in it germs which, as you have well seen, are gifted with extreme facility of propa-

gation in the tissues, and we might infallibly bring death to our patients in a short time, did not the life in their members oppose the multiplications of the germs. But alas! how often is this vital assistance impotent? how often do the constitution of the wounded, his moral state, the evil conditions of the curative process, oppose but an insufficient barrier to the invasion of the infinitely little beings, with which unwittingly you cover the injured part! If I had the honor of being a surgeon, conscious as I am of the dangers to which the germs of microbios sown broadcast on all objects, but particularly in our hospitals, expose the patients, not only would I use no instruments not perfectly clean, but even after having cleansed my hands with the greatest care, and having rapidly submitted them to a brisk heat, which would expose one to no more inconvenience than is experienced in passing from hand to hand a piece of burning charcoal, I would employ only lints, ligatures, or sponges, previously exposed to an atmosphere of 120° C.(252° F.). In this manner we should have no fear, unless as to the germs in suspension about the bed of the patient; but observation has shown us daily that the number of these is, so to speak, insignificant, compared to those scattered in the dust covering the surface of objects, or in the cleanest common water. And, besides, nothing is opposed to the undertaking of the antiseptic process of treatment; but with the precautions which I indicate, it may be very much simplified. Phenic acid, not concentrated, and consequently without inconvenience from causticity to the hands of the operator, or to his respiration, may be advantageously submitted for the concentrated.

The importance of the subject is sufficient to warrant a few remarks respecting the risks of death in consequence of the most simple wounds. I shall now allude to a vibrio which has not yet been noticed, whose properties cast new light upon the great "rock" of surgery—"purulent infection." When we take for seed, from a culture *in vacuo*, some drops of common water, it may happen that we obtain a single organism, because common water frequently contains certain germs in unity, when taken in very small volume. This is even a means of separation of germs. If the cultures thus made with diverse common waters be multiplied, the vibrio of which I desire to speak is frequently met with, whose principal charac-

ters are these. It is a being at once aerobious and anerobious. In other terms, cultivated in contact with air it absorbs oxygen and gives out an equal volume of carbonic acid gas, without formation of hydrogen gas. In these conditions there is no ferment; on the contrary, cultivated *in vacuo*, or in presence of pure carbonic acid gas, it multiplies, but not without, this time, giving a true fermentation, with evolution of carbonic acid and hydrogen gases, as its life is accomplished without air. This is a new confirmation of our principle, that *fermentation accompanies life without air*—a principle which I am persuaded will one day dominate our conceptions of the *physiology of the cell.*

In the first hours of the development of our vibrio, the rapidity of which, principally in contact with air, is considerable, is under the form of small rolls, very short, gyrating, making pirouettes, advancing, swelling out, and in a soft, gelatinous, flexuous state, which is very marked notwithstanding the small size of the individuals. In a short time all movement stops, and then it resembles absolutely the *pacterium termo*, slightly constricted as this is, in its thickness, yet specifically very different from the *pacterium.*

Inoculate, with a few drops of this culture, a guinea-pig, or a rabbit, and pus commences to form, and to become visible in a few hours. In the succeeding day, an abscess is formed, which contains an abundance of pus. This, it will be said, is nothing surprising, because it is known that any solid object whatever, as particles of carbon, a bit of wool which a bullet drives before it, will cause pus to form. I will add that these last experiments have been realized by us with matters previously water-killed, and not containing microscopic germs. But the activity of our microbio, considered as a generator of pus, even though this property may be due only to the quality of a solid body, will be sensibly augmented by the fact of its possible multiplication in the bodies of animals.

The following experiment may serve for confirmation of this fact: let a culture of this organism be divided into two equal portions; one to be water-killed; at a temperature of 110° C. (230° F.), which kills the microbio without in any way altering its form or volume; then inoculate separately, on two similar animals, equal portions of the water-killed and the non-water-killed half. It is then

easily verified that the latter gives more pus than the former, which, in the meantime, furnishes it as any inert solid body would do. Let us add that if the pus formed in each of the two living animals be sown separately, we shall see that what has been tried on the animal which received the water-killed organisms is absolutely sterile, whilst the pus of the animal which received the organisms of the non-water-killed readily produces, in abundance, the same organisms.

(*To be continued.*)

Varieties of Pulmonary Phthisis.

EXTRACTS FROM A LECTURE DELIVERED IN BELLEVUE HOSPITAL MEDICAL COLLEGE, DECEMBER 10, 1878.

BY ANDREW CLARK, F. R. C. P., LONDON.

. . . I WILL give you the definition of the term phthisis. I understand by the term phthisis the assemblage and progression of symptoms which are due to an ulcerative or superative destruction of more or less circumscribed non-malignant deposit in the lung. When we examine the lungs of patients dead of phthisis, we may, I think, be justified in classifying the diseased lungs into three distinct groups. I may say, we can do that without a great degree of refinement, and we can classify them according to what is apparently the dominant element of destruction in the lung. In one group, obviously, the dominating anatomical element is what is called tubercle. In the second group the dominant destructive agent is some sort of pneumonic exudation. In the third group the dominant element is some kind of fibroid tissue. Wherefore at this stage we are permitted to say there are three varieties of phthisis, speaking after their anatomical elements: one in which the tubercle is the dominating element—tubercular phthisis; one in which some kind of pneumonic exudation is the dominating element—pneumonic phthisis; one in which some kind of fibroid tissue is the dominating element—and we call it fibroid phthisis.

Now, we are at once brought face to face with one of the difficulties surrounding this disease which makes it quite difficult for the student to understand. When I say

that one of these varieties may be called tubercular phthisis, I have said, and I now repeat it, that the dominating destructive agent is tubercle. But tubercles when deposited in the lung irritate it, and as there are very different textures in the lung—simple cellular textures and simple fibrous textures—they excite in these textures secondary changes. In tubercular phthisis these changes are of two kinds, which are more or less prominent.

When tubercle is deposited in the lung, and gives rise to irritation, it either affects the cell structure of the lung, producing some sort of pneumonia, or it affects the fibrous connective-tissue element of the lung, producing some sort of fibroid complication. And these secondary complications occur in the variable degrees, so that, in some cases of tuberculous lung, there is a very large quantity of fibroid material with but little pneumonic material; while in other cases there is a large quantity of pneumonic material with but little fibroid material. You will see, by and by, that this is an important point with regard to the history of phthisis; for according as the secondary complication is pneumonic or fibroid, so is the clinical history of every case of phthisis. Now that being so with regard to tubercle, we have the same effect with regard to pneumonia. Pneumonia occurs alone, but when the pneumonic exudation is not absorbed when it remains and disintegrates in the lungs, a new source of irritation, so to speak, is established, which begets a secondary irritation, and we may have complicating pneumonic phthisis, fibroid tissue, or we may have even the deposit of tubercle. The same thing may be said of fibroid phthisis, although fibroid phthisis which has fibroid tissue for its destructive agent may occur alone, and does so occur more frequently than the other forms, yet it may sometimes have a secondary complication either the cheesy or tubercular change.

Now there is a second kind of complication of which I wish to speak before I proceed further. We all understand what is meant by tubercle, but we do not, probably, all understand what is meant by pneumonia. There are at least three anatomical varieties of pneumonia which may be mentioned at this point. There is the common form of croupous pneumonia, which occurs as an acute disease and usually affects the base of the lung, the anatomic element of which is a cell something like the white

cell. It runs its course in from seven to nine days, and usually terminates by the melting and absorption of the exudation, and final restoration to health.

But there is a second form, which has received the name of caseous pneumonia, of which we have an example illustrated in this diagram. This caseous pneumonia, as you all know, presents a peculiar appearance to the naked eye. The exudation looks like moist cheese, and the anatomical element is chiefly an epithelial-like cell.

There is a third variety, which is called catarrhal pneumonia, that is, a kind of pneumonia which occurs in connection with bronchitis.

Now the last of these three forms of pneumonia is capable of producing an exudation, which not being absorbed, undergoes retrogressive changes, and brings the case in the pale of our definition of phthisis. But it will not be necessary to allude to this to-day, and I will omit the question of catarrhal pneumonia altogether, not only because it is debatable ground, but because it would be difficult to make it clear. I will content myself with alluding to common croupous and common cheesy pneumonia as conditions in phthisis.

There is one more difficulty: I think that any one, by looking at these diagrams, will admit that their appearances are sufficiently distinct to warrant dividing them into three groups. There is another difficulty still. It is claimed by pathologists in France, and by many in England, and many in America, that however unlike all these appearances may be, although tubercle, a little yellowish, grayish body, standing out upon the cut surfaces of the lung, may appear very different from cheesy pneumonia, that histologically and structurally they are homologous, and that caseous pneumonia is nothing but infiltrated tubercle. Nay, some pathologists go a little further, and, straining the use of language, we will say that in these fibroid lungs the fibroid masses are still homologous with tubercle; that you do not see the tubercles there, but that the tubercles were once there, and as they were formed they were converted into fibrous tissue, and that from the fresh fibrous tissue so formed at any time may be developed distinct tubercle. This is, I say, straining language further than it is warrantable, but it is still held as an argument by able observers in England.

I will not give way to this argument, but I repudiate

the histological doctrines that these forms of pathological degeneration in lungs are one, but it will not be necessary to enter into this subject to-day because I think I have a much higher argument in defense of my views in reference to these changes. That argument is this: I think the truest criterion to the difference in pathological products is not to be found in an anatomical structure. It is to be found in the life history, so to speak. This I take to be the most important point with reference to diagnosis, for forms of anatomical expression are but few, consisting chiefly of cells, fibers, and granules; in fact, we can enumerate the destructive elements of disease upon our fingers, while the dynamic states of which they are an expression may be many. Furthermore, there are forms of anatomical expression which clearly recognize different life states. For instance, one which occurs to me:—When we place under the microscope a section of a tubercle and a section of Peyer's gland from a typhoid fever patient, I should like to know who has ever been able to distinguish between the two. The morphological changes are the same, but there are important clinical differences in the diseases which have given rise to these morbid changes. So, I say, we have for the present a structural argument; but I place the argument for distinction upon a much higher ground, and I repeat that the true criterion of difference between the pathological changes is to be found much more certainly in their life histories than in their final anatomical expressions. Before leaving this question, I will make another observation in regard to structural characters, namely, that the characteristic anatomical element of tubercle is the lymphoid cell; that the distinguishing character of fibroid degenertion is a fibroid mass with fibro-cellular elements in it. Now, the question arises whether such mere pathological curiosities which can be distinctly recognized in the dead-house can find adequate expression in the wards of the hospital. If that were so, I should be content to leave them where they are, but I think these distinctions are not merely pathological curiosities, for if I follow them into the wards there can be recognized much more distinctly than in the dead-house, these three groups of phthisis which have been anatomically characterized. The better to illustrate what I have said, I will sketch the history of a case from each group.

First, I will give a representative case of tubercular phthisis, that form of phthisis in which the dominant anatomical element is tubercle, plus the secondary consequences in some form of pneumonia and some kind of fibroid tissue. We shall suppose the disease occurs in a girl about eighteen years of age. She has large pearly conjunctivæ, flushing cheek, and early symptoms of exhaustion. When the doctor finds her in this condition he makes a physical examination of the chest, and finds nothing which will account for the phenomena and constitutional disturbance. By and by she begins to have fever in the evening, and as yet no evidence of lung trouble can be found. Perhaps six months after the beginning of this the physician discovers simply a crepitation at the summit of one lung, and he now knows definitely that the case is one of tubercular phthisis. Then begins cough, expectoration, and irregular fever.

The extension of the disease is steady, but the constitutional symptoms take the lead of local signs. The patient goes on, the disease gradually progressing, and probably within four years, at most, the case comes to an end. Now, before leaving that class of cases, let me make an observation—that the slowness or rapidity with which the case progresses, depends upon the secondary complication. I think it is almost an axiom that tubercle *per se* does not kill. If by any means we can keep the patient from having a further increase of tubercles, and what is more frequently possible, from further pneumonic or fibroid complications, the patient may live for many years.

It is according to the character of the secondary complications that the future of a case of pulmonary phthisis is determined. If the secondary complication is fibroid, the progress of the case is slow, and the patient may enjoy comparatively good health for a long time. If, on the other hand, the secondary complication is pneumonic, then there are developed in the lungs little pneumonias which produce fever and wasting, and the case is one which always progresses more or less rapidly.

In tubercular phthisis, with secondary fibroid complication, the prognosis may be very good indeed. It is in such cases that some people think by drinking whisky that a secondary fibroid complication takes place, and the life of the patient is prolonged beyond the average.

The peculiar clinical feature, however, of tubercular

phthisis, is that at first there are but few local signs with profound constitutional disturbance.

Now we come to the clinical character of cases of pneumonic phthisis. The two kinds of pneumonia which we have taken into consideradion are the ordinary croupous pneumonia and the cheesy pneumonia. Now I will represent croupous pneumonic phthisis by giving a specimen case. It is typical, and will answer for many cases. Here is the lung of a patient who was well known in the London Hospital; his name was MacIntosh: he came into the hospital with all the usual signs of pneumonia. The pneumonia, however, had some features which were exceptional, and which led me to give the prognosis in the case which I did. He had the usual symptoms of pneumonia, with this qualification: dullness over the seat of the disease was more complete than usual. There was diminished tactile vocal fremitus instead of increased. Instead of bronchial breathing there was feeble breathing, and, in short, there were present symptoms almost like those present with pleuritic effusions. There was no tubular breathing. There was diminished vocal resonance; and the dullness was considerable, but as there was no displacement of organs, no projecting of intercostal spaces, and there were profound constitutional symptoms, I had no difficulty in arriving at the conclusion that the case was one of pneumonia. I then predicted that we were certain to have trouble with this case, for I had observed that when there remained diminished tactile fremitus, and such physical signs as have been enumerated, the lungs were unable to fulfill their function, and so it was with MacIntosh. He expressed himself as feeling quite well, but the physical sounds remaining were diminished breath sounds, and diminished vocal resonance. He got quite well and went out of the hospital, but had this solid mass in the right lung. He was not long out, say about two months, when he returned. I then watched him for twenty-two months. The course of the case was simply that of ordinary pneumonia, in which the pneumonic exudation was unabsorbed, probably from local circumstances, for there was no family history of ill-health, and there were no constitutional symptoms. There was probably an increase and a suppurative disintegration of pneumonic exudation; at all events the pneumonic lung broke up. I then predicted another thing, in which I was quite wrong. For,

it had been my experience that whenever a pneumonic exudation broke up, that within a month of that time, evidences of what is called tubercle would appear in the other lung. I have not known an exception to this law, and in Peter MacIntosh, when the pneumonic lung began to break up, there were evidences of something wrong in the other lung and I then made the prediction that tubercle was developing there. At the end of twenty-two months he died, and here is an illustration of what we found upon post-mortem examination. There is nothing here, as you see, which can be called tubercle—there is simply lobular pneumonia. Now, that is a rather quick example of what may be called pneumonic phthisis arising from a common inflammation.

The diagnosis of these cases is not very difficult, because we have a slow inflammation followed by trouble at the base of the lung; the trouble there never disappearing, and being followed at last by symptoms of phthisis. And if to this you will add the fact, that the summits of both lungs are early involved, you are probably safe in making the diagnosis of croupous pneumonic phthisis.

Here I am called upon to make another qualification. It is in the early stages of these affections that I believe we can more readily recognize them. In the later stages it is difficult, and the reason for this is plain. In the early stages of these affections the distinctive anatomical characters can be made out from the history of the case, but in the later stages the whole symptoms are due more to the destruction of lung tissue than to the nature of the destroying agent. Hence, it is most important that we should not forget that in the later stages it is next to impossible to recognize these distinctive changes. It is in the early stages alone that we can be sure in making such distinctions, and then I think it can be done.

(*To be continued.*)

Mr. Lockyer's Discovery.

UNQUESTIONABLY there is much that is purely sensational in the statements, in the newspapers, regarding the results of Mr. Lockyer's alleged spectroscopic researches upon changes in the elementary forms of matter. At the present time of writing, nothing has reached us which should

lead to the conclusion that "alchemy" is to be "revived," or that theories upon which chemical philosophy rests are to be swept away. It is, however, a startling fact that so distinguished and accurate an observer as Mr. Lockyer should have ventured upon such an announcement as he made to the French Academy, November 4th. This was to the effect that reasoning from the analogies furnished by the behavior of known bodies, he had demonstrated that independently of calcium, many bodies considered to be elements are really compound. Photographs of spectra and details necessary for the "conviction of the Academy" were promised, and it was understood that the subject would be brought before the Royal Society on an early occasion.

A correspondent of the *Daily News* states that on Monday, November 25th, in the presence of a small party of scientific men, Mr. Lockyer, by the aid of a powerful voltaic current, volatilized copper within a glass tube, dissolved the deposit formed within the tube in hydrochloric acid, and then showed, by means of the spectroscope, that the solution contained no longer copper, but calcium. In a similar way, it is alleged, nickel was converted into cobalt, and calcium into strontium. It is evident that here not only the science of chemistry is on its trial, but that of spectroscopy, as well as Mr. Lockyer's experiments. On the day following this announcement, Mr. Lockyer wrote to the *Daily News*, stating that "there was no meeting in my laboratory yesterday, and no dissociation of calcium into strontium." It appears from this, that the eagerness to provoke excitement and wonder may have served to place the distinguished gentleman in a false position. However, we shall know more in a few days, and possibly before the *Journal* goes to press, explanations will reach us. It is quite apparent that some new and remarkable results have been reached in spectroscopic analysis, and that a new topic for discussion in the scientific world has been opened. Whatever this new wonder of Lockyer's may turn out to be, it will possibly transfer the astronomer from "a couch of roses to a bed of thorns." He is now to take his first lessons in abuse, for no man, however high his position, can in this age startle the scientific world with new views—views tending toward a revolution in accepted theories and principles—without bringing down upon his head an avalanche of ridicule, misrepre-

sentation, and abuse. The respected and trusted Lockyer must now take his turn. Crookes, Wallace, and Varley have within a few years tasted of this cup of bitterness, and have learned the lessons which were taught to Galileo, and others, centuries ago. Science cherishes as bitter a spirit of envy and persecution as theology, and its controversies are as severe and unrelenting. As is well known to our readers, the views which Lockyer's alleged experiments show regarding the nature of what is called matter, have been often discussed by us in past years. We believe that as little is known regarding *what matter is*, as what electricity is. We know of the *effects* of substance and force, and that is about all. The *substance* of things evades all our methods of research, and probably will until the end of time.—*Boston Journal of Chemistry.*

MICROSCOPY.

A NEW OBJECTIVE.—It is stated on the authority of Mr. Charles Stodder, his agent, that Mr. Tolles, of Boston, has recently made a one-twenty-fifth object glass that works dry, water immersion, glycerine immersion, and oil immersion. We presume that the working of the objective through these various fluids is brought about by manipulating the collar of the adjustment. As lenses are made to operate either dry or immersion, by turning the adjusting collar, we suppose it would not be difficult to so construct them that by the same means they would perform satisfactorily through immersion media of varying degrees of density.

MICROSCOPICAL SECTION OF THE CINCINNATI NATURAL HISTORY SOCIETY.—Recently a Section of Microscopy was constituted in the Natural History Society of Cincinnati. Some fifteen or twenty gentlemen have attached themselves to this section, and are taking considerable interest in its proceedings. The meetings are held the first Friday of each month in the comnodious rooms of the Society, No. 108 Broadway. So soon as a thorough organization is constituted, and the members become harnessed to the work, we predict a career of usefulness and prosperity.

At the last meeting Prof. Warder, of the Cincinnati University, made an interesting address upon light and

some of the phenomena resulting upon its passage through prisms and lenses of various kinds. He will continue his remarks at the February meeting. Dr. J. A. Thacker, on request, promised, at the February meeting, to exhibit and explain the action of a couple of "glycerine" objectives made by Bausch and Lomb, invented by E. Gundlach; and also to exhibit some other objectives, and a number of interesting slides.

We hope that before long the proceedings will be of sufficient interest to publish them in the NEWS. We look forward in expectation of some valuable papers being read that we may be able to present to our readers. If any gentleman residing at a distance, and can not attend personally, is desirous of presenting a paper, by mailing it to the MEDICAL NEWS, it will be handed to a good reader and be read to the Section.

The Microscope in Medical Jurisprudence.

BY PRESIDENT H. C. HYDE, OF S. F. MICROSCOPICAL SOCIETY.

THE regular bi-monthly meeting of the San Francisco Microscopical Society, held Thursday evening, November 21st, proved even more interesting than usual. Both Dr. Harkness and Mr. H. G. Hanks (honorary members) were present, the latter the first time since his return from Europe. The topic of the evening elicited many conversational contributions worthy of record, but we pass these to give a valuable paper, summarizing in an exact and telling form the essentials of the topic, which was presented by President H. C. Hyde.

THE MICROSCOPE IN MEDICAL JURISPRUDENCE.

The use of the microscope in medical jurisprudence has been mainly confined to the determination of the kind of blood in blood-stains, supposed to have resulted from the commission of crime—usually murder, though there is another class of cases involving crimes quite as heinous, which I shall mention later, where the microscope is frequently a determining agent.

The existence of blood is as easily ascertained by the microscope as the details of a distant landscape are made out by the telescope, or as a mass of nebulous light is re-

solved into separate and distinct points of light by the same instrument.

But this fact alone is not always of enough significance to determine the guilt of the accused, for the mere presence of blood may arise from other causes than the crime with which he stands charged. It may be the blood of some of the domestic animals, and is commonly alleged to be such—as of the ox, dog, pig, rabbit, or some of the domestic birds.

It is here that the best powers of the microscope, and the highest skill of the observer, are brought into play, to determine the truth or falsehood of such a declaration, and oftentimes to complete the only wanting link in a chain of evidence that consigns a human being to an ignominious death—the extreme penalty of the law.

It has been popularly supposed, and very generally believed, that the blood of each species of the animal kingdom presented marked and distinctive characteristics, which would enable microscopists to distinguish them as easily as a naturalist would distinguish species.

But such is not the case. There are, it is true, great differences between the blood of the mammalia and that of the reptilia, and of birds and fishes, and there are also some marked differences in the bloods of the mammalia. But, in general, the only difference among members of the same order is in the average size of the corpuscle.

It is apparent that this difference in size is liable to be affected by the expansion or contraction of the corpuscles in the act of drying, and it is rarely under any other conditions than the dried clot or stain that the microscopist is called upon to make the examination.

In consequence of this difficulty, many able microscopists, who have specially investigated the subject, have entertained serious doubts as to the possibility of distinguishing the blood of man from that of other mammalia, and how far, as Prof. Virchow, of Berlin, has observed, "any microscopist may hold himself justified in putting in question a man's life on the uncertain calculation of a blood corpuscle's ratio of contraction by drying."

But the elaborate researches of Prof. Gulliver and Carl Schmidt, to determine the relative size of the blood corpuscle in different species of animals, have now given data so frequently verified, that the examination of blood-stains by the microscope has become one of the most reliable

methods yet suggested for the discovery of crime in cases where the presence of the blood of the victim is an important item of evidence.

They have ascertained and established the fact, abundantly verified by other observers, that the blood corpuscles of man, the ox, sheep, dog, pig, rabbit, and several other animals, may be absolutely distinguished from each other through differences in average size, ascertained by micrometric measurement; and while these differences may be minute, they are constant in each species, and so marked under the use of high powers, that it is hardly possible for a skilled observer to mistake one for another. Indeed, as Dr. Richardson, of Philadelphia, an extremely able and conscientious worker in this direction, has happily expressed it, these blood corpuscles may be compared to the different sizes of shot, and "it is obvious that the shot dealer in one case, or a skillful microscopist in the other, would more quickly and surely *distinguish* two analogous sizes of red blood corpuscles, or of leaden *globules,* from each other, than could an inexperienced person in either occupation. So that whilst we might be in doubt whether the shot dissected out of a body was a No. 1 or No. 2, we could have no hesitation after measuring it with a gauge in declaring it to be too large for a No. 5 and too small for a No. 8, precisely as the corpuscles of man's blood might be confounded with those of a monkey's, but on measurement are seen at once to be too large for those of an ox or sheep."

To quote still further from Dr. R.:

"It must be remembered, too, that whilst the relative differences between corpuscles of human, ox, and sheep's blood remain the same, the absolute difference becomes more perceptible in proportion as the disks are magnified by high powers, so that when one corpuscle appears 9.8 of an inch across and another $\frac{8}{8}$ of an inch across, one can hardly be mistaken for the other, any more than a twelve-inch shell could be mistaken for a six-inch shell, even by a very careless person."

Ordinarily, in criminal cases, the microscopist is called upon to determine, not whether a particular specimen is human, as distinguished from all other kinds of blood, but to discriminate simply between the blood corpuscles of a man and an ox, and a man and a horse, or a man and a sheep, and so establish or disprove the defendant's "story

as to how his clothing or other articles became stained with blood."

The ascertained sizes of some of the blood corpuscles are as follows, approximately:

Man,	1-3200 of an inch.
Dog,	1-3625 " "
Ox,	1-4260 " "
Pig,	1-4230 " "
Red deer,	1-4320 " "
Cat,	1-4400 " "
Horse,	1-4600 " "
Sheep,	1-5300 " "
Goat,	1-6360 " "

It will be observed that while the blood corpuscles of some of the lower animals closely approximate each other in size, they are yet so much smaller than those of man as not to be at all liable to be mistaken for those of the latter.

This fact fully answers the objections of those who agree with Virchow that a man's life should not be put in question "on the uncertain calculation of a blood corpuscle's ratio of contraction by drying;" because, if the blood in question is that of a human being, the contraction of its corpuscles would only render it more liable to be taken for ox's blood, and so diminish the weight of testimony against the prisoner, while all the other blood corpuscles enumerated, being originally smaller than the human, could not possibly undergo any change that would make them nearer resemble the human. The chances of error (if error occurs) are, therefore, all in favor of the accused.

As an illustration of the accuracy of these micrometric measurements, Dr. Richardson, with a Ramsden's cobweb micrometer, measured a series of disks which had been previously measured, under several different objectives and forms of apparatus, and compared the average to be 1-3266 as against 1-3236, the average of the former measurements—the total deviation from the true size being only 1-352,292 of an inch; the results being those of an independent observer, seeing the objects for the first time, and determining their magnitude under a magnifying power and measuring apparatus entirely different from those of the former observer. Well may the microscope be called an instrument of precision.

It has been boastfully, but truly, of course, claimed of

the spectroscope that it will detect the presence of blood to the extent of the thousandth part of a grain only. The microscope, in the hands of Dr. Richardson, and with the aid of the very delicate balance used at the United States Mint, at Philadelphia, has far exceeded that, for he has obtained a quantity of blood weighing in round numbers the 1-12,000 of a troy grain, and this infinitesimal quantity, moistened under the 1-25 objective, showed many hundred well-defined blood corpuscles, ten of which measured with his micrometer averaged 1-3494 of an inch in diameter, and "could therefore," as he expresses it, "by this criterion of superior size alone, be diagnosticated from the corpuscles of an ox, sheep, or pig, with the same feeling of certainty with which any surgeon could testify that a perforation of the skull, only half an inch across, could not possibly have been made by a bullet measuring an inch in diameter."

Dr. Piper, of Chicago, has devoted a great deal of research to this subject, and has verified the observations of Schmidt by a novel system of measurement, capable of great accuracy in the hands of a skillful and careful observer, under certain conditions.

He prepares on a piece of paper a figure having rectangular sides, a parallelogram or square, according to the number and arrangement of blood corpuscles he may draw within the lines. Then with the camera lucida he draws the outline of a corpuscle in the corner of the figure, and proceeds to draw the images of other corpuscles in rows until the figure is completed.

By this plan it can readily be seen how the different corpuscles compare in size, and figures can be made containing only the smaller and larger sizes, respectively, for the purpose of making complete tests of the average dimensions.

When completed, the rows in the figures are measured in two directions with an ordinary rule, very accurately, of course. The sum of the measurements of each row in two directions, made with an ordinary rule, is divided by double the number of corpuscles contained in the figure. This gives the average apparent size of the magnified corpuscle, and this, divided by the magnifying power, gives the actual average diameter of each corpuscle.

Several tables can be made, each containing fifty or more corpuscles, and a still closer average obtained.

These results may further be verified by micrometric examination in the field of the microscope itself, as in Dr. R.'s plan.

Each of the methods has its difficulties, however, as well as its advantages.

In the former, the well-known factor of error in the micrometric scale is avoided, while the ascertainment of the precise magnifying power used under the constantly varying conditions of focus and adjustment for cover, is a matter of considerable difficulty, although, by a series of independent investigations, tables can be prepared to show accurately the magnifying power of a particular glass at a given point of adjustment.

While in the latter method the difficulty lies in determining the accuracy of the micrometric rulings, the fact being well known that there is so wide a variation among glass-ruled micrometers that they are rarely to be trusted for accurate measurement without being proved in many ways, at a large expenditure of time and labor. This difficulty may, however, be in the main overcome by the use of high powers, and Ramsden's cobweb micrometer.

As I stated at the outset, the examination of blood-stains is the principal use of the microscope in medical jurisprudence; but it has been used in other ways, with quite as much success, in the detection of crime. Some of these may be best illustrated by a statement of actual cases.

Some years ago there was a case of child murder in France. The child had been killed by cutting its throat, and a knife, supposed to have been used in the commission of the deed, was found in the possession of the accused. A careful examination showed what were believed to be blood-stains, in a crevice between the blade and handle, which had been overlooked in the cleansing process which the knife had gone through, and the substance was submitted to an able microscopist, who, after a thorough investigation, declared that the substance was human blood; that it was blood from the region of the throat—this fact determined by the presence of the epithelial scales peculiar to the fauces, and, furthermore, there he found fragments of rabbit fur. This array of facts was conclusive of the use of that knife in cutting the throat of the murdered child—the additional circumstance being elicited that at the time of the killing, the child had a

rabbit-fur tippet about its neck. Confronted with these discoveries, the prisoner confessed her guilt (this unnatural monster was a woman), and was executed.

Another case, which I have met somewhere in my reading, but can not now recall all the facts, was where the accused attempted to prove an alibi, and would have been successful, but for the fact that his boots were covered with a whitish mud, and it occurred to the authorities to have this examined by a competent microscopist. The examination showed that the whitish mud was diatomaceous earth, and absolutely identical in its contained forms with a deposit close to the spot where the crime had been committed. This conclusively disproved the alibi; at least, so far as the boots were concerned. The general result of the case I have forgotten.

There are other uses to which the microscope has been applied in legal cases, and these will form the subject of a future paper.

GLEANINGS.

PURULENT OPHTHALMIA OF INFANTS.—Iodine is more soluble in distilled water of cherry-laurel than in simple dis tilled water. Ten drops of tincture of iodine disappear in ten grammes (162 minims) of distilled cherry-laurel water, by a chemical transformation, the mixture being free from coloration; while in the same quantity of simple distilled water it immediately colors it, and gives, in a short time, a precipitate of iodine. Dr. Luton prepares a liquid containing one gramme (16 minims) of tincture of iodine to 20 grammes (324 minims) of cherry-laurel water, or at the 20th. It has the color of pale cognac, and forms a collyrium of unquestionable efficacy in the purulent ophthalmia of newly-born children. By means of a glass-dropping tube, this liquid is instilled between the lids four or six times per day, and these are also bathed with it as abundantly as possible. It is greatly superior in efficacy to nitrate of silver, and occasions no inconvenience.—*Union Med. et Scient. du nord-est.*

TREATMENT OF ASTHMA BY IODIDE OF POTASSIUM SPRAY.—Dr. Evrard, of Orsennes, has obtained very satisfactory results, in a severe case of asthma, from the use of a spray

of iodide of potassium. The patient, a man thirty years of age, had suffered for eight months from daily attacks of asthma, and had also been subject to chronic bronchitis for five years. At the time the treatment was begun, he had three or four attacks a day, and was reduced to a pitiable condition. After assiduous use of the spray for eight days the asthmatic attacks had almost entirely ceased. Eighteen months have elapsed since then, but the patient continues to use the spray, and the attacks have not recurred. The strength of the solution used was one to twenty. The periods of inhalation were short, but frequently repeated.—*Boston Journal of Chemistry.*

Sciatica and Profanity.—In a town near Boston there lives a good lady who suffers acutely from sciatica. She has consulted physicians far and near, but has been unsuccessful in finding any cure. Not long since she heard of a man afflicted with the same disease in an aggravated form, and it occurred to her that she would call upon him and ask whether he had ever found any thing that would avail to lessen his terrors. "Do you," she asked, "find any thing that affords you relief?" "Yes, marm," he replied, "two things." "Pray, what are they?" "*Cursing* and *swearing*," said the invalid.—*Boston Jour. of Chem.*

For Flatulent Dyspepsia.—For this form of dyspepsia, which is due to a torpid or semi-paralyzed condition of the muscular coat of the bowels, and usually attended with constipation, the following is an excellent formula:

℞	Tinc. nucis vomicæ - -	gtt. v.
	Comp. tinc. gentianæ -	dr. j.
	Tinc. capsici - - -	gtt. x.

To be taken before meals.

Treatment of Whooping-Cough.—Dr. Orville, of Lille, has treated twenty-five cases of whooping-cough by the inhalation of carbolic acid from a wide-mouthed bottle. The bottle was held close to the mouth of the child as soon as the whistling inspiration of the attack began; so that the fumes of the acid were strongly inhaled. The results were satisfactory. (A carbolic spray would probably be better.)

Urine as a Medicine.—The urine of various animals, especially the cow, is used in anasarca, urinary diseases, colic, jaundice, leprosy, etc., by the Hindus.

Book Notices.

THE PRINCIPLES AND PRACTICE OF SURGERY. By John Ashhurst, Jr., M. D., Professor of Clinical Surgery in the University of Pennsylvania, etc., etc. Second Edition. Enlarged and thoroughly revised. With 542 Illustrations. 8vo. Pp. 1040. October, 1878. Philadelphia: Henry C. Lea. Cincinnati: R. Clarke & Co. Price, $7.00.

The fact that this work has reached a second edition, so very soon after the publication of the first one, speaks more highly of its merits than anything we might say in the way of commendation. It seems to have immediately gained the favor of students and physicians.

A work of merit upon Surgery, contained in one volume, of about its number of pages, will be sought after by medical students and many practitioners. Students, especially, in attendance upon lectures, wish to be encumbered as little as possible by numbers of volumes; and a standard work, therefore, of one volume, containing all necessary information upon any particular branch, will be purchased in preference to one of two or more volumes upon the same subject, although the latter may furnish more of details. Besides convenience, the element of economy also takes part in the choice. Such a meritorious work as Dr. Ashhurst's, therefore, in which unnecessary details are excluded, as well as long quotations from different authorities, although interesting as showing various opinions upon disputed points, but not at all essential and taking up much time in the perusal of them, will be popular. We have no information from the publishers in regard to the matter; but it is our opinion, from observation, that, notwithstanding its great merits, Erichsen's Surgery is in not so great demand, since it has been enlarged and made into two volumes, as when it was contained in one volume of about the size of Prof. Ashhurst's.

In revising his work for a second edition, the author has spared no pains to render it worthy of a continuance of the favor with which it has heretofore been received, by incorporating in it an account of the more important recent observations in surgical science, and of such novelties in surgical practice as have seemed to him to be

really improvements; and by making such changes as have been suggested to him by enlarged personal experience as a clinical teacher and hospital surgeon. The general arrangement is the same as in the first edition; every part has been carefully revised, and, though a considerable amount of new material has been added, yet by a judicious typographical arrangement the number of pages has been but slightly increased.

An Atlas of Human Anatomy: Illustrating most of the Ordinary Dissections and many not usually practiced by the student. Accompanied by an Explanatory Text. By Rickman John Goodlee, M. S., F. R. C. S., Fellow of the University College. Philadelphia: Lindsay & Blakiston. Price, $2.50.

We have the first part of this very valuable Atlas, all the plates of which are beautifully colored with brilliant colors, and exhibit the parts so correctly and naturally that there is no difficulty in recognizing them. Part I. has four plates with two figures each, showing the dissections of the side and front of the neck. The muscles, arteries, veins and nerves are superbly brought to view as the dissections proceed from the surface to the vertebral column.

In speaking of this work, the London *Medical Times and Gazette* says: "This volume adds one more to the magnificent series of illustrated works, by eminent authors, now in course of publication. Mr. Goodlee's Atlas will undoubtedly take a first place among illustrated works on anatomical dissections. It is intended, by illustrating dissections not usually seen in the dissecting-room, to enable the student to understand the mutual relation of parts; and it is further hoped that, by making the dissections follow one after another, he may find assistance in working out for himself the steps by which particular organs and regions may be exposed. In the accompanying text the author has fully described each plate, and has given a description of the manner in which the dissections were made. And having made reference to their medical and surgical bearings, the work will be a very comprehensive *expose* of the subject, and will be as available for the physician or surgeon as to the student."

The work will be completed in twelve or thirteen bi-monthly parts, folio size, each part containing four large plates, two figures in each plate, each plate faced by a page of references, and each part accompanied by an octavo part containing the explanatory text; forming, when complete, a *large folio volume of plates and references,* and an *octavo volume* of from 300 to 400 pages of *explanatory text.* Price of each part (including plates and text), $2.50.

PRACTICAL SURGERY: Including Surgical Dressings, Bandaging, Ligations, and Amputations. By J. Ewing Mears, M. D., Demonstrator of Surgery in Jefferson Medical College, etc., etc. With 227 Illustrations. 12mo. Pp. 279. 1878. Philadelphia: Lindsay & Blakiston. Cincinnati: Alfred Warren. Price, $2.00.

Medical students will find this little work both convenient and valuable. Of a size that will permit it to be easily carried in the side-pocket, yet it contains a sufficiently full description of all the surgical manipulations of which it treats.

It is divided into four parts. Part I. is devoted to Surgical Dressings, and describes compresses, plasters, cataplasms, methods of irrigation, sponges, instruments used in dressing wounds, antiseptic system of dressing wounds, etc., etc.

Part II. gives full information in regard to Bandaging; describes bandages, and instructs how to bandage the various parts to which bandages are applied, as the head, hands, extremities, etc.

Part III. treats of Ligations. After giving full general information on the subject, detailed accounts are given of the ligation of different vessels, so much so that, with the book in hand, the student could scarcely go astray in ligating any vessel.

In Part IV. all the various Amputations are so fully explained that nothing is wanted

We feel quite sure that this little work will become quite popular with medical students.

EDITORIAL.

THE MEDICAL NEWS FOR 1879.—We wish all our subscribers A Happy New Year. We commence with this number a new volume of the MEDICAL NEWS—Volume XII.—and we hope at the close of the year to be enabled to look back over it and consider it to have been a happy year for the journal. Happy in that it has been more useful than ever, and that it has obtained a larger subscription list than it ever had. Every right-minded person wishes to be useful, and at the same time that his efforts to that end may be appreciated. In fact, more or less appreciation is necessary to be useful; for, unless one receives it, he will not have any one whom he may benefit. We confess to some vanity in regard to the MEDICAL NEWS; but, then, we hope it is of a laudable sort—wishing it to abound in excellencies, and so confessedly so that its patrons may be limited only by the number of members of the profession who have a couple of dollars to spare to pay for it.

We think that all who will continue to take the MEDICAL NEWS during the present year will not only find it to be fully up in value to what it has been in previous years, but very considerably superior. We will have much more time to devote to it during 1879 than any year since its commencement; and, as we admit, there is room for improvement in it, we will have the opportunity to devote to bring it about. During previous years we have received very many commendations of our journal, and we have regarded them as not undeserved; for the original papers contributed, as a general thing, were written by intelligent and experienced physicians, and, in some instances, of acknowledged learning; and the selected matter has been culled from the very best sources—from the best journals of our own and foreign countries. Receiving all the principal journals of the United States and Europe, it is as easy to select good articles as poor ones.

Prof. R. C. S. Reed, M. D., who has been one of the editors of the MEDICAL NEWS from the beginning of the journal in 1868, will retire from the editorial staff. We part with Prof. Reed with much regret. He has been a stanch friend of the enterprise, and an active worker. He first suggested the need of another medical journal in

this city, and he may, therefore, be regarded as the father of the undertaking; and, without his active aid and encouragement, it is probable that, even after it had been determined upon to begin a new journal, it would have fallen through with. Prof. Reed severs his connection only because, situated as he is, he can not bestow upon the journal any editorial work. His good wishes will attend it as ever before, and, whenever opportunity permits, he will contribute to its pages.

As was stated last month, the price of the MEDICAL NEWS will be reduced from $2.50 a year to $2.00. This reduction, however, is made with the understanding that all of the present subscribers will labor to secure new ones. We can not afford to make a reduction of twenty per cent. unless we obtain a large number of new subscribers. The same number of pages, seventy-two, will be issued monthly, and the same amount of reading matter given, as heretofore. When it is recollected that the usual price of a medical journal, of sixty-four pages, monthly, is $3.00 a year, it will be perceived that the MEDICAL NEWS is the cheapest medical monthly printed.

In conclusion, let us hope that our friends will do their best to obtain new subscribers. By so doing, they will benefit themselves; for, as the journal is prosperous, it will be improved. We do not publish the MEDICAL NEWS to make money; consequently, its income will be expended upon it. If our subscribers should so increase in numbers that, after meeting all necessary expenses for improvements, etc., there should be sufficient balance remaining to allow it, we would reduce the price to $1.00 a year.

DECEASE OF LANDON R. LONGWORTH, M. D.—This gentleman died at half past eight o'clock, on the morning of January 14th.

Although but thirty-one years of age, yet in experience, in learning, in achievements, he was older than many men whose life is longer by a generation than was his. The second son of Mr. Joseph Longworth, he was born in Cincinnati. He inherited the family traits—a quick and vigorous intellect, sterling moral qualities, pure æsthetic impulses—and his surroundings were of the order that promoted all these excellences. He was twenty or twenty-one years old when he was graduated from Harvard University. His choice of a profession had probably not yet

been made at that time, as the next two years of his life were spent in the study of painting under the direction of Hans Gude in Carlsruhe, Germany. On his return to this country, he attended the New York College of Physicians and Surgeons (the Medical Department of Columbia College), finished the course, and received his diploma. In 1873, accompanied by his friend, Dr. Fred. Forchheimer, of this city, he went to Germany and pursued his medical studies at the Allgemeine Krankenhaus in Vienna, and the Histological Laboratory in Strasburg. One year was thus spent abroad, but already in Strasburg he made a histological discovery of sufficient importance to attract the attention of the German physicians to himself. This was the beginning of a series of labors, which, had he lived to bring them to ripe fruition, would have placed him beyond all peradventure among the front rank of the scientific men of the age. Early in 1875, he was elected Demonstrator, and soon after Professor of, Anatomy of the Medical College of Ohio. This position he filled in a manner that attracted great attention to the institution up to the day of his death; he was also Pathologist to the Cincinnati Hospital, Professor of Skin Diseases at the Good Samaritan Hospital, and had in preparation a series of lectures on acoustics, etc., intended to be delivered before the College of Music. During one year (1876–77) he was editor-in-chief of the *Clinic*, and during his whole connection with the Medical College of Ohio, he was an occasional contributor to its columns. He did not write much; he was profuse in none of his utterances, but the few words he wrote were vigorous and weighty. A week ago, last Monday, he was taken sick with a cold; pneumonia resulted, and his constitution, never robust, proved too weak to stand the strain. For the unprepared condition in which the disease found him, his working habits were largely to blame. An idea of the immense amount of the work which regularly devolved on him can be formed from the enumeration of the responsible positions which he filled. But the time and labor employed in the lecture room of the college and the clinical room of the hospitals represented only the minimum of his application. His was a far-reaching mind, which grasped science as a whole, and many were the problems that were developing solutions which had but the remotest connection with his special work. He

had the inclination, the imagination, and the perseverance of a discoverer and pioneer in science, and these qualities found unremitting application in devising improvements in methods of presentation. Of late he had devoted a great deal of attention to a process of his own for injecting the finer tissues of his subjects, and in it he made use of materials the constant inhaling of whose fumes greatly weakened his lungs. This and an excess of work unfitted his constitution for battle with disease.

Justice to Dr. Sims.—Several medical periodicals in this country have lately published paragraphs containing statements similar to the following, which we find in the Detroit *Lancet*, of November, 1878:

"A correspondent of the Chicago *Medical Journal* states, that all the patients Dr. J. Marion Sims operated on while in Vienna, died within ten days of peritonitis."

It was the Boston *Medical and Surgical Journal*, we believe, that first gave prominence to this item, and that subsequently explained the manner in which the error was committed, by which an unnecessary reflection was cast upon Prof. Sims' skill as an operator.

Our Vienna correspondent, writing under date of July 15, 1878 (see September number of Chicago *Medical Journal and Examiner*, p. 295), uses the following language:

"Among these (operations) he (Dr. Sims) did three for the removal of cancerous portions of the womb, by a method called by the Germans the 'Trichterformige Excision,' which consists in cutting away with the scissors, a funnel-shaped portion of the cervix uteri, extending, when necessary for the removal of the diseased tissue, into the body of the womb itself. In fact, as done by Dr. Carl Braun, the procedure consists in removing the whole lower portion of the muscular tissue of the uterus, close upon the edge of the peritoneum. Dr. Sims' patients operated upon here, all died of peritonitis within ten days of the operation."

In other words, the three operations, all done for cancerous disease, and all involving the tremendous risks of the grave Trichterformige Excision, terminated fatally.

The great difference between this statement, and the isolated sentence which is going the rounds of the medical press, must be apparent to all. Justice to our eminent

countryman, now abroad, should lead our contemporaries who have made the blunder to retract their statements.

It is generally known to the medical profession, and those interested in bibliography, that Dr. John S. Billings, Surgeon U. S. A., in charge of the National Medical Library, at Washington, is now ready to print his great "National Catalogue of Medical Literature," as soon as Congress grants an appropriation for the purpose. This indexes under subjects, and by authors, books, pamphlets, and original papers, in nearly all of the medical periodicals of the world; including over 400,000 subject-entries, and making ten volumes royal 8vo, of 1,000 pages each. This will be of the greatest value to physicians the world over, as it enables them to find analogues for peculiar and difficult cases, and thus often to save lives. In continuation of this work, it is now proposed to publish monthly, under the editorship of Dr. Billings, and of his assistant, Dr. Robert Fletcher, M. R. C. S., a current medical bibliography, under the title of the *Index Medicus*. It will be issued by F. Leypoldt, the bibliographic publisher, 37 Park Row, New York, at $3 per year, and will enter all medical books and index the leading medical journals and transactions in English and other languages. A full list of the latter, numbering over 600, will form a part of the specimen number of the *Index*, soon to be issued.

Opium.—The United States Treasury Department reports that there have been imported, during the twenty-seven years from 1850 to 1877, 5,299,774 pounds of opium valued at $26,142,085, besides 22,565 ounces of morphine valued at $73,433, imported during the sixteen years from 1861 to 1877; also showing that the imports, for the ten years ending with 1877, exceeded by 2,057,080 pounds, or nearly 200 per cent., the imports for the ten years ending with 1859. In addition, it is believed that there has been at least ten per cent. of the amount above stated smuggled into the country.

Treatment of Diphtheria.—Dr. D. DeBerdt Hovel, in the *Lancet*, of London, of December 28, has the following to say on the treatment of diphtheria: "Elimination, then, (1) through the bowels, (2) through the kidneys. Chlorate of potash drinks should be given frequently, incessantly.

When the nose is affected, the same solution or that of permanganate of potash should be drawn up frequently through the nostrils, so as thoroughly to cleanse them. When the patient can not swallow, nutrient enemata should be given four times a day; not too frequently, if they are to be retained. For this nothing is better than Dr. Munk's mixture: a tumblerful of milk-gruel, a new-laid egg, a tablespoonful of brandy."

He thinks nothing better than a "scavenger" in producing elimination of the poison through the bowels, and speaks favorably as such of calomel, jalap, and scammony.

A CONTEMPORARY states that whooping-cough yields readily to the alcoholic tincture of myrrh (fifteen drops to the tablespoonful) in quinine, wine, or Vichy water. A tablespoonful every hour or two. This treatment in no way interferes with the appropriate remedies for tracheo-bronchitis or pulmonary congestion.

THE Russian military hospitals have consumed, during 1877, six thousand kilogrammes of the sulphate and three thousand kilogrammes of the chloro-hydrate of quinine. Enormous as this consumption is, it will be exceeded by that of the current year.

New Medical Works Preparing.

MR. HENRY C. LEA, the distinguished publisher of medical works, of Philadelphia, is preparing to publish soon quite a number of valuable medical works. Among them we notice the following:

STILLE AND MAISCH'S NATIONAL DISPENSATORY.

SMITH'S COMPLETE PRACTICAL TREATISE ON DISEASES OF CHILDREN.

EMMET'S PRINCIPLES AND PRACTICE OF GYNECOLOGY.

BRYANT'S PRACTICE OF SURGERY.

ALLEN'S SYSTEM OF HUMAN ANATOMY: INCLUDING ITS MEDICAL AND SURGICAL RELATIONS.

WELLS' TREATISE ON DISEASES OF THE EYE.

CORNIL AND RANVIER'S MANUAL OF PATHOLOGICAL HISTOLOGY.

ELLIS' DEMONSTRATIONS IN ANATOMY.

ATTFIELD'S CHEMISTRY.

FOX'S EPITOME OF SKIN DISEASES.

CHADWICK'S MANUAL OF THE DISEASES PECULIAR TO WOMEN.

THE
CINCINNATI MEDICAL NEWS.

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ORIGINAL CONTRIBUTIONS.

The Treatment of Idiopathic Headaches.

BY E. A. COBLEIGH, M. D., ATHENS, TENN.

HAVING now, in a general way, pursued our subject through its divisions of pathological classification, etiology, and phenomena, we come to that position of it wherefor all the others are studied. I refer to treatment. And when I touch on this, I enter a field full of failures—generally admitted to be very unpromising, and affording wide latitude for improvement.

Such has been our success, as a profession, in the therapeutics of headache, that not only our own confidence in the value of our remedial resources, but that of the public as well, has shaken and ofttimes been utterly destroyed. The people knowing, from experience, the inefficacy of our drugs as too often used, and the intrinsic tendency of a vast majority of paroxysms of cephalalgia to spontoneous recovery, after a comparatively brief continuance, to a large extent repudiate *in toto* our abilities in this direction. They resort to domestic remedies—to the cathartics, emetics, counter-irritants, etc., of our books—the old stereotyped plans of treatment, which have become not only venerable from age, but of world-wide notoriety. Or, equally as often, they "grin and bear it," because frequent failures to procure relief, by many and various methods, have destroyed their faith in human abilities to cut short an attack. And so, too, the medical graduate, just entering the lists of active practice, meets case after case of cephalalgia, confident of his powers to cure; he tries one after another of the vaunted specifics,

meets inglorious success, becomes disgusted, and even dreads to have a headache present for treatment. When the inevitable comes, he, too, falls into the routine courses of therapeutics, or leaves the neurosis to pursue its uninterrupted progress while the sufferer swallows his placebos; or, lastly, he resorts, in his desperation, to a wide series of experimentation with agents not "laid down in the books," until he discovers a new specific (!) or convinces himself that headaches are incurable.

Ought this to be so? By no means. Our cardinal principle in medicine should be to assist nature in recovery as fast as possible (for the term cure is inadmissible outside of surgery, if we seek to be literally correct); and, when this end can not be attained, we owe it to ourselves and our patients to mitigate suffering, or retard the progress of disease to the utmost extent within our power. Happily, there are some who act on this doctrine; and by their labors we gain, from year to year, new knowledge of the subject, better appreciation of what needs to be done, and suggestions which are already yielding more satisfactory results in cephalalgic therapeusis.

Few cases of idiopathic headache present for treatment which can not be materially relieved, if not entirely eased of pain, in a reasonable length of time. But success depends exclusively on a full cognizance of the existing head states, and the adaptability of remedial measures to rectify abnormalties there. Promiscuous medication is worse than useless; routine treatment, like a shot in the dark, more apt to miss than to prove effective; and, where the pathological condition is manifested so clearly as to fall within our powers of recognizability and relief, non-interference becomes culpable.

Perhaps I may suggest nothing in the least novel, in my present paper, as to what remedies we can use. But, perchance, my reasoning as to the *modus operandi*, and applicability of those already known and used, may be new to at least some of my readers, whether original with myself or not.

When I use the term cure in the course of my article, the reader will please bear in mind that I only use it, where unqualified, in a relative sense. When I speak of a cure of headache, I refer simply to the single attack of which I am treating, not to that peculiar dyscrasia which renders its victim an easy prey to frequent returns of the

same affection. To mitigate or dispel the neural anguish of a paroxysm of cephalalgia, and to radically change the individual so that the ordinary causes of such a state no longer produce their usual effect on him, are two radically different things. While the one may often prove a trifling accomplishment, the other requires powers which are seldom attainable by us, with our best efforts. The former can, in most cases, be accomplished; while the latter is of rare frequency.

There are two courses which may be pursued in an ordinary headache, whatever its nature or etiology; 1st, remove the cause; 2d, anæsthetize the nerves, so that the cause may not, through them, be productive of pain. The first plan is that, *par excellence*, to be adopted, ALWAYS, when possible; and not only in cephalalgia, but in the treatment of every morbid condition with which we cope as physicians. To remove the cause of bad health, of actual disease, of altered function or structure—aye, of death itself, so far as human means can do it—is the one great object of our science and art. Everything is absorbed in this, our whole fight is in this direction; all else are but side-issues, collateral in their nature, or necessitated by failure, in whole or in part, to attain the primary and absorbing *ultimatum* of our labors.

If, then, we adopt it, as a cardinal rule of action, to seek out the source from which a headache flows, having found it, the next duty is plainly to abolish that source. The cause once removed, further necessity for remedial interference on our part generally does not happen. Nature, unassisted, is adequate to restore the systemic balance in a reasonable length of time, doing it better and surer, without our goading or meddling, than we could possibly do it ourselves. Sometimes, however, her powers have been so long held in abeyance by the operation of that cause which, primarily, set up disturbance, that they seem to really need assistance ere their usual vigor can display itself. Here we are forced to go a step further with our remedies. We have obeyed the injunction of our teachers, the cause is removed, and yet reaction proves tardy or wholly wanting. What is wrong? The original source of mischief has caused other pathological states to spring into existence, which act as secondary causes for the perpetuation of disturbances. Here we must not only take away the cause of primal irregularity, but are forced, also,

to treat co-existing evils ere our cephalalgia will cease. In these two propositions, then, is embodied the plan of therapeutics that should always obtain with us in headache, when practicable—removal of the main cause; proper attention to resultant complications.

But what about the second plan mentioned? Simply this: it should never be resorted to alone, when the first can be put into practice. To obtund those agents of pain —the nerve centers and filaments—is by no means bad practice, even at the beginning of treatment, and when the cause of pain is both cognizable and capable of removal, provided such course be conjoined with the speedy taking away of said cause. But it is bad practice if the physician lets himself rest contented, after producing nervous anæsthesia, and fails to do more. There are cases, however, where simple deadening of the nerves is justifiable and to be recommended, where it may prove the only rational course to be pursued, and where the practitioner may feel that he has done all that could reasonably be demanded of him. I refer to those instances which elude our most rigid search for etiological information, where vigilance, close scrutiny, patience, and experience all fail to elucidate the problem of origin, and, oftentimes, even of pathology. Here we are at sea; landmarks are wanting; our detective powers are at bay; the subtile agent of disease baffles our best skill, and circumstances beyond our control conspire to show us our ignorance, taunt our abilities, and render unsound our judgment. Here there is pain, often intolerable. We can not refuse to extend some kind of aid to the sufferer, and we are utterly unable, unless by blind experiment and a favoring "chance," to remove that which is giving rise to the agony. What do we decide on? That plan which we see to be the most rational, all things considered. We cut off the sensibility of the sufferer to his pain, and thus enable him to bear up until nature has time to cast off the cause of irritation, or so far accustom herself to its action that he ceases to be disturbed thereby. Each of the two plans of treatment that I have discussed will be readily recognized as applicable to all of the varieties of headache considered in my previous theses. And, because of their ready applicability, they may be designated general plans. So plain are their indications that they would suggest themselves naturally to the enlightened and scientific physi-

cian; and so simple as, perhaps, to have scarcely deserved mention by me. But their importance is vast, pivoting the levers of success and failure; and so intimately concerning my subject, that an omission to mention them would have seemed an unpardonable oversight.

With these general principles impressed forcibly upon our minds, we may turn to the consideration of such special measures as are applicable to the four varieties of cephalalgia. And, now, it becomes necessary to abridge the uses of what we may mention as remedial agents; because generalization is already set forth in every particular that extends to all the classes of our present division of headaches, and the remaining observations can only apply, separately, to the several individual varieties. Let us, then, take up the classes in the order of their previous consideration. This brings us to hyperæmic headaches, including both active and passive. There is a natural and necessary subdivision of this variety, as indicated by the above terms, for purposes of treatment. While an engorged state of the cephalalgic region obtains in both, the symptoms vary considerably, as set forth in my last article, and the methods of relief, to be efficacious, must, to a certain degree, be radically different. First, then, I will discuss active hyperæmia, or determination of blood to the part. In well-marked cases the diagnosis is not difficult, while in those of less severity it may be. In the former, symptoms of fullness, distension, pressure, are so pronounced as to point at once to the indications for treatment, viz: keep the blood as much as possible from the head. If the attack has come on suddenly, from sun-heat, excitement, injury, passion, from the reaction of fright, or from any other obvious cause of like nature, the patient must at once be removed beyond the further influence of said excitant, where possible, and shielded from its continued operation. Rest is one of the very best remedies for active hyperæmia, the head being elevated and cold applied. Sometimes warmth proves most agreeable, soothing the tense, hot surface, and equalizing the circulation more rapidly even, and with less unpleasant shock, than cold. Very hot applications, in this variety of pain, do no real good, though they frequently relieve the suffering, while applied, by overwhelming the sensation of pain through the sensation of tingling which they

produce. Their removal, however, is generally followed by an aggravation of torment.

While general bleeding would undoubtedly afford prompt relief in not a few of these extreme cases, the remedy is too severe for recommendation, where spontaneous recovery would so soon occur anyway, and where permanent damage is not ordinarily to be looked for. Bear in mind that I am intending my remarks to apply mainly to idiopathic headaches—those non-dependent on disease elsewhere in the body. But while general bleeding may not often be advisable, local abstraction of blood might, with propriety, be resorted to much oftener than it is, and with happy results. A few leeches, or cupping, in the neighborhood of the seat of pain, yet far enough distant to have more or less revulsive action, will surprise the great mass of practitioners who do not employ this treatment, by the prompt and efficient ease produced. Actual blistering, in ordinary acute cases, is another measure too severe for indiscriminate use. The irritation of the blister not unfrequently aggravates the pain, increases general nervousness, and does positive harm. There are some cases, however, where the agony is not intense, but is long continued, that are decidedly benefited by vesication. These may be properly called chronic, and, in using blisters, it is always best to apply them far enough away from the seat of pain to prevent increasing the flow of blood in that direction, yet sufficiently near to have a certain amount of depletory action. But by far the best, and most universally applicable, method of counter-irritation is by baths. Where conveniences exist for it, putting the patient in a bath-tub, and bathing him all over, is efficacious. The temperature of water used may be such as to either give a cool, warm, or hot bath, according to the preference of the patient and the effect produced. In the first case sedation follows a lowering of vital energy, and, if reaction be carefully prevented, a complete and lasting relief often results. In the second case general relaxation is secured, the circulation equalized, internal congestions dissipated, perspiration induced, and relief follows in that way. The hot bath is more limited in its utility, and not so generally applicable. Here the first effect is stimulation. Wherefore, only in those instances where decided local congestion of the encephalon is associated with torpid circulation elsewhere over the general system, and

especially of the surface, is its employment serviceable. The effect of bathing should be carefully noted, and the kind of bath, as well as the length of time it is to be used, must be decided thereby. In all cases it is well to study the patient, and watch him as to the influence of remedial measures suggested, where this can be done. Thus we find, when the paroxysms are recurrent, what peculiar line of treatment is best adapted to his particular necessities, and can lay our rule better for future conduct, though by this remark I do not intend to advocate blind and persistent experimentation. Lastly, when immersion is impracticable, its best substitute is a warm or hot pediluvia, or dry heat by bricks, bottles, etc., to the extremities. The foot-bath often relieves temporarily, only to be followed by intensification of pain on its discontinuance. Under such circumstances it must be repeated as often as reaction threatens.

My experience with stimulating local applications, and constriction by tight bandages, is not favorable to their general use in this variety of headaches. Though often pleasantly borne for a short time, they have usually been followed by reaction in my hands, either during their continuance or immediately after removal, and this reaction seemed more intolerable than the original pain. Their effect seems to me to be mostly that of a new impression, swallowing up the patient's attention for a time, and thus absorbing his previously existing anguish, only to cease their operations as the brain accustoms itself to them. That they do good, in a certain proportion of cases, can not, however, be denied, and I occasionally resort to them where such results have been demonstrated by previous experience in individual instances.

What I have said applies to the more pronounced cases of active hyperæmic cephalalgia. Of course, in milder attacks, the method and activity of treatment must be graduated according to the severity of symptoms. Now what of internal medication? The indications are plain. By action through the nervous system diminish the force and rapidity of the circulation. This may be done by equalizing the blood-flow throughout the entire system, thus depriving the cerebrum of its temporary surplus. What, it may be asked, have we in the way of drugs by which to accomplish this object? That depends on the character of the congestion—whether arterial or capillary.

In the former case we may resort to gelseminum, digitalis, bromide of potassium, aconite, veratrum, etc. In the latter, not only can some of these medicines be usefully employed, but we have others equally applicable, as belladonna, ergot, strychnia, if the case be chronic and time allowed for its action, quinia, etc. Chloral, too, is a valuable remedy in active hyperæmia, properly used, and with due caution; for, while it undoubtedly gives rise to a state of venosity of the cerebrum, it also prevents the over-stimulation caused by undue arterial flow, and retards the flow itself to a certain extent. Antimony, ipecacuanha, and other emetics, relieve arterial tension, if not carried beyond the point of nausea, and thus act beneficially; but vomiting is to be avoided in most cases, as tending to aggravate the pain. Long, deep inspirations, too, occasion cerebral anæmia, and may be recommended, but will seldom be properly attended to by the patient, as they require considerable effort, so much shunned by cephalgic sufferers.

Of the drugs mentioned above, one alone may be used, or several can be combined, according to the indications of the case. Generally their employment ought to be collateral to the use of those measures, not strictly medicinal, which we have previously considered. Opiates, and their kindred articles of the materia medica, which have an inherent tendency to cause cerebral congestion, should, as a rule, be scrupulously avoided. Hydragogue cathartics in chronic cases are sometimes admissible, but the necessity of motion to evacuate the bowels in severe acute cases, not complicated with overloaded stomach or intestines, renders them undesirable remedies. The simple eating of a moderate meal, where the cerebral hyperæmia is slight, and perhaps exclusively capillary, especially if the food be well spiced, not unfrequently proves a pleasant and efficient method of revulsion. Coffee, tea, and excitant drugs, are mostly contraindicated.

I have dwelt thus at length on the treatment of active cerebral hyperæmia, as giving rise to headaches, because it is one of the most frequent, if not, indeed, the commonest variety of cephalalgia falling under our notice. Not that it is always, when occurring, the only abnormal brain state; but, if not so, it is very often intermixed with one or other of the remaining varieties, and demands attention at our hands. Therapeutical measures must be al-

tered to suit each case, whether that be an uncomplicated one, or of a mixed variety. So I suggest no formulæ for the administration of drugs, nor, indeed, have I even attempted to mention all of the remedies that can be used in hyperæmic headaches. The thinking physician will readily find others suggesting themselves, and can construct his own prescription at the bedside far better than to attempt following any suggestions of mine, of a stereotyped character.

Passive hyperæmic cephalalgia will now but briefly engage our attention, for the ground already gone over partly covers the present subject. Here perfect rest and quietude are less essential; and, indeed, many cases are benefited by exercise, the general circulation being equalized and stimulated thereby. Tonic medicines, to enable the nervous system to surmount circulatory obstacles; counter-irritation, leaving the cerebrum partially anæmic; position, assisting in the same result; hot baths, etc., are the main resorts of the practitioner. This is one of the varieties in which stimulating local applications really do good. In short, *the* indication in this kind of congestion is to elevate the vital forces. Headaches of the present sub-variety, dependent on mechanical obstruction, belong in the symptomatic group, and are outside of the scope of my essay; and it is manifestly demonstrable that nothing short of a removal of the impediment to free circulation can, in any permanent manner, prove of service in their treatment.

Idiopathic headaches, of true anæmia, for reasons set forth in my first article, occur much more rarely than those of an opposite condition. Here the brain and its appendages positively lack, not only proper nutriment, but actual blood. When the condition is readily recognizable, the indication for treatment is obvious—*more blood.* Posture is all-important. The head must be low. Here opiates come emphatically into play, and do excellent service. Rest is, as a rule, instinctively sought, and it is a good thing so to happen, for active exercise would more effectually drain from the brain its already inadequate blood-supply, and render it still more unfit and unable to exercise its normal control over the rest of the body. Stimulant drinks, as coffee and tea; general stimulating medicines—capsicum, alcoholics, etc.; local stimulants (and this is their place above all others); cardiac

tonics, when the heart is at fault; neural tonics, when the nervous system merits the blame; nitrite of amyl, the ethers, and measures to equalize arterial tension—all these are not only applicable, but urgently demanded.

Toxæmic cephalalgias form a large and important group. Here, again, for purposes of effective treatment, we must subdivide the class into lesser groups. Of these there are three: First, plethora, or super-abundance of nutritive elements; second, spanæmia; third, true toxæmia, or the actual existence in the blood of ingredients foreign to its general composition, either in their presence alone, or in their relative quantity. In plethoric cases, at the time of attack, the great remedy is free venesection, aided by sedatives to lower the circulation. Where the headache is chronic, and between the paroxysms in other cases, occasional bleeding when advisable, abstemiousness as to diet and drinks, hydragogues and hard labor (which will fatigue and cause the free appropriation of nutritive material), are the measures on which to rely. In spanæmic cases we must only hope to achieve success by building up the depraved blood. Here generous diet, and iron, together with other general tonics—quinia, arsenic, the bitter infusions of tinctures—and close hygienic attention, are our sheet-anchors. The last subdivision is the comprehensive one. In it we find uræmia, cholesteræmia, alcoholæmia, if you please, and a host of other "æmias," each deserving particular attention. There are three indications as regards the medication of this group. First, neutralize the poison as it circulates in the system, by administration of appropriate antidotes; second, cause its elimination by the various systemic emunctories as rapidly as possible; third, so tone up the system as to enable it to bear, unaffected, the presence of the offending materies morbi. My space does not admit of specification under this head, the subject being too extensive for the limits of a magazine article. I will only say that here is the field for specific quinia medication in malaria, potassium iodide in syphilis and lead poisoning, colchicum in gout, salicylic acid in rheumatism, etc.—and here you find the true place for drastic cathartics, diuretics, sudorifics, and other eliminants. Position, too, and counter-irritation, can sometimes effect a trifle of good by keeping some of the contaminated vital fluid out of the head, where it often manifests its only unpleasant effects.

The last class for special consideration is the neurotic. Two sub-varieties can, for practical purposes, be recognized here—neural excitation, where the manifestations are those of irritability of a high grade, and neural asthenia or adynamia, characterized by evidences of depression and irregularity. In the former cases, anodynes and perfect quietude of mind and body, with a removal of all causes of perturbation, are to be resorted to during the paroxysms. Chloral, bromide of potassium, valerian, morphia, and its succedanea in full doses to produce their soothing effect, and hypnotize the sufferer, can be freely used for sleep—"tired nature's sweet restorer"—is one of the best balms in this variety of cephalic pain. In the intervals of suffering, medicines calculated to restore the nervous balance, so that its equilibrium may not easily be disturbed—such as tonic doses of strychnia, quinia, potassium bromide and iodide, ammonium bromide, sulphate of zinc, etc.—should be perseveringly given, and the mind should be relieved of all strain, while good diet, regular habits, avoidance of all undue excitement, and moderate exercise, will materially aid in recovery. For acute attacks of asthenic neural pain, the various nervous stimulants are demanded—ether, opium, wines or brandy, ammonia, camphor, and the like. Rest and sleep are here also essential. Unlike most of *our* remedies, sleep can act beneficially in directly opposite bodily states—nature restoring her own balance while the body is wrapped in slumber. During the intervals of relief in neurotic adynamia, we can use some of the same tonic remedies as recommended for the last sub-class considered. Nux vomica, iron, zinc, cinchona, copper, the various vegetable bitters, douches, travel, exercise, fresh air, generous gratification of the appetite, and other measures of a kindred nature, should be used.

A few words, now, on that important, but poorly appreciated subject—the radical cure of headache—will conclude this series of papers. And, first of all, I would boldly lay down the rule, that but one cure is possible, viz: the removal of the predisposition; for it is utterly out of the question, to entertain, for a moment, the idea of removing a patient beyond the influence of the almost innumerable causes, extrinsic and inherent, of cephalic pain. It is proven beyond cavil, that the liability to headaches can not only be materially lessened, but, in many cases, en-

tirely abolished. There are two methods of accomplishing this: one is by toning the system up, so that it overcomes its tendency to suffer from the ordinary excitants of cephalalgia; the other, by its naturally accommodating itself to their operation, so that they no longer produce the usual effect. The latter is spontaneous, nature's own act; the former can be secured artificially.

Where the predisposition is that of heredity, my own experience is that our efforts to produce a radical change in the individual constitution are fruitless ninety-nine times out of a hundred. The unhappy victims, however, not unfrequently outgrow their infirmity, and during the latter periods of life are wholly exempt from the bane of their youthful existence. Yet this, too, is comparatively a rare happening.

Can nothing be done for them, then? Assuredly there can. We should try the various alteratives and hygienic plans of treatment which empiricism has certainly demonstrated as sometimes successful. Give them the benefit of a chance, though slim, for escape from the grip of their "old man of the sea." Most of our knowledge here is purely empirical, and our practice is founded upon it. But, where it neither does harm, nor interferes with the use of the rational medication, because of the lack of this latter, we are fully justified in resorting thereto. It is needless for me to recapitulate the scores of plans falling under this head. Suffice it to say, that they embrace the employment of those remedies termed "alterative," for want of a more correct name, and also such as experience has demonstrated to invigorate the several physiological systems of the human body. But, while contending for this non-eradicability of the cephalalgic predisposition, in the vast majority of hereditary cases, I do affirm that we can accomplish much. How? By thoroughly investigating our cases, ascertaining their true character, and applying the proper remedy or remedies at the very outset of each attack. By so doing, we *can*, in a great many instances, abort them at every threatening. By so doing, our patients are constantly armed against the approach of their malady, etc., to all intents and purposes, fully cured. And, even where we fail in completely *preventing* the paroxysm, we can so mitigate its pain and abbreviate its duration as to make it comparatively nugatory. Have we not accomplished enough? No, but we can rest content,

assured that we have done our best, yet hoping that time will permit, sooner or later, by extension of research and experiment among our indefatigable pathologists, still more perfect success.

In acquired predisposition, the prospect of its total overthrow is far more encouraging. The system has undergone one change already in said acquisition. True, it is a retrograde one, from perfection to blemish; but there is much greater chance of a second change, and for the better, than in those whose very entrance into the world was marked with its attending defects. That constitution once perfect is more likely to regain its integrity, than one never thus favored.

We can therefore push our therapeutical plans, in these cases, with no small assurance of a success in attaining permanent results. Iron, arsenic, strychnia, the bromides and iodides, quinia, exercise, travel, change of occupation, temperance, the abandonment of all debilitating habits, close attention to dietetic rules and abjuring of such food as the stomach fails to tolerate well, these, and many other things, may enter into our course of treatment. Intelligence and judgment, founded on a scientific basis, and combined with experience, can alone dictate the best plan to pursue in each case. These every physician must acquire for himself; wherefore, even if I had the inclination, space and ability to continue this discussion, it would be needless. So I close my paper, hoping that at least *some* good may come from the imperfect consideration which I have been enabled to give the subject of headache in this journal. Criticisms are invited, and probably not unmerited. Especially would I like to see a general discussion on the part of those physicians who have devoted special attention to this matter.

Apoplexy—Predisposition to, and Premonitory Signs of, with Rational Means of Prevention.

The term apoplexy signifies a stroke or shock; a condition of coma, or fainting, occurring suddenly, in which the functions of animal life are all suspended except the mixed function of breathing. The term apoplexy is incorrect as usually applied, for the condition is not one of shock or stroke, but a sudden loss of all consciousness,

sensibility and power of voluntary motion, as well as of the powers of thought and speech, from pressure on the brain in its bony case, which pressure may occur without the rupture of any of the cranial bloodvessels. The term is often used to signify interstitial hemorrhage, or any sudden effusion of blood into internal organs; hence we hear of pulmonary and other varieties of apoplexy. Its proper meaning, as now used, is when applied to cerebral or sanguineous apoplexy, in which sensation and mental powers are much diminished in force, or entirely suspended, and in which the power of voluntary motion is lost, and when a comatose condition is present, the circulation and breathing still continuing, and accompanied by a full, hard pulse, flushed face, and stertorous breathing.

The varieties of apoplexy are usually given as sanguineous, serous, nervous and simple. Strictly speaking, there is but one variety of true apoplexy, viz: the sanguineous, in which may be included simple apoplexy as a form of the sanguineous, and due to sudden congestion of the brain without the occurrence of cerebral hemorrhage. It is doubtful if serous effusion into the brain substance ever causes true apoplexy, as was formerly supposed, though it produces a condition resembling it. In the so-called serous apoplexy the patient generally rallies from the first attack, becomes sensible and able to move; but in a few hours he becomes dull and stupid, and sinks into a state of syncope, from which he never rallies. This is more frequently fatal, after middle age, than the true or sanguineous apoplexy, in which the attack comes on suddenly.

True apoplexy is known by sudden loss of consciousness and voluntary motion, the patient lying as in a deep sleep, with flushed face, slow, snoring breathing, expiring air from the lungs with a flapping motion of the lips, like one puffing smoke from the mouth in smoking a pipe. The pulse is full, slow and hard. In the so-called serous apoplexy the attack comes on more slowly, the patient is pale, faint and sick, and generally vomits, and falls into a state resembling syncope, with cold, pale surface and feeble pulse. The condition of pulse and appearance of face are important in deciding the nature of the attack. Nervous apoplexy is not apoplexy at all, but a condition of sudden coma, usually from uræmic poisoning of the blood. An apoplectic attack should be carefully discriminated

from drunkenness and narcotic poisoning. Absence of smell of liquor on breath will exclude drunkenness. The circumstances, history and surroundings must be taken into consideration in deciding between narcotic poisoning and apoplexy. Apoplexy is to some little extent allied to puerperal convulsions, and the same causes at times give rise to both diseases. They differ in the usual absence of the convulsive fits in apoplexy, which are present in puerperal eclampsia in consequence of the irritable and excitable state of the nervous system which so frequently accompanies pregnancy and labor.

Apoplexy is rare in infants, but when the brain of an infant is irritated by the pressure of effusion we have convulsions, owing to the comparatively large proportion of the nervous system to the rest of the body.

Causes.—Anything producing a compression of the brain may cause an attack by intercepting the circulation of the blood through the brain, and it matters not what produces that compression, whether it results from the rupture of a cerebral bloodvessel and consequent extravasation of blood, or from active, persistent congestion, or from an external injury to the head, the effect is the same. The attack is caused not so much by the amout of compression as by the suddenness of its application.

The predisposing causes are:

1st. Old age. The greater number of cases occur in persons over sixty, though it occurs sufficiently often between thirty-five and sixty. The formation of earthy concretions in the coats of the arteries, and ossification of the arteries themselves, which is more common in old persons than a healthy condition of the arteries, explains why age should act as a predisposing cause. According to Bichat, seven of every ten who live beyond the age of sixty are found to have earthy concretions of the arteries.

2d. Hereditary predisposition. Apoplexy very frequently occurs in those whose ancestors suffered from it. The greater number of cases occur in those who are advanced in life and who are the progeny of apoplectic parents.

3d. Disease of the kidneys, in which an excess of urea enters the blood, unless it soon be eliminated from the circulation, will prove a strong predisposing cause of the so-called "serous" form, though the term "uræmic coma" is by far the most appropriate.

4th. Persons with short, thick necks, florid face, of a stout build, and corpulent, are more prone to the disease than slender ones, but persons of any shape and build may be its victims. Diseases of the lungs which offer an impediment to the circulation of the blood may tend in some degree to predispose to the disease, but remotely, if at all. Diseases of the heart do not act as predisposing or exciting causes so often as formerly supposed.

Exciting causes—Violent exercise, straining in any manner sufficient to cause a rush of blood to the head, mental excitement, over-repletion of the stomach, which seems to act as a prolific exciting cause, as many attacks occur soon after eating a hearty meal. Lifting, stooping, carrying heavy weights, and extreme heat, are all exciting causes.

Premonitory signs do not in all cases occur. A sense of weight and fullness in the head, with roaring in the ears and flushing of the face, may be looked on as precursors of an attack, if the person subject to them be of apoplectic build, of advanced age, and of hereditary predisposition to the disease.

Headache is one of the most frequent premonitory symptoms, but is only a sign of danger when it begins to occur in advanced life in persons not subject to it during their earlier years. If headache is accompanied by vertigo, the danger of an attack is greater than if it exist alone. Vertigo is sometimes a precursory symptom, and it is also more to be apprehended when it begins to occur at an advanced age. Loss of sight or hearing for a few seconds, together with double vision and confused intellect, are often warnings of significance, the double vision being the most reliable. Numbness of various parts, loss of memory, a sense of dread and feeling of insecurity, are also occasional premonitions.

Prevention of apoplexy is of greater importance than its cure, as it is more easily accompl-shed. Restriction to a vegetable and milk diet, and the avoidance of all stimulants, as well as of any active exercise (which increases the force of the current of blood through the brain, as well as through the rest of the body), will, in many instances, prevent or ward off an impending attack, even after the premonitory symptoms have been felt, provided the warnings are heeded, and promptly and properly obeyed.

Straining at stool, or in coughing, vomiting, speaking, lifting, stooping, etc., must be avoided as much as practicable, for, in any effort of the kind, a deep breath is taken and retained while the muscular forcing effort is made, and this causes a congested condition of all the bloodvessels of the head, and thus produces danger of the rupture of some one of the cerebral bloodvessels.

For the same reason, turning the head to look backward for any length of time should be avoided. This was supposed to be the exciting cause of an apoplectic attack terminating fatally in one of our volunteer officers, during the late war, he having ridden some distance looking backward, in urging up his men.

Warm rooms, exposure to heat of sun, alcoholic drinks, strong excitement of any kind, and the wearing of tight articles of dress about the neck, must, as well as all else before interdicted, be equally and most carefully avoided by any one who has an hereditary tendency to the disease, who possesses the apoplectic build, and the more particularly if any of the premonitory symptoms have been observed.

Michigan State Board of Health.

The regular quarterly meeting of the State Board of Health was held at Lansing on Tuesday, January 14, this being its first meeting in its rooms in the new capitol building. The following members were present: R. C. Kedzie, M. D., President, H. O. Hitchcock, M. D., Hon. LeRoy Parker, Rev. D. C. Jacokes, and Henry B. Baker, Secretary.

ADULTERATION OF SUGARS, SYRUPS AND HONEY.

As Committee on Food, Drinks and Water Supply, Dr. Kedzie made a verbal report on table sweets, showing the methods of adulteration now practiced. One of these is by the use of glucose, which is an inferior article of sugar formed by the action of sulphuric acid on starch. In sugars thus adulterated there is usually found sulphuric acid and copperas. Another method lately practiced has been for the lessening of duties, and consists in coloring sugar so as to make it appear of lower grade. The danger comes from the poisonous chemicals used in bleaching.

Dr. Kedzie also mentioned the fact that where bees are fed on glucose this substance will be deposited in the cells without change. In connection with the adulteration of sugar, the doctor also said that one bushel of corn would make about forty pounds of grape sugar or glucose. Where the sugar is of a blue tinge, it is an evidence that blueing has been added to the sugar to relieve the yellow appearance due to the adulteration. The experiments and reports heretofore made by Dr. Kedzie had been made the basis of a memorial to Congress asking legislation upon the subject.

VENTILATION OF BUILDINGS ALREADY CONSTRUCTED.

As Committee on the subject of Ventilation and Heating of Buildings, Rev. Dr. Jacokes read a paper on the heating and ventilation of buildings already constructed. He first showed the importance of good ventilation, and then pointed out many ways in which buildings already constructed, faulty in this particular, could be improved. One method was the leading of fresh air from outdoors to a jacket inclosing a space around a stove, and withdrawing the foul air from the floor level by means of pipes which lead from near the floor to the chimney above. He showed many diagrams illustrating the methods of improving the ventilation in buildings already constructed. He gave one illustration of a church which had been insufficiently warmed by three stoves, but which was afterward thoroughly warmed and ventilated by one of these stoves, properly jacketed, and the cold and foul air withdrawn from the floor level. The ventilation of two churches by a similar method cost him but ten dollars, and ventilating apparatus for dwellings costs from one dollar and twenty-five cents to ten dollars.

ILLUMINATING OILS.

As Committee on Special Sources of Danger to Life and Health, Dr. Kedzie made a verbal report on illuminating oils. In this report he brought before the Board a sample of "mineral seal" oil, a new brand, which stands a flash test of two hundred and sixty degrees, by the Michigan method, and will also stand the Michigan chill test. He exhibited a lamp filled with this oil, which gave a brilliant light, equal to twenty-six railroad candles. This oil is manufactured for the Standard Oil Company in Cleve-

land. It sells for forty cents a gallon. It is made by freezing the paraffine out of heavy paraffine oil. He recommended the use of this oil on railroad cars, under very stringent provisions. He showed the safety of the oil by heating it to two hundred and fifty-four degrees, and plunging lighted pine sticks into it, when they were immediately extinguished.

He also brought up for discussion the question as to what action the Board shall take with reference to illuminating oil for ordinary purposes. As showing the ways in which certain parties seek to evade our laws, he exhibited a specimen of oil and the dealers' circular in connection with it, claiming a new and safe illuminator called "potalene." It was on exhibition at the State Fair, pleading for a premium. He put fifteen drops in a heavy glass bottle, and touched a lighted match to the mouth of the bottle, when the flames and smoke shot several feet high. He said this oil was simply naptha in which potatoes had been soaked.

It was voted that the interests of life in this State will be subserved by maintaining the present tests for illuminating oils. Dr. Kedzie was requested to make a thorough investigation of the whole subject, and to act for the Board in endeavoring to maintain the present tests.

REGULATION OF MEDICAL PRACTICE.

LeRoy Parker, Committee on Legislation in the Interests of Public Health, read a report on the subject of the Illinois law regulating medical practice, and on the proposal to regulate the practice in Michigan. The Illinois law compels an examination by a State Board, and the effect is to drive quack doctors out of the State, and some have come to Michigan. He recommended the enactment of a law by the Michigan Legislature, requiring practitioners to undergo examination.

Dr. Hitchcock presented the form of a memorial to the Legislature on the same subject, expressing the opinion that great injury is being done to the health of many persons in this State, and that many deaths occur because of treatment by ignorant and unscrupulous pretenders bearing the name of doctor, with, perhaps, the title of "M. D." He recommended an examination of practitioners in anatomy, physiology and pathology of the human body, and in chemistry and botany. The memorial was adopted.

SANITARY TOPOGRAPHY.

LeRoy Parker made a verbal report on a memorial to the Legislature on the subject of a topographical survey of the whole State for sanitary purposes. Dr. Baker was added to the committee, and it was recommended that the survey should not only be topographical, but should embrace all sanitary subjects, especially those relating to water, as, for instance, drainage, pollution of streams, water supply, etc.

SANITARY CONVENTIONS.

Dr. Baker, who was a committee to prepare for a Sanitary Convention at Coldwater, reported that, owing to the death of Dr. J. H. Beech, of that city, the local support to the movement was withdrawn, and it was impossible to hold the convention. Much work had been done in preparing for this meeting, and he had endeavored to secure such a meeting at some other place. A communication was received from Dr. J. H. Kellogg, of Battle Creek, inviting the Board to hold a meeting at that place, pledging the support of the citizens of that city to make the meeting a success. The subject was postponed to the April meeting.

A committee was appointed to draft resolutions relative to the death of Dr. Beech, and its chairman, Dr. Hitchcock, presented the following preamble and resolution, which were adopted by the Board:

"WHEREAS, We have heard with deep regret of the death of Dr. J. H. Beech, of Coldwater; therefore,

"*Resolved*, That in the death of Dr. Beech this Board has lost one of its most interested and efficient correspondents, and the people of the State have lost one of their most intelligent, earnest and practical sanitarians."

WORK IN THE OFFICE.

Secretary Baker made his quarterly report of work done in the office. One thousand two hundred and fifty-eight copies of the fifth annual report of the Board had been wrapped, directed and sent to the officers and members of the local boards of health in the State; a pamphlet on the restriction and prevention of diphtheria, and a copy of Dr. Kedzie's lecture on "Healthy Homes for Farmers," were sent with each report; a copy of the pamphlet on diphtheria was sent to each physician in the State whose

name and address could be found in the office, some three thousand six hundred in all; mortality statements of the city of Lansing have been sent to fifty exchanges each month in the quarter; an index of three thousand names on books in the office has been made; meteorological observations have been taken at the office, and meteorological reports from different parts of the State have been examined and filed, as have the weekly reports of diseases from about sixty observers of diseases; the compilation of the sixth annual report has been completed, the proof read, a full index made, and the volume printed; distributions of blanks to meteorological observers and to observers of diseases have been made; blanks for reports of health officers and clerks of local boards of health have been prepared; the work of compiling the weekly reports of diseases, meteorological reports, etc., for the seventh annual report, has been commenced. Much extra labor has been caused in the removal of the office from the old State offices into the then unfurnished rooms in the new capitol. The secretary presented advance copies of the sixth annual report for the year 1878.

DIPHTHERIA STATISTICS.

The secretary presented reports from Dr. E. N. Palmer, of Brooklyn, Jackson County, relative to the outbreak of diphtheria in that section. During a period of five months there were sixty-seven cases and eleven deaths. He gave several instances where diphtheria had been communicated by persons convalescent from that disease; also, by persons who did not have the disease at all, but were in attendance upon patients.

The document on the prevention and restriction of diphtheria, issued by this Board, has been in great demand, not only in Michigan, but throughout other States and Territories.

DRAINS AND SEWERS.

Dr. Baker presented a communication from A. C. Sekell, City Surveyor of Grand Rapids, transmitting rules and regulations of the Board of Public Works in that city with reference to house-drains and sewers, and moved for the preparation of a circular asking for facts concerning the regulation of drains and sewers in the cities of Michigan, and also the views of sanitary experts and engineers, with a view to making some general recommendations for the

benefit of the many small cities and villages now just beginning to consider the subjects of drains and sewers.

By request of members of the Board of Control of the State Public Schools, Dr. Baker presented the subject of the temporary maintenance of diseased and crippled children at the State Hospital in Ann Arbor, as a means of preventing sickness and pauperism in after-life.

After the auditing of bills incurred during the past quarter, and the transaction of other necessary business, the Board adjourned to the annual meeting, April 8, 1879.

Professional Learning.

BY R. A. A., M. D.

I WISH to present, through the medium of the NEWS, a few remarks upon a subject I have not seen mooted in any medical paper, but think its discussion would prove advantageous to the profession, and redound to the benefit of the public. I merely design to bring the matter before your readers, and then the editors and their very learned correspondents may give us their views, or pass it by unnoticed, as they think best. One or more sensible editorials may accomplish the work of reform in part, if no more. My remarks may be thought caustic and severe, and so they should be, for the evil should be burned out by the roots. It has become not only a nuisance, but a disgusting excrescence upon the medical literature of the country. I allude to the practice of correspondents and editors coining new words and using French phrases and French weights and measures, particularly in their translations. I would ask, if we are to have only a partial translation, why translate at all? Why not give their readers the entire French article, and let those who can do so translate it for themselves, and those who can not translate do without it? I have often wondered if French editors and writers reciprocated our obsequious quotations by inserting in their journals our weights and measures in pure Anglo-Saxon. I can not suppose them guilty of such gross folly. It is a practice which could be excused only upon the ground of our own language being inadequate to express our ideas and meaning, which, of course, is not the case.

One would suppose, in a country like ours, where medical schools dare not require a preliminary education as a prerequisite to matriculation, simply because the school attempting it would get no pupils, that the medical journals would be scrupulously adapted to the capacity of the multitudes of ignorant doctors annually turned loose upon the public. But, instead of this, they are becoming more and more abstruse and pedantic. This is peculiarly unfortunate at a time like this, when there are being introduced so many new remedies, and the journals are so far ahead of medical books.

As regards communications, it is frequently amusing to read one of these painfully learned productions, and note the labored effort of the writer to clothe his ideas (or those of some one else) in an array of high-sounding words, and observe with what accuracy he discriminates between "*tweedle-dum and tweedle-dee*," and how he ransacks his heavily-taxed brain to find a term that will express his subtile meaning as set forth in his new theory, which he, perchance, thinks will immortalize him. And not unfrequently, after his herculean task is finished, he flaunts in your face a word that you never saw or heard of before. You appeal to your medical dictionary and to Webster's Unabridged in vain; but, upon a more critical examination, you find that by his *unique* spelling he has so metamorphosed an old word that you did not recognize it, or else he has coined a new one, the root and meaning of which you will never find out.

Would it not be better for the journals to feed their lambs on milk rather than on such strong food, or, at most, permit them to pasture within the bounds of dictionaries and their own vernacular? We want journals filled with the practical experience of men who know how to impart to others the knowledge they have gained in their professional labors, and not prolix theoretical articles on spontaneous evolution, atmospheric sporules, or the Book of Genesis. Nor do we want articles written for vain display, of no practical import, probably by men who can not translate their own diplomas correctly. But America has outstripped all the world in invention and rascality, and no doubt will excel in folly.

EVANSVILLE, IND.

Decimal System of Weights and Measures.

MR. EDITOR:

SCIENTISTS, teachers and scientific journals are uniting their efforts to bring about an authoritative and universal adoption of the "decimal system" of weights and measures. Learned societies advocate, in this and other countries where said system has not yet been regularly accepted as the national standard, the early incorporation of this method into the usages of their several States. And observation must convince every one who has given attention to the subject that not only is the weight of argument and merit in favor of the decimal party, but it is one of the inevitables—bound to come at no distant day.

Few objections to the metric system can be successfully argued; few, indeed, have been attempted by scientists, at least, and all unbiased minds either have sided with or show a tendency to go over to the band of its advocates soon. Among the more prominent objections, perhaps *the* one of most force that has been advanced by the opponents of this proposed innovation, is the confusion which it is alleged must arise from so radical a revolution in national standards of weight and measure, even if confined to certain classes of business transactions, as the handling of drugs, medicines, chemicals, etc.

There is much more weight in this argument here in our own country than it would have in many States of the old world. The fact is patent that, in most of the States of our government, a large number of uneducated and incompetent apothecaries are allowed by law to vend the most potent poisons, fill prescriptions, and do such other pharmaceutical work as their inclinations or the exigencies of their business call forth. Many of these tradesmen and self-styled druggists are utterly ignorant of the first principles of chemistry, toxicology—aye, even of the rudiments, in not a few cases, of the poorest kind of a common-school education in their mother tongue. Nor does the evil stop at the counter. America is a prolific hotbed of quackery and charlatanism. Hundreds of prescribers are no more competent to assume the physician's duties than the ignorant dispensers already alluded to, and the opponents of "decimalism" push this argument

with no small show of reason. Truly, the field is not a most desirable one for sudden and complete national reforms of the kind proposed. These men have learned the grains, scruples and drachms of the present weights, the minims, drachms and ounces of our ordinary apothecary's measure, and they get along with them tolerably well, so that prescriptions are filled, and comparatively few serious or fatal mistakes occur. To change throws them entirely at sea; they must learn the whole system of weighing and measuring over again, and the probabilities of much confusion, if not deadly blunders, are strong.

The objection might be urged further, and applied even to physicians of good average education. There are doubtless scores of practitioners too busy to spend time trying to fix the metric weights and measures, or the methods of decimal prescription-writing in their minds. Others are too indolent for a task of this kind. Many are off in the backwoods, without any inducements to acquire an understanding of this metric novelty. And for not a few of the best of us more or less confusion and uncertainty will fall to our lot in the mixing up and calculating the new method with the old. Especially must this be so while the old text-books are extant, and the journalistic world uses both systems indiscriminately in the formula of their case—reports and miscellaneous articles.

For us who graduated under the time-honored methods and customs of our forefathers, there will not be that ease of acquisition, that natural growing into the "decimalism" of to-day and the future, that must characterize the professional recruits now issuing, and hereafter to emanate from our medical and pharmaceutical schools. They learn as new; we must not only learn the new, but must, to a certain extent, unlearn and supplant the old theory and practice of calculation and habit, which has been a part of us for years. They get both systems with equal ease, and are drilled to use them interchangeably.

Such being the state of affairs, we must accept them, not as we might wish to have them, but as they are; and, encountering the obstacles, it becomes us to surmount them as best we can or assist in their removal. To do this, to render the new system readily intelligible to the older practitioners, many of our journals put some, or all, of the formula published in these columns into both

shapes, side by side. Thus, by contrast, they impress the mind, and knowledge is gained insensibly, and by easy gradations. So, too, the text-books, new and reprinted, are some of them adopting the same plan; others will, and erelong the entire change will be effected.

The grain weights and measures are already in the market and in use. To use them the old must be abandoned or double sets kept in accessible places. Now, would it not be a step in the right direction, a step toward the simplifying of this great change in a national habit, and therefore to be recommended, to follow the lead of our publishers, and use both kinds of weights and measures at once? I do not know but that this plan has already occurred to others, and is in operation, but if so I have no information to that effect. Wherefore I suggest that sets of grain weights be made and used by the apothecary and those physicians who do their own dispensing, on which the corresponding equivalent in grains, scruples, etc., is stamped. Grain, drachm and ounce weights can also be made and stamped with the corresponding decimals. Measures of like character would be useful for the liquids of the dispensing counter. By the introduction of these utensils, much trouble and liability to error in issuing medicine under the new plan would be obviated, and, of course, the argument founded on this very liability against the metric system would lose a corresponding degree of force.

If the suggestion be worth anything, and the principle is not already applied practically, I trust some of my medical brethren who have acquaintance with the instrument makers in our large centers will take the matter in hand, and thus lend assistance to the consummation of that which, as a mass, our profession, in common with the great scientific world, is seeking—the introduction of a simple, better and more rational system of weights and measures. And, as this changes, so must the scale of temperature measure—the thermometer, so intimately connected with our professional work. "Fahrenheit," now so widely popular in America, though less simple than "Centigrade," must yield its popularity and place to the latter. The suggestion I have made touching weights and measures may be extended to embrace the clinical and general thermometer. Let them be made with double scales, corresponding to both systems, the past and pres-

ent, with its complexity—the simple Centigrade of the future. These, I know, are already obtainable, and in some places are in use, and have been for a long time, but they are not yet popularized. The cheaper instruments, passing into the hands of the scattered body of medical men in this country, are still constructed on the single scale. The difference in expense of a double scale need not be very great, and the convenience will be decided, while the impetus thus given to the movement of "metricism" will avail not a little in its favor.

I trust my propositions may be available, and that they may bear fruit, unless, as is possible, and perhaps probable, some other person has forestalled me in the matter. Every step in this matter is important, and every one that proves worth anything at all is a point gained.

E. A. COBLEIGH, M. D.

SELECTIONS.

Hopital Temporaire.

SERVICE OF DR. DIEULAFOY,
Professeur agrégé.

Reported by Dr. D. M. GUITÉRAS.

PLEURISY.

I PROPOSE to speak to you to-day, gentlemen, about our three cases of acute pleurisy which you have all seen in the wards during the visit. Our patient in ward Ste. Helene was admitted on the 27th of December, complaining of a pain in his side, and having had some chills; this was followed by a cough and an annoying dyspnœa. On auscultation we could find neither ægophony, nor blowing, nor friction, and yet he was ill since the 17th. But the pain was present, and it hurt him to cough, to breathe, and also while counting for us. Pain is really the revealing sign present in all these three cases. We re-examined this man daily. We found a slight diminution of the vesicular murmur, but the friction would not come—that friction called friction-rale by Damoiseau, and which Trousseau believed to be not a real friction, but the rales of a concomitant pneumonia. On the fourteenth day of his disease, however, we heard the expected friction.

Our patient in ward St. Louis, who came in on the eighth day of her disease, did not present the friction-sound either, although she complained of pain in the side; and two days later, on the tenth day of her disease, the expected friction was heard, starting, as it were, under our ear. Twenty-four hours later the friction disappeared in this patient, to give place to blowing expiration and ægophony.

But in our patient of Ste. Helene the friction-sound continued to be heard. Was it a case of dry pleurisy? Was he tuberculous? The temperature would not come down; the friction continued; the patient would not improve; we were not satisfied. The sixteenth, seventeenth, eighteenth day came, and still the temperature was high. Laennec doubted the existence of dry pleurisy, and Voilez has found only one case out of eighty-one observations of acute pleurisy. I have never observed it myself, and it seems to me we are before the first case I have ever seen. To-day is the twenty-ninth day of his pleurisy; the dreaded tuberculosis has not broken out; nothing new has occurred; he feels well, eats well, and the friction has disappeared. Of course, we do not count now the partial pleurisies of the tuberculous, such as you can observe in No. 26 Ste. Helene. Cruveilhier thinks, and also Peters, that in cases of pleurodynia there are small partial pleurisies; but we could not expect to find friction in these cases.

Our third patient—No. 22 St. Jean—entered the ward on the eighteenth day of her disease, and we then heard no friction-sound; but she presented the symptoms of effusion, which we calculated to be about five hundred grammes. We observed that peculiar harsh (aigre), smothered (voile), remote blowing, heard as if it originated at a point distant from the ear, and heard during expiration. There was also ægophony, and on percussion an almost tympanitic resonance (skodique) above the level of the effusion. There was no whispered pectoriloquy (pectoriloquie aphone), but two days afterward it was heard, and to-day, with nearly two pints of effusion, this sign is typical in this patient; the ægophony has disappeared; her respiration is metallic, almost amphoric; her heart beats under the sternum.

The appearance of the effusion is very irregular; you may observe it from the second to the twentieth day of

the disease. Is there any relation between the effusion and the temperature? It has been said that the temperature follows the effusion. This is an error. The patient who occupied our attention last—22 St. Jean—has manufactured about two hundred grammes per day, and yet the oscillations of the temperature are now very much like what they were when we first saw her.

Treatment.—The pain should be met by dry cups, or, better, by morphia injected hypodermically over the seat of the stitch. I like blisters at the beginning, associated with the hypodermics; but remember that blisters have no effect whatever on a good-sized effusion, any more than jaborandi.

Thoracentesis.—It has been advised not to operate if the temperature is high—to wait for defervescence—to wait for the dyspnœa; but sudden death by asphyxia may occur. No certain rules can be given for the time of operation. With an effusion of four hundred or five hundred grammes, and even of one thousand grammes, do not operate. With twelve hundred grammes, try still to delay the operation, if the patient seems easy and defervescence near. With twenty-five hundred grammes, you must operate; never mind circumstances. Use needle No. 2 of the aspirator, and make your puncture low and posteriorly, on a line with the angle of the scapula, at the eighth or ninth intercostal space. Never draw out the effusion at a more rapid rate than one hundred grammes per minute. When pulmonary congestion supervenes, with rusty expectoration and even hæmoptysis, it is the operator's fault generally—he is using needle No. 4 or 5—he is emptying the pleura too rapidly. Never empty an effusion of three thousand grammes or more at a single session, but draw out one thousand grammes each day. It is a good habit always to examine the serum withdrawn under the microscope, and calculate the number of red corpuscles to the cubic millimeter. If you find more than a thousand, there is a tendency for the effusion to become purulent. I remember a case where I found twenty-five hundred per cubic millimeter, and diagnosed a future purulent effusion. At the second puncture, made three days later, the effusion was already purulent.

Note.—No. 1 Ste. Helene and No. 6 St. Louis both left hospital cured, without anything worthy of notice happening after the date of the preceding remarks, the diag-

nosis in the former case being confirmed as that of dry pleurisy.

In the case of No. 22 St. Jean, thoracentesis was decided on, and fixed for the 23d of January. On this date's morning visit, with the aspirator already on the bed, the patient was re-examined, when a remarkable diminution of the effusion was observed. The whispered pectoriloquy and the blowing on expiration had disappeared, and vesicular murmur was heard over the superior two-thirds of the lung. The patient escaped the operation, owing to the good practice of making a physical examination immediately before its performance. This diminution of the effusion was accompanied with a slight rise of the temperature. On the following day she had epistaxis and copious perspiration, with falling of temperature. On the 27th, the return friction (de retour) was observed, and this could still be heard on the 12th of February, when she left the hospital, twenty-five days after her admission, cured in all other respects.

Hopital de la Charite.

SERVICE OF PROFESSOR GOSSELIN, NOVEMBER 18, 1875.

Reported by Dr. D. M. GUITÉRAS.

CONGENITAL CYST OF THE NECK.

I SHOW you to-day, gentlemen, an enormous tumor in a little child eleven months old, which occupies the region of the neck, on the right side, down to the clavicle. It is soft, not very elastic, giving a sensation of fluctuation. I only feel one sac, one fluctuation. I believe it to be a unilocular cyst, although the multilocular cysts are much more frequent. Therefore we have decided to make a puncture with a very fine trocar, for fear of suppurative inflammation, which is very dangerous; and if we find one cyst with thin walls, and no other cysts, we will inject the tincture of iodine. [The professor makes the puncture with the needle of an aspirator, and withdraws about one hundred grammes of a very bloody liquid.] This liquid does not assist cicatrization by approximation of the walls; besides, I have observed the presence of other cysts, the most common variety. Then, no iodine injec-

tion, because there will be no cicatrization, and the suppurative inflammation is much more to be feared in these composite cysts.

In cases of multiple cysts with bloody contents and thick walls, the suppurative inflammation is sure after injection of iodine. No extirpation here, because all writers have seen strong adhesions with surrounding tissues, vessels, etc., and that it was impossible to remove the sac without injuring them, and hence, danger of hemorrhage and of suppuration. There is nothing to do in a case like the present beyond making palliative punctures, in the hope that it will get well and finish by obliterating itself. No large incisions here, either; avoid them.

In 1839, Cæsar Hawkins, an Englishman, described them well, and characterized the varieties of multiple cysts, they being sometimes adjacent to one another, at other times within one another. In 1852, Werner, a German, wrote another essay; and in 1853, Lorrain, then an interne of Nelaton's, published two observations in Nelaton's service. In 1858, Bouchet, interne of the Pitie Hospital, wrote an excellent thesis on the subject, with a very good clinical classification. These cysts are found more often on the left than on the right side, this one being on the right side. The simple, unilocular ones are best treated with the tincture of iodine injection; the multiple ones require other treatment.

I do not know where or why they are developed. Richer describes them as developing in the lymphatic glands; but this is not demonstrated, nor is there any lymphatic element in these cysts. They are evidently a local affection, the little children always being healthy in spite of them.

As regards prognosis, they are divided into suffocating and non-suffocating, some of them having a tendency to press upon the larynx and trachea and suffocate the child. This one has no such tendency. We do not know what they would become if they were to be left to themselves, when they are not suffocating. Under the treatment of palliative punctures will they finish by getting well? In the different writings we see more of a hope than of a reality of cure.

Varieties of Pulmonary Phthisis.

EXTRACTS FROM A LECTURE DELIVERED IN BELLEVUE HOSPITAL MEDICAL COLLEGE, DECEMBER 10, 1878.

BY ANDREW CLARK, F. R. C. P., LONDON.

(*Concluded.*)

Now, in the second classification, we have a caseous pneumonic phthisis. The history of this form of phthisis is almost the reverse of that of tubercular phthsis. In tubercular phthisis the constitutional symptoms are profound, while the local symptoms are comparatively few. In the cases I am now describing we have an abundance of local symptoms. By physical examination perhaps one-quarter, one-third or one-half of an upper lobe of a lung may be found to be uniformly solid. You will have dullness and tubular breathing, which may be accompanied or not by crackling. You may have bronchophony, but the constitutional symptoms are often few. The patient looks fair, has a bright eye, is well nourished, and perhaps slaps his chest and says, "But for this cough I would be quite well." Perhaps the disease has come on insidiously. Perhaps by inflammation not so severe as croupous pneumonia, and the case itself runs for an indefinite time until a certain change takes place which brings it within the pale of serious cases of phthisis.

Suppose, then, we have a case of pneumonic phthisis with unbroken consolidation of the lung or only a few small cavities. The patient is tolerably well, engages in his work, complains comparatively little of constitutional symptoms. By and by the caseous pneumonia breaks up into large cavities, and, sooner or later, the opposite lung may become affected either by the deposit of tubercles, or by the formation of little patches of lobular pneumonia.

Here, again, the subject is full of complexities, and we are in a little difficulty. Sometimes cases of caseous pneumonic phthisis are slow, subacute, almost chronic. But there is a certain section of these cases which is extremely rapid. There are those cases in which the fever rises and the deposit in the upper part of the lung breaks down rapidly, and within four, five or six weeks the patient dies with all the symptoms of phthisis. These may be called cases of acute caseous pneumonic phthisis,

and answer to the true galloping consumption of our forefathers.

Now, passing from this caseous pneumonic phthisis, I will make the following additional statement: The usual rule with tubercular phthisis is death. I do not say there are no exceptions to this; perhaps cases of tubercular phthisis may get better, but they are few. It is in cases of pneumonic phthisis, no doubt, that the greatest number of recoveries take place, and they take place in one of several ways. Sometimes the exuded caseous pneumonic stuff undergoes fatty metamorphosis, and is really absorbed. In other cases the caseous matter, not being quite melted and absorbed, a kind of fibroid change takes place in the lung. It gets hardened, perhaps the bronchial tubes are a little dilated, and the whole affair settles down into a hardened mass. Sometimes these cases of caseous pneumonic phthisis, while destruction is going on, yet develop secondary fibroid change, which does the same for these cases as for those of tuberculous phthisis.

I have said that occasional cases of tubercular phthisis progress slowly, and in proportion to the amount of fibroid degeneration. So it is in caseous pneumonic phthisis; for, if it excites a secondary fibroid degeneration, the progress is exceedingly slow.

Now we come to speak of the cases which I have classified as fibroid phthisis. The chief clinical characters of fibroid phthisis are these: First, it is, as a rule, a febrile. The pulse is quiet, and the general health is but little disturbed. The second point is that usually, not invariably, there is, just as in the case of croupous pneumonia, a history of some inflammation. It may be a pleurisy, very often it is so; it may be a pneumonia, which has been unabsorded and converted into fibroid mass, or it may be an irreducible recurring bronchitis which has caused the development of fibroid tissue; and lastly, but rarely, it may be due to some constitutional disease, such as syphilis or cancer. But the main point is, that while it has such a history it is almost always unilateral, while tubercular phthisis is almost invariably bilateral sooner or later. Pneumonic phthisis may be or it may not be unilateral. Fibroid phthisis is in ninety-nine cases out of a hundred unilateral. The local signs of fibroid phthisis are extreme contraction, with pronounced friction sounds and displacement of the organs. With these few points I will narrate

the history of one case of fibroid phthisis which will enable you to understand better what you are to expect in these cases than you would from a mere description.

. . . . . .

With your permission, I will mention just one other case. It is a case which was brought to me by Dr. Pollock, of the Charing Cross Hospital. This patient sprung from a bronchitic family, and had repeated attacks of bronchitis and severe attacks of pleurisy. When the patient was brought to me there was complete dullness, diminished tactile and vocal fremitus, loud bronchial breathing, bronchophony, and a metallic character to the resonance. His symptoms were paroxysmal cough, often ending in vomiting, and dyspnœa, but no fever.

This case was examined by several physicians, and seven years ago was reported before the Clinical Society of London as a case of tubercular phthisis. Not long ago he died, evidently from an attack of acute bronchitis, brought on from exposure to cold, but before his death there was a small quantity of albumen in the urine.

When examined after death these appearances were found: The right lung was perfectly solid; through it ran dilated bronchial tubes, and in the solid portion there were several ulcerations producing cavities.

I have now in my wards, in the London Hospital, three cases, in different degrees of development, which illustrate one of the modes in which fibroid phthisis arises.

The first is the case of a man named Tenny. He is a thin, pale and delicate man. He is liable to cough with expectoration, but he says he is pretty well, except that he is very delicate. The remarkable feature about the man is that he has scarcely any lung to breathe by.

His chest seems contracted, and he presents an appearance such as is seen in advanced phthisis, but it is not a case of phthisis at all. The more careful examination you make, the more sure you are that you are dealing with a man who has semi-solid, contracted lungs, with but little space left for breathing, and perhaps slightly dilated bronchial tubes, which hold a small amount of secretion. But there is no evidence of destruction of lung-tissue, and he has had a kind of interstitial pneumonia for many years.

I have watched him from the beginning of the symptoms, which are like those in the other cases described.

The second case is that of a man called Douglas. He is in the position of having a contracted left lung, with crepitation all over it, bronchial breathing and bronchophony, but otherwise he is in tolerable good health. He, too, has the history of the third case.

The third case is that of a man who has been under observation for some time, but whose name I forget. But he has an irreducible fibrous pleurisy. He declares that he is perfectly well, and it is only by the greatest strategy and ingenuity that we are able to keep him in our wards. It astonishes him that we should be so anxious to have him remain with us. But we are very desirous that he should do so, in order that he may be utilized for purposes of our common instruction.

But the moment the hand is placed on the chest you feel a friction motion, and, over almost the entire chest, you can hear the to-and-fro-friction sound. This is an example of the beginning of these cases. Tenny's difficulty began in this way. They come into the hospital with some pain in the side, with little or no effusion in pleural cavity; probably an effusion has been present at some time, and they get apparently well, but the to-and-fro friction sound remains in some cases.

In none of these cases have I been able to render any therapeutical service whatever.

In the last case it will be my endeavor to keep the patient in the hospital, so that I can trace the clinical history through its entire course.

I will just say, however, with reference to these illustrations, that, if you will cast your eye backward, I think you can not fail to see, first, that there is sufficient ground for pathological distinction; and, second, if I could reproduce in your minds, as clearly as I see them in my own, the clinical distinctions, I am sure you will accord with me that there is a clinical diagnosis in phthisis, and that it is just and proper that it should be recognized; for if they are different in origin, different in modes of development and progress, therefore necessarily different in treatment, and different in issue, it is but right, whether the destructive agent is distinct in structure or homologous, that we should have a separate name to represent things, which, at all events, are different in their apparent nature.

In regard to treatment, Dr. Clark said he pretended to no special knowledge of the treatment of phthisis. When-

ever he encountered any chronic disease he dealt with it on principle. Every organism has a righting, a repairing and a resisting power, and it exercises these powers in proportion as we give them fair play. He proceeded always in a chronic case to determine what would be fair play for the organism suffering. Hence, diet, air, attentention to the general functions, form always the first points of treatment in such a case. While the profession are ready enough to give a liberal supply of medicines, we too often overlook those minor details of daily life, which, in the end, make and unmake life. Of tubercular phthisis he had very little to say. The principal thing to do is to look after the general health. The tendency to resistance being lowered permits the advance of the disease with which the patient is threatened. If he could keep him free from colds, and consequently from pneumonia, he was practically doing as much for his patient as he could. There are no principles in medicine; it is, in fact, one of the most unprincipled of arts. Every organism is somehow or other different from every other, and it contains within itself the laws for its own management. The wise man, he who has the gift as well as the knowledge of healing, is he who with an instinct is ready to discover the laws of the organism with which he is dealing, and governs himself accordingly. It would be foolish to say in detail how he should deal with a case of tubercular phthisis. Regulated diet, moderate use of alcohol, air, exercise, avoiding colds, are the principal means to be used. He had tried this medicine and the other, hypophosphites, arsenic, iron, cod liver oil, etc., but he could not say, looking at the whole with an honest, critical eye, he could lay his finger on any remedy which has any specific influence. As regarded caseous pneumonic phthisis, he believed in the efficacy of treatment. In an acute case he had great faith in treatment. He puts his patient to bed and keeps him there until his temperature falls below 100°, no matter how long that may be. In cases where the secretions are scanty, the tongue dry, temperature high, pulse quick, he satisfied himself with a free use of salines and with counter-irritation. If he found the patient remaining feverish, he gave up citrate of potash, and put a drachm of antimonial wine into a tumblerful of water, and made him sup that during twenty-four hours. The skin breaks out into perspiration, tongue becomes

moist, expectoration usually begins; then he immediately stops and treats his patient with effervescing alkaline salines with quinine and citric acid. He next feeds him with milk and beef tea. We often forget, practically, that liquid food goes quickly to the lung. In cases where exudation is going on in the lung, we minister to it by filling our patients with fluid food at short intervals. In rapidly extending pneumonia he had seen exudation hurried to a fatal end by the administration of fluids every half-hour. Food should be given in a more solid form, and not oftener than every four hours. This is one of the forms in which he believed alcohol to be extremely useful. In cell proliferation alcohol is useful, and he would extend it to scrofulous diseases generally. In regard to change of air, he first found out whether the most comfort was experienced in the valley or on high land, and would be guided accordingiy. Hence what suited one person would be death to another. He deprecated the sending of patients away from home comforts when the disease was far advanced. Maderia and the south of France were the favorite and fashionable health resorts of English consumptives, but he knew of some remarkable instances where the murky atmosphere of London gave the greatest comfort to phthisical patients. He thought highly of our Colorado canons and Florida, and regretted that they were not more easy of access to European phthisics.—*Med. Record.—Canada Med. Record.*

The Theory of Germs, and its Application to Medicine and Surgery, by Pasteur, Joubert, and Chamberland.

BY JOSEPH WORKMAN, M. D., TORONTO.

From Canada Lancet, of February 1st.

Concluded.

We have distinguished the carbuncle bacterium, and the septic vibrio, as agents of contagion, disease and death, not because they generate chemical poisons, but because the animal economy can afford them the means of culture. We now have to notice a third species, equally capable of multiplying in the living body, and of provoking in it a pathological state different, as will be seen, from the morbid manifestations which arise from inocula-

tion of the carbuncle bacterium or of the septic vibrio. Here we have a proof that the pus formed by our organism is allied to the specific character of its structure. The quantity of pus, for example, furnished by the bacterium and the septic vibrio, at the point of inoculation, and outside of it, is so little apparent, that it frequently passes unnoticed.

The microbio of which we now treat may propagate itself through all the muscles, penetrate into the blood, into the lungs and the liver, and determine in these organs the formation of purulent foci, metastatic abscesses—in a word, a purulent infection and death. This invasion, however, of the whole body is much more difficult than that of the carbuncle bacterium or the septic vibrio. Whilst the inoculation of the most minute quantities of the latter organisms conducts, so to say, infallibly to death, that of our microbio, in similar proportions, is limited to the production of abscesses which cure spontaneously, either because they suppurate and open, or because the pus is resorbed, and the microbio which accompanied it disappears, conquered by that which I would call life, vital resistance, *vis medicatrix*. If, however, the number of abscesses have been increased by that of the inoculations, it frequently happens that the cure of these can not be effected, and it is then the microbio penetrates through every part, and the muscles become as if impregnated by it.

We may say that this new organism, previously subjected to a temperature of 110° C. (230° F.) and thus entirely deprived of life, yet preserving its form and volume, provokes, when inoculated under the skin, in the same manner as inert solid bodies, abscesses consisting of pus entirely pure, free from smell, and devoid of living organisms. This mode of inoculation does not, however, permit the production of abscesses in the viscera. In these conditions the dead microbio operates only locally; but in the same manner as when inert bodies are injected into the blood, and the formation of metastatic abscesses is provoked, so also it is easy to obtain such abscesses either by the living or the dead microbio, by injecting substances containing it into the jugular vein. In this case the lungs, and especially the liver, become filled in twenty-four hours with an infinite multitude of metastatic abscesses, in all stages of evolution, from the mere inflammatory blotch to the small white pustule full of pus, sur-

rounded by a yellowish areola. As regards cure, that is, the disappearance of the abscesses, matters progress differently in the two sorts of inoculation. The animal inoculated with the living microbio almost always dies speedily, and any part of the liver or the lung, immersed in an inert liquid, reproduces the microbio. If the consequences of the inoculation have not been fatal, the disappearance of the abscesses and of the microbio in the viscera is more slow than in the cases inoculated with the dead microbio. It may therefore be inferred, from the preceding facts, that pus, accompanied by living microscopic beings, whose life is possible in the animal economy, gives place to disorders of greater severity, and more difficult of resolution, than pus which may be called pure.

We have here an example of a purulent affection localized in the viscera, and provoked by extraneous bodies, or by pus entirely free from living organisms. It is the case of the thorn of Van Helmont. An extraneous body leads to the formation of pus; proper pus has this faculty, and it is thus that we may say, metaphorically, pus engenders pus.

If time would permit, I might allude to the process of the resorption of metastatic abscesses. The phenomena presented in these minute formations are truly curious, and that which is particularly interesting is to observe the facility with which nature disembarrasses herself of purulent foci which cover, sometimes in profusion, all the lobes of the liver.

There is another point in our studies on which I would desire to address the Academy. I mean the special formation of pus. We have, however, arrived at conclusions so opposite to those which have currency in medical science, and it is so difficult to form a clear decision in these most delicate investigations, that I reserve it for a subsequent communication. At the present, as regards ourselves, the red globules of the blood become, by transformation, pus globules. In the science of observation, however, illusion is rather easy when it rests on only a limited basis.

I hasten to reach another order of facts, which merit still more than those which precede the attention of the surgeon. I refer to the effects of our microbio as a generator of pus when associated with the septic vibrio. Nothing is easier than the implanting of two distinct dis-

eases, and of producing one which may be called a purulent infectious septicemia, or a purulent septicemia. Whilst the microbio generator of pus, when alone, forms an allied pus, white, lightly tinged with yellow, or greenish, in no way putrid, diffused, or involved in what we call a pyogenic membrane, not offering generally any danger, especially when located in cellular tissue, and prepared, as it were, for the purpose of prompt resorption, the small abscess, on the contrary, provoked by the microbio associated with the septic vibrio, takes on a gangrenous aspect, and becomes putrid, greenish, and infiltrated in the softened flesh. In this case the microbio generator of pus, carried, so to speak, by the septic vibrio, accompanies it through the whole body, and the highly-inflamed muscles, filled with serosity, presenting at many places globules of pus, appear as if crammed with the two organisms. By a similar artifice the effects of the carbuncle bacterium and of the pus generating microbio may be combined, and we may obtain the superposition of two diseases; that is, a purulent carbuncle, or a carbunculous purulent infection. For the present it is well not to overrate the predominance of the new microbio over the bacterium; if, however, the microbio be associated in suitable proportion, it may completely baffle, or impede, the bacterium in multiplying in the body. Carbuncle is not manifested, and the evil, quite local, is reduced to the formation of an abscess, easy of cure. The microbio generator of pus and the septic vibrio being both anerobious, it will be understood, from the demonstrations in a former portion of this article, that the septic vibrio will not be much incommoded by the connection. Nutritive aliments, both liquid and solid, will not fail in the organism for such small beings. But the carbuncle bacterium is exclusively aerobious (air living), and the proportion of oxygen is far from being scattered in profusion at all points in the body; a thousand circumstances may therefore diminish or suppress it here and there, and as the microbio generator can live in air also, it may be understood that from its larger size it may draw from the bacterium alongside the oxygen needed by it. Whatever may be the explanation of the fact, it is certain that the microbio here treated of, in certain circumstances, impedes the whole development of the bacteria.

In conclusion, we may say that the details which have

preceded show that we can at will produce purulent infections exempt from every element of putridity—purulent putrid infections and carbunculous purulent infections; various combinations of this species of lesions, according to the proportions of the specific microbios which have been brought to act upon the living organism. Such are the principal facts I had to communicate to the Academy in my own name and in that of my co-laborators, Drs. Joubert and Chamberland. The Academy will remember that in the course of the chirurgical discussion which took place before it I presented a series of propositions without demonstrating them. All these have now been defined in the lecture which I now close. Some weeks ago (in the session of March 11) one of the members of the Academy, Dr. Sedillot, declared that our successes in the new departure in surgery furnish a rational explanation to the newly-inaugurated theory of the celebrated English surgeon, Dr. Lister, one of the first to comprehend its value.

Clinical Lecture on Syphilis in Relation to Marriage.

BY DR. ALFRED FOURNIER,

Hôpital St. Louis, Paris.

Notes by Dr. Charles W. Dulles.

Gentlemen—The question whether a man who has contracted syphilis may marry is one which is not infrequently asked of a physician, and one which he may not avoid, notwithstanding that it casts upon him the gravest responsibility. If his answer be a positive "No," it is apt to involve for the inquirer celibacy, with irregularities the temptation to which he can not resist, the deprivation of all that is dear in the idea of family, and many evils which may result from these. If the answer be "Yes," there may ensue equally disastrous consequences. The marriage relation may be the means of communicating to his wife the disease under which he labors; and his children may die before their birth, or come into the world unfit to exist. What can be more terrible than the position of such a man *vis-a-vis* his wife and children? Remember this, gentlemen, when asked this momentous question.

But, from what I have said, are you to conclude that syphilis is an unsurmountable obstacle to marriage? No, it must not be so considered. This I may say with positiveness, since there have been cases enough to demonstrate its truth; cases where the disease has been communicated to neither wife nor children. I have myself seen fifty-one such, and eighty-two children born and living healthy in spite of the previous disease of their father. When I reflect upon these happy families, I can not but think what an error I should have committed had I always said an inflexible "No!" to the question whether marriage is permissible after contracting syphilis.

My answer to this question is not "No," but "Yes"—under certain conditions. It must be well weighed that syphilis is dangerous in three ways: 1st, to the wife; 2d, to the child; 3d, to the family relation.

First, then, syphilis is dangerous to the wife, for she may contract the disease from manifestations recurring after it seems to have subsided, or from secondary lesions upon any part of the body, by means of the multiplicity of contacts and *rapports*, so incessant and intimate, of married life. It is very rarely that under such circumstances a woman escapes contagion from a man with secondary syphilis.

But besides this there is a means of contagion less apparent, less likely to be suspected. A young woman may present manifestations of secondary syphilis and no sign of a primary lesion. The husband, in distress, declares that he himself has had no lesion since he married, that, with your warning against this danger in his mind, he examined himself carefully and constantly, and that he trusted your assurance that all was right. How can this be accounted for? Infallibly in such a case you find that the wife is at that time pregnant, or that she has recently aborted. The syphilis was communicated by conception. Of the way in which this takes place we know absolutely nothing. Of the fact my experience does not permit me to doubt.

In the second place, besides the danger to the wife, and even should she escape, syphilis involves the child in danger. The error of teaching that paternal influence is not to be dreaded is enormous. When it is seen how the father's influence makes itself known in the offspring, in form, shape, height, and tendency to special diseases of

body and mind, how can we deny the force of analogy in regard to syphilis?

There are cases, it is true, where the father has not communicated this disease to his child, and enough of them; as, for example, where a syphilitic man had, at about the same time, a child by his wife, who was syphilitic, and so was the child, and one by his mistress, who was not syphilitic, and her child was sound. A second instance I can quote of a syphilitic man whose child was born healthy and contracted the disease two years later from its father's kisses.

But this concession is only one side of the question. On the other hand, it is a rare occurrence, but true, that a father has begotten a syphilitic child and the mother remained unaffected. Besides which, we must take into consideration the important matter of abortion, which occurs so often with no other cause discoverable upon the most searching examination. When such cases come under your notice, where abortion has followed abortion in women apparently healthy, you may suspect, and will usually find, that it is due to the syphilitic influence of the father upon the fœtus.

Thus much of children whose father alone is syphilitic. When both parents are diseased we find that the children die *in utero*, or are born with syphilis, or with a miserable, weak, cachectic constitution, ready to fall a prey to disease of almost every sort. I can recite you the case of a woman who, having given birth to three healthy children, contracted syphilis from her husband and then had four still-births and three abortions in succession.

The children of the second class, born with syphilis, for the most part do not live long. The disease soon terminates their existence. Those of the third class may show their debility at once, or give no sign, looking well the day of their birth and dying the next, without apparent cause; or they may grow awhile, delicate and feeble, with little power to resist disease, and predisposed to scrofula, idiocy and convulsions.

In the third place, syphilis is dangerous to the family relation. I am not a preacher, gentlemen, but I speak to you *en honnete homme*. We may not, in the discharge of our professional duties, overlook the importance, to the state and to mankind, of the social relations. And so I feel that a man with uncured syphilis has contracted a

physical debt which he must inevitably pay; and I ask you, Can he marry honestly? Suppose he gets children, and then falls sick and can not work to support his family. Dare a man risk this? No! If he marries, uncured, it is an immoral act, an act of injustice to the community. Alas! such things are not uncommon. I know a case of a man who, after marrying and getting children, lost his nose by ulceration, and became an object of disgust to all who knew him, unfitted for his former associations, and branded with the consequences of an almost forgotten disease. Another man had a late affection of his eyes, and lost them both, by which his means of support was gone, and his family became dependent upon the city. Another, a doctor, impotent from paraplegia, came into the same condition. Another, after a few months of married life, died, leaving his young wife *enciente*. Another had cranial exostoses, a cerebral affection, and epilepsy; lost his reason and his money, leaving his wife and children in poverty.

In view of all this, our bounden duty is to declare to a questioner what may be the consequences of a marriage after the contraction of syphilis. Where there is serious danger of such results as I have named, no man can, no man has the moral right to take a wife and beget children.

But this rule must be most carefully applied; for, as I have said already, we may not invariably refuse our consent to marriage after syphilis has been contracted.

Now, however, we approach grave difficulties, and are confronted with the usual embarrassment of proceeding from theory to practice.

When and under what conditions, then, is marriage morally permissible to one who has contracted syphilis?

The conditions that are indispensable I believe to be the following:

1st. *Absence of actual manifestations.*
2d. *Advanced age of the disease.*
3d. *A period of immunity since the last outbreak.*
4th. *A non-menacing character of the disease.*
5th. *Adequate specific treatment.*

It might be thought somewhat superfluous to say that *no one should marry who has actual manifestations* of this disease—that these constitute an absolutely insurmountable barrier; and yet I have seen men bold enough to ask the question, and have even seen two cases of mar-

riage with a chancre at the time. Some men act thus from ignorance; some cynically brave all the danger; some, from weakness, fear of exposure and scandal, allow the consummation of a union into which they should by no means enter: but for none is there a reason which can justify them.

The second condition, *advanced age of the disease*, depends upon the fact that the fresher, the younger the attack of syphilis, the greater is the liability to accident from it. Thus the presence of secondary manifestations constitutes a very formidable danger; and even when they have disappeared they are apt to return. There are certain situations, also, as about the mouth and genitals, where they may be present as simple erosions and deceive a most careful observer. This fact of the decreasing danger as time goes on is shown in cases where at first a healthy mother has aborted, and later, without her husband's being treated, she has ceased to abort and given birth to healthy children. I knew a mason who, when he married, had a syphilitic roseola. His wife was infected, with the following issue of her pregnancies: in the first she aborted at four months, in the second at five, the third child died before term, the fourth and fifth were born syphilitic, and the sixth, seventh and eighth showed no sign of the disease.

The precise time when a previously syphilitic person may marry is hard to determine, and must be considered with due estimation of the sort of treatment that has been employed and its effect; but I may say that I think the minimum time since infection should be three or four years. Before the lapse of three years I will not permit it, as I have seen the saddest results follow such a course. Later the probabilities are better, and, with the exercise of proper care, the dangers are not great.

The third condition I mentioned was *a certain period of immunity since the last outbreak*. By this I mean an *absolute* immunity for a certain length of time. This marks the subsidence of the acute stage, called secondary, and shows the effect of treatment as well as the character of the disease in each case. If these are such as to encourage you, I think, while no invariable period can be set down, that we may consider eighteen months as a minimum, under which I would not myself sanction marriage.

The fourth condition is a *non-menacing character of the disease.* This is a most important consideration. When syphilis yields rapidly to treatment it is a favorable sign; and, conversely, if the form is grave and less tractable, it is more dangerous, and much greater caution must be used. To enumerate some of the characteristics which are grave, I might mention multiformity, multiplicity, or intensity of lesions, a seemingly deep impression upon the general health, and stubbornness against treatment. Besides this, there are certain organs, the implication of which is very serious, as the brain and spinal cord; lesions of these being extremely dangerous and apt to recur. I should require a very long period of immunity in such a case. I remember a young man whose arm had been partially paralyzed, who married in spite of my warning, and in ten days had an attack of paraplegia, followed by insanity and speedy death in an asylum.

Finally, an indispensable condition is *adequate specific treatment.* The individual who has contracted syphilis is dangerous, and must be treated. This is the best protection to the community, and needs no argument to support it. Syphilis properly treated rarely progresses to the tertiary stage, while that which is not properly treated almost always does. Treatment diminishes its contagiousness and hereditary transmissibility. Many cases could be cited to illustrate this, where proper treatment of a husband has put a stop to his wife's aborting, and where abortions consequent upon syphilis of both husband and wife have ceased and healthy children been born. It is especially important that at the time of procreation both husband and wife should be under treatment. I know a case where a syphilitic woman, who had aborted seven times, went under treatment, and gave birth in the eighth pregnancy to a healthy child, and then to another in the ninth. She now omitted treatment, and her tenth pregnancy resulted in a syphilitic child that died in six months. Returning to treatment, she became pregnant again and had a healthy child.

Adequate treatment, therefore, is a capital and essential condition to marriage of a syphilitic.

I have thus, gentlemen, laid down what I think are the conditions upon which one who has contracted syphilis may marry. It is not an invariable programme, but simply the result of my personal observation, and what may,

indeed, be modified in the light of subsequent information. With these considerations in my mind, when the question we have been studying is presented to me, I feel sometimes quite sure of my ground, and speak out positively and at once. At other times I do what you will doubtless have to do, wait and observe; in doing which, I likewise explain the case to my patient, and impress him with the importance of being as careful as possible in a matter so grave, and which is at best a calculation of probabilities. On one side there is danger which can not be overestimated, on the other comparative health, safety and happiness.

If, then, we deal thus honestly and conscientiously with those who seek our advice in this serious matter, with due caution against the ills which may result from an unwise permission, and appreciation of the unhappiness which may follow an unnecessary refusal, we shall execute an office salutary to the state and of the greatest benefit to our fellow-men.

Microscopy.

Illumination with High Powers by Reflected Light—Something More About the "Nucleus" in the Red-Blood Corpuscles of Mammalia.

BY J. EDWARDS SMITH, M. D., CLEVELAND, OHIO.

There are two methods of illumination used by the working microscopist, viz: transmitted and reflected light.

The use of transmitted light, in the large majority of observations made with the microscope, resulted from the fact that in the past it was difficult to obtain *reflected* light of sufficient intensity for the use of the higher powers. Indeed, it has been almost impossible to display an object *well* by reflected light under amplifications of more than two hundred and fifty diameters.

Several years since, Prof. H. L. Smith, of Geneva, New York, brought into notice his peculiar illuminator for work with reflected light; subsequently, the Messrs. Beck, of London, brought out their "vertical illuminator," which

was, in fact, but a modification of the idea before presented by Prof. H. L. Smith.

The Beck instrument consists of a tube, one end of which has an interior thread to receive the "society screw;" the other end has the same thread cut on its exterior surface. In practice the "illuminator" is screwed to the tube of the microscope, and the objective in like manner is fitted to the free end of the tube.

The tube, which is about one inch in length, contains an ordinary glass cover disk, and is mounted so as to admit of rotation. This disk serves as a reflector to throw light *downward* through the objective on to the object on the stage. The tube is also pierced laterally with an opening for the admission of the light to be used. There is no light intended to be admitted from below the object.

This little instrument was intended to be used with medium powers, and with dry objectives, and it did its work very well.

Some three years ago it occurred to Mr. George W. Morehouse, of Wayland, New York, to try the working of this device in connection with the wide apertured immersion glasses, which were at that date coming rapidly into vogue. Mr. Morehouse reasoned thus: that, with the immersion systems, the light proceeding from the reflector in the rear would pass through the objective—the water immersion—the glass cover, directly and without interference; and, if so be that the object to be observed should contact the cover, then the light would be conveyed directly to it.

Mr. Morehouse was amply rewarded, for, on trying the experiment, he was astonished at the results obtained. With his wide-angled glasses, in conjunction with the illuminator, he had no difficulty in displaying the most difficult test objects under amplifications of three and four thousand diameters.

Mr. Morehouse was kind enough to inform me of his experiments, which I repeated at once, without the least difficulty; and, after some further experimenting, I devised another modification of the illuminator, which consisted, essentially, of a little shutter to the lateral aperture, by means of which the light was the better controlled, and the definition materially enhanced. I now had the satisfaction of seeing, by the combined use of the

"duplex" objectives and the modified illuminator, the celebrated Nobert Nineteenth Band by reflected light. The exquisite beauty of this display was far in advance of the results obtained by transmitted light.

Not only this object, but the entire line of difficult tests were beautifully shown, and under powers of three and four thousand diameters, and, of course, by reflected light.

Having in a little time, by dint of practice, learned the use of the instrument, I turned my attention to the investigation of histological specimens. Among the objects thus selected was a slide of human blood, which was mounted on the spot, and without chemical treatment, by simply placing a tiny drop of blood on the slide and covering at once with thin cover.

With the illuminator, in conjunction with the duplex wide apertured objectives, and under amplifications of say thirty-five hundred diameters, the nuclei of the red corpuscles were beautifully brought out, on perhaps three-fourths of the disks examined, and many other things of great interest, all of which were totally invisible by the ordinary methods of transmitted illumination—in fact, a new study of rare interest was presented.

The above facts were immediately communicated to my friend, Dr. C. P. Alling, the secretary of the Dunkirk Microscopic Society. Dr. Alling was at that time preparing a paper on the microscopy of the blood, and my observations were incorporated therein, and were thus presented to the public. This occurred some two and one-half years ago.

It has been my intention to prosecute this line of study, and hope so to do at no distant day.

It may be well here to inform the reader that the "vertical illuminator" can only be used for this class of work, in conjunction with objectives of high *balsam* apertures, *i. e.*, such as deal with pencils of greater than those having *air* transmission of 180°. The larger the balsam angle of the objective, other conditions being equal, the better the work of the Beck illuminator.

Of late, other observers claim to have seen the "nucleus" in the red blood corpuscles, but, as I am informed, the specimens were previously subjected to treatment by chemical reagents. The uncertainty attending this treat-

ment of specimens is well known and appreciated by accurate investigators.

Referring to an article which appeared in the November issue, by Charles H. Stowell, M. D., on the "Nucleus of the Red-Blood Corpuscles," I beg to say that no errors yet "have been invariably pointed out" in my published observations. If the author of the said article can show me to have been in error, I hope that he will so demonstrate to the readers of this journal, and at an early day. Meanwhile, I lay claim to having been the first to see the red corpuscles of mammalia without chemical treatment of the specimens observed, and by reflected light, under powers of three and four thousand diameters.

The "Zeiss Oil Immersions" Compared With Tolles & Spencer's Duplex Objectives.

BY J. EDWARDS SMITH, M. D., CLEVELAND, OHIO.

Some few weeks since I solicited from a friend the loan of his Zeiss Oil Immersion, one-eighth objective, my object being to compare the same with American objectives by Spencer & Sons, and also with a superior Tolles one-tenth, which has been in my possession for some four years, and is the same glass with which your readers are already familiar.

The owner of the Zeiss one-eighth promptly responded to my request, and, in turn, I gave it my prompt attention.

On testing the Zeiss one-eighth over shells of ordinary difficulty, but mounted under covers of varying thickness, I at once discovered that to work the Zeiss at its *maximum* it became necessary to change the length of the tube, to accommodate the glass to the thickness of cover employed. This necessity, I afterward learned from the circular issued by its maker, is by him fully recognized.

On the other hand, I am fully satisfied that the novice unaccustomed to the use of wide aperture glasses, would, by working the Zeiss at a distance of ten inches, get much better results than would occur in the use of the Spencer or Tolles duplex glasses, but, for reasons already given, the Zeiss should be furnished with adjusting collar.

In general, the work of the Zeiss over difficult test ob-

jects was very satisfactory. Any attempt to depreciate these glasses would be a step in a wrong direction. They are entitled to a place in the front rank of modern wide-angled objectives.

Comparing the Zeiss one-eighth with the Tolles duplex, working the latter with glycerine, I must admit that the Zeiss got the better of the Tolles. The difference was not remarkable, and perhaps Mr. Tolles might truly claim that his late work would surpass the one-tenth named. The superiority of the Zeiss was displayed in the exhibition of the *striae*, while the images of the entire shells were best shown with the Tolles.

Compared with a late Spencer one-fourth of high balsam aperture, the little fourth, in my opinion, came out ahead, but to determine this I had to select particularly difficult valves of the balsam mounted amphipleura pellucida. Over the No. 20 of the Moller plate both glasses gave me beautiful shows, but it must be kept in mind that the Spencer glass had but one-half of the nominal power of the Zeiss.

The Zeiss was returned to its owner with substantially the above verdict.

Subsequently, after my experience with the "oil of cedar," it occurred to me to experiment with different oils, and with the glasses at my command. As a *dernier resort* I tried *coal* oil, and was amply rewarded.

Working the Tolles one-tenth or the Spencer with the coal oil, I got finer results than ever before. The Zeiss having been sent home to its owner, I was debarred from making close and immediate comparisons, but I have no hesitancy in saying that, with the coal oil immersion, the Tolles one-tenth will equal and the Spencer one-fourth excel the Zeiss one-eighth.

The conclusions thus arrived at received the concurrence of a medical friend who was present at the examinations, and who immediately afterward ordered a Spencer one-sixth duplex objective.

As to the coal oil, I am very glad to make its acquaintance. With the glasses before named it gives an added force of at least twenty per cent.—that is for work by oblique light. With central light its performance is not as satisfactory as is the use of water.

Thus it seems curiously enough that I have had "oil

immersions " in the house for years and did not know the fact!

One more word and I am done. With the Spencer one-fourth and coal oil immersion I now see the No. 20 of the Moller plate, without prism or sub-stage arrangement of any kind whatever, and strong enough to show to those accustomed to such displays. The use of the oil also decreases the difficulty of manipulating wide apertures glasses.

Trichinæ in Pork.

By the instructions of the Commissioner of Health of the city of Chicago, Dr. Oscar C. DeWolf and Drs. Atwood and Belfield have recently been examining specimens of pork slaughtered in that city, with reference to their containing trichinæ. In a report dated December 15, 1878, they state that one of the sanitary officers procured for them specimens of pork from each of the packing and slaughtering houses of Chicago, taking from each hog two pieces—one from the tenderloin (*psoas muscle*), the other from the ham. These longitudinal sections were cut, and immediately transferred to the live-box, either in water, glycerine, or a mixture of water, glycerine and acetic acid. They were then examined with a Bausch & Lomb three-fourth objective, and A ocular. Specimens from a hundred hogs were examined, and nearly twenty sections to each hog. They had intended examining one thousand hogs, but, on account of the urgency of the request for an early report, they gave the results arrived at on the first hundred.

Eight of the one hundred hogs were infected—the ninth, twenty-fifth, twenty-ninth, fifty-third, fifty-fourth, sixty-third, seventy-sixth, and ninetieth. Some were badly infected, while in others comparatively few parasites were found. In all cases the hams were apparently free from trichinæ, those found being always contained in the psoas muscle.

In reply to the question of the Commissioner as to whether the trichinous hogs are generally out of health, the examiners say that nothing in their observations would prompt them to answer in the affirmative.

Again, in reply to the query, "Are there any practical means by which our meat inspectors can detect the

parasite in a carcass of meat?" they state that the microscope is the only infallible means. To the unaided eye the infected meat presents no peculiar appearance, unless the parasites be present in excessive numbers. The German government has for some years made a microscopic examination of pork a necessary preliminary to its exposure for sale.

In regard to the practical and important query, "How is it that, since eight per cent. of our hogs are trichinous, cases of trichinosis are so rare?" Drs. Atwood and Belfield reply: "We would advance three propositions—first, that in most instances the meat is previously subjected to thorough cooking, whereby the worms are killed; second, that in consequence of the close resemblance of the symptoms of trichinosis to those induced by other causes, notably typhoid fever, is it not probable that, in some instances, it has been mistaken for other complaints? third, that the ingestion of a certain number of living trichinæ is followed by no unpleasant results."

They state that the prevalence of trichinæ in the human family is more extensive than is generally supposed, as is proven by the researches of Turner, Wagner, Virchow and others (as stated by Ziemssen): "These observers found that from two to three per cent. of all bodies examined, in which there was no suspicion of the presence of the parasite, contained trichinæ. Indeed, there seems to be no limit to the number of trichinæ that a man may sustain with impunity; for, in numerous instances, the bodies of patients never suspected of having suffered from trichinosis have been found, *post mortem*, to contain enormous numbers of these worms."

Half-Inch Objective of Bausch and Lomb Optical Co.

Mr. Ed. Bausch, of the Bausch & Lomb Optical Co., recently made for us a half-inch lens that we think any of our microscopic friends would certainly be well pleased with. It is marked 80° angle of aperture, a few degrees higher than the Company advertise their widest angle half-inch. Although we have had the glass a week or two, we have not had time to study its power, as we intend doing at a future time. We are enabled to state, however, that it has satisfactory flatness of field, clear and

sharp definition, so that with the deepest eye-piecing we were able to submit it to, it did not exhibit the slightest tendency to break down, but the image continued to stand out prominent and well-defined. In resolving power we found that with it we could easily resolve the most difficult p. angulatum in our possession with a C eye-piece. The resolution, too, was perfect, all the striæ being shown. The lens is easily demonstrated to be a true half-inch. It is not a 4-10th, like many English objectives, marked a half-inch. This Company do not overrate their lenses, like most of the English makers, but each glass is of the power it has marked upon it. Their 4-10th has not any more magnifying power than many marked as a half-inch. It is without adjustment for glass cover.

GLEANINGS.

SALICYLIC ACID IN SCARLET FEVER AND DIPHTHERIA.—It may be interesting to some of our readers to know that in salicylic acid we have one of the most reliable remedies in the treatment of scarlet fever and diphtheria. For the last three years I have used, with unvarying success, the salicylic acid suspended in mucilage in both mild and severe forms of scarlet fever, and have seen the throat-symptoms and fever rapidly abate, and the patients make rapid recoveries. On being called to a case, I have given doses varying from five to ten grains every two hours, until the throat-symptoms and fever abated, and find that little patients, for whom we can do so little, when obliged to use the mop or brush to the throat, experience no inconvenience in taking this medicine, which, being simply in a state of suspension, has a chance of, at least a portion of it, remaining on the throat and so acting as a topical remedy, while the remainder acts as an invaluable anti-pyretic.

The success in cases of scarlet fever has led me to try the same remedy for diphtheria; and I am happy to say that, in the most virulent cases of diphtheria, I have seen the pellicle broken up and the diphtheritic patch removed in a most marvelous manner. Indeed, since the use of salicylic acid in diphtheria, I have not seen one fatal case, although several were of a very dangerous type. It

is but fair to say that, in diphtheria, my mode of action is giving the salicylic every four hours, and tinctura ferri perchloridi (P. B.) alternately with it. Some may probably say, "How do you prove that it is salicylic acid which removes the patch, when you use iron also?" My answer is that, at first, I trusted solely to salicylic acid, and found, in mild cases, that it answered every purpose, but that in more severe cases, accompanied with much debility, there seemed to be a tendency to return of the disease on discontinuing the remedy. I was thus led to use the iron, alternately with the acid, as a blood-restorer. To prove that iron was not the sole active agent in the cure, I can but point to the many failures of iron as a local application in the past treatment of diphtheria; whereas with the salicylic treatment, I have not known one single case of the pellicle spreading under its use.

I append the form I use:

℞

Acidi Salicylici.	ʒi vel. ʒij.
Syrupi Simplicis,	ʒ iv.
Mucilaginis Tragacan,	ʒi.
Tinctura Aurantii,	ʒiv.
Aquæ. q. s. ad.,	ʒvi.

Fiat Mistura,

Capiat, ʒiv. 2 dis horis.

—*Hospital Gaz. and Arch. Clin. Surg.*

Jaundice Due to the Presence of Lumbrici.—The patient in this case, a boy aged six, was brought to me on October 10, with symptoms of obstructive jaundice. Upon inquiry I learned that he had been ailing and generally out of sorts for a week, complaining of abdominal pain and headache, and of feeling very tired, with loss of appetite, etc. The bowels had been relaxed, and the skin gradually becoming more yellow, since the onset of the attack; there was no sickness or nausea; the motions were very pale and the urine of a very dark color. From some of the above symptoms I suspected the presence of some specimens of the ascaris lumbricoides in the alimentary canal, and on inquiring into the history of the patient I found that he had passed several round worms about four or five months previously. I ordered a powder, consisting of three grains of santonin and one grain of calomel, to be taken. Two hours subsequently to taking the powder

the child vomited, and during the day the bowels acted three times, the motions being still of a pale color. He complained to his mother that every thing looked yellow. On October 11 he passed two round worms, twelve inches long, and the powder was repeated. On the following day four lumbrici, nine inches long, were passed, the child being still slightly jaundiced and the motions pale. On October 14 the jaundice had all but disappeared, and the motions had improved in color, no other worm being passed. On October 16 the boy was quite well, and the motions had resumed their normal color. The cause of the jaundice here is perhaps open to doubt, but in my opinion it was produced, either directly or indirectly, by the presence of worms in the intestines. Probably a worm had entered the common bile-duct, and so caused biliary obstruction, or, possibly, the mass of worms had occluded the orifice of the duct, with the same result, or, again, the irritation set up by the presence of the parasites had produced a temporary catarrh of the duct, and so caused the jaundice. I have thought the case worthy of record, as possibly the presence of the lumbricus is a more frequent cause of transient jaundice in children than is usually supposed, and especially so in localities—as is the case here—where the lumbricus is of very common occurrence.—*R. L. Ratterbury, M. B., in British Medical Journal.*

The Malarial Fever of Cyprus.—John Sullivan, M. D., M. R., C. P., in London *Medical Times and Gazette:* The origin and nature of that miasma, or malaria, which gives rise to the fever-ague is identical in all the regions on the earth's surface; but its effects on the human body, or the type it assumes, will vary with climate, condition and conformation of the soil. Marsh fever is the declared reaction of the living organism against the cause of infection. The poison of malaria in a malarial soil accumulates in the human system when exposed to its influence, and after an incubation of more or less duration, certain morbid phenomena present an indication of the explosive effort made by nature for the elimination of this poison. A paroxysmal fever is evolved; and when this has passed away then follows intermittence, or a complete suspension from fever. Now, intermittence is the constant and special character of the fever from exposure to marsh ma-

laria; and whenever the characteristic three stages—the cold, the hot and the sweating—do not declare themselves frankly and in due succession, this must be in consequence of some cause, due to climate and locality, influencing and impeding the natural development of a frank intermittent, and frequently from some peculiarity of constitution of or some organic complication in the patient. This fever, known as and *improperly* termed a *marsh* or *paludinous* fever, may arise from conditions of soil in which no marshes are to be found, but in which all the conditions which render marshes unhealthy exist, as in the island of Cyprus, with a soil rich, damp, uncultivated, and impregnated in many parts with mineral salts; a land which, lying waste for centuries, has become a focus of an intensified malaria productive of a fever of a special type or mode of development. In that form of malarial fever known as "Roman fever," the first or cold stage is of long duration, and the type is typhoid; whereas, in the malarial fever of Cyprus, the cold stage may pass unnoticed, or may be absent, while the hot stage is the most violent and prolonged, always lasting at least forty hours, followed by the sweating stage. In the Roman fever the nerve-centers and the spleen are principally affected. In the Cyprus fever the chylopoietic viscera are primarily involved, and the type is not typhoid.

Periodically Recurring Purpuric Hydroa.—Robert Saundby, M. D., reports the following case in the *British Medical Journal* of December 7: T. W. presented himself again on November 1, and I have been able to clear up the following points: The attack this time began on Wednesday, October 30, with itching and burning in his hands, etc.; on the previous Saturday and Sunday he had indulged in more than his usual quantity of beer, and he admits that such indulgence upsets his stomach. He was a teetotaler for six years, but still he had the attacks; however, he admits that he is likely to have one if he "have been out to supper" or had "extras." The first appearance of the eruption is distinctly papular; the centers of the papules become infiltrated with serum and form blebs of bullæ. I have seen T. W. again this morning (November 4), and the whole phenomena are much as they were on his previous appearance. There seems now to be no doubt that the disease is *ab ingentis*, and the

eruption on the hands, etc., is identical with what has been called *urticaria bullosa;* the peculiarity of the case is the co-incident mouth affection. The treatment I am employing is a mouth-wash of chlorate of potash, a mixture of rhubarb and soda, and restricted diet. [Quinia and iron would soon cure this case.—EDS.]

ON THE USE OF ARSENIC AS A BLOOD AND CARDIAC TONIC.—In a communication to the *British Medical Journal*, Dr. Lockie calls attention to the remarkable results obtained by him in the administration of arsenic in certain cases of anæmia, and those cases in which iron and good food had failed to produce any benefit. His attention was first directed to the power of arsenic in this respect by a paper published by Dr. Byrom Bramwell, of Newcastle, in which he narrated several cases of essential or progressive pernicious anæmia where remarkable benefit accrued from the administration of this drug. Whether it really has the power of curing this disease—a disease which has hitherto baffled the resources of our art, and the good results apparently promised by phosphorus in the hands of Dr. Broadbent not having been obtained, to any extent at all events, by other observers—remains for the future to determine. Certain it is that in cases of anæmia approaching in gravity the so-called essential or pernicious anæmia, it is capable of producing great benefit. In support of this statement Dr. Lockie reports several striking cases.

A GOOD WATER-PROOFING FOR LEATHER.—It may be made by using paraffine melted with the requisite amount of drying-oil, and casting it into suitable blocks for subsequent use. This being softened by heat, the leather of the manufactured articles, as shoes and harness, are coated with it, and placed near a fire or in a warm place until the composition has been absorbed. When leather has been impregnated with the mixture it is not only perfectly water-proof, but it is also rendered softer and more durable. Shoes retain all their firmness and natural elasticity, and blacking makes upon them a better polish than before. This same composition is also useful for water-proofing woven goods. It is placed on the under-side of cloth for garments by melting and applying moderately with a brush, or by rubbing with a block of the preparation. The complete diffusion of it through the texture is

effected by passing the cloth between hot rollers. Fabrics prepared in this manner, while they repel water, are perfectly pervious to air. For this reason they are superior to ordinary oil-cloth and rubber goods. They also look better than garments made of rubber, as the finished appearance of cloth is in no way changed by the treatment.—*Druggists' Circular.*

On a New Application of the Gum-Elastic Catheter.—Most surgeons have probably experienced the difficulty, in cases of tight stricture, that arises from the extreme flexibility of the small-sized gum-elastic catheters; for while they, on the one hand, double up and fail to accomplish their purpose, silver instruments are objectionable from their too great stiffness. To obviate the difficulty the following plan answers admirably: A gum-elastic, large enough to admit the passage down it of a No. 1 or 2, is cut off about three inches from the point and smoothed. The small instrument is passed down it to the cut end, and both are introduced together as far as the stricture. By keeping the outside catheter firm while the inner one is gently pressed on, one has all the advantages of a flexible *point* attacking the constricted canal in the center, and the instrument is supported right up to the point of action.—*W. Peel Nesbit, M. B., of South Australia, in Brit. Med. Jour.*

Toughened Glass—A Warning.—We gather from our contemporary, *Nature*, that M. J. Laurent, of Marseilles, in the August number of the *Moniteur Scientifique*, warns the scientific world generally, and the chemists especially, against using toughened glass. He regards utensils made of De la Bastie's toughened glass as being no better than so many Prince Rupert's drops or Bologne flasks, from which, according to M. Laurent, they differ only in shape. He gives an instance where a dish made of this glass was used in a stearine manufactory at Marseilles, and broke suddenly into thousands of fragments on being placed upon the metal scale of a balance. It was at the time cooling down from 110° C., at which temperature it had been maintained for some time. It had been in use previously for about a month, and M. Laurent considers that its sudden destruction was altogether inexplicable, except by the theory above mentioned.

Book Notices.

Modern Medical Therapeutics. A Compendium of Recent Formulæ and Specific Therapeutical Directions. From the Practice of Eminent Contemporary Physicians, American and Foreign. By George H. Napheys, A. M., M. D., etc. Sixth Edition. Enlarged and Revised. Philadelphia: D. G. Brinton. 8vo. Pp. 607. 1879.

It has been but a very short time, indeed, since we noticed the fifth edition of this work. Its editions being exhausted so rapidly show how very popular it is with the profession. Notwithstanding the contempt many express for such books, yet one like this one will always be in demand. It affords a practical knowledge that not a few feel the need of, although it may plausibly be said that every physician should be able to make his own prescriptions, and he should. Yet eminent men of the profession, of large and varied experiences, not unfrequently devise combinations of remedies or formulæ of especial excellence that a knowledge of materia medica, therapeutics and pathology, without experience, would not lead to. A formulæ sometimes, as in case of the celebrated Dover's powder, or the pil. cathar co., acts as a remedy by itself, and is prescribed in conjunction with others as if it itself was not a combination. We have no doubt the most learned in medical lore can consult such a work as Dr. Napheys' with great advantage.

The work does not consist, by any means, of a mere collection of prescriptions, although it contains many hundred formulæ, but the symptoms of the various diseases are briefly stated, and the indications that are to be met described; then are stated the remedies, and the various combinations of them, as employed by the most distinguished practitioners, which the treatment requires. The diseases are arranged in alphabetical order, under the general nosological division to which they belong.

The author being dead, the editor, recognizing the fact that such writers as Watson, Wood, Aitken and Tanner, who, not long ago, were standard authorities, no longer represent the best therapeutics of the day, has made many substitutions in the present edition. The monographs and treatises, as well as the numerous medical periodicals of the last year or two, have been carefully ex-

amined and collated, so as to render the work a treatise on *modern* therapeutics. We feel very sure that the ordinary every-day practitioner will consult this work more than he will any other on his shelves.

REPORT ON YELLOW FEVER IN OHIO, AS IT APPEARED DURING THE SUMMER OF 1878. By Thomas C. Minor, M. D., Health Officer of Cincinnati. 8vo. Pp. 122.

A notice of this work should have appeared in a previous number of the NEWS, but it was crowded out.

Dr. Minor, Health Officer of this city, prepared this report by the direction of the Police Commissioners, who, rather ludicrously, have charge of the sanitary welfare of the city. It is a very full and highly interesting account of yellow fever as it has appeared in Ohio. As Dr. M. says, it is a plain statement of facts, without any attempt to indulge in theories regarding the causation of the disease.

Dr. Minor gives a very interesting history of the "ill-fated" steamer John Porter, which caused so much excitement in its noted trip from New Orleans to a point in the Ohio River opposite Gallipolis, Ohio, and which spread the germs of yellow fever for some miles about that city. He states that the epidemic outbreak at Gallipolis, during September, is most certainly proof positive that the disease, under favorable circumstances, may become epidemic in this State. He is of the opinion that an epidemic which occurred in Gallipolis in 1796, and which Dr. Daniel Drake asserted was an outbreak of malignant remittant fever, and not yellow fever, as maintained by some, was yellow fever.

Although Dr. Minor was formerly of the opinion that yellow fever has never appeared as an epidemic in this State, and published a paper to that effect, yet his recent experience and observation have led him to change that view. That the cases on the steamer John Porter originated an epidemic in our northern latitude there is too much evidence not to believe.

The report of Dr. Minor will be esteemed of the greatest value hereafter for reference. A full history is given of many cases from the incipiency of the disease until its termination, either by death or recovery—pulse, temperature and color of urine, etc., etc., with treatment from day to day. Being the first published account of epidemic

yellow fever in Ohio, we have no doubt it will be quoted from as an authority many years to come.

An Introduction to Pathology and Morbid Anatomy. By T. Henry Green, M. D., London, F. R. C. P. Third American from the Fourth Revised and Enlarged English Edition. With 142 Illustrations. 8vo. Pp. 331. Philadelphia: Henry C. Lea. Cincinnati: Robert Clarke & Co.

In preparing a new edition much new matter has been added, for the purpose of making the work a more complete guide for the student.

This is one of the best, if not the very best, text-books of pathology and morbid anatomy in the English language. It is just such a work as the student and the practitioner, who has not time to read larger and more profound works, want. It is plain and concise in its descriptions, but sufficiently elaborate for a thorough understanding. We do not know how it could be very well improved, unless the design and scope of it were materially changed. It affords the student full information of the pathological results of the various diseases of the different organs and tissues of the human body according to present knowledge, and that is what is needed. Discussions and lengthy statements of opinions of different investigators are omitted as not essential. The student is not interested in such, and, in fact, is not yet prepared to appreciate them, and the busy physician has not time to give them attention. They are, therefore, very properly relegated to larger works, where they can be studied by the original investigator and special pathologist, to whom they are more particularly interesting.

There are 132 wood engravings, prepared from the author's own microscopical preparations. These will be found to be accurate, and of great value to the student. They alone are worth many times the price of the book to any one having a microscope and fond of using it. Price, $2.75.

Physiology: Preliminary Course Lectures. By James T. Whittaker, M. A., M. D., Professor of Physiology, etc., in Medical College of Ohio. 12mo. Pp. 288.

The object of this little book, as the author states, "is to put within the reach and comprehension of the first

course student the foundation facts and principles upon which the stately edifice of physiology is built," and that he has succeeded a perusal will make evident. There are some dozen lectures, in which there are treated, "The Influence of Physiology upon Practice;" "The Conservation of Force;" "Origin of Life and the Evolution of Its Forms;" "Protoplasm, Bone, Muscle, Nerve, and Blood."

We have really not met with as readable a work for a long time. The style of the author is very plain and lucid, and facts and descriptions are presented in such a natural and interesting manner that the reader, before he is aware, has become interested, and is deeply absorbed in the perusal of the work. Even with one who is quite conversant with physiology, and, therefore, meets with nothing that he is not already familiar with, there is an attractiveness in the lectures which begets an interest and leads him to become engrossed in reading.

It occurs to us that the author has eminent qualifications as a popular lecturer, and, as such, would very soon attain to a distinguished position. The knowledge he has obtained by reading and research he evidently very thoroughly comprehends, in every respect, and, at the same time, is able to employ the language necessary to communicate it, and make it understood by others. He must certainly be a very popular teacher with the classes of the college with which he is connected.

With all due deference to the author, we are disposed to make some criticisms of some statements he makes. On page 264 it is said in regard to the red corpuscles of the blood: "They are to be regarded as thoroughly homogeneous bodies, like particles of jelly, and are in no sense cells, with walls, contents and nuclei." This, we know, *has* been the teachings of works upon physiology; but, in the last year or eighteen months, it has been demonstrated beyond a doubt that the red-blood corpuscles have not only nuclei, but walls and contents. If Dr. W. had kept himself read up in our microscopical department he would have been a year or longer, in some of his teachings, in advance of what he is. But then he is not behind very many men of note. Our same microscopical department, a few months ago, gave a much better mode of computing the number of blood-globules than is given on page 263; also, for more than three years, it has been shown in the MEDICAL NEWS, by Dr.

Richardson and others, that there is sufficient difference in the size of human blood corpuscles, and very many of those of the lower animals, as the cat, pig, ox, etc., with high powers of the microscope—say ranging from two to three thousand diameters—to render with a good degree of certainty whether a certain specimen of blood, yielding fifty or a hundred or more cells, is human blood or the blood of some *particular* lower animal, as a pig or beef. The corpuscles of a dog approach very nearly in size those of a human being; but still, while one of the largest of it may be equal in size to the smallest of the human, or even be a little larger, they markedly average less, so that using a high power if in the field of view of a slide, as we have frequently demonstrated ourself, one-half contains human blood corpuscles and the other those of a dog, there need not be a moment's hesitation in pronouncing which are human and which are the dog's.

In the minute anatomy of the work we might make some other criticisms, but our space forbids. But for the present these inaccuracies do not detract from the merits of the work. We advise our readers, if they wish something readable, something they can give their whole attention to without any effort, something that will instruct at the same time it affords relaxation, like J. S. C. Abbott's histories, but more care maintained as to accuracy of statement, and personal prejudices do not peep through it, to purchase this little work on physiology by Dr. Whittaker.

We believe the price is $1.75. We will send it, as we do other books, on receipt of price.

CORRESPONDENCE.

Letter from Dr. C. A. L. Reed.

FIDELITY, JERSEY CO., ILL., *June* 7, 1878.

To the Honorable, the Board of Trustees of the Cincinnati College of Medicine and Surgery:

GENTLEMEN—Seven days ago I forwarded to your honorable body my resignation of the chair of General Pathology. Yesterday I received a letter from your secretary, in which you communicate to me the action of your hon-

orable Board as embodied in a resolution instructing him to "notify Professor C. A. L. Reed, M. D., that complaint has been made to this Board of his neglect of duty, and unless he appears at the meeting to be held Thursday, June 6, 1878, at 4 P. M., and successfully defends himself, or hands in his resignation, his chair will be declared vacant."

I am thankful for this resolution, because it gives to me an opportunity to be heard. Permit me, therefore, to state that I resigned my chair in the faculty, not only for the reasons set forth in my letter of resignation, but also for additional reasons, which I now offer for the threefold purpose of refuting the charges preferred against me, of vindicating my honor, and of pointing out an intestine danger that threatens the stability and usefulness of the college.

With reference to my neglect of duty, allow me to say that, after the beginning of the late "reading and recitation term," I made several demands to the Dean of the faculty for a cadaver for post-mortem examination. Such cadaver was never furnished me, although the Dean and other members of the faculty knew that it was positively necessary for the proper illustration of my lectures on post-mortem examinations. I went before the class and delivered all the lectures (two) of my course that could be delivered without the cadaver and consistently with the objects of the course as set forth in the announcement. I then went twice before the class, and, to occupy the time, lectured on subjects other than those for which I had been announced. On two or more occasions I went to the college for the purpose of lecturing only to find the class engaged by some clinician. Finding that my lectures were being thus rendered farcical by the failure of the Dean to furnish necessary means for illustration, and perceiving that my course was being thus and otherwise obstructed, I desisted from lecturing, but held myself in readiness to resume the moment a cadaver was furnished me. The cadaver has not since been furnished. Having become disgusted with such conduct, *I resigned my chair in the faculty because the faculty failed to furnish me with material with which to properly illustrate my lectures, and render them demonstrative and complete, as they were advertised to be.*

To give expression to another reason for resigning, I

find it necessary to first review what I consider to be a formidable intestine danger that greatly imperils the college. I experience some diffidence in touching upon this topic, because its discussion involves personal allusions to some members of the faculty, with all of whom my association has been unexceptionally amicable. My high consideration for the college, however, induces me, most reluctantly, to waive all personal sympathy, and expose in his true light to your honorable Board Prof. D. D. Bramble, M. D., occupant of the important chair of Surgery, and Dean of the faculty. Now, I would have your honorable Board to understand that I refer to Prof. Bramble in this connection, not from any want of consideration for Prof. Bramble's feelings, but from my greater regard for the welfare of my *alma mater*: "Not that I love Cæsar less, but that I love Rome more." Prof. Bramble is without correct mental or moral training. He is not sufficiently conversant with his own vernacular language to be able to properly express himself in it. In literature and science he is but a school-boy—yes, less! Even in that which pertains to his profession his knowledge is very limited. Compared to the prominent surgical teachers of the day, he is but nothing—less than nothing; and in that relation he will probably remain. To prove that what I here say is true, allow me to refer you to page 151 of the transactions of the twenty-sixth meeting of the Ohio State Medical Society, where can be found the following:

"HYDRATE OF CHLORAL.

"BY D. D. BRAMBLE, OF CINCINNATI, OHIO.

"When we think of the worth of our predecessors, and that the greatest blessing for which they prayed was

*"'Men's *Sana in Corpore Sano*,"'

'We blush at our own inferiority, though the telescope of science has revealed a perfect panoramic view of the cit-

*The reader might suppose that there was contained a typographical error in this line, but we can assure him that such is not the case. Dr. Bramble actually did not know the difference between the Latin word *mens*, mind, and the possessive plural of man. This Latin sentence was furnished him, and he copied it as furnished. When the proof of his paper was sent him, with the line set up as above, as it appeared in the copy, not recognizing any error, there was no correction made. It was a source of great merriment to Watkins, the former printer of the MEDICAL NEWS, that such a man had his name on the cover of that journal as an editor. But Dr. Thacker is now relieved of the mortification of having him as a co-editor.

adel of medicine. The long and wearisome journey to the Jordan disappeared amid the more inviting and pleasant accessions to medical science.

"Nature placed at our disposal in the *Papaverum somniferum*, that noble principal, opium, that for countless ages relieved the suffering, soothed the smarting wound, and eased the stinging pain. Following in its wake came morphia, ether, chloroform and chloral.

"It would be vain for us to travel up the stream of time and seek for a brighter history and more flourishing age of medicine than that which crowns our profession to-day. The blue mist of fable and superstition has long since faded, and we now stand upon a tried foundation stone.

"Anatomy, physiology, chemistry, botany and microscopy have assumed for medicine the morning of a vast and glorious kingdom, whose temple of fame will cope with the hand of war and accompany time through eternity.

"At no time since the days of Esculapius has there been as much interest displayed as marks medical pages today. Man seems cognate of his duty to man, and is establishing a therapeutical power which no debt of gratitude can repay."

The foregoing was read before a society representing the knowledge, science and wisdom of the medical profession of the State, and was printed the same year in the transactions, a copy of which is in the library of each member. It was evidently *intended* as a fascinating prelude to a professional State paper—it *is* an idiotic effusion prefacing a batch of ambiguous jargon. Such grammar and such rhetoric would bring the blush to the average youth of twelve summers. But the prominence afforded by the State Society and its official publications did not satisfy the ambition of Prof. Bramble. He had a number of copies of his remarkable essay struck off and bound in pamphlet form for private distribution! Oh, sirs, it is enough to make your loyal alumni weep to see your Board, year after year, maintaining such incompetence in so high a place!

Again, I am informed that it is on record that Prof. Bramble avowed his ignorance of the medicinal properties of port wine, and this he is reported to have done whilst testifying as a medical expert (?). In an important

criminal case he so deported himself that the criticism was made by the reporter in his paper to the effect that Dr. B. was incapable of either constructing or understanding an English sentence. And I have also heard the remark made by members of the profession that, in his capital operations, Prof. Bramble is greatly defective, and in thus saying I state it exceedingly "mild."

Now, my dear sirs, when others see the author of such puerility as I have quoted, the expert witness that I have exhibited, and the subject of such criticisms as I have referred to, presuming to instruct intelligent young men in the profound science of surgery, are they not justified in pronouncing him a mere tub of ignorance and pretension, and you, gentlemen, for keeping in the faculty, year after year, such ignorance and incompetence, unfaithful to your trust? How can you expect to make a success of a medical school so long as you have one of the chairs occupied by such a man—so long as you make such a man the figure-head of the institution? You have been making the experiment for several years, and your matriculation book, as compared to that of almost any other institution in the Union, attests the woefulness of your failure.

Long as my letter has grown, I feel that I can not faithfully indicate the intestine evil to which I have alluded without first briefly exposing the sham teachings of your PROFESSOR OF DISEASES OF WOMEN AND CHILDREN. These teachings consist, to an injurious extent, in the exhibition before the students of numbers of wretched prostitutes, chiefly afflicted with venereal diseases in their most loathsome forms. They are laid upon a table and their genital organs exposed. Such exhibitions can be of little value to the common practitioner who practices among a virtuous people. The most probable effect of the Professor's disgusting performance is a lowering of the student's estimate of female character. But this is not all. *Prof. Miles, according to his own statement, practices positive deception!* He told me himself that when he was short of other clinical material he used one certain prostitute (the students of the college remember her) that was always at hand, for illustrating any of the female diseases which he might have under consideration!

You must see that by such a procedure Prof. Miles not only forfeits his professional respectability, but seriously compromises the prestige of the college.

Sirs, the great intestine danger that threatens the stability and usefulness of the college consists in the illiteracy, the indecency and the deceitfulness of certain members of the faculty, and I resigned my chair in the faculty because I desired no longer to be recognized as in fellowship with such men.

With the desire to impress upon your honorable Board that I have written this letter most reluctantly, and purely out of my great interest in the welfare of my *alma mater*, I subscribe myself, yours, with respect,

CHAS. A. LEE REED, M. D.,
Late Professor of Pathology in the Cincinnati College of Medicine and Surgery.

EDITORIAL.

LETTER OF DR. C. A. L. REED.—Our readers will find in this issue of the MEDICAL NEWS a letter from Dr. Charles A. L. Reed, addressed to the Trustees of the *Cincinnati College of Medicine and Surgery*. It is with regret we give place to the letter. It is only because we strongly feel that we ought to publish it that we do so. If any other means than exposure would suffice to cure the evil mentioned in the communication we would be the last one to make such a grievance public, for no man will go about willingly to destroy the fruits of his own labor. But there is not. Miserable pretension and ignorance have gotten themselves so fortified that there is no way of routing them than unveiling and exposing them to public contempt.

With others, we have labored for some years to make the *Cincinnati College of Medicine and Surgery* a leading school—a school inferior to none in position—and we, with the assistance we had, accomplished much, yea, wonders, as all will witness who have had knowledge of it during the last dozen years. But eminent friends in the profession of this city, while they congratulated us for the degree of respectability and patronage we obtained for the school, expressing themselves astonished at the result, yet predicted failure in the accomplishment of our main purposes. As they expressed it, there were too many "dead weights" to carry for us ever to realize the full fruition of our desires.

As respects Dr. D. D. Bramble, we confess that we put him in the chair he occupies, for the reason that, just at the time, he only was available; and, although we knew he was ignorant, yet we were not aware of his exceeding illiteracy. It was the purpose, however, that, so soon as a qualified gentleman could be had to fill the chair of Surgery, he should quietly yield it up, and be content with a lower one—as the chair of Anatomy, which he had filled for several sessions. But we very soon got our eyes open to the fact that it was easier to put him in a place, though notoriously unqualified for it, than to put him out of it, when the interests of the college demanded it. He had no sooner gotten into the chair in which we put him, than he began to fortify himself in it, and make himself master of the situation generally. Destitute alike of modesty and good sense, and a seeming stranger to feelings of obligation, he has not hesitated as to the means he has employed to hold his position.

Those not acquainted with Dr. Bramble would be disposed to believe that the statements of Dr. Reed, as to his illiteracy, etc., were exaggerated. Few could believe that one so deficient could be filling a chair in a medical college. But we can assure all that, instead of exaggerating, Dr. Reed falls far short of the facts. The ignorance is far greater than represented. Papers by him, bound in the proceedings of medical societies and on the library shelves of many, attest it. All that a physician has got to do to prevent an intelligent student from attending upon a course of instruction at the *Cincinnati College of Medicine and Surgery*, is to take from his shelf a book that contains one of Bramble's papers and exhibit it to him, stating that the author holds a leading chair in the school and is the Dean! If he is so destitute of a common-school education, how must it be with the others?

A paper that he once read to the Ohio State Medical Society, as his own production, he did not write a single word of, but it was written for him by Dr. M. L. Amick. Dr. Amick also largely prepared his lectures for him. But, notwithstanding the great obligations he was under to Dr. Amick for favors of this kind, his conduct toward him was marked by such a want of principle that he was compelled to resign his place in the college.

Another *literary prodigy* connected with the college is

Dr. A. J. Miles. But we will not speak of him now. We do not think he will long intrude himself anywhere.

In a future number of the MEDICAL NEWS we propose to give some plain advice to the members of the Board of Trustees of the College. They are the gentlemen who are responsible for the condition of the school—who sustain ignorance and pretension, and crush out all efforts to give it a high position, and among the leading schools of the country. Their course has been such as to justify addressing them not only collectively, but individually.

THE PLAGUE AND SICKNESS IN RUSSIA.—As if the plague were not enough for Southeastern Russia, typhoid fever and small-pox have broken out, and their ravages have created a great deal of alarm in some places. The plague continues to spread, the military cordon drawn around the stricken district seemingly being insufficient to stay the progress of the scourge. The cattle plague has carried off thousands of cattle, thus adding to the distress of the inhabitants. A general unhealthfulness and predisposition to disease and epidemics seem to exist all through the interior of Russia. It will be a wonder if the empire shall escape without a calamity such as will throw our own yellow fever scourge completely into the shade. The annual precautions taken by adjoining nations to prevent the transmission of the diseases over the borders show what a terror the plague has in Europe.

Our Government should immediately take measures to prevent the introduction of the plague into this country, or, before we are aware of it, we will have it right among us. Either all commerce with Russia should be at once stopped, or all vessels coming from there and from Egyptian and Turkish ports should be placed in quarantine and kept in quarantine until it is perfectly sure that no infection can result from them. No importation of such articles as rags, hides, and such-like fomites, by which it is well known that morbid poisons may be carried and preserved in a state ready to spring into activity, should under any circumstances at this time be permitted. What if commerce should suffer for awhile? Better that than tens of thousands of lives be sacrificed. If the plague should become introduced, business then would come to naught. Besides the thousands of lives that were lost, the families that were broken up, and the general misery that resulted,

how fearful was the blow to business that followed last summer upon the introduction of yellow fever into our Southern States from the West Indies; for it is now conceded that that disease is not indigenous to this country, but is always imported.

It would seem, at this time, that nearly over the whole world there are stalking "the pestilence that walketh in darkness, and the destruction that wasteth at noonday." In the Cincinnati *Gazette*, of the day we write (February 18), is a long letter, taken from the New York *Herald*, describing the frightful famine that is prevailing in a part of Brazil. Besides the thousands that are dying from hunger, thousands are being carried off by terrible pestilences, as yellow fever, small-pox, etc. In and about Fortaleza alone, seventy-five thousand have died of small-pox. Besides these diseases, a strange affection has broken out from which nearly all attacked die. It is supposed by many to be the plague that in former times swept through Europe and Asia. It is said that when a person is attacked, "he is seized with a sudden giddiness, fever, and burning of the tongue; then dark spots, like bruises, appear on the body, and in twenty-four hours all is over."

It will be only by the greatest care of those in authority that this country will escape the scourge that is now prevailing in Eastern Europe and Western Asia, if it should escape. Active means for protection should be set on foot immediately.

Preaching But Not Practicing.—It will not do to "preach cream and live skim milk." According to the *Independent*, "Rev. J. Hyatt Smith has received a six-page letter from one of the 'holiness brethren,' rebuking him for not having attained sinless perfection." "This letter," says the *Independent*, "was folded in a newspaper, so that the manuscript could not be seen, and sent through the mail with a one-cent stamp. The amount of which the Government was cheated was two cents."

Dr. Bernard Tauber, of this city, was recently appointed Professor of Acoustics, Anatomy and Physiology of the Ear and Larynx at the College of Music, to fill the vacancy created by the death of the lamented Dr. Longworth.

THE

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ORIGINAL CONTRIBUTIONS.

Brighton and Sussex [England] Natural History Society.

Reported for CINCINNATI MEDICAL NEWS.

IMMERSION ILLUMINATORS FOR THE MICROSCOPE.

ON Thursday night, February 13, a meeting of the members of the Brighton and Sussex Natural History Society was held in the Curator's Room, at the Free Public Library. The President of the Society, Mr. Alderman J. E. Mayall, occupied the chair, and after the disposal of some routine business,

Mr. John Mayall, Jun., F. R. M. S. (of London), delivered an address upon "Immersion Illuminators for the Microscope: their bearing on the aperture question." He remarked that, if the highest authorities on optics were asked to state where lies the *power of discovery* in the microscope, the reply would be that the power of discovery absolutely depended upon the angular aperture of the lens to be used. In order to render this intelligible as a matter of physical optics, some training in mathematics was needed. He hoped, however, with the assistance of diagrams on the blackboard, to present some clear ideas of the meaning of aperture, and of the methods adopted for arriving at the largest available increase of aperture in practical constructions of lenses. In proof of the actual fact that the increase of aperture aids the instrumental power of discovery, he placed before the meeting a large series of photographs of all the most difficult test-objects known:—Nobert's famous lines, in which the highest band was clearly shown, although ruled so closely that 112,000

would occupy the space of an inch; diatoms such as the *amphipleura pellucida*, in which lines were shown very strongly marked at the rate of 100,000 to the inch; blood corpuscles in great variety, photographed actually on a micrometer plate, so that their comparative size could at once be determined; anatomical sections, etc., the whole representing the finest results that had been obtained hitherto by the application of photography to microscopy. These photographs were all produced under the immediate direction of Dr. Woodward, of the Army Medical Museum, Washington, United States. Photographs of many of these objects had been produced by the same skillful microscopist, some years ago, with lenses of lower aperture; but, in the opinion of all whose opinion was of moment—and notably of Dr. Woodward himself—the newer photographs, produced with lenses of greater and still greater apertures, so far superseded what was done with the lenses of lower aperture that it might fairly be said we had entered a new era in microscopy, in consequence of the great extension lately given to apertures. Dr. Woodward did not scruple to designate any lens of less aperture than eighty-two degrees, measured in the body of the front lens, as "weak-kneed," and such as no one who was conversant with the use of higher apertures would now use in seeking a difficult result—a result likely to tax the power of the lens and the manipulative skill of the microscopist.

Mr. Mayall continued: "The great extension given to apertures recently is due to the introduction of the *immersion system*. In the modern microscope, the merit of applying this system is due to Amici, whose practical skill as an amateur optician has been so highly extolled by Sir John Herschel. But very great improvements have been made since his time. By the exertions of Tolles, the optician, of Boston, an aperture of 127 degrees has been secured —measured in the body of the front lens, when adjusted in accurate focus through oil immersion. Professor Abbe, of Jena, has also devised lenses having about 110 degrees aperture, measured in glass, and these lenses are rapidly gaining favor—they show that unmistakable advance has been made by the adoption of the formula for oil immersion. But I must now endeavor to show you how these modern immersion lenses are devised, so as to secure apertures largely in excess of the maximum that is possible with dry lenses. It must be understood that I assume

the object or radiant to be in balsam or other refractive fluid, and that we are seeking to obtain the largest possible cone of image pencils from it, so as to be available to an eye placed at the eye-piece of the microscope."

Mr. Mayall then explained that apertures were computed by mathematicians by tracing the rays from the back focus through the system of lenses to the front focus; the front focus being the point at which the whole cone of rays converged as free as may be from aberration. If the front focus was in air, it was shown that no pencil greater than eighty-two degrees, "double the angle of total reflexion," could emerge from the plane front of the lens; and, obviously, if no greater cone could *emerge* to a focus one way, neither could any greater cone *enter* the body of the lens from the radiant. This angle of eighty-two degrees must be regarded as the limit for dry lenses. The action of the law of the critical angle, or the angle of total reflexion was illustrated by a diagram of a right-angled prism, such as might be cut from a hemi-spherical lens. If a ray of light were incident perpendicularly to one of the faces of the right angle, that is to say at forty-five degrees from the axis, this ray passes without refraction into the body of the glass, and is totally reflected out at the other face of the right angle, at right angles to its original direction. Total reflexion, or internal reflexion would take place in crown glass if the incident rays impinged on the plane internal surface at an angle of forty-one degrees, with flint glass and other media at much lower angles. In tracing rays through an object glass from the back focus, we know from this law that, whenever a ray at an inclination greater than forty degrees in the body of the front lens is about to fall on the internal surface of the plane front, that angle is the *limit* beyond which the rays will not emerge to a focus in *air*. But, if the *external* medium be *water*, we may use a formula for the construction of our lens that will enable us to obtain an aperture approximating to double the critical angle between glass and water, that is to say, nearly 126 degrees measured in the body of the front lens. And if our formula be so designed that the external medium is a highly refractive oil, the angle of total reflexion is practically nullified, and the limit of aperture is subject only to the practical difficulty of working lenses of the most suitable media. If the optician should ever succeed in giving true figure to diamond lenses, we

may then, indeed, believe we have reached one of the limits of excellence imposed by nature.

Mr. Mayall said: "The advance, then, that has been made in the utilization of larger apertures amounts to this: That, whereas, with the dry lens on a balsamed object we are absolutely limited to an aperture less than eighty-two degrees, measured in the body of the front lens. This *limit* is proved by the diagrams I have shown you of the maximum angle that can be computed for a lens to have a front focus in air. It is also proved by a consideration of the angle of the image rays, as they are radiated from the object itself in balsam; for, although this angle of image rays, viewed as nascent from a *self-luminous* object capable of scattering rays in all directions, may be 180 degrees in the substance of the balsam and cover-glass, of this 180 degrees only eighty-two degrees of the central portion can emerge into *air*—all the rays beyond this limit are internally reflected at the cover-glass. This cone of eighty-two degrees becomes 180 degrees in air, and a large part must necessarily be lost by reflexion at the first incidence on the plane front of the lens. But, with a formula permitting the use of water medium between the front lens and the cover-glass, the aperture of the image rays may reach 126 degrees—double the critical angle from glass to water; and, with oil medium, the aperture is limited only by the *form* of front lens that can be constructed by the optician, as demonstrated by Professor Stokes in his recent communication on the 'Theoretical Limit of Aperture,' at the Royal Microscopical Society."

Next, Mr. Mayall explained that, to obtain the fullest effect of the increase of aperture in the image-pencils that can be rendered available by means of the immersion system, the illumination must also be by immersion means. These means were all based on the same principle—the canceling the plane surface of the base of the slide by affixing a prism or lens in immersion contact, so that rays more oblique than forty-one degrees may reach the object. If the base of the slide were plane and in air, the most oblique ray from air—say the ray eighty-nine degrees from the axis—would be refracted in the body of the slide to less than forty-one degrees, and this refraction would take place after the immense loss by reflexion at the first incidence. So that this ray of forty-one degrees inclination

arrived upon the object with very feeble intensity. By cementing a suitable lens on the base of the slide, the ray of forty-one degrees, or any other of greater or less inclination, *and of any degree of intensity*, could be made incident upon the object, the intensity of the light being then merely dependent on the source of illumination. The *quantity* of light that could be transmitted *directly* by any lens varies as the solid cone. Viewing the apertures of dry lenses and immersion lenses, merely in relation to their capacity for *directly* transmitting light, Mr. Mayall said: "The maximum angled dry lens might be expressed by the quantity three: whereas, if the immersion lens had an aperture of 110 degrees measured in the body of the front, the quantity of light directly transmitted would be represented by five—supposing, of course, that the fullest immersion means of illumination were used. Those who have asserted that the immersion system has no property for enabling us to utilize a greater pencil from a balsamed object than eighty-two degrees are thus brought to face the explanation of this enormous difference in the light-transmitting power. The mode of evasion adopted is to assert that it is only as *mere light* that the greater cone is transmitted, *not* as image-pencils. When we point to the photographs in proof that image-pencils are there fixed for actual inspection—images that can not be obtained with dry lenses—we are met by more and more evasion, until we are wearied with following such antagonists into the mazes of discussions, which a friend of mine characterizes as 'Literature fit for desolate islands.'"

Mr. Mayall gave diagrams and described the action of the various immersion illuminators, referring to Mr. Wenham's original right-angled prism, truncated hemi-spherical lens, and immersion paraboloid, also his Reflex Illuminator, in all of which rays beyond the angle of *total reflexion* were utilized by reflex action from the cover-glass on to the surface of the object. Their effect on the object was thus seen by means of *reflected* rays from the object up to the aperture of the lens used, and, obviously, the reflex action could only take place with dry lenses. This reflex action must be regarded as Mr. Wenham's special discovery; it was not the same as the modern use of these and similar appliances for obtaining *direct* rays upon the object, and which proved the existence of apertures capable

of direct transmission up to 127 degrees measured in the body of the front lens. The most practical modern appliance was probably the hemi-spherical lens which Messrs. Ross were adopting in connection with their new form of stand, based on the "Zentmayer Centennial Stand." Tolles, of Boston, had devised what he termed a "traverse-lens," which was admirably practical. Mr. Stephenson, the treasurer of the Royal Microscopical Society, had quite recently exhibited his "Catoptric Immersion Illuminator," which may be used with microscopes having thick stages. Mr. Mayall was unable to say whether light of sufficient intensity could be obtained with this appliance as devised, but there would be no difficulty in adapting a condensing lens to it. The devices for obtaining direct oblique light required the use of a thin stage; and, therefore, he (Mr. Mayall) was very glad to hail the success of any appliance which would convert axial light into oblique light; for, by these means, the possessors of the older forms of stands, in which the stage was generally of considerable thickness, might enjoy the pleasure of seeing the best resolution their lenses were capable of. He was convinced that hundreds of immersion lenses were in existence quite competent to the task of fairly showing *amphipleura pellucida*, if only the proper kind of illumination were employed.

Mr. Mayall concluded by a warm defense against the attacks of the microscopists who ridicule those who take special pleasure in the examination of diatoms, saying: "I regard *test-objects* as the means by which we are to verify the power of our lenses, and by which we are to improve our skill in manipulation. It is by careful training with test-objects that we learn when the microscope is being used at its best. Thus we train the eye and the hand until manipulation becomes a scource of pleasure in itself. The attempt to throw opprobrium on those who are skilled in the exhibition of diatoms by calling them 'diatomaniacs' is the feeble refuge of dunces, who thus endeavor to conceal their own incompetent and bungling manipulative skill by the general charge that what they can not do themselves is a trivial and worthless occupation. The improvements in the microscope are almost wholly due to the criticisms of amateurs skilled in the exhibition of test-objects. No musician is considered an executant unless he has mastered an infinity of exer-

cises by which the actual use of his instrument is acquired. Why, then, should it be supposed that the microscope needs no special training? It does need a special training. And the more thoroughly we possess a knowledge of the principles on which the best results are obtained the more readily shall we obtain those results. The practice with diatoms should be regarded as the gymnastic of the microscope. To ignore this practice is voluntarily to paralyze our possible skill—which can not be done with impunity, as is proved by the immense mass of old results that are constantly being discarded to make way for interpretations based on more perfect instrumental and manipulative means. Continental anatomists have had fully ten years' start over us in the use of immersion lenses, and the mass of new observations superseding the older ones is becoming so great that our popular text-books on microscopy are fast becoming obsolete." Mr. Mayall resumed his seat amid applause.

The President having, in the name of the society, thanked Mr. Mayall, jun., for his paper, discussion was invited.

Mr. B. Lomax, Curator of the Free Public Library, said that a kind of immersion lens had been long in use by fishermen on the Sussex coast bearing the name of the water telescope, which consisted of a tub with the bottom replaced by a sheet of glass. Through this instrument, the bottom could be seen with a great depth of water.

Mr. J. Mayall, jun., said the contrivance mentioned by Mr. Lomax could hardly be designated a lens inasmuch as no actual lens was used. He should suppose that the plan was adopted in order to get rid of the moving surface of the water, which made it impossible to see objects distinctly at any depth. It would also be the means of getting rid of the enormous reflexion of light from the surface of the water, and doubtless, by properly screening the light from above, objects at considerable depth might be seen. Sir David Brewster, in his treatise on new philosophical instruments, published in 1813, had given a description of a telescope applied to a glazed tube that fitted on the front of the object-glass for viewing objects under water. He had also contrived an immersion lens for use in water tanks for the microscope, but this device can not be said to have had much to do with the development of the modern immersion lenses. The aquatic nose-piece

invented by Sir David Brewster had been re-invented by sundry less illustrious inventors, each one persuaded of the originality of his genius. With regard to viewing objects at great depths in sea water without the use of special appliances, he remembered that Mr. Alfred Wallace, in his interesting book on the Malay Archipelago, mentioned having been able to see corals and brilliant-colored marine life at a depth over twenty feet in the bay of Amboyna. He had himself seen trout fish in the lake of Geneva quite out of reach of a long fishing rod in depth—the surface of the water being very calm and the actual depth of water being very considerable. But probably in no lake in the world was the water more transparent than in the lake of Geneva. The glazed tub referred to by Mr. Lomax might have been in use by fishermen for centuries.

Mr. Haselwood said the lecture that evening had taught them at all events that they must thoroughly know the science before they became expert microscopists. He hoped Mr. Mayall would accept the invitation of the president, and put the illustrations of his powerful address into practice. (Hear, hear, and applause.)

Mr. Mayall, in reply to a question, said the highest external aperture of a dry lens, measured from the radiant itself to the surface of the lens, would be, of course, within 180 degrees; measured in the body of the front lens this would be necessarily less than eighty-two degrees.

The proceedings shortly afterward terminated.

Proceedings of the Biological Society of Paris.

TRANSLATED BY R. B. DAVY, M. D., Cincinnati, O., for MEDICAL NEWS.

LOCAL AND GENERAL CIRCULATION.

M. FRANK communicated to the Society the results of his researches on the peripheral circulations of the carotid vertebral and femoral arteries. Cl. Bernard was the first to point out the independence of certain local circulations under the influence of vaso-motor innervation. In his experiments, M. Frank, after having tied the artery whose circulation he wished to study, applied a registering manometer at the peripheral end. By operating thus he could ascertain the difference in pressure at the peripheral

end. These variations are maintained even after the section of the vascular nerves of the region, that is to say, of the superior ganglion of the great sympathetic for the carotid artery. He concludes that the local circulations, which exist independent for the most part of organs, are regulated by a peripheral nervous apparatus. According to M. Frank, there is a complete independence between the vertebral and carotid.

Derivative Currents.—M. Bochefontaine called the attention of his colleagues again to the derivative currents which are produced throughout the body of an animal, when any point whatever is excited by the aid of an interrupted faradic current. The currents daily employed by experimenters are wrongly considered weak. They produce, indeed, in man contraction of the muscles through the skin and subcutaneous cellular tissue. Sometimes the hand can not bear it. The currents are then not weak, but strong.

Cephalo-Spinal Fluid.—M. Bochefontaine has made some new researches on the cephalo-spinal fluid. In a certain number of the vivisections he found that the liquid existed sometimes in almost inappreciable quantities in the dog, and that without previous chloralization of the animal. Chloralization is not then necessary to cause this fluid to disappear, as M. Bochefontaine had formerly believed, by mistake.

Mode of Termination of the Sensitive Nerves in the Tactile Corpuscles.—M. Renant explained the intimate structure of the tactile corpuscles, which he was enabled to study by fixing their elements with osmic acid. He described in the corpuscles of Meissner a multitude of compartments circumscribed by a frame of connective tissue. In the most of these compartments cellular elements are found. The nerve terminates in one of the central compartments. "This arrangement," said M. Renant, "recalls that of the spinal cord in the external embryonic layer."

Caries of the Teeth.—M. Maurel, marine physician, has made a comparative study of caries of the teeth in people of different races. The author believes that this condition is always caused by acidity. From numerous observations taken by him it is seen that negroes have only their front teeth in good condition, their molars being almost always decayed. Coolies, on the contrary, have remark-

ably beautiful teeth. M. Maurel admits for the beauty of the maxillary bones an ethical influence. There are, according to him, among the negroes, one decayed tooth in four; among the Europeans, one in nine; and among the Coolies, one in fifty-two. Among the red-skinned Indians of Guyana, who belong to a mixed race, the figures are intermediate.

Influence of Light on Vegetable Life.—M. Paul Bert repeated a communication which has been read before the Academy of Sciences, along with a series of very delicate experiments made on the sensitive plant. He has established the fact that one portion of the solar spectrum is indispensable to the life of plants, and this part comprises the orange and red light.

Electro-Muscular Contractility in the Wasting Paralysis of Infancy.—M. Ominus has seen in the wasting paralysis of infancy some phenomena which are observed in certain paralysis from cold. While very powerful induced currents do not cause any contraction in the muscles of a paralyzed limb, these muscles can be made to contract with relatively feeble continued currents. This difference of contractility in the affected muscles only manifests itself in the first stage of the disease. In a limb paralyzed for several years the contractility is almost abolished for both kinds of electrical currents. These electro-muscular reactions cause M. Ominus to think that the terminal extremities of the nerves are affected in the wasting paralysis of infancy.—*Le Progres Medical.*

Brown-Sequard's Lectures at the College de France.

TRANSLATED BY R. B. DAVY, M. D., Cincinnati, O., for MEDICAL NEWS.

THE course of lectures on Physiology by Prof. Brown-Sequard commenced on the 2d of December last. In the opening lecture he gave a synopsis of the subject-matter he intends to develop this year. Using his own expression, he will combat nearly all the doctrines actually admitted on the physiology of the brain, and principally those pertaining to cerebral localizations.

He will study the mode of action of the brain on the spinal cord; he will discuss the existence of two brains or one only, and review all the brain lesions which can produce morbid and physiological phenomena. According to him, each half of the brain possesses all the functions

of the encephalon. It is capable of all the acts, and can appreciate all the sensations. He hopes to show that the necessity of a decussation of nervous fibers from right to left, and conversely, is not indispensable; and that each half of the brain can appreciate the sensitive and sensorial impressions of the two halves of the body.

Leaning upon this fact—that the fibers of communication between the brain and spinal marrow are few in number—he declares that the theory of a nervous chain is false and should be rejected. The mechanism which he hopes to render acceptable contains an hypothesis of the existence of pyschical powers spread throughout the cerebro-spinal axis, carrying its sensations to the nervous cells, and the mode of communication between these diverse psychical powers and the intellectual powers is made as if by a sort of galvanic current. Very few fibers of communication are sufficient then to transmit the message to the nervous cells ready to receive it.

"I believe," said Brown-Sequard, "in the existence of cerebral localizations; but I maintain that the localizations, instead of consisting in circumscribed points of the brain, exist in another manner. They are composed of elements scattered throughout the economy, so that each center has cells of very different functions." He cited certain facts which, according to him, demonstrate that the center of speech is not situated in the posterior part of the third left frontal convolution, where Broca has located it.

As may be seen, Brown-Sequard wishes to make people admit doctrines in physiology radically opposed to those we now understand. He gave a rehearsal of his theories in 1876 at the Biological Society, and has done the same thing since in other places, especially in the United States.

We will end by adding that he announced at the beginning of his course his intention not to make experiments as was the method of his predecessor, the lamented Claude Bernard, but to rely everywhere on facts to demonstrate his teachings. "Experiments in this matter are, moreover," said he, "very difficult, for they are under the influence of an irritation, and very often fail. It is my belief in truth, and the numerous facts I have collected, which will sustain me in the path I have marked out."—*Le Progres Medical*, December 7, 1878.

SELECTIONS.

Clinical Lecture, Jefferson Medical College Hospital.

CLINIC OF PROF. W. H. PANCOAST.

GENTLEMEN:—I take great pleasure in meeting you to-day, to inaugurate my clinical service in the Hospital of the Jefferson Medical College. You are already familiar with the practical method of our surgical clinics as so admirably shown by my distinguished colleague, and they are designed to illustrate the teaching of the professorial chairs, while at the same time relief is given to the vast number of the unfortunate and suffering poor, who crowd the waiting room on clinic days.

In succeeding my colleague, I shall give my clinics in the same practical way, and while showing you what I deem the best methods of surgical treatment in operations, surgical injuries and deformities, point out to you always the anatomy of the part involved. Thus I trust, I will impress upon your minds the anatomical relations of the structures affected by an operation or other surgical treatment, so as to illustrate the daily instruction that I have the honor to give you.

The first case which I show you is interesting as a result, and the gentleman will kindly walk among you so that you can all see the condition of his eye. He is a private patient, and came to me some thirteen years ago for an ulcer of the right cornea. I found the five coats which compose the cornea, so completely perforated that apparently only a thin film remained as the anterior wall of the aqueous humor, whose posterior wall is the iris.

I warned him that it might rupture at any time, and when it did, to notify me as soon as possible. The rupture occurred as I anticipated, and I was so fortunate as to get to his assistance almost immediately.

I found the iris floating freely and largely through the perforation, and immediately taking delicate hold of the portion protruding, cut it off with a pair of fine and sharp scissors. After the iridectomy I put him at rest and ordered a diaphoretic anodyne with cold applications to the eye. He speedily recovered with proper treatment of the ulcer. The artificial pupil so made is called by the

opthalmologist, Colobma Iridis and it has served the gentleman well. The eye has been thoroughly useful and free from any weakness. Owing to some night work by gas-light, he has had a renewed attack of conjunctivitis, and, as in a cicatrix, the innodular tissue can not withstand inflammation as well as a normal structure, the leucoma or albugo had again become an ulcer.

By antiphlogistic treatment, scarifying the loaded blood-vessels running to the ulcer, and by proper lotions, I have again cured him of the ulceration of the same spot that I treated thirteen years ago. As he was at my office, I asked him to come here with me to-day, thinking it of interest to show you the result of such an iridectomy. Without the speedy iridectomy I then performed, I think he would have lost his right eye, with the attendant danger of a sympathetic inflammation in the left, and it is valuable for you to see how useful an eye may still be after such an operation.

When I performed the operation of extraction of cataract, I always prefer to perform an iridectomy, as an active antiphlogistic method of preventing subsequent inflammation. I have seen several cases where the cornea has been torn open by foreign bodies, and I recall two in my own practice, where I was sent for at once. One, where the cornea was torn open by a pair of scissors accidentally thrust in the eye, and the other, where it was torn open by the iron point of a child's top. In both these cases the iris floated forward in the wound, as the aqueous humor poured out. In each I at once performed an iridectomy, and had the pleasure to have my patients, both girls, recover with perfect sight. I have also been called in consultation in other cases, where a semi-lunar injury has happened, the cornea torn open, and treated without iridectomy, and in each of these cases, which I saw some days after the accident, the intra-ocular inflammation had advanced so far that the eye was lost.

This boy of fourteen years of age, who now presents himself, is an interesting case. You see how contorted is his right arm. The forearm is flexed, and the fingers are forcibly semi-flexed. I can only extend them by strongly flexing the forearm on the arm. You see a large cicatrix extending nearly the whole length of the front of the forearm, and another upon the anterior surface of the arm. Both these marked cicatrices involve the muscular struc-

ture beneath them, and this makes the difficulty of the cure. The muscular bellies of the first layer of flexor muscles, and of the flexor sublimus digatorum perforatus manus, are all destroyed, or nearly so, and the tendons are involved in the cicatrix. This injury is the result of a gunshot wound. As the boy carelessly pulled the muzzle of the gun to him, the gun went off, and its charge passing upward, destroyed the soft parts, so that the cicatrices are such as you see them.

If the cicatrices involved the skin, by a plastic operation I might bring the arm and fingers straight, but as the muscular structure is destroyed, no manipulation of the skin by a plastic operation would overcome the difficulty. I think, however, by doing a tenotomy at the wrist, I may benefit the patient. The skin, you notice, is very tense, and may give away under the stretching. As the patient is etherized and now ready, I make a puncture with this delicate knife, and insert a small sabre-shaped blunt-pointed tenotome. Slipping it beneath the skin, between it and the tendons, I now make the tendons tense by extending the hand and turning the edge of the tenotome upon the tendons; so tense are they that they cut themselves through on the blade. I have cut the palmaris longus, the flexor carpi radialis, the tendons of the flexor sublimus, and you see how the hand and fingers straighten out. To gain all I can by this operation, I now forcibly extend the hand on the forearm, to tear up the connective tissue—you hear it give away; and now the skin has given away a little, so tense was it. This, I think enough. You see we have made a wonderful gain, and hand and fingers look quite natural, as I extend them gently. I will now draw this little wound in the skin together, with my black silk ligature, after the carbolic spray is used. I now apply the carbolized oxide of zinc dressing over the adhesive strips, and put the arm at rest. I place the arm and hand upon this splint. Applying the splint to the back of the forearm and hand, so as to flex the hand and allow the divided ends of the tendons, to approach each other. As the plasma becomes organized and the wound heals, I will gently, day by day, extend the hand more and more, until I can finally put it out in a straight splint.

The next patient, Mrs. ——, has a large scirrhus cancer of this right breast. It has been of slow growth, but is now so large that it weighs down the breast, and the pa-

tient now complains of sharp, lancinating pains starting from it. The nipple, as you notice, is much retracted, but the tumor is yet movable within the breast, and is not adherent to the ribs. This is favorable, for when the deep fascias are involved, and the cancer becomes bound down to the ribs, the lymphatics, which pierce the intercostal spaces, become affected, and carry the poison to the intrathoracic structures, which finally may become involved. The glands in the axilla are not affected. So I consider this a favorable case for operation. She is a stout, heavy woman, as you see, and the breast is enormous. As she is now etherized, I will proceed to the operation. My assistants are in their proper positions, clean sponges, water and napkins at hand, and here are the instruments I may need. This well-balanced, medium-sized, sharp scalpel, ordinary operating forceps, and arterial forceps, tenaculum and ligatures, if I shall need them, though I shall do the operation so as to have the least amount of hemorrhage. I now penetrate the integument with my knife, so as to make a sufficient deep puncture, and sweeping my knife on each side of the depressed nipple, so as to leave it on the cancer, bring it down and out on the right and dependent side, so that that the lower end of the incision may be in a good position to drain the wound. The incision is about four and one-half inches long—long enough even for the removal of this large tumor. In making an incision it is always neater to commence it with a puncture, instead of with the edge of the knife, as I have seen done. An incision made with the edge of the knife will not cut through the skin completely, and if the patient is not etherized gives him pain in the manipulation of the wound.

My incision having been made through the skin and superficial fascia, I use the knife now as little as possible, and break away with my fingers or the handle of the scalpel, the adhesions of the tumor, only using the edge of the knife to nick or cut the strongest adhesions. By this means I obviate hemorrhage, and also pull out a great number of lymphatic vessels which run from the cancer, and are popularly known as the roots of the cancer. It is well, I think, to get away as many diseased lymphatics as possible, and now I show you in my hand the cancerous tumor, with the nipple, and a little of the integument around it. You see, although the wound is large and

gaping, that there is but little hemorrhage. Here are two little arteries spouting. I seize each of them with the arterial forceps and tie them with a black silk ligature. This ordinary black sewing silk is not exceedingly strong, but when you pull the small artery out from the flesh, and tie this artery alone, it is not necessary to use much force with the ligature. It is only when a mass of oozing flesh is to be tied that you need a very strong ligature. That is a draw-back to the speedy healing of the wound, as it makes more suppuration in the detaching of the mass tied. I prefer when possible to draw out the artery and ligate it only. The wound is glazing over, under the action of the air, itself a good styptic, but to give my patient all the benefits of improved surgery, I shall now wash it out carefully with the carbolic spray from this atomizer, using a solution with ten per cent. of carbolic acid. I thus cleanse the wound thoroughly, and at the same time you see the styptic effect of the carbolic acid, by the whitening of the red wound, and I believe the spray also obtunds the sensibility of the numerous divided nerves. I do not follow Mr. Lister's antiseptic method, which is so much used now in Europe. I have seen this last summer, in England and France, several operations after his method. The surgeon and assistants working under a constant spray, sometimes made by two steam atomizers, the instruments lying in a tray of a strong solution of carbolic acid, and the ligatures and needles steeped in the same solution. Upon more than one occasion in London I noticed that the spray was all spent on the coats of the surgeon and assistants, and did not touch the wound, and yet they were satisfied and the operations resulted well. But I believe in carbolizing the wound in the way I have done, and in establishing a good drainage. In this case, instead of enlarging my incision I make a puncture at the most dependent point, and insert a piece of drainage tube, pierced with a black silk ligature, whose two ends I will retain under the adhesive strips, thus allowing free vent for the discharges, and permitting my wound to heal almost by first intention. I now draw the lips of the wound together with my black silk sutures, which I prefer, as their color permits me to find them afterward easily, and I do not run the risk of tearing open the wound by hunting for a white ligature matted in the discharges. The ligature is also an animal

one, made by the silk worm, and the dye used in its preparation, contains iron, making it, I think, a healthy ligature, for I find them always well borne by inflamed tissues. Again, its color being so distinct and marked against the skin, it permits me to use as delicate a black silk ligature as I choose, and I find it the best ligature in all plastic operations, and in œdematous parts, as the prepuce and eyelids, also in the conjunctiva of the eye. In good plastic surgery your flaps should lie loose, and, therefore, no great strength is reqired in a ligature, and as delicate a one as possible should be used, so as to have the least inflammation. The larger the ligature, the more of a seton is it, and the greater the inflammation. So a delicate black silk ligature is less of a seton, is most easily seen, is more healthy to the skin, and I have been surprised more than once to see how long it will remain without irritating, even after the wound has entirely healed. It is also most easily obtained, as one can always find good black sewing silk in a lady's work basket. While I have been talking we have applied good broad adhesive strips, to support the wound, whose lips are drawn neatly and completely together by the black silk suture. Drawn completely together for the drainage is here below by the drainage tube. I carry my strips of plaster completely around the body, so they shall not slip, but not so tight as to interfere with my patient's respiration. I now cover the wound thoroughly with two layers of patent lint, well spread with carbolized benzoated oxide of zinc ointment, thus sealing up the wound with the atmospheric air. I now carry another bandage around the chest, to retain the dressing, and another around the arm and hand of this side, to retain them in position and keep the wound at rest.

The patient is now thoroughly, neatly, and nicely dressed, and we will send her on the stretcher to the elevator, to be carried to the ward. As she is lifted you can see the drainage tube. Its retaining strings are under the adhesive strips, so it will not come out, and the plaster and bandage do not prevent our seeing it or the future free exit of the discharge.

I think, if we are fortunate, we will find the wound heals almost by first intention, and the discharges having free vent by the drainage, will not be pent up or produce irritative fever.

I have ordered a quarter of a grain of morphine, to be given at once, and the house mixture afterward, to prevent fever and produce sleep.—*Medical Bulletin.*

Notice.—Since the above operation, in seven days the wound had entirely united. In ten days all the ligatures were removed, and the patient is now ready to return home.

The Iodide of Potassium in the Treatment of Asthma.

BY B. F. WESTBROOK, M. D.

THE following notes of cases of asthma in which the iodide of potassium has been used are intended simply as a contribution to clinical medicine. I do not propose to discuss the various theories as to the nature of asthma. The term, as applied by me at present, is applied to the condition which is characterized by dyspnœa of spasmodic character, not dependent upon cardiac or laryngeal disease. It is accompanied by prolonged and difficult expiration, with dry rales. It may be associated with emphysema or bronchitis, or with no apparent lesion of the lung. In the latter case it is known as "nervous asthma."

The following cases were all associated with apparent pulmonary lesions, either bronchitis or emphysema. They were all treated by me in the out-door department of the Long Island College Hospital.

No. 1.—An Irish woman, fifty years old; married. Her health had been good up to two months ago. Since that time she has had a hard, dry cough, accompanied by slight tenacious expectoration. After eating she has a feeling of distress in the epigastric region, and a belching of gas. Coincident with this there is an accession of dyspnœa. At night she has great dyspnœa and a noise in her chest. This passes off in the morning, when the expectoration becomes more free.

The chest is resonant on percussion; the respiratory sounds harsh, and accompanied by sibilant and sonorous rales, particularly on the right side. There are a few moist rales in the upper part of the right lung. The vesicular murmur is indistinct. She was given the following mixture: Take of potass. iod., one drachm; syr. senegæ, four drachms; aquæ ad three ounces; mix; a teaspoonful four times a day. At the end of a week she reported that the dyspnœa was greatly relieved and that she felt better in

every way. The dose of the iodide was increased from two and a half to five grains. She continued to improve for two weeks more, when she ceased coming.

No. 2.—This was an Irish laborer, about thirty years old. He was employed on a railroad and was compelled to work on the track, frequently in wet weather, and when the damp earth was being turned up. He had a good family history, except that his father had suffered severely from asthma in the latter years of his life.

The patient had been healthy up to August, 1877. He then, after working in a very wet place for some time, had a severe cough, with a small amount of thick, tenacious expectoration.

In the night he had terrible attacks of dyspnœa, which obliged him to leave his bed and sit by the open window. Toward morning the dyspnœa would subside, with the occurrence of more free expectoration. He had been suffering for two weeks when he came to the dispensary. Examination of the thorax gave the signs of bronchitis, with the rales of asthma. The tongue was coated and the bowels constipated. He was ordered twelve grains of calomel to take at night, and a mixture containing hydrarg. bichlorid., three grains; potassii iodid., two drachms; syr. senegæ, three ounces; mix; a teaspoonful three times a day. Two days afterward he reported that the dyspnœa and cough were considerably relieved. The mixture was continued for ten days longer, when the bichloride was discontinued and the bromide of potassium and hydrocyanic acid added to the mixture. The latter ingredients were added with the object of relieving the cough. It has appeared from my observation, that while the iodide relieves the dyspnœa, it does not have as favorable an effect upon the cough. In five days more, the dyspnœa having entirely disappeared, he was given a stimulating expectorant. This was followed in a few days by a tonic, and we saw nothing more of him for five months. He then came to the dispensary again, in my absence, and was seen by my friend, Dr. Kretszchmar. He said that he had been perfectly well during the five months, but had recently caught cold again and the trouble had returned. The doctor attended him at his house for some time, but failed to relieve him. He transferred him to me at the end of a month, and I labored with him for several weeks with no better success. His symptoms during this time

were as follows: Almost total anorexia; the tongue covered with a heavy white coating, occasional vomiting, constipation. Frequent cough, and the most intense dyspnœa, lasting throughout the twenty-four hours, but worst at night. A copious expectoration of thick, sticky muco-pus. The color of the face varied from a dusky hue to a distinct purple. The thorax was distended, and its movements only slight, in spite of his great exertions; the percussion note was very resonant. Upon auscultation no vesicular murmur could be heard, but loud whistling rales were audible over the entire chest, with large and small mucous rales, particularly in the right lung. Expiration was prolonged. Repeated examinations led to the discovery of no complicating diseases in the other viscera. Notwithstanding this, the tongue retained its heavy coating, the anorexia continued, and no abatement of the respiratory difficulties was to be attained by any remedy. Every known remedy was applied by me, as had been done by Dr. Kretszchmar before me. Narcotics, expectorants, anti-spasmodics, stimulants, such remedies as act upon the alimentary canal, digitalis for the heart, all to no avail. The iodide of potassium was given to the extent of a drachm a day, with no effect except to increase somewhat the expectoration. On one or two occasions, when there was a slight elevation of temperature, quinine was exhibited, but to no purpose. Once, indeed, at the suggestion of a student whom I had taken with me to see the case, I prescribed a grain each of calomel and aloes in a pill, three times a day, with quite well-marked temporary relief, but a relapse soon occurred. He was advised to enter the Long Island College Hospital. After leaving that institution he transferred himself to the care of Professor Armor, who tells me that his condition is the same to-day that it was a year ago. A serious lesion of some other viscus was suspected in this case, but the suspicion was never confirmed.

No. 3.—Miss N., æt. thirty-eight, Ireland; was a healthy woman up to five or six years ago, when she began to have asthmatic attacks. They have been associated with a slight bronchitis. She was troubled more in summer than in winter, and the dyspnœa was greatly aggravated at night. On her first appearance at the dispensary, September 5th, 1877, she was observed to be a rather fleshy woman, with a well-developed chest. There was no sign

of emphysema. The chest was normally resonant on percussion and there were a very few sibilant rales. The prescription was: Take of potass. iod., two drachms; liq. potass. arsen., two drachms; aquæ ad three ounces; to take a teaspoonful four times a day.

September 10th the dyspnœa was considerably relieved. The treatment was continued. September 21st respiration was easy night and day. She said she had not felt so well for years. On October 1st she had caught cold and had rheumatic swellings of her extremities. There was also some return of the asthma, but not nearly so severely as before. She was put on treatment for the cold—viz: opium, capsicum and cinchom. At the of a week the rheumatic pains had disappeared, but there was some return of the asthma. As the Fowler's solution had previously given rise to some œdema of the face, it was now given in diminished doses, while the dose of iodide was increased. She improved rapidly, and did not find it necessary to come again till February 28th, 1878, when she had a return of her trouble in a mild form.

On similar treatment to that previously used, she did well up to the 26th of August, 1878, when she returned, saying that a few days before the dyspnœa had returned. Examination of the chest showed the same signs as at first, particularly prolonged expiration, accompanied by sibilant rales. I now gave her the iodide alone in seven and one-half grain doses three times a day. She has not returned since, and I learn on inquiry that up to the present time she has been very well, with only occasional slight manifestations of her old trouble. In August I examined the chest carefully, and did not detect any signs of emphysema, and none of bronchitis, unless the rales mentioned above are to be considered signs of that disease. The important points to notice about this case are, first, the slight evidence of the existence of bronchitis and emphysema; second, that the decrease in the quantity of arsenic and increase in the quantity of iodide of potassium did not lessen the efficacy of the mixture. Nor was it rendered less efficacious by the final omission of the arsenic, the iodide alone sufficing to relieve the symptoms.

No. 4.—An Irish laborer, fifty-five years old; had been suffering from asthmatic attacks at intervals for several years. The paroxysms are most frequent and severe in

summer. Physical exploration showed a large thorax, hyper-resonant on percussion. The area of cardiac dullness was extremely limited; the apex beat and cardiac sounds were very weak. There was prolonged expiration, with dry rales. The prescription was: Take of potassii iod., three drachms; aquæ, three ounces; mix; to take a teaspoonful three times a day. He continued to return at intervals for about two months. The medicine was not changed. The improvement was constant.

No. 5.—An Irish laborer, fifty years old, has been troubled with a cough and dyspnœa for two years. The dyspnœa is greatest at night, and the trouble is always increased by catching cold. The dyspnœa is paroxysmal. The cough is accompanied by very little expectoration. He had the round, barrel-shaped, immovable chest of emphysema. The percussion note was vesiculo-tympanitic. The apex beat was lost, and replaced by a pulsation in the epigastrium. The expiration was prolonged, and accompanied by dry rales. He was given seven and one-half grains of iodide of potassium, dissolved in water, four times a day. He returned after a few days, saying that the dyspnœa was relieved, though the cough was as bad as ever. The bromide of potassium was added to the mixture.

This was a well-marked example of emphysema, which we could not hope to cure with drugs. It illustrates well, however, the power of the iodide to relieve the dyspnœa of asthma. It also illustrates the necessity which frequently exists of giving other agents to relieve the cough.

No. 6.—And Irish woman, over forty years old. She has complained of a cough, with dyspnœa, at intervals, for six years. Her health is good otherwise. She is nursing a baby eighteen months old. For the last two or three weeks the cough and dyspnœa have been very bad. She had the signs of bronchitis, with numerous dry rales, sibilant and sonorous. Take of potassium iodide, two drachms; aquæ, three ounces; mix; to take a teaspoonful every three hours. When she returned, two days later, the dyspnœa, which had been considerable, was relieved. The sibilant and sonorous rales had disappeared. The moist rales of bronchitis remained. Five grains of the chloride of ammonium were added to each dose of the mixture. She improved rapidly under this treatment, and at the end of three weeks the cough was so much better

that she was put on the iodide of iron, as a tonic, combined with sanguinaria. She did not return again.

No. 7.—On the 10th of June, 1878, as I entered my department of the dispensary, I found a man half lying, half sitting on a bench, supported by his wife, and evidently suffering from the most intense dyspnœa. He was a Scotchman, fifty-six years old, a rigger by trade. He was a stout, muscular man, of medium height, and had always been perfectly well till three days before he came to me. He had been in the rigging of a ship, working hard, and while perspiring freely came ashore and lay down on the sidewalk near the opening of a cellar. As he lay he could feel the draft from the cellar upon his back. He fell asleep, and, on waking, felt a sense of oppression in his chest. This soon increased to a terrible dyspnœa, which had lasted for three days when I saw him. The chest was expanded, moving little, though the respiratory muscles were contracting actively. Percussion gave a hyperresonance. On auscultation the vesicular murmur was inaudible. It was replaced by loud dry rales, heard most during expiration, which was prolonged. The short cough was accompanied by no expectoration. There was no fever. He was given seven and one half grains of the iodide of potassium every four hours. I subsequently saw him at his home, and caused him to continue the same medication. The dyspnœa was relieved rapidly, and he was able to go to work again in a few days.

No. 8.—An Irish woman, fifty-three years old. Had been suffering a long time from asthmatic seizures. There was prolonged expiration, with mucous and dry rales. She was given five-grain doses of the iodide four times daily, with the effect of relieving her dyspnœa. She was then put on a mixture of iodide and bromide of potassium, and was subsequently lost sight of.

No. 9.—Mrs. D., æt. thirty-five, Ireland. She has been troubled with a cough and dyspnœa for four or five years. She has six children, the youngest thirteen months old. She has less of the paroxysmal dyspnœa when pregnant. She has a well-formed chest. Percussion about normal. Prolonged expiration. Sibilant and sonorous rales. The dyspnœa and dry rales being well marked, she was ordered seven and one-half grains of iodide, in water, four times daily. She returned in twenty days, saying that she had been much better while she took the medicine, but since

stopping it the dyspnœa had returned. It was repeated, and she did well for twelve days more. The prescription was again repeated, and she did not return.

No. 10.—Mrs. M., æt. 60, Ireland. The patient complained of an obstinate cough of long duration, with "whistling in the chest" at night. The cough was accompanied by a viscid, starchy expectoration. She also had obstinate constipation. I have no note of the examination of her chest. She was ordered seven and one-half grains of the iodide of potassium, four times daily and a cathartic pill. Three days later the dyspnœa and cough had both diminished. The treatment was continued. She was seen once after this, and some stimulating expectorants (sanguinaria and tolu) added to her mixture, while the quantity of iodide was diminished.

This completes the list of cases that I have to present. I have seen many more, but the histories are incomplete, or else the iodide of potassium has been combined with other drugs, so that its action can not be determined.

The merit of my list is that it is made from the records which I had never expected to publish, and which were therefore written by an unprejudiced hand. This is my apology for the meagerness of the details, particularly in regard to the previous histories and physical exploration. That they were all well-marked cases of asthma I can vouch for, as I take considerable pains in the examination of my dispensary patients. They are none of them cases of pure nervous asthma. That they all partook of the nature of the so-called nervous asthma there can be no doubt. For when the notes were made I was a firm believer in the theory of bronchial spasm, and would not have recorded any case as one of asthma which did not present the signs which are supposed to indicate spasmodic contraction of the bronchial tubes. The important point, which involves no theorizing, is, that in all but one the exhibition of the iodide of potassium was followed by subsidence of the dyspnœa. And in that one (No. 2.) it was efficacious in his first attack, and only failed in the second attack, when everything else failed too. I have found five to seven grains a sufficient dose, as a general thing. I usually give it four times a day, the last dose just before retiring for the night.

Notes on the Localization of Diseases of the Brain.

By Charles K. Mills, M. D. Neurolgist to the Philadelphia Hospital.

Read before the Philadelphia County Medical Society.

Through the observation of patients, conjoined with autopsies, physicians can do something toward solving the problem of the cerebral functions, and my object this evening is simply to introduce the subject of the localization of diseases of the brain, by the presentation of some notes upon cases, with a few remarks on their import and bearing. For the sake of brevity, unessential details have been left out in reporting these cases, but nothing has been omitted that would affect their interpretation.

My first case was a married woman, aged 41 years. She came under observation four months before her death. Fourteen months before this time she had suddenly become paralyzed on the right side. Several years previous to this attack she had rheumatism. An aortic regurgitant murmur was discovered. It was ascertained that, when first stricken with paralysis, she had some difficulty in deglutition, with positive facial paralysis and aphasia.

On examination, she was found to have slight right facial paralysis, the lower part of the face only being affected. The forehead and right eye were not involved. She was decidedly aphasic, but could pronounce a few simple words, and seemed to understand what was said to her. She had well-marked paralysis of the right upper extremity. The shoulder was stiff; the forearm was semiflexed on the arm, and the thumb and fingers were also bent inward on the palm; but these parts could be straightened by force, only, however, to return again to their unnatural position. The entire limb was a little wasted, and she frequently complained of pain in it. Her right lower extremity showed some loss of motor power, but not the distinct paralysis observable in the upper limb. It was paretic rather than paralyzed, and exhibited no contractures. No loss of sensation could be made out. Faradocontractility was good on the paralyzed side.

This patient had phthisis, and also, as revealed by autopsy, an intra thoracic growth, probably carcinoma, and a tumor of the liver. She died exhausted, suffering much the week before her death, from dyspnœa and pain in her chest and right side.

The autopsy was held eighteen hours after death. No disease of the skull or membranes was detected. An area of yellowish-white softening was found, involving a small portion of the hinder part of the third left frontal convolution, the lower end of the ascending frontal, the entire surface of the island of Reil, and a narrow segment of the adjoining temporal convolution. The substance of the left hemisphere was paler than usual. The left corpus striatum and optic thalamus were normal. No other cerebral lesion was discovered. Slight vegetations were present on one of the crescents of the aortic valve, besides the other lessons to which I have alluded.

The second case was a man 40 years old, who had two attacks of paralysis of the left side, from which he had in both instances, in a few weeks, almost completely recovered. The arm and face had been more affected than the leg. Examination revealed a paretic condition of the lower part of the face, on the left side; the mouth was drawn very slightly to the right; the eyes and upper face were unaffected; he had no aphasia. The left upper limb was weak, but he could elevate it to a horizontal line, and perform all movements with it, but not vigorously. Neither arm, forearm, nor hand exhibited paralysis or contractures in distinct groups of muscles. The left leg was a little weaker than the right, but that was all. No loss of sensation or interference with the special senses was present. The right side of the body was normal. While under my care he had two local spasmodic seizures, each lasting not over a minute, one involving the left arm and the same side of the face, the other only the lower part of the face. No change in his paralytic symptoms, and no subsequent stroke occurred, but he died, a week after coming under observation, of what was supposed to be uræmic poisoning.

The post-mortem examination was made nineteen hours after death. The skull and dura mater presented nothing abnormal. The pia mater was œdematous and moderately congested, particularly over the right hemisphere. Anterior to the fissure of Rolando, on the right side, was an arc of distinct softening. It began above, about an inch from the longitudinal fissure, at the border of the fissure of Rolando, extending forward and outward so as to involve slightly the posterior extremities of the first and second frontal convolutions, and then bending in-

ward and backward again toward Rolando's fissure, the edge of which it reached once more near its inferior termination. The area of softening was irregularly crescentic in shape, and varied in width from one fourth to three-fourths of an inch. The inner edge of the crescent and its ends, which were enlarged, were situated in the ascending frontal convolution. The portion of this convolution between the softened space and the fissure of Rolando remained unchanged. The diseased mass had invaded deeply the gray matter, and at each of its extremities had encroached upon the white substance. A small cylinder of the softened tissue reached to the median surface of the brain, about half an inch beneath the convexity. The arc of softening was the only discoverable lesion of the brain.

The lungs were œdematous. A cheesy focus was found at the base of the right lung. Both kidneys were highly granular.

My third case, reported in full elsewhere (*Medical Bulletin*, vol. i. No. 1, p. 13, January, 1879), was a man, 66 years old, who, for at least eighteen months before his death, had hemiplegia of the right side, with aphasia, the paralysis being most decided in the arm. He had marked loss of sensibility in the right arm, forearm, and hand, and the same condition, but less pronounced, in the right lower extremity. Fourteen days before he died he had two severe attacks of right unilateral convulsions, and a week later he had a similar seizure. His hearing was defective, and he was irritable and emotional.

Post-mortem examination showed destruction, by softening, of the following parts: a small outer rim of the island of Reil; a posterior segment of the third frontal convolution; the lower thirds of the ascending frontal and ascending parietal convolutions; the upper border of the first temporal convolution; the Sylvian border of the lower parietal, and the posterior portion of the upper parietal convolution.

Several examples of what I have supposed to be facial monoplegia have fallen under my observation, but I have not yet had the opportunity of confirming my supposition by an autopsy. In the Philadelphia *Medical Times*, for October 26 and November 9 and 23, 1878, is a series of "Lectures on a Case of Facial Monoplegia," by John Guiteras, M. D., physician to the Philadelphia Hospital.

I had the pleasure of seeing the specimen from the case, which is ably detailed and discussed in these lectures. The lesion which probably caused the partial facial paralysis present was a distinctly defined area of softening, which involved one inch of the length of the ascending frontal convolution.

The cases here reported may be looked upon as additional evidence that destructive lesions of certain districts of the cerebral cortex cause paralytic symptoms more or less extensive and permanent. They also indicate, from the local spasms occurring in the second case, and the unilateral convulsions in the third, that a destructive lesion of the cortex may at the same time be irritative, or that it may become so temporarily. In the first case, the aphasia, and facial and brachial paralysis, were due to a lesion of portions of the areas usually regarded as the centers for speech and for face and arm movements. The ordinarily given leg-centers, high up in the ascending frontal and ascending parietal convolutions, were not involved, although the right leg exhibited some loss of power. The transient character of the dissociated hemiplegia, which occurred twice in the second case, is of interest. The cutting off of blood-supply from the lodging of an embolus, in a case of this kind, may, in the first instance, include a larger area than subsequently undergoes softening. The effects of a sudden lesion also probably radiate for a time, for a certain distance, into neighboring parts. It will be recalled that the paralysis produced in animals by destruction of cortical areas was commonly transient. The arc of softening found in this second case was so situated as to involve only small portions of the general districts or centers for leg, arm, and face. The third case illustrated aphasia and tolerably complete hemiplegia from an extensive destruction of the cortical motor zone. The paralytic symptoms present in this patient resembled somewhat closely those produced by lesions of the basal ganglia. The unilateral convulsions were also similar to those which sometimes result from disease of the corpus striatum. The defective hearing, without disease of the ears, and the marked loss of sensibility on the paralyzed side, especially in the arm, are interesting, from the fact that some of the physiologists have located sensory centers in both the inferior parietal lobule and first temporal convolution.

I have notes of three unreported cases of hemorrhage

into the optic thalamus, in all of which incomplete hemiplegia with hemianæsthesia had been produced. In each case the hemorrhage was large. The anæthesia in two was pronounced; in one it was slight, and better made out in the arm than elsewhere. No spasmodic symptoms were observed. In one case the crus cerebri adjoining was involved in the hemorrhage, this patient being markedly hemianæsthetic.

In two cases of hemorrhage into the corpus striatum well marked motor paralysis of the usual type had been exhibited. Anæthesia was not present, or, at least, could not be recognized. The lower fibers of the facial nerve were partially paralyzed; and the paralysis of the arm and leg seemed to me more decided than in the cases of hemorrhage into the thalamus opticus. In one case the clot was confined to the nucleus caudatus or intra-ventricular part of the corpus striatum; in the other, portions of both nucleus caudatus and nucleus lenticularis were included in the lesion. I give these cases simply because they are additions to actual experience, avoiding lengthy details, as the symptoms observed did not differ from those frequently reported. Recently, however, I presented to the Pathological Society of Philadelphia specimens from two cases of peculiar interest. In one of these the lesion was triple, consisting of a large clot in the right optic thalamus, a small cyst in the right corpus striatum, and a large cyst in the left corpus striatum, the symptoms being left hemiplegia and hemianæsthesia, without right hemiplegia. In the second case a small apoplectic cyst was present in the right corpus striatum, the patient not having been hemiplegic.

In still another case, never before reported, I found softening, involving the entire right island of Reil, a portion of the second and third frontal and of the third and fourth temporal convolutions, where they bound the Sylvian fissure, and two-thirds of the corpus striatum within the lateral ventricle. The symptoms observed during life were mental hebetude, slowness of speech (but not aphasia), dullness of hearing, slightly impaired sensibility on left side, and general muscular weakness. He was not hemiplegic, as we clinically understand the term hemiplegia. The muscular weakness was a little more evident on the left than on the right side, but he used both arms

and both legs with almost equal facility, and no contractures were present.

From a study of these examples of lesion of the great basal ganglia, it will be seen that, while partial destruction of the corpus striatum usually causes typical hemiplegia, such is not always the result. In some instances little or no paralysis occurs. Hemorrhage may occur into the optic thalamus also, without motor paralysis, although in all of my cases more or less complete hemiplegia was present. According to Nothnagel, indeed, lesions of which the thalamus opticus is the ecxlusive seat are not followed by motor paralysis at all. He also says that it may be regarded as demonstrated that lesions in the interior of the thalamus opticus cause no disturbance of sensibility. (Ziemssen's Cyclopædia, vol. xii. pp. 148 and 149.)

Both the corpus striatum and optic thalamus are connected by fibers with the convolutions above, and below with the mesencephalon. In addition, a bundle of white fibers, called the internal capsule, is supposed to pass, compressed into a small compass, between the outside of the optic thalamus and the nucleus lenticularis, or portion of the corpus striatum which lies beyond the ventricles in the substance of the hemispheres. It is probable that within this internal capsule are included both the great sensory and motor tracts which go to, and proceed from, the convolutions, and it may be, as has been supposed by some, that true paralysis only occurs when the internal capsule is implicated directly or by pressure.

Time will not permit me, this evening, to go into any lengthy discussion of the various theories of localization and the question of the real nature of paralysis.

The broad fact that one-half of the body is controlled by the opposite half of the brain is of itself a strong point in favor of the general doctrine of localization. Cases without number, similar to those given in this paper, have been recorded to prove that paralysis usually appears on the side opposite to the brain lesion. Brown-Sequard's array of opposing cases is, after all, probably only sufficient to show that we may have exceptions to a great rule. This is especially likely, since recent embryological researches have shown that the discussation in the medulla oblongata is variable in character.

The tracts which go to and from the cortex also, doubtless, vary somewhat in their directions, and special centers,

may differ according to the age and habits of the individual.

In regard to the nature of paralysis, my personal experience has not as yet been sufficient to enable me to come to an absolutely satisfactory opinion. With Bastian (Paralysis from Brain Disease, p. 50), I incline, at present, to think that several explanations may be allowed, in accounting for paralytic phenomena. Some of the symptoms may be due to irritation, others to destruction of brain tissue, and, in still other cases, injuries to the brain, besides causing direct symptoms, may produce stimulating or inhibitory effects upon more or less remote parts. I consider it probable, also, that a special form of inhibitory motor paralysis may result from a strongly irritative lesion of portions of the antero-frontal lobes. I reported to the Pathological Society of Philadelphia a case of fibrobroma, involving the first and second frontal convolutions, convolution of the corpus callosum, and corpus callosum, in which the paralysis present appeared to be of the true inhibitory type (Philadelphia *Medical Times*, January 18, 1879). I believe it not unlikely that we will learn to distinguish between paralytic symptoms due to inhibitory action, and those which are the result of pressure or tissue-destruction.

In concluding these brief notes, I would say to those who may question the value of such investigations that even direct practical results from a study of cerebral localization have not been entirely wanting. They have been obtained chiefly in the domain of surgery. Thanks to the labors of such men as Broca, Bischoff, Turner, and others, cranio-cerebral topography is now pretty well understood. The physician or surgeon can determine, with considerable precision, such points, for instance, as the relations of the fissures of Rolando and of Sylvius to cranial sutures, the superior levels of the great cerebral ganglia, and the situation with reference to external areas of such important convolutions as the third frontal and angular gyrus.

The surgeon's trephine may be guided with greater certainty than ever before to the seat of a lesion. Broca, in 1871, successfully located an abscess of the third frontal convolution of the left side, and reached the lesion by operation. Even supposing the position of an abscess of the brain to be accurately determined, it may be said that

an operation might be dangerous or impossible, and I recognize the fact that operative interference would only hold out hope in a limited number of cases. In the matter of organic cerebral affections, however, a little advance is a great gain. Huguenin (Ziemssen's Cyclopædia, vol. xii. p. 819) mentions an instructive case, in which Renz succeeded, after extracting the blade of a knife, in emptying an abscess which lay deep in the brain by successive introductions of a subcutaneous syringe. The patient was cured. He lived eight years and a half free from all brain symptoms, and died from hemorrhage of the lungs (or stomach). It is true that in this instance an external opening was present; but it shows the possibility of emptying and healing an abscess deeply situated in cerebral tissue.

M. Proust (*Medical Times and Gazette*, December 16, 1876) communicated to the French Academy of Medicine the case of a young man who had received a bayonet wound on the left side of the head, and subsequently had partial aphasia and incomplete paralysis of the right face and arm, with other symptoms. With the aid of M. Terillon, trephining was performed. The aphasia and arm paresis instantaneously improved. Hebetude, which had been present, disappeared, and the patient eventually recovered. Trephining has been successfully employed in a similar case by another French surgeon, M. Lucas Championniere, who has given to the profession certain data for determining the "line of Rolando" (*Lancet*, July 7, 1877.) Aphasia, monoplegia of the face, arm, or leg, imperfect hemiplegia, limited convulsions, strabismus, and mystagmus, are among the symptoms which can now be successfully employed by the surgeon in deciding upon cranial operations.

In medicine a more reliable prognosis can be given in intracranial affections if we can locate with accuracy the seat of disease. Regional diagnosis also is often a great aid to general diagnosis: knowing *where* a lesion is, we can frequently come to a more satisfactory conclusion as to *what* it is; and thus we may be able sometimes to discriminate to the advantage of our patients between such conditions as clot, tumor, softening, sclerosis, and meningitis. Mental diseases are becoming better understood; some of them, for instance, being found to be due to lesions of the cortex, macroscopic or microscopic. Cir-

cumscribed cerebral meningitis is an affection which can not always be recognized from the general picture drawn of it in ordinary text-books; but a knowledge of the varying effects produced by the disease, according to the region of the brain covered by the inflamed membrane, will often help greatly to a correct conclusion.

The substitution of one region of the brain for another whose functions have been annulled by disease, through some system of development by training, is a new path in cerebral therapeutics, which holds out some promise, and is an outcome of the study of localization.

A study of the symptoms produced by involvement of successive districts of the cortex has done much to clear up the mists which have enveloped that interesting affection known as general paralysis of the insane.—*Medical Times* (Philadelphia).

Aching Kidney.

J. Mathews Duncan, M. D., LL.D., says, this disease is sometimes, both in men and women, very easily recognized. There are achings in cases of what is called floating kidney. The patient can put her hand on the lump, and say, "Here is the pain," and there is no difficulty in recognizing the disease. But there are some cases in which the disease is very difficult to identify. In pregnancy, for instance, right or left hypochondriac pain is very frequent. In many cases I have been able to be quite sure, from the history before and after pregnancy, that the disease was not to be classified in the vague way that is implied in giving it the name of hypochondriac pain, but that it was really a case of aching kidney. In pregnancy you have the very opposite conditions to those in floating kidney. If pregnancy is advanced, you can not get at the kidney to feel it and identify its position. Here I may remark that, while the disease often occurs in pregnancy, yet some women who are liable to it do not suffer while in that condition.

The disease in women is not a rare one, and its characters are the following: One or other kidney is the seat of pain. It is not a neuralgic pain; it is a heavy wearing pain, deep in the side. It is in the region of the kidney; and in many cases, as I shall presently tell you, you can easily identify it as being in the kidney itself. It is not generally that

kidney-pain which is a familiar symptom of calculus. In such cases the pain is the pain of the pelvis of the kidney. You have in the region of the small ribs a boring or a nail-like pain. Patients with aching kidney generally point to the hypochondriac region, not to the back, as they often do in cases of calculus in the kidney. This pain is frequently accompanied by pain in the corresponding lower limb, referred most frequently to the course of the sciatic nerve, sometimes to the course of the anterior crural. The pain is often accompanied (and you will find this of importance throughout all the subjects of this lecture) by irritability—I do not say disease—of the bladder; and it is frequently accompanied by pain in the region of the ureter corresponding to the kidney affected. This pain is not rarely present only during the monthly periods. When it is present only during the monthly periods it may be classed with that disease, which is very ill-defined called dysmenorrhea. It should never be placed there unless you wish to use the word dysmenorrhea in a very wide sense. If we use the word as including aching kidneys, we might as well use it as including headache—a use which would be in accordance with what is extensively done by writers. This disease, however, often eludes the examination of the physician, because it occurs in many cases only during the monthly periods. In all cases it is then aggravated. I do not think I have ever seen a case in which the patient did not volunteer the statement that the pain was worse at the monthly time.

It is not usual to find both kidneys aching; and I guess —I can use no stronger word—that the left kidney is much more frequently the seat of disease than the right one. You are not left in your diagnosis in all cases merely to identification of the seat of the pain, although that may be sufficient. Frequently in the region of the pain you can find distinct fullness; that is a very important condition that I have no time to explain to you. It can scarcely be made out in a fat woman; but in many cases this condition of fullness over the affected kidney is easily recognized. In addition, swelling of the kidney or of the suet, or of both, is not rarely to be made out. The physical examination of the kidney is too much neglected. It is not in floating kidney only that you can feel the organ. In many women who are not nervous, yielding themselves freely to examination, and who are not fat, you can feel the kidney

with distinctness; and in cases of this kind you can frequently make out, as I have said, that there is a swelling of the kidney or of the suet, or of both. There is also generally tenderness, sometimes great tenderness.

The treatment is to be conducted on the general principles applicable to the therapeutics of neuralgia or slight hyperæmia; and these two conditions are not so very remote from one another as may at first sight appear. A neuralgia sounds as if it were something quite different from a hyperæmic condition; but that has to be proved. The remedies I have found of most service in simple cases of this kind are tonic regimen and tonic medicines, especially iron in form of the tincture of the perchloride combined with mild diuretics in small quantity, and especially the common sweet spirits of niter.—*Medical Times and Gazette.*

Salicylic Acid in Scarlet Fever and Diphtheria.

A CORRESPONDENT, in the *British Medical Journal*, says: It may be interesting to some of our readers to know that in salicylic acid we have one of the most reliable remedies in the treatment of scarlet fever and diphtheria. For the last three years I have used, with unvarying success, the salicylic acid suspended in mucilage in both mild and severe forms of scarlet fever, and have seen the throat-symptoms and fever rapidly abate, and the patients make rapid recoveries. On being called to a case, I have given doses, varying from five to ten grains every two hours, until the throat-symptoms and fever abated, and find that little patients, for whom we can do so little, when obliged to use the mop or brush to the throat, experience no inconvenience in taking this medicine, which, being simply in a state of suspension, has a chance of, at least a portion of it, remaining on the throat, and so acting as a topical remedy, whilst the remainder acts as an invaluable antipyretic.

The success in cases of scarlet fever has led me to try the same remedy for diphtheria; and I am happy to say, that, in the most virulent cases of diphtheria, I have seen the pellicle broken up and the diphtheritic patch removed in a marvelous manner. Indeed, since the use of salicylic acid in diphtheria, I have not seen one fatal case, although

several were of a dangerous type. It is but fair to say that, in diphtheria, my mode of action is giving the salicylic every four hours, and tinctura ferri perchloridi (P. D.) alternately with it. Some may probably say, "How do you prove that it is salicylic acid which removes the patch, when you use iron also?" My answer is, that at first, I trusted solely to salicylic acid, and found, in mild cases, that it answered every purpose; but, that in more severe cases, accompanied with much debility, there seemed to be a tendency to a return of the disease on discontinuing the remedy. I was thus led to use the iron, alternately with the acid, as a blood restorer. To prove that iron was not the sole active agent in the cure, I can but point to the many failures of iron as a local application in the past treatment of diphtheria; whereas, with the salicylic treatment, I have not known one single case of the pellicle spreading under its use.

I append the form I use:

℞. Acidi salicylici . . . ʒ i vel. ʒ ij.
Syrupi simplicis . . . ʒ iv.
Mucilaginis tragac . . ℥ i.
Tinctura aurantii . . . ʒ iv.
Aquæ. qs. ad . . . ℥ vi.
Fiat Mistura
Capiat . . . . . ʒ iv. 2 dis horis.

Treatment of Pleuritic Effusions.

BY A. M'KAY, M. D., L.R.C.S., AND L.R.C.P., EDIN., INGERSOLL, ONT.

THE treatment of pleuritic effusions, by means of operative procedure, has engaged the attention of the profession to a considerable extent of late, and it is now generally conceded, that when the fluid in the pleural cavity assumes a purulent character, that when the chances of rapid absorption is done away with, and the collection of fluid, by its local as well as constitutional efforts, causes impairment of the vital functions, it is then the duty of the physician to resort to operative measures for relief. I will not take up your time in discussing the advisability of interference in cases of recent effusion, where the evidence is altogether in favor of its being serous in character, for such cases will always have to be decided by

the circumstances of the case, and the urgency of the symptoms. For on the one hand we see cases where absorption takes place rapidly, and again we see almost instant relief from the withdrawal of fluid by mechanical means. It is in reference to the treatment of empyema that I wish principally to engage your attention.

Dr. Aitken, in his "Science and Practice of Medicine," published prior to 1869, remarks that if the fluid, after the first tapping, becomes purulent, an almost certain fatality attends such a change. Dr. Flint, in his "Principles and Practice of Medicine," states that if the pleural cavity be filled with pus, it will not be absorbed, but, if life be sufficiently prolonged, and thoracentesis be not resorted to, it will, sooner or later, make its way either into the air passages or through the thoracic walls. We also find by referring to European journals, that it is not uncommon to have unfavorable results in those cases. In fact one English publication asks whether we may not be compelled to go back to old ideas again (in view of the number of deaths), and consider thoracentesis a very dangerous operation, and only to be performed as a last resource. We find different methods advocated by the profession. In Guy's Hospital Reports for 1877, Dr. Goodhart strongly recommends a free opening at the ninth intercostal space, and the insertion of a drainage tube, in the majority of cases. Also repeated tappings by means of an aspirator, and the attempt to exclude air from the cavity. Others recommend two openings, one high up and the other at the lower margin of the cavity.

The drainage tube, and local antiseptic treatment seem to be gaining ground, and I think we are indebted to a Canadian, Dr. Richardson, of Toronto, for its first introduction into practice in Canada. His case treated in 1869 is, at all events, the first recorded here, and I am glad to say that it proved successful. According to a number of writers on the subject, the great danger to be apprehended is the admission of air into the cavity; but if you will consider for a moment the form of the chest, with a non-yielding external wall, and also the probability of adhesions, surrounding the contracted lung, more especially in cases of long standing, it would not only be unscientific, but positively injurious, to attempt the withdrawal of fluid, and at the same time prevent the entrance of air into the cavity. It is well known that after air is

admitted, that it changes the nature of the pus, and it sometimes very rapidly becomes offensive. This change would be a serious objection, providing it would increase the liability to absorption, but we have every proof to the contrary. The exclusion of air is also recommended on the supposition that it will interfere with the expansion of the lung; but we know that atmospheric pressure is the same, whether internal or external to the walls of the chest, and it could not possibly offer any resistance to the expanding lung, unless the opening could be hermetically sealed, which, under the circumstances, would be a very difficult undertaking. Again, if we attempt the exclusion of air for the purpose of facilitating the lung expansion, its place must either be supplied by fluid, or the expanding lung itself; but the attempt to rapidly expand the lung by means of a vacuum, might endanger the patient's life by forcible laceration of the adhesions or pleura. In cases of this kind the aspirator should never be used, under any circumstances, for the following reasons:—1st, It will not remove all the fluid in cases of long standing; 2d. It will not prevent re-secretion of fluid; 3d. Its employment is attended with danger in recent cases, from the point of the needle coming in contact with the expanding lung; 4th. Where the fluid is purulent the operation must be repeated, causing more inconvenience to the patient, besides the danger of piercing the lung, and in that way complicating the disease; 5th. The main object to be attained by its use, viz: the exclusion of air from the cavity, is not now considered necessary, for it is admitted, on all hands, that the admixture of air with serous fluid, will not lead to its becoming purulent.

Successful Transplantation of a Rabbit's Conjunctiva for the Cure of Symblepharon.

A. W. Calhoun, M. D., Professor of Eye and Ear Diseases in the Atlanta Medical College, reports a successful case, in the *Southern Practitioner*, the operation being performed as follows:

The patient was chloroformed and the lower lid separated from the ball, from the inner to the outer canthus, the incisions extending to the bottom of the lid, or as far down as the point at which the lower conjunctival fold should

naturally be found. At the same time the outer canthus was slit up, so as to make the palpebral fissure of the same length. This left the whole inner side of the lid and the opposing portion of the ball in the condition of two large contiguous wounded surfaces. After the bleeding had altogether ceased, the rabbit's conjunctiva was prepared for transplantation. A large young white rabbit was selected, and the conjunctiva was rapidly but carefully dissected from its upper lid and the upper portion of the sclerotic, and from the two surfaces of the semilunar fold, at the canthus. This gave me a piece somewhat larger than a nickel, though of course of a different shape, which was spread out upon my thumb nail and kept constantly moist with warm water, the epithelial surface being downward or next to the finger. Four sutures were passed through the corners or angles of the conjunctiva, which (with the raw surface inward) was immediately transferred to the wound upon the ball, so that the epithelial surface of the transplanted piece opposed the wounded surface of the lid. The piece was large enough to almost entirely cover the wound upon the ball, and also the bottom of the incision, and to extend slightly up the inner side of the lid. It was made firm in its position by stitching it to the ball in three or four places, and the fold in the bottom of the wound was fastened by passing two sutures entirely through the lid within outward, and tying them on the surface of the skin. Particular care was taken not to put too much tension upon the piece of conjunctiva, and to keep it smooth in its new position. After thorough cleansing a roller bandage was placed over both eyes and the patient left till the following day. Each day the eye was dressed externally, but for fear of breaking up whatever adhesion that might have already formed, no examination was made of the transplanted piece until after the sixth day. The secretions were merely removed from the edges of the lids and the bandage replaced at once, keeping the patient quiet in bed. When on the sixth day the wound was examined, the rabbit's conjunctiva had taken firm hold upon the ball and that part of the lid covered by it, except upon its very edges, which sloughed off and become smooth in a few days. The transplantation could for some time be distinguished from the surrounding parts by its white appearance, but ultimately became of the same color. The lid was thoroughly

separated from the ball, which now moved with perfect freedom in every direction. The lids, at present, admit the comfortable wearing of an artificial eye, which so perfectly conceals all the deformities as almost to appear natural.

It is very essential to the success of this operation that no clots of blood, however small, should remain between the transplanted piece of conjunctiva and the tissue upon which it is placed, and that the surfaces should fit smoothly upon each other, and be held firmly together until union has taken place.

Treatment of Erysipelas.

BY F. E. WOOD, M. D., LITCHFIELD, ILL.

A PAPER published in the December number of the *Recorder*, by S. W. Fowler, M. D., on Salicylic Acid in erysipelas, reminds me of a case I had some years ago. Mr. R., living in Missouri, was attacked very suddenly and severely with erysipelas on the end of his nose. He had been suffering several days with a dull heavy headache; was very constipated.

I at once applied a good coat of iodine, with a camel's hair brush, applying on that another coating of glycerine to exclude the air. With lunar caustic I penciled the limits of the affected parts. Gave a cathartic, and instructed him to repeat the iodine and glycerine once in every two hours. The next morning I found the patient resting comfortably, fever nearly gone, and his pulse was nearly natural. His bowels had been evacuated twice during the night, and his appetite was considerably better. On examination I discovered that his breath was bad, and also that the disease was making rapid progress inwardly. I proceeded at once to cauterize his nose, saturating the sponge; after which, by means of a small syringe, I threw a strong solution of carbolic acid up his nostril. I allowed him to exercise in the house, where he would not be exposed to the air.

On the third day the scarf skin commenced peeling off his nose and face, the painful and burning sensations had all subsided, and in a week I discharged my patient cured.

I do not know that I can name any cause for this com-

plaint, but it appears to be prevalent in the southeastern portion of the State of Missouri, especially so since the war closed; since which time the inhabitants have devoted the principal part of their time to raising cotton. The soil there is sandy, and the surface bears heavy timber, with low wet marshes coursing through at intervals. The sun is terribly hot there during the summer months. The cause of erysipelas has been generally attributed to the men laboring in the hot sun more than they had been in the habit of doing before. As a proof of this, men that staid in the store or shop were not troubled with it; neither did it affect the women, except those of them who labored in the field.

As to the actual cause of erysipelas, it must be, with one exception, created by the way people live. That one exception is erysipelas caused by wounds. With that exception, a very common or poor diet, together with the climate and manner of living generally, I believe, generate the complaint. I believe, too, that erysipelas is caused many times by receiving bruises that do not heal, or get properly well, and in the course of one, two or three months, the inflammation caused by the bruise comes to the surface in the form of erysipelas.—*Ohio Medical Recorder.*

MICROSCOPY.

Microscopy as an Aid to Medical Diagnosis.

By Dr. C. Heintzman, New York.

In order to understand the urinary sediment it was necessary to be familiar with the anatomy of the kidney, and the anatomy of the kidney could not be understood without familiarity with its entire histology. When that was mastered the study of the urine could be commenced.

The anatomy of the kidney was first considered, and a detailed description given of the structure of the cortical and the pyramidal substance.

There were mainly three kinds of inflammatory processes in the kidney, formerly considered under the general term Bright's disease. He thought, however, that such terms as Bright's disease and Pott's disease were general terms, and should not be used by scientific men.

The inflammatory processes in the kidney were mainly of three kinds: 1. Catarrhal; 2. A more severe form, or croupous; and 3. A still more severe variety, suppurative nephritis.

The catarrhal process consisted essentially in a serous exudation, in which there was desquamation of a certain amount of eqithelium that could be seen in the urine. That primary condition could give rise to new connective tissue formed from epithelium, and at last terminate in the small granular kidney. If, therefore, we found in the urine a varying amount of albumen with epithelia of the kidney, recognized by their size, we could determine positively that an inflammatory process of a milder character was going on in the organ; in other words, that the patient was suffering from catarrhal nephritis.

In another series of cases there was present in the urine a varying amount of albumen and tube-casts.

Dr. Heitzman believed that the tube-casts consisted of protein substance, or a modified form of fibrinous or albuminous material. Hence there was no good reason for omitting the term *croupous nephritis*. He then referred to the various theories which had been given regarding the formation of tube-casts: 1. That an exudation took place in the tubules, coagulation occurred, and casts were formed; 2. That the epithelium lining the tubules was transformed into casts; and 3. That the casts were produced by the coagulation of material secreted by the epithelia themselves. The latter was the theory which he adopted.

A brief description of the various kinds of epithelium found in the uriniferous tubules was then given: 1. The epithelium of the convoluted tubules, which he thought were separated by a cement substance; 2. The flat epithelium of the loops of Henle; and 3. The cylindrical epithelium in the straight tubules.

In sections of kidney, which were the seat of croupous nephritis, cast material could be seen in the tubules; and of casts there were five varieties: 1. Hyaline casts; 2. Epithelial casts; 3. Blood casts; 4. Fatty casts; and 5. Waxy casts.

There might be a sixth variety or granular casts.

In ordinary acute croupous nephritis there were found in the urine hyaline and epithelial casts; but if the disease was very severe there might be blood casts.

In the chronic stage of the disease there were found

granular casts; and if fat globule were present it was indicative of fatty degeneration of the kidney. Lastly, if waxy casts were found in the urine it was evidence that we had to deal with a waxy degeneration of the kidney.

Dr. Heitzman believed that whatever casts appeared in the urine, they indicated severe disease of the kidney, namely, croupous nephritis.

A recent German writer had advanced the opinion that mere hyperæmia of the kidney could give rise to casts, but he doubted the correctness of that opinion.

Not only did the casts indicate the stage and the nature of the disease, but they also indicated the portion of the kidney, which was the seat of the disease. In the mildest cases the casts were from the loop tubules and the convoluted tubules of the second order. If the number of casts from the convoluted tubules was considerable, it was known that the cortical substance was chiefly invaded. The mere size of the casts, besides the number and the character of the casts, was indicative of the disease called croupous nephritis. We very often met with casts from the convoluted tubules with a stump-like attachment, which indicated that they had also been formed in part in the straight tubules. That was a form of cast which he had not seen described, and indicated the exact situation of the inflammatory process. Based upon these principles, he had been able to make a diagnosis by examination of the urine alone, and had seen his diagnosis proved true by the subsequent history of the cases. As an illustration, the urine of a boy, six years of age, was brought to him for examination. He had suffered from a very slight attack of diphtheria. Three varieties of casts were found in the urine, and the case was set down as one of severe croupous nephritis. The boy died three days after in a convulsion.

There was possibility of recovery from croupous nephritis under the following circumstances: 1. When it occurred in connection with scarlet fever; and 2. When developed in connection with pregnancy, or, as occasionally happened, after delivery. In the first instance recovery was due mainly to the recuperative power possessed by children, and in the second class of cases it was because only one kidney, as a rule, was affected. Perfect recovery in both instances was possible.

With reference to *pus corpuscles* he was able to tell where they came from only when they were mixed with

epithelia, which indicated the seat of the disease. If pus corpuscles with flat epithelia were found in the urine it was evidence that suppuration existed in the bladder. If the caudate epithelia were present with pus corpuscles it was evidence that the pelvis of the kidney was the seat of the suppurative process. If small epithelial cells were found with the pus corpuscles it was evidence that the inflammatory action was in the kidney itself. It was only in acute cystitis that the flat epithelial cells with pus corpuscles were found. In chronic cystitis the flat epithelia were absent, and black pigment was found in the pus corpuscles. Again, if the pus corpuscles with epithelia from the kidney were found in the urine, it was evidence that a more or less dangerous suppurative process existed in the kidney. If hematoidine crystals were found in the urine it was evidence of a chronic morbid process, and if associated with pus corpuscles, of a chronic suppurative process.

THE DIAGNOSIS OF LUNG DISEASE.

The chief elements met in the sputa were mucous corpuscles and pus corpuscles. The question arose, What was the difference between a mucous corpuscle and a pus corpuscle? The answer was, that the mucous corpuscles were nothing but the protoplasm of the epithelial cells themselves, and were pale and *finely* granular bodies, while the pus corpuscles were *coarsely* granular bodies.

Dr. Heitzman believed that Cohnheim was mistaken when he stated that all pus corpuscles were migrated white blood corpuscles, for the formation of plus corpuscles could be traced to the firmer tissue itself. No one would deny that a certain number of pus corpuscles were migrated white blood corpuscles, but he did not believe that all of them were produced in that manner.

The lungs normally contained a cerain amount of pigment, therefore when pus-cells were found in the sputa contained pigment granules, it was an indication as to where the pus-cells came from. The presence of elastic fibers in the sputa indicated that there was positive destruction of lung tissue. He might not be able to say what had destroyed the lung tissue, but it could be said with great certainty, if with the fibers there were found certain protoplasmic bodies, that the destruction was due to the formation of a cavity.

Reference was then made to cases in which he had been able to make a diagnosis of a serous lung disease by examination of sputa before any evidence of such disease was given by physical signs.

THE DIAGNOSIS OF TUMORS.

There was no doubt the science of microscopy had advanced so far that we were able to tell positively what kind of a tumor we had to deal with. If a few points were kept mind we could easily determine whether we had to deal with a benign or with a malignant growth. The key to diagnosis was chiefly in the basis substance, whether fibrous, myxomatous, cartilaginous, or bony. The more of the basis substance present the more certain was the tumor benign; the less the basis substance the surer was the tumor malignant. Malignant tumors were of two kinds: 1. The kind belonging altogether to the connective tissue series, and termed sarcoma; and 2, the kind belonging to epithelial formations, and termed cancer. Further, if we saw slight basis substance without epithelial elements, and without alveolar arrangement, we could say that it was a sarcoma; while if we saw epithelia arranged in alveoli, without respect to size or shape, we made the diagnosis of cancer. In the latter case, also, a great deal could always be determined by examination of the connective tissue outside of the epithelium. The more abundant the connective tissue about the epithelial nests the less malignant was the cancer, while the more numerous the epithelia were, and the less abundant the connective tissue, the more certain we were that the cancer was a malignant one.

Again, there were present in the connective tissue itself a varying number of peculiar shining globular elements which, by recent examiners, had been considered as the product of a kind of inflammatory reaction from irritation of the epithelium. The more crowded those corpuscles were, the worse the cancerous tumor. If we wished to know whether or not the tumor had been thoroughly extirpated, it should be examined about its boundary. If the connective tissue was found provided with only a small number of inflammatory elements so-called, we might be sure that the cancer would return within a very short period of time.

COLORLESS BLOOD CORPUSCLES AND PROTOPLASM.

Under this head the lecturer referred to the discovery which he made five years ago, regarding the anatomy of protoplasm, and its presentation before the Society three and two years ago. (See *Medical Record*, Vol. XI., p. 322, and Vol. XII., p. 94.) He then claimed that protoplasm of any description invariably contained a network of threads and granules, that held in its meshes a fluid, and that the threads and the granules constituted the living matter. To-day, more than a dozen of the best microscopists abroad had accepted his discovery, although it had not been recognized in this country. That the recticulum was present, no one had a right to doubt; but that the threads and granules were living matter had as yet not been acknowledged. That it was living matter he had to prove, which he felt himself able to do by the recognition of two well-established facts.

The first property attributed to living matter was *motion*; and the second, *capacity for reproduction of its kind.* As evidence that this matter was living, was the motion which could be seen in it, and it was enough to establish its productive power to know that the granules increase in size and number during the inflammatory process. Transferring the idea to the study of the human body, Dr. Heitzman reasoned that these corpuscles should contain more living matter in the healthy and strong individual than in the broken-down and scrofulous person. Acting upon that supposition, he began, three years ago, to study pus-corpuscles in the urine in connection with clinical histories, and reached the conclusion that the constitution of the person from whom they came could be determined in that manner. Having settled the question that pus-corpuscles from a healthy person contained an abundance of living matter, an abundance of granules, while those from a debilitated person contain granules which were very small and a very marked net-work, it occurred to him that perhaps by examination of the colorless blood-corpuscles he would be able to tell directly what the constitution of the individual was from whom the blood was taken. So it was, and he had found that when the colorless blood-corpuscles, examined with moderately high power (800 to 1,000 diameters), were found to contain an abundance of granules, it was evidence of a first-class constitution; on

the other hand, if only fine granules were seen, and the entire body of the corpuscle was pale, it was evidence of a poor constitution. He had very often noticed that the number of white blood-corpuscles was considerably increased after a single sleepless night, so much so, that it might be determined whether a man had been kept from his rest or not, by examination of his blood. It could also be determined whether a man was to have acute diseases, or whether he was to suffer from the slow processes of disease incident to a strumous diathesis.

These facts being determined, they might exert a very great influence upon the entire question of life assurance. Not only that, but they might exert an important influence upon the question of marriage. To know something of the general condition of our patient was very important. If that could be determined by an examination of a drop of his blood, we had learned much with regard to his future welfare, and a new field was opened worthy of the investigation and study of every physician.—*Medical Record*, January, 1879.

Fermentation and its Bearings on the Phenomena of Disease, by John Tyndall, LL. D., F. R. S., Science Monthly, December, 1876.

Some Notes by S. P. Cutler, M. D., Memphis, Tenn.

This profound and exhaustive paper may be justly considered as one of the ablest ever published on that subject. Still there are points in it that do not appear to be fully established or demonstrated, though given as dictum. The author may be right in putting all contagious diseases under the head of fermentations, though as to the *causa equivoca*, he fails to bring forward unconditional proof as to the germs themselves and their origin. The action *of ozone* is not taken into account as a factor in the process discussed, while Leibig and other chemists attribute everything to chemical action or change. Both extremes are unsatisfactory. As to the living organisms, found in ferments, as seen under the miscroscope, being formed from true germs, the proofs have not been fully given, only circumstantially. We discover the yeast plant cell reproducing its kind until the supply material

is used up; when the process ceases, still further changes may take place after this tarula growth ceases to grow.

The writer speaks of true and false germs being seen by the brewer, which spoils his beer. It appears from the writer's idea, based largely on Pasteur's refined experiments, that ferment germs, both true and false, are nearly always present in our atmosphere. Pasteur has found out how to destroy the mischief-working germs. Pasteur defines fermentation as life without air (p. 136). Says Pasteur, "It is not all yeast cells that can live without air and produce fermentation." Same page says, "They must be young cells that have caught their vegetation vigor from contact with free air." Many substances, as grapes and other fruits, contain their own lueon, though not always in the exact quantity to produce best results, the brewer having to supply from his experience. As to fermentation without air, as set forth by Pasteur, I can not so understand the subject, as air, in certain limited quantities, is absolutely essential to all fermentations. It is the proper supply of air from which best results are obtained. Atmospheric conditions and solar influences may have something to do in the process. Extremes of temperature, unfavorable to success, can not depend on the destruction of imaginary germs.

FERMENTATION.

The *pencilium glaucum*, found on old shoes in damp places, as mold, Mr. Tyndall says, comes from germs in the atmosphere, and not from the shoe itself, is not begetting true plants according to this writer. This is admitted, but the seeds of it no one has seen or identified, leaving it an open question at present.

There must be certain favorable conditions as heat and moisture for these moulds to form and grow. Pasteur says, "The fermentation is proven to be the invariable correlative of life, being produced by organisms foreign to the fermentable substances (p. 139). Same page, speaking of ripening of fruits, Birard, the French chemist, says, "All ripening fruits absorb oxygen, and give off equal quantities of carbonic acid gas," and regards it a species of fermentation, which is no doubt correct.

This ripening process is a step downward toward the inorganic, similar to organic decomposition by ordinary fermentation, or oxidation of starch elements. When

the ripening process goes a little farther acetic acid is formed. On page 138, alluding to Mr. Pasteur's experiments with grapes and plums, he says, "Pasteur put twenty-four plums in a jar of carbonic acid, and in eight days they had not changed only in weight, they had lost some of their sugar, but were firm and hard, others uncovered became soft, watery, and very sweet. He says, "It is by virtue of the living cell that change in the jar took place. Again, "Grapes mashed so as to destroy the cell structure, the grapes will undergo no change." How is it then accounted for, that grape juice when pressed out ferments into wine? Pasteur regards the process as a vital one and not chemical. Same page he says, "Expose boiled milk to the air, it will cool and then turn sour, separating, like blood, into clot and serum;" then speaking of the eel like vibrio, he says, "It is these organisms which by decomposing the milk render it sour." In answer to this it is safe to say, that no organisms appear until the souring process has commenced, hence it is the effect not the cause of fermentation. These vibrio may often be seen in other souring substances undergoing fermentation. He says, "Keep the vibrio and germs out of your milk and it will never turn sour," alleging that "Milk may become putrid instead of sour. I had a specimen of a very putrid buttermilk which contained no organism of any kind, the globules of butter being as numerous and as perfect as in perfectly sweet milk. These are the organisms which receive the common name of bacteria, and are the agents of all purtrefaction." In this he certainly is in error. On page 341, he says, "Heat kills the bacteria, and cold numbs them." Stating, "When his housekeeper wishes to keep pheasants from spoiling, she partially cooks them and kills the infant bacteria, thus postpones the evil day." Saying, "boiling her milk brings about the result." Same page he speaks of the benumbing effects of cold on ants when they are placed on snow; he compares the effects of cold on ants to the effect of cold on bacteria, and says, "It is the whole philosophy of the preservation of meat by cold." It is a well known that all organic chemical changes cease at the freezing point, or nearly so. On page 143 he says, "Beer is assailable by all the organisms here referred to, some produce acetic, some butyric acid, while yeast is open to attack from the bacteria of putrefaction. These ferments are of disease, and the brewer has to keep them out or his beer will be

spoiled." Saying, "The brewer must paralyze if he can not annihilate them," and speaks of high and low fermentation. Alluding to an accident that happened to himself (p. 145), While bathing in an Alpine stream he slipped up on a block of granite and imprinting the crystals into his naked shin, he dipped a clean pocket handkerchief into the stream and rapped it around the wound, walked home and remained in bed four or five days. There was no pain, and he thought he could quit his room with impunity. The wound was clean, no pus, no inflammation. He says, "Placing over it a piece of goldbeater's skin, I walked about all day. Toward evening itching and heat were felt, a large accumulation of pus followed, and I was forced to go to bed again. Water dressings and arnica liniment were applied, which latter made matters worse. An abscess of the instep, five inches from the wound followed, which communicated with the original wound. Bacteria caused the whole trouble after taking off the bandage. They were the subtle workers that harrowed down my shin, dug the abscess in my instep, and produced effects that might well have proved fatal to me. Had the pus from my abscess been examined, it would have been found swimming with bacteria."

From hundreds of observations of pus, I have never seen a bacterium of any kind from fresh pus, from a sore, or ulcer, not until the pus has been some time exposed to the air.

Speaking of Prof. Lister's antiseptic system of surgery, he thinks it consists wholly in preventing bacteria from wounds. We might suggest oxygen instead. Mr. Tyndall thinks that when he removed the handkerchief from his leg he let in the bacteria which caused the after trouble.

Poultices, plasters, water dressings, oil dressings relieve pain, and cause rapid healing of sores and wounds by exclusion of air, not bacteria, as countless myriads of them could exist under these dressings, neither would these dressings themselves kill the bacteria, if any existed there. A cabbage leaf to a blister, or a poultice, relieves the pain and soreness at once by exclusion of external oxygen, thereby lessening oxidation and heat which causes pain. Under a poultice would be the most favorable nidus for hatching and breeding bacteria, if they are likely to exist there. It is rare to find any kind of organisms in any sore or wound, recent or chronic. A strip

of adhesive plaster often suddenly relieves a fresh cut by excluding the air, not by excluding bacteria, as they certainly could not have had time to hatch and multiply.

From the domain of surgery the writer passes to the domain of contagious diseases and epidemics. Speaking of the leaven of ferments and diseases, he says, "Each reproduces its kind. The virus of small-pox, the smallest particle, will leaven the whole body, and from this a whole community, by rapid multiplication." On page 148, speaking of Pasteur's experiments, he says, "In Pasteur s researches, the Bacterium remains Bacterium, the Vibrio a Vibrio, the Pencilium remains a Pencilium, and the Tarula a Tarula." "In like manner sow small-pox in the human body your crop is small-pox, sow scarlatina and your crop is scarlatina."

There can be no doubt as to the correctness of the above statements, that the poison of contagious diseases acts as a true ferment. Pus of small-pox, inoculated into a well person, produces small-pox; breathing the effluvia of small-pox into the lungs produces small pox in a well individual. This can not apply to all other contagious diseases: some of them are not inoculable, as yellow fever, cholera, scarlatina, measles are instances. Pus of vaccine can not differ essentially from that of small-pox; any amount of microscopic research fails to show anything like an organism at all. These ferments or leaven of contagious diseases contain some active principle produced by the disease acting on the fluids of the human body, generating a specific germinal matter, that reproduces its kind in the healthy individual. The great question is, how do these affectious originate de novo, at the starting point of an epidemic.

On pages 149 and 150 are details of an epidemic and contagious splenic fever of cattle in Russia. Observations made by N. M. Davaine, 1850, Rayer, Pollander, Branell, Dr. Berdare, Sanderson, Hoch, Cohn. Pasteur says, "In the single district of Novogorod, in Russia, between 1869 and 1870, fifty-six thousand cases of death by splenic fever among horses, sheep, and cows are recorded; besides the animals, five hundred and twenty-eight human beings perished from it." Guinea pigs, rabbits and mice were inoculated with the blood of animals dying of this disease, and invariably took the disease and died of the same; the experiments were mostly confined to mice. The blood

retains its active properties. For four weeks Dr. Sanderson kept blood dried which retained its active properties four years. Mice inoculated with this invariably died. This is a subject of great interest to investigate. This blood contained red like oganisms, which were regarded by these experimenters as the true cause of the disease; these organisms are called *bacillus anthracis*.

Now, if these organisms were the cause of the epidemic, they must escape from the blood of sick animals, float in the air, pass into the blood, there poison the blood of a well animal and develop the disease by multiplication. This view of the case is hardly tenable, but we can have no other if their conclusions are correct. On the other hand, if these organisms may be regarded as an effect of some ferment, then the cause still remains in doubt. Whether these organisms really form and exist in the blood while circulating in the body or not, does not appear from the experiments made. If they form in the circulating blood, the stage of the disease is not known when they are most numerous and effective. The most important question is the length of time the blood retains its specific properties, capable of reproducing its kind.

This may be a most important subject in relation to epidemic diseases, as yellow fever, plague, cholera, and other contagious diseases. We do not know whether or not, if persons or animals were inoculated with blood of these diseases, they would become affected, as in the experiments given.

The duration of the active properties of our recent epidemic has not been fully determined. Cases have occured by sleeping in beds or going into houses two months after the patients had died in them, perhaps longer in some instances.

Bausch & Lomb Optical Co.—We learn by circular that this company hereafter will receive orders directly at their office at Rochester, N. Y., instead of as heretofore at New York City, and will ship from the same point.

The attention of our miscroscopical readers is directed to the paper of Mr. John Mayll, Jr., of England, forming the first article of the Medical News.

GLEANINGS.

THE EFFECTS OF TOBACCO.—Dr. C. R. Drysdale writes to the *Medical Press and Circular:* My own experience of the evil effects of great tobacco smoking and chewing, is that these are among the most prevalent causes of chronic disease in the male sex. Of course, I do not mean for one moment to compare the dangers caused by the use of tobacco with those we are so familiar with at the bedside, in cases of diseases caused by alcohol. Tobacco does not cause cirrhosis of the liver, nor disease of the lungs and heart, in the same way, or with the same frequency as chronic tippling does. But there are, nevertheless, several well-marked diseases caused by the taking in of nicotine into the blood, whether through the absorbents of the mouth in smoking, or, more rapidly, in the case of chewing. First of all, the digestive organs are often greatly impaired by the use of nicotianæ tabacum. The teeth are frequently blackened, and the gums swollen in great smokers and chewers. Caries of the teeth is favored by the various acids produced by the burning of tobacco, and mingled with the saliva. Duskiness of the fauces, and relaxed sore throat are far too prevalent among smokers, as good observers have long noticed. Dyspepsia, caused by nicotine, is so common as to be hardly worth referring to. Diarrhœa, or more frequently, constipation, is induced by the use of tobacco in many instances. And I must not omit, in passing, the remark that the *male sex* who smoke are alone, with the very rarest exceptions, the subjects of epithelioma of the lip. I once saw such a case in an old Irish woman, who was a constant pipe smoker.

With regard to the nervous system, the weakness of vision produced by nicotine is a constant trouble to youthful smokers. Mr. George Critchett has remarked that among wealthy young men weak sight is very frequently indeed caused by their extravagant addiction to cigars and pipes. Tobacco amaurosis, too, is far from rare. In very young men, the use of nicotine is peculiarly inimical to intellectual improvement. Thus, M. Joly found that in the Polytechnic School at Paris the non-smoking students carried off the very great majority of the prizes for mathematics; and Dr. Kostral, physician to the State factory of tobacco, of Austria, shows how nicotine poison-

ing often kills the young boys of the factory, and causes abortions in the young mothers, and death of infants at the breast, through the nicotine contained in their mother's milk.

THE EUCALYPTUS.—The profession and the public are rapidly coming to acknowledge the fact that malaria is the most abundant source of diseases, and to recognize in the fabled hydra of the ancients the typification of this manifold and protean poison.

In the antiperiodics and tonics we possess remedies which enable us to arrest or to bring to a successful termination most of the malarial affections; but what the whole world needs, and what is certainly needed in this country, is some preventive of this miasm or some means for its destruction. The eucalyptus is said to possess this benign power. The Church of St. Paul's, in the suburbs of Rome, has every summer until of late been closed by order of His Holiness, because of the fatal virulence of the malaria thereabout. Groves of eucalyptus trees have now made it a healthful spot. Such is the statement current in medical and other journals at present.

In Algeria, in Corsica, in Italy, and in Cyprus millions of these trees are being planted as a protection to health, the various governments having taken the matter in hand. There are some two hundred species of eucalyptus, if our memory serves us; and according to Prince Troubetkoy, a Roman gentleman who has investigated the subject thoroughly, the eucalyptus amygdalina is the best variety of the tree. Troubetkoy states that this species contains far more essential oil in its leaves than the eucalyptus globulus. It grows equally well in damp and dry and exposed soil, and bears cold well. It successfully endures 21° Fahr. The eucalyptus could not stand the Kentucky winters, but in the Southern States it would probably do well, and in California it succeeds perfectly. The eucalyptus tree is of marvelously rapid growth, its wood is valuable for many purposes, and its leaves in a room are said to drive the mosquitoes out. The plants that we have seen emit a strong but not unpleasant camphorous odor.

The Southern State governments should investigate this subject, for malaria is the South's greatest enemy.—*Louisville Medical News.*

ANTAGONISM OF OPIUM AND BELLADONNA. (*Am. Practitioner*, Feb. 1879.)—Dr. W. B. Davis gives a carefully prepared paper on this subject, from which we extract the following:

Points of Antagonism:—1. Opium contracts, belladonna dilates the pupils. 2. Opium constipates, belladonna relaxes the bowels. 3. Opium * retards the circulation and respiration; belladonna, *in moderate doses*, accelerates them. 4. Opium dilates the veins and arterioles; belladonna, *in moderate doses*, contracts them. 5. Opium induces profound sleep and coma, with low-blood pressure; belladonna produces wakefulness and a talkative delirium, with high-blood pressure, followed by convulsions and stupor.

Points of Agreement:—1. Both drugs produce dryness of the mouth and throat. 2. Both drugs, *in large doses*, retard the circulation and respiration, and dilate the arterioles. 3. Both drugs destroy life in the same way, namely, by a direct depressing action upon the respiratory centers and upon the heart.

If the above summary is a correct presentation of the physiological action of these drugs, we can see wherein and how far their use as counter-poisons may be beneficial or injurious. Death occurs, in opium poisoning, from failure of the respiration; with a failing respiration, we have a languid circulation, a congestion of the veins and arterioles, and the blood saturated with carbonic acid. Belladonna, *in moderate doses*, will stimulate the respiration and circulation, and induce contraction of the veins and arterioles. *This is the limit of its usefulness in opium poisoning.* It simply keeps the vital machinery in motion—unless too large a quantity has been ingested—whilst nature eliminates the poison. The smallest amount which will increase the respiratory forces and stimulate the failing heart should be used. Pushed too far, or given in too large an amount, it paralyzes the nerve trunk and increases the danger.

It is needless to remark that Prof. Davis thinks the heroic doses of atropia, recommended by J. Milner Fothergill, to be extremely dangerous, and that the American authors and Harley are to be followed.

*Kœnig, in Schmidt's Jahrbuch, says: "Because a *small dose* of the one may be counteracted by the other, it is not proven that the effects of a fatal dose will also be rendered harmless."

Causation of Septicæmia.—M. Colin, of Paris, read before the Academy of Medicine of that city a paper on the above subject, of which the following is a resume (given by the London *Medical Record*): "Putrid material, according to its quantity and degree of alterations, exerts a variable action on the animal organism. In a large dose it determines a rapid and invariably fatal poisoning, which causes no marked alteration in the blood beyond a tendency to incoagulability, and is not associated with the reproduction of proto-organisms. In cases of this kind the injected fluid fails to communicate any kind of virulent property either to the blood or to any other juice of the economy. In reduced quantity the animal fluid gives rise to an adynamic febrile condition, which varies in intensity according to the nature of the animal. If this condition proves fatal, it is so through the production of visceral lesions, and through changes in the blood. Reproduction of proto-organisms takes place, at least in those parts where the putrid agent has been deposited, and frequently throughout the whole mass of the blood. Certain putrid fluids that have not undergone much alteration, such as blood mixed with products of intestinal transudation, decomposing blood of an animal affected with charbon, peritoneal serosity removed some time after death, may alone, when injected in extremely minute quantities, determine septicæmia transmissible by inoculation, after the manner of the majority of virulent affections. Here there is always virulence of the fluid and reproduction of the proto-organisms introduced from without.

The Diagnosis of Early Hip Diseases.—Quoting a thesis of Dr. Ollivier, a writer in the Boston *Medical and Surgical Journal* says:

Mistakes in the diagnosis of hip disease are, unfortunately, not uncommon. The results of such mistakes are deplorable.

It has been said that every case of hip disease passes through a stage when it is called "rheumatism.' It is precisely at this stage that a diagnosis should be made.

Cases are not unfrequently seen where a diagnosis of "incipient" hip disease is made, although the disease has progressed so far that suppuration of the joint is imminent; it being apparently the opinion of some that hip disease is not present until grating can be felt on manipulating the

joint under the anæsthetic, or, in other words, until the disease has progressed to a dangerous extent.

The liability to error will be less if the following facts be kept in mind:

1. Serious disease at the hip joint may exist when no pain is complained of, and when no tenderness can be discovered.

2. Hip disease may be present, although the motion at the hip joint is quite free.

3. If the motion at one hip-joint is more limited than at the other, hip disease must always be suspected, and the symptom regarded as highly characteristic of hip disease.

4. At the earliest stage the limitation of motion most readily recognized is in the direction of extension.

Vibrios and Carbolic Acid.—At the meeting of the Societe de Chirurgie of Paris, on 12th February, M. Maurice Perrin read a very important memoir upon the subject of the Listerian treatment of wounds, and contended that a great wrong was done to antiseptic surgery by making it synonymous with Listerism. He questioned if Lister's was the best form of antiseptic dressing, and if the precautions which the surgeon took were not illusory. M. Perrin undertook a number of ingenious experiments to determine if the object of the carbolic acid pulverizations was attained: He placed certain fermentescible substances in vases: blood, milk, urine and a decoction of barley. These substances were placed beneath bell-jars containing different atmospheres. The air of some was taken from a hospital ward; that of others from out of doors. In a third category, lastly, pulverized carbolic acid was introduced by means of Championniere's apparatus. Well then, some days afterward these fermentescible substances were submitted to the microscope; they all contained nomads, vibrios, and bacteria dead or living, those whose air had been scrupulously carbolized equally with those which had been in contact with the nosocomial atmosphere. The carbolic spray is therefore insufficient; it is incapable of "killing on the wing" those germs whose ulterior development gives rise to the decomposition of liquids.

Elephantiasis. (Philadelphia *Medical Times*, March 1, 1879.)—Dr. C. A. Siegfried, U. S. N., writes from Yokohama, Japan, of some investigations made by Dr. Patrick

Mansen, of Amoy, China. The latter believes that elephantiasis is caused by the presence of the nematode hæmatozoa, filiariæ sanguinis hominis, first described by Dr. Joseph Leidy, of Philadelphia. Dr. Mansen states his theory about as follows:

In elephantiasis, parent filiariæ have developed in the lymphatics; by their presence, or by the irritation their embryos excite, lymphatic vessels may or may not inflame. If they do not inflame, the embryos pass freely along the lymph-vessels to the blood, and there is no elephantiasis; if they do inflame, the channels in the lymph-glands are obstructed, either by inflammatory effusions, etc., or by the embryos themselves. Lymph-dropsy happens on distal side in consequence; if obstruction is complete, so that no lymph circulates, this fluid is organized into solid-tissue elephantiasis; if there is no obstruction, but still partial circulation, there is lymph-scrotum.

He almost always finds filiariæ embryos in *chyluria*, and that chyluria and lymph disease are associated in a large majority of cases. Hence he infers that all these affections are interdependent.

Castor Oil Production in Illinois.—St. Clair County, in Illinois, is said to yield alone 300,000 gallons, and the oil derived from this region is quite equal to that produced in the Levant, in Spain, Provence, Brazil, or the West Indies. The ground is prepared as for other crops, and the beans are planted in the same manner that corn is, with the exception that only one bean is put into each hill, and at every fourth row a space is left for a wagon to pass in gathering the crop. About twenty bushels to the acre is considered a fair yield, and the harvest begins in September. Commonly used for medicine, it will answer for lamps and machinery, and is often so employed. The streets of Lima are, or were very lately, lighted with castor oil, which also lubricates most of the mills on the sugar plantations of Peru. The raising of the bean and manufacture of the oil is a growing industry, and several firms in St. Louis have made themselves rich by it.

Belleville, Ill., capital of St. Clair County, is a center of the bean product, and being but fourteen miles from St. Louis, the raw material is easily transported to that city, whence it is shipped to various places, most of the oil being consumed in the United States.—*New Remedies.*

On Opening the Abdomen to Relieve Intestinal Obstruction.—In a discussion on this subject, Mr. Teale, an eminent London surgeon, said:

I must confess to having myself a strong bearing toward the operation, on the grounds both of theory and experience. I have six times opened the abdomen in apparently hopeless cases of obstruction of the bowels, and I do not consider that in any one of them the chance of recovery was taken away by the operation. The operation is justified on two cardinal grounds:

1. That the simple opening of the peritoneal cavity, in order to search for the cause of obstruction, is not of itself a dangerous operation.

2. That there are many cases of obstruction of the bowels which must prove fatal, unless relief can be given, which can only be rightly directed by means of exploration of the abdominal cavity.

As to the harmlessness of opening the peritoneal cavity, I need hardly remind you how constantly this is done in operations for hernia.—*Medical and Surgical Reporter.*

Bromide of Potassium in Chronic Chills.—Dr. L. T. S., of South Carolina, writes as follows to the *Southern Medical Record:*

Mrs. P., aged sixty-five, has had third-day chills for three years. The morning after the chill I commenced giving bromide, fifteen grains, three times a day. She has had no more chills for the last three years.

A child of Mrs. N., five years old, has had third-day chills for three years. I gave bromide, in five-grain doses, three times a day. It has had no more chills.

The bromide is kept up for several months, three times a day for eight or ten days, and then left off for as many days.

I have been using the bromide as above for the last six or seven years, with uniform success, as a preventive. R. L. S. had chills every summer for several years. I gave the bromide, commencing in the spring. Gave it all summer and fall, at intervals, as above. He has had no chills since, it being now five or six years. I have seen no unpleasant effect from the use of bromide of potassium.

How to Make a Poultice.—Dr. Brunton, in *Brain:* The common practice in making poultices of mixing the

linseed meal with hot water, and applying it directly to the skin, is quite wrong; because, if we do not wish to burn the patient, we must wait until a great portion of the heat has been lost. The proper method is to take a flannel bag the size of the poultice required, to fill this with the linseed poultice as hot as it can possibly be made, and to put between this and the skin a second piece of flannel, so that there shall be at least two thicknesses of flannel between the skin and the poultice itself. Above the poultice should be placed more flannel, or a piece of cotton wool, to prevent it from getting cold. By this method we are able to apply the linseed meal boiling hot, without burning the patient, and the heat, gradually diffusing through the flannel, affords a grateful sense of relief which can not be obtained by other means. There are few ways in which such marked relief is given to abdominal pain as by the application of a poultice in this manner.—*Ibid.*

Advantages of a Single Puncture of Each Arm in the Vaccination of Very Small Children.—Dr. Hughes (*Gazette Obstetricale*, from *Nice Medicale*) says: 1. Contrary to the general opinion, it must not be believed that, variola being rare in the first two or three months of life, it is not necessary to vaccinate at this age. He has observed several cases of small-pox in children less than three months old which he had refused to vaccinate. He therefore vaccinates any child now at the slightest wish of the parents. But, having formerly made three punctures in each arm, and seen several accidents due to extent or intensity of inflammation, he was led to inquire if a single puncture would not be sufficient. 2. It is entirely sufficient to make but a single puncture in each arm in very young children. In eleven children revaccinated at later periods, and even with three punctures, not one was susceptible to the influence of the virus.—*Obstetric Gazette.*

Silphium Cyrenaicum.—The *Allgem. Wiener Med. Zeitung*, No. 53, 1878, contains an article on a drug which seems to have been known many centuries ago, but which has only been analyzed and officially acknowledged in our times. It is the silphium Cyrenaicum, prepared by Messrs. Derode and Deffes, chemists in Paris, which is said to be very efficient in phthisis, catarrh of the lungs, cough, etc.

It does not suddenly put a stop to these affections; but it diminishes the irritation in the throat which causes the cough; it reduces the action of the heart and lowers the temperature, thereby enabling both the patient and the physician to dispense with narcotics, which after a certain time lose their power, or, what is still worse, cause permanent injury to the nervous system and the brain. It is given in different forms, as pills, tincture, syrup, and glycerine.

FORMULA FOR SALICYLIC ACID.

℞. Acid Salicylici, . . ʒi.
Spts. Aetheris Nitrici, . . ʒvj.
Sodæ Bicarbonatis, . . gr. lxx.
Spririt Lavandulæ Co., . ʒii.
Aquæ, ... ʒii.
Syrupi Aurantii Corticis ad., ʒvj. M.

Sig. A teaspoonful every three or four hours. In preparing, mix the acid and the spirits of ether in a bottle, and then add the soda, and afterward the water, gradually, till effervescence ceases; and then the lavender and syrup.

THE PROLONGED DAILY USE OF SALICYLIC ACID.—In one of the German pharmaceutical journals Professor Kolbe, of Leipzig, relates his own experience of the moderate use of salicylic acid for a long time. He was dyspeptic, and often troubled with hepatic eruptions in and about the mouth, and as a remedy he tried salicylic acid, not in the form of a dose, but taking it in his water, wine and beer, greatly diluted, but reaching daily an average of fifteen grains. He reports, after nine months, that his health is excellent, his dyspeptic troubles vanished, and no ill effects whatever noticeable. Careful examinations of the urine showed no trace of albumen, alleged by some to follow prolonged use of the acid.

ANTISPASMODIC POTION.—(HERMAUT.)

Essence of Peppermint, 15 minimes.
Alcohol (at 80°), . . ʒjss.
Wine of Opium, . . ʒijss.
Sulphuric Ether, . . ʒvijss.
Mix.

Ten drops added to a tablespoonful of sweetened water will give extemporaneously a ʒss. antispasmodic draught, so that, in the country, the physician can always have at

hand an antispasmodic ready prepared, and condensed into a small compass.—*L'Union.*

Epilepsy.—Dr. Mordough, of Flatbush, highly recommends the hypodermic use of veratrum viride in recurring epileptic attacks; that is, in a series of attacks with an interval of only a few moments. His formula is: Morph. sulph., gr. ijss; tinct. verat. virid., aquæ, aaʒss. M. S. Use twenty minims of this solution, representing ten minims of the U. S. P. tinct., and about a tenth of a grain of morphia.—*Phila. Drug. and Chem.*

For Eczema Squamosum.—Dr. Bulkley uses phosphoric acid externally and internally.

℞. Acid phosphor dil, glycerine, syrup, equal parts, to be applied three times a day, and twenty drops to be taken internally three times a day.

Book Notices.

The National Dispensatory: Containing the Natural History, Chemistry, Pharmacy, Actions and the Uses of Medicines, including those recognized in the Pharmacopœias of the United States and Great Britain. By Alfred Stille, M. D., LL. D., Professor in the University of Pennsylvania, etc., and John M. Maisch, Ph. D., Professor in the Philadelphia College of Pharmacy. 8vo. Pp. 1,628. 1879. Philadelphia: Henry C. Lea: Cincinnati: R. Clarke & Co. Price, $7.50, in leather. Cloth, $6.75.

This is a most magnificent work, with its over sixteen hundred closely printed pages and two hundred illustrations. As the Dispensatory of Wood and Bache has been the Dispensatory for many years in the past in this country, so undoubtedly this one of Stille and Maisch will be *the* Dispensatory for many years to come, unless something should happen its distinguished authors.

As should be in a Dispensatory, the alphabetical order of arrangement has been adopted throughout. In this, the non-officinal medicines have been included with the officinal—differing in this respect with the Dispensatory of W. and B., in which such medicines were placed by themselves in an index. They are, however, distinguished

by an affix, showing the Pharmacopœia to which they have been admitted. The title of each article is followed by a full synonym, English, French, and German, together with Latin appellatives and popular names.

In the treatment of separate articles, detailed botanical descriptions, very properly, have generally been admitted, taking up as they do valuable space that is better appropriated to more important subjects, but plants yielding drugs have been briefly characterized as to their general aspect and habitat. The treatment which drugs undergo before they reach the hands of the pharmacist, being of importance, receives attention; for the physical appearance and chemical composition are sometimes influenced thereby. Especial care has been bestowed upon both the external and the structural characteristics of drugs, so that they may be readily identified and distinguished from those which resemble them, and, in aid of this object, a limited number of illustrations has been introduced representing their outward forms as well as their histological appearances revealed by the microscope.

But it would require several pages of the MEDICAL NEWS for us to give even briefly a description of the work. Two more competent gentlemen could not have been selected in the United States to produce a Dispensatory to succeed the eminent work of Wood and Bache, which has for so many years been *the* Dispensatory of this country, than Professors Stille and Maisch. Professor S.'s work on Materia Medica and Therapeutics has ever since its publication been a standard work on those subjects, and this fact alone is certainly a guarantee of his qualifications for the important work of producing a Dispensatory, and as regards Professor Maisch, his high standing as a chemist and pharmacist is well known.

We would probably make an important omission in our brief notice of the work, if we failed to draw attention to a feature quite novel in a Dispensatory, namely, the possession of a Therapeutical Index. By reference to it, the physician can see at a glance the remedies usually employed in the treatment of any disease. Care has been taken to make it as complete as possible. Such an index thus becomes, to some extent, a therapeutical classification of medicines, and it is believed must greatly enhance, by its suggestiveness, the working value of the book to the practitioner.

The "Index of Materia Medica" covers fifty-five triple-columned pages, and contains about 10,400 references. The "Therapeutical Index" occupies thirty-three double-columned pages, and contains about 3,750 references.

THE DISEASES OF LIVE STOCK AND THEIR MOST EFFICIENT REMEDIES: Including Horses, Cattle, Sheep and Swine. Being a popular treatise, giving in brief and plain language a description of all the usual diseases to which these animals are liable, and the most successful treatment of American, English and European veterinarians. By Lloyd V. Teilar, M. D. 8vo. Pp. 469. Price, $2.50.

The work before us is not exactly of the character of medical works we are in the habit of noticing, yet treating of diseases, though it be of the lower animals, it nevertheless comes within our purview. Brutes have diseases peculiar to themselves, and in their materia medica and therapeutics, etc., there is considerable modification, yet there is much in common between them and the human race. So much so, that the physician as well as the veterinarian feels an interest in their diseases.

The author of the present treatise is not himself a veterinary surgeon, but practicing medicine in a rural locality, and often consulted about the diseases of domestic animals, and having bought and read the best books on the subject, and having closely observed, he claims some special qualifications. Though prepared for the use of the farmer and stock-owner, he has made the work as free as possible from technicalities, but has endeavored to render it scientifically exact and a true exponent of the latest and most accurate research.

The vast majority of so-called veterinary surgeons throughout the country are very ignorant men, and many of them do not know much more about the diseases which they are called upon to treat than their patients, the horses, themselves. We have no doubt if many physicians practicing in the country would add this work to their library, (it is cheap), and study it, they would be able to increase their usefulness and at the same time make it profitable. Some men will pay a fee more readily to have their horses cured than they would to have their wives, mothers-in-laws, or children cured.

The work strikes us as well written. Published by D.G.Brinton, of the *Med. and Surg. Reporter*, Philadelphia.

CLYNICAL LECTURES ON DISEASES PECULIAR TO WOMEN. By Lombe Atthill, M. D., University, Dublin, Master of the Rotunda Hospital, Dublin, etc., etc. Fifth Edition. Revised and Enlarged. With Illustrations. 12mo. Pp. 342. 1879. Philadelphia: Lindsay & Blakiston. Cincinnati: Peter G. Thomson.

This little work has met with very considerable success with the profession. Although small, it still affords to students and practitioners information on all "the Diseases Peculiar to Women." It does not pretend to be a complete treatise on gynæcology; for a lecturer, in giving a course of medical lectures, could scarcely be expected to go over every subject in that department of medicine and treat it at length; and this work embodies the author's lectures in their unaltered form.

We probably can not do better than to copy what the Dublin *Journal of Medicine* says in regard to the work: "We have no hesitation in reiterating our opinion that we have in these lectures a concise and valuable compendium of the present state of our knowledge of the more important and common diseases of women; and that in them the student will find a most excellent guide to the clinical study of these diseases, and the practitioner trustworthy directions for their treatment on sound and scientific principles."

As a college text-book and ready reference work for practitioners it has no superior.

A MANUAL FOR THE PRACTICE OF SURGERY. By Thos. Bryant, F. R. C. S., Surgeon to Guy's Hospital. With 672 Illustrations. Second American from the Third Revised and Enlarged English Edition. Philadelphia: Henry C. Lea. Cincinnati: R. Clarke & Co. 8vo. Pp. 945. 1879.

Another edition of this manual having been called for, the author has availed himself of the opportunity to make no few alterations in the substance as well as in the arrangement of the work, and, with a view to its improvement, has recast the materials and revised the whole. He has, also, to make the work more complete, added much new matter, including chapters on diseases and injuries of the eye and ear, some remarks on dental surgery, on the diagnosis of ovarian tumors, and on deformities, together with at least one hundred wood-cuts. The

consequence of its having passed through three editions in Great Britain since its first publication in 1872, and two editions in this country, he feels it has filled a want; and we ourselves are of the opinion that there is no better work on surgery extant.

A Treatise on the Diseases of Infancy and Childhood. By J. Lewis Smith, M. D., Clinical Professor of Diseases of Children in Bellevue Hospital Medical College, etc., etc. Fourth Edition. Thoroughly revised. With Illustrations. 8vo. Pp. 758. 1879. Philadelphia: Henry C. Lea. Cincinnati: R. Clarke & Co. Price, $5.50.

It is scarcely necessary for us to say the work before us is a standard work upon diseases of children, and that no work has a higher standing than it upon those affections. It has now reached its fourth edition, which certainly speaks most highly for its popularity in these days of book-making.

During these late years, as the author states, the changes which have been made in the therapeutics of children's diseases are numerous. Depressing medicines have, for the most part, been laid aside, and those substituted which fulfill the indications, while they sustain or do not reduce the strength. New and valuable medicines have been added to our pharmacopœia, as the bromides and hydrate of chloral. Certain old remedies, as quinine and digitalis, are employed for new purposes, superseding other objectionable remedies. Moreover, the need is felt more than ever of making prescriptions more agreeable to little patients. Aiding in this object of rendering medicines palatable for children, pharmaceutical chemistry has furnished many preparations, which are more readily administered than the cruder and more bulky substances formerly employed. In view of these changes in the materia medica, the author has found it necessary to rewrite a large proportion of the prescriptions contained in the text, nearly all of which have been sufficiently tested either in his own private practice, or in the institutions with which he has a connection.

In consequence of its thorough revision, the work has been made of more value than ever, and may be regarded as fully abreast of the times. We cordially commend it to students and physicians. There is no better work in the language on diseases of children.

NAVAL HYGIENE: Human Health and the Means of Preventing Disease. With Illustrative Incidents, Principally Derived from Naval Experience. By John Wilson, M. D., Medical Director U. S. Navy. Second Edition. With Colored Lithographs, etc. 8vo. Pp. 274. 1879. Philadelphia: Lindsay & Blakiston. Cincinnati: R. Clarke & Co.

The present work has been prepared for the benefit of naval physicians, naval officers, as captains of ships, who go on long voyages, and others who are so situated that their conduct may have great influence in the preservation of human health.

Although from its title few would be disposed to regard the work as only suitable to those "who go down on ships on deep waters," yet, upon glancing over it, it will be found to be quite a complete treatise upon hygiene—discussing the various laws of health, treating of cleanliness, ventilation, preservation of food, clothing, epidemics, alcoholic and vinous drinks, purifying and preserving water, quarantine, etc., etc., besides giving much interesting information in regard to zoology and botany. In fact, that there is but very little in the work that is not as interesting to the landsman as to the seaman.

We commend the reading of the work to our friends.

EDITORIAL.

HIGHER MEDICAL EDUCATION.—The St. Louis *Clinical Record*, Dr. Wm. B. Hazard, editor, gives notice that the *Record* will advertise no medical college except those requiring a strict *preliminary examination* of matriculants and attendance upon *three full annual* courses of lectures, of not less than four months each.

PROF. R. C. S. REED, M. D.—This gentleman has resigned his position as Professor of Materia Medica and Therapeutics in the *Cincinnati College of Medicine and Surgery*, in consequence of his belief in the incompetence of the present Board of Trustees to bring about such reforms as are necessary for the college to maintain a respectable standard among the other medical colleges.

THE man who gives as his excuse for not subscribing to a new journal, or for dropping one or more that he is already taking, "I haven't time to read so many," is, in nine cases out of ten, a poor tool. The busiest, most successful men in the practice of medicine are those who read most and write most; it is only the dawdler and the drone who "can't find time to read."—*Maryland Medical Journal.*

AS before stated, medical colleges in America, are, broadly speaking, simply business ventures. This is amply demonstrable by a glance at the men who compose the so-called professional staff of almost any one of them. In more than one of these "fountains of knowledge" may be found men incapable of writing the report of an ordinary case in practice, men whose ordinary conversation and lectures(?) are full of grammatical errors, of puerilities and of the gravest scientific errors. These "blind leaders of the blind" can not but lead into error. The quality of the young graduates is as good as could be expected from such teachers.—*St. Louis Clinical Record.*

OHIO STATE MEDICAL SOCIETY.

Office of J. F. BALDWIN, M. D., Sec'y., 113 East Long St.,

COLUMBUS, O., *March* 17, 1879.

Editor of *Cincinnati Medical News*:

Dear Sir:

The thirty-fourth annual meeting of the Ohio State Medical Society takes place in Dayton, commencing June 3d., at two o'clockP ·M.

Dayton is a beautiful city, has ample hotel accommodations and railroad facilities, and is reasonably central in location. These considerations, added to the usually interesting character of our meetings, ought to call out a large attendance, and doubtless will do so.

Persons intending to present volunteer papers, will please forward the titles *at once*, that they may be inserted in the forth-coming circular.

Very respectfully,

J. F. BALDWIN, Sec'y.

PHYSICIAN'S LIBRARY FOR SALE.—The widow of a physician is very desirous of disposing of a number that she

has remaining of his medical works. She will dispose of them at a very low rate. In fact, will accept almost anything offered. Among them are the complete works of the distinguished John Hunter, 5 volumes. Then, there are Dunglison's Medical Dictionary, 1848; Colles' Lectures on Surgery, 1845; Audral Medical Clinic, 3 volumes; Coxe's Epitome of Hippocrates and Galen; Fordyce on Fevers, 1846; Ramsbotham's Obstetrics, 1851; Carpenter's Physiology, 1853; Colembat D'Isere on Females, 1850; Practical Pharmacy, 1849; Meigs on Women, 1854; Churchill on Puerperal Fever, 1850; Watson's Practice, 1854; Walton's Ophthalmic Surgery, 1853; Kane's Chemistry, 1845; Royle's Materia Medica, 1847; Eberle and Mitchell on Children, 1850; Pilcher on the Ear, 1843; Bichat's Works; Williams and Clymer on the Respiratory Organs, 1845; Headland on Action of Medicines, 1863; Conolly on Insanity; Surgeons and Hospitals of Paris.

Information can be had by addressing the MEDICAL NEWS.

AN ODIOUS LAW REPEALED.—An ordinance was passed by the City Council of St. Louis, in 1876, taxing practicing physicians and dentists $25 a year. In May, 1877, the physicians collected money to test the constitutionality of the law. A Dr. Wm. Johnston allowed himself to be prosecuted. Judgment was rendered *pro forma* against him in the first court; appealed to the second court, judgment was rendered in his favor, and the case rested. About the same time the lawyers went through a similar experience, the Court of Appeals deciding in their favor. The Supreme Court, however, reversed the decision. The collector then proceeded to demand $50 for the taxes of 1877 and 1878.

Still plucky, the physicians and dentists (nothing is said about the lawyers) proceeded to memorialize the State Legislature to remove the power of the City Council to tax doctors, dentists, lawyers, and ministers. As a result, the Legislature has just passed an act as desired.

In another matter the city physicians are at opposites with the municipal authorities. There is an ordinance taxing vehicles of all kinds $3 a year. A few doctors paid, but the large majority have neglected to do so.

We cull this information from a long article in the St. Louis *Courier of Medicine.*

Pre-Christian Dispensaries and Hospitals.—The current (October) number of the *Westminster Review* contains a most interesting and learned article on the above subject, which, we are informed, is from the pen of a clergyman. The writer points out that many authors—including Canon Farrar—have committed the error of contending that hospitals are purely Christian establishments, and that before the dawn of Christianity they were unknown. How entirely opposite this assertion is to the real facts of the case is proved by numerous references to Greek, Roman, and Oriental writers. It is not known for a certainty that the Egyptians had any institutions analogous to our hospitals, but it is a well-established fact that medicine flourished in Egypt, that there were practitioners who devoted themselves to specialties, such as oculists and dentists, and that there were public medical officers whose duty it was to look after the poor. In Greece, also, at the time of Plato, there were physicians in the chief cities who devoted themselves to the public service, and received fixed salaries. It was in India, and in the city of Patria probably, that the first hospitals, properly so called, were established. This occurred in the reign of the pious Buddhist monarch Asoka, who flourished some three centuries before the Christian era. Asoka established hospitals both for men and beasts, and the accounts which have come to us of these establishments point to their being, in all respects, similar to our own.

There is little, if any, trustworthy evidence of hospitals among the Jews or the Romans until the fourth century of the Christian era, when Fabiola, a wealthy Roman lady, built a large hospital outside the city of Rome, and St. Basil established an asylum for the sick in the city of Cæsarea. There can be no doubt that the sick were better cared for after than before the Christian era, but Christians have clearly no right to be considered as the originators of hospitals.

Prof. Roberts Bartholow.—This gentleman, we understand, has been elected Professor in Jefferson Medical College, Philadelphia, the second oldest medical college in the United States. We think that Jefferson College, notwithstanding its very high position among medical schools in the United States, will have added very much to its strength by selecting Prof. Bartholow to fill one of

its chairs. There is no more brilliant man at this time in the medical profession in this country than Prof. Bartholow, many invidious individuals to the contrary notwithstanding.

A present medical school of Cincinnati, some years ago, was founded on the principle, that a western medical college should have its chairs filled with western doctors. Its announcements, proclaiming the fact, were scattered broadcast throughout the whole western country. But science knows no east, west, north, or south. A college that studies its own interests and those of its patrons, will obtain the best talent wherever it may be found; and old Jefferson more than once, by its calling of western and southern men to fill its chairs, has shown itself to be one of this kind. The venerable and distinguished Prof. Gross, who for many many has held the chair of Surgery in Jefferson College, was previously Professor in Cincinnati, Lexington, and Louisville. Prof. Austin Flint, Sr., previous to his connection with Bellevue Hospital Medical College, held chairs in various western schools. He was at one time Professor in a Louisville school.

It will thus be perceived that the east not unfrequently makes demand upon the west for superior talent; and does not claim merits in that their instructors are chosen within a limited area of country. In the face of this, that a western medical school should boast that all their Professors are western or Cincinnati men, and ask for patronage in consequence, is not creditable to it.

Prof. Bartholow, we understand, leaves Cincinnati for his new field in September. Our best wishes attend him. We have no doubt, if his life be spared, he will make a greater name for himself than ever. It is a loss to the profession of Cincinnati to lose him, but its loss no doubt will be his gain; for as steel sharpeneth steel, we have no doubt coming in contact with more distinguished and brilliant men will advance him.

Alum in our Bread.—There are probably more than five hundred kinds of baking powder manufactured in this country, and, while some of them are sold from the Atlantic to the Pacific, the majority have only a local sale near their respective places of manufacture. Through Dr. Henry A. Mott, Jr., the well-known chemist, one of the most competent, trustworthy, and careful experts of this

country, the following analyses were obtained, showing the presence of alum in large quantities in many of the baking powders having a wide sale. Dr. Mott has kindly furnished not only the results of his own analysis, but also those of several chemists of high professional standing, including Professor Henry Morton, President of Stevens Institute of Technology; Professor R. W. Schedler; Dr. Stillwell, of Walz & Stillwell, analytical chemists, this city.

"DOOLEY'S,".....Contains Alum.
(Dooley & Brother, New York.)
"POTAPSCO,".....Contains Alum.
(Smith, Hanway & Co., Baltimore, Md.)
"CHARM,".....Contains Alum.
(Rohrer, Christian & Co., St. Louis.)
ANDREWS "REGAL,".....Contains Alum.
(C. E. Andrews & Co., Milwaukee.)
"QUEEN,".....Contains Alum.
(Bennett & Sloan, New Haven, Conn.)
"VIENNA,".....Contains Alum.
(Church & Co, New York City.)
"ORIENT,".....Contains Alum.
(Crouse, Walworth & Co., Syracuse, N. Y.)
"AMAZON,".....Contains Alum.
(Erskine & Erskine, Louisville, Ky.)
"GILLET'S,".....Contains Alum.
(Gillet, McCulloch & Co., Chicago.)
"TWIN SISTERS,".....Contains Alum.
(Union Chemical Works, Chicago, Ill.)
"INVINCIBLE,".....Contains Alum.
(Snyder Brothers & Co., Cincinnati.)
"KING,".....Contains Alum.
"WHITE LILY,".....Contains Alum.
(Jewett & Sherman Co., Milwaukee, Wis.)
"MONARCH,".....Contains Alum.
(Ricker, Crombie & Co., Milwaukee, Wis.)
"ONE SPOON,".....Contains Alum.
(Taylor Manufacturing Co., St. Louis, Mo.)
"IMPERIAL,".....Contains Alum.
(Sprague, Warner & Griswold, Chicago.)
"HONEST,".....Contains Alum.
(Schoch & Wechsler, St. Paul, Minn.)
"ECONOMICAL,".....Contains Alum.
(Spencer Bros. & Co., Chicago, Ill.)
"EXCELSIOR,".....Contains Alum.
(L. E. Taylor, Chicago, Ill.)
"CHARTRES,".....Contains Alum.
(Thomson & Taylor, Chicago.)
"GRANT'S.....Contains Alum.
(J. C. Grant, Philadelphia.)
"GIANT,".....Contains Alum.
(W. F. McLaughlin, Chicago.)
"QUEEN,".....Contains Alum.
(Star Chemical Works, Chicago.)

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ORIGINAL CONTRIBUTIONS.

The Germ Theory of Disease, and its Present Bearing upon Public and Personal Hygiene.

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[Read before the *Philadelphia Social Science Association*, and contributed to the MEDICAL NEWS.]

THE devastating epidemic of yellow fever, now raging in some of our Southern States, has called forth so much discussion in regard to the nature of this and kindred maladies, that few persons of culture have failed to hear, more or less, in the last six months, of the Germ Theory of Disease.

This hypothesis, of which, for more than ten years, I have been an earnest advocate, notwithstanding its unpopularity, both within and outside of the medical profession, has, in consequence of some recent discoveries, begun to be received into favor by many physicians, although many more still look upon it with distrust, if not with contempt.

Hence, without endeavoring to convert you all to a faith in the absolute truth of its tenets, I believe the time has now come for me to point out exactly what its doctrines are, to enumerate the chief facts which form their support, and to indicate the precautions which, if we admit it is probably true, wisdom enjoins upon us toward preventing the propagation and spread of disease.

In order to render myself clearly understood, I will begin by explaining, in the first place, that the Germ Theory of Disease, which was propounded by the cele-

brated Linnæus more than a century ago, but has since been somewhat modified by its successive advocates, professes to account for the phenomena of small-pox, typhoid fever, yellow fever, relapsing fever, measles, scarlatina, diphtheria, chicken-pox, erysipelas, etc., by attributing them to the more or less mechanical irritation and other disturbances set up by masses of spores and mycelial threads developing in the blood and in the affected tissues. The period of incubation (by which is meant the time between exposure to small-pox, for example, and the development of the complaint), is supposed to correspond with that required for the germination of these spores. The gradual increment of the symptoms is attributed to the progressive growth of the millions of minute fungoid plants whose period of greatest luxuriance marks the acme of the attack, and the death and destruction of which correspond to the decline of the disease. The contagiousness of the communicable maladies is accounted for, as you see, very beautifully by the existence of the immense number of spores (the true seeds of disease) constantly produced, evolved from the affected individual, and carried through the air of a room or house, either alone or attached to some of the innumerable epithelial cells, which are constantly being rubbed off by millions from the surface of our bodies. The general absence of second attacks is admirably explained by the hypothesis that the parasitic fungus, on the first occasion, has exhausted all, or nearly all, of some peculiar (unknown) organic ingredient in our bodies, which is absolutely requisite for its support, according to the very same law that will cause, as every farmer knows, his wheat to fail if he plants it repeatedly in the same ground and neglects to secure a due rotation of crops.

At the outset of my plea in favor of this doctrine, let me say that, in spite of the bold assertion of certain enthusiasts and *savans*, with whom zeal outruns knowledge, no really skillful microscopist will at present maintain that minute vegetable organisms, found in connection with contagious maladies, are as yet proved to have any definite relation to them as causes of disease.

Nevertheless, the presumption that such causal relation does exist, is, in my opinion, so strong that I intend to ask you to accept my judgment that it will be demonstrated in the near future, and I therefore seek, in this address,

to popularize the conception that contagious diseases are conveyed from one person to another by the transplanting of microscopically visible spores, or seeds, which have a separate vitality of their own, each after its kind, and which are to be escaped, just as we would escape hordes of animal, or swarms of insect pests, by shutting them out or killing them before they can succeed in fastening upon our bodies.

I urge upon you, gentlemen, and upon the community at large, such a practical recognition of this theory now, because I believe that before many years it will be, with perhaps slight modifications, fully and amply demonstrated from miscroscopical and clinical research, and all true philanthropists must, it seems to me, desire that humanity should benefit by this knowledge, even at the present hour, although the conservative opponents of the Germ Theory, whilst evidently wavering in their defense, are not yet driven into the last ditch on this side of complete surrender.

I believe, as I wrote some years since, in regard to Favus, a parasitic skin disease of children (*Hand-book of Medical Microcopy*, Philadelphia, 1871, p. 252), "We see to-day the same old battle fought (now in regard to small-pox, diphtheria and their congeners), which, fifty years ago, was so strenuously contested by Biett and Morgagni, on the one hand, and the microscopists on the other, in relation to scabies, or the itch, at present universally admitted to be due to a minute insect, the *Acarust Scabiei;* and to the student of human nature it is a most interesting confirmation of the wise king's dictum, "There is no new thing under the sun," to observe how the same doubts, followed by the same objections, were urged against the parasitic character of the itch that are now put forward in oposition to the vegetable nature of the cause of ring-worm or favus. Thus, Biett, Cazenave, Lugol, etc., denied then, that, even with the aid of microscopes of high power, any insect whatever could be discovered. When, by a succession of lucky accidents, so many observers blundered into seeing the insect, that this position was no longer tenable, opponents to the parasitic theory changed their base of operations, and admitting the occasional existence of the *acarus*, stoutly maintained that, instead of being the cause of scabies, it was a secretory product of that affection, and by no

means a constant one. Finally, when *proof* that the whole disease could arise from the deposit of a single itch insect upon the skin of a previotsly healthy person, became incontestable, the anti-microscopists took refuge in the assertion that in such cases "the insect, taken from the scabious, *being charged with the virus, the fluid of the vesicle,* by penetration of the cuticle inserted this virus and produced the disease," as the inoculation of cow-pox is accomplished.

One of the strongest arguments against the doctrine that living germs can enter human organisms from the alimentary canal, is that derived from the *a priori* probability that the solvent action of the gastric and intestinal juices must destroy all vitality in the microscopic organisms which on this hypothesis constituted the morbific matter, the *contagium vivum* of disease. A fundamental step toward establishing the Germ Theory, therefore, was manifestly that of proving that Bacteria, or analagous low forms of life, could penetrate from the stomach to the blood, to be thereby carried into all parts of the system, and this, I was, I believe, the first to demonstrate. My observations were detailed in the *American Journal of the Medical Sciences* for July, 1868, from which I extract the following as the most important:

Experiment 4th. At 7:45 P. M., May 17th, 1868, I drank four fluid ounces of water, similar to that employed in the preceding investigations and containing multitudes of Bacteria, estimated as numbering 27,000,000,000. At a quarter past eight, I examined a drop of blood drawn with the aid of a cataract needle from the tip of my finger and confined between a slide and cover cleaned with strong hydrochloric acid. Under the field of the one-twenty-fifth inch objective, the interspaces between the rows of blood corpuscles were found to contain multitudes of apparently spherical molecules, in rapid and erratic motion, but so very minute as to readily escape notice even with this high power, except under the closest scrutiny; in the course of half an hour, not less than one hundred were observed. At 9 P. M., another drop of blood, examined with the same precautions, exhibited, in addition to these minute particles, other bodies less active in their movements, of much greater magnitude, and which, under an amplication of 1,100 diameters, appeared precisely similar to the Bacteria I had been studying a

few hours before in the identical decomposing beef juice imbibed. Five of them were thus enlarged so as to exhibit an unmistakable organized structure, totally different from their associated aggregations of Beal's germinal matter. Three of these Bacteria were each about one-twelve-thousandth of an inch in length and one-twenty-five-thousandth of an inch in width, very distinctly constricted in the middle; a fourth was obviously composed of four, and a fifth of six joints, arranged in a straight line, the motion of which was of that peculiar waving character so universal among the Oscillatoriacæ. The last two were most clearly visible when they happened to lie vertically to the surface of the glass, and would probably escape observation under the one-eighth inch, except in that position, or be therefore mistaken for simple globular bodies, although in several cases I detected in the second and third experiments (with a lower power) a shadowy elongation of one diameter of the revolving molecules thus observed.

These results of mine were corroborated soon after by the researches of Dr. Neftel, of New York, upon some of the inferior animals, in regard to which, he informs us (N. Y. *Medical Record*, July 15th, 1868, p. 226), "My experiment so far lead me to the conclusion that the lower vegetable organisms can continue to live and multiply in the tissues of living animals, and that they can enter into the general circulation, either through the intestinal canal or respiratory organs, or by means of hypodermic injections. What is their ultimate fate in the animal organism, and what their importance in producing disease further investigation will have to show."

M. E. Semmer, in *Virchow's Archives*, April, 1870, in his paper on the "Results of Injection of Fungous Spores and Fungous Cells into the Blood of Animals," gives additional corroboration of the conclusion to which I arrived by personal experiments.

Notwithstanding these and other investigations, the Germ Theory of Disease made but little real progress, at least in English speaking countries, until about three years since, when the researches of Professor Burdon Sanderson and E. Klein, of London, as set forth in Mr. Simon's Report for 1874, as Medical Officer of the British Privy Council, commanded much professional attention

and doubtless led many who had previously ignored the theory to examine anew its claims to credibility.

In this report are indorsed the next two great steps toward the establishment of the Germ Theory, namely, the experiments of Oertel and Nassiloff, who showed that if the cornea of a rabbit is lightly pricked with a needle that has been thrust through diphtheritic false membrane, the wound does not heal up as similar tiny punctures with clean needles do, but becomes in a few days the center of radiating streaks of brownish opacity, which under the microscope are seen to be made up of colonies of the vegetable spores (micrococci) of dipththeritic disease. The other important step was the detection by Obermeier, of Berlin, of a minute fungoid growth (spirillum) in the blood of patients suffering with Relapsing Fever, a fact which Professor Stricker, of Vienna, whose world-wide fame as a most skillful microscopist renders his testimony conclusive, told me only a few weeks ago he had fully confirmed.

These and other researches, led Dr. William Roberts, of Manchester, England, in his Annual Address before the British Medical Association, last year, to assert that the Germ Theory of Disease "is now established upon a firm experimental basis, and if fairly grasped in capable hands, will very soon give us most important aid in our struggle with disease;" and a recent eminent German writer on Pathology, Professor Orth, late of Berlin, now of Gottingen, declares "of all the modifications which the blood undergoes, the least understood and at the same time the most important, is unquestionably, that which is due to the admixture with low organisms. Recent researches leave no doubt whatever, that in some diseases the blood contains during life, though to a far higher degree after death, certain low forms of animal or vegetable life. Those organisms which have a thoroughly characteristic appearance can be detected without any great difficulty, with very high powers, provided the layer of blood which is examined be very thin, or that the red corpuscles have been destroyed with acetic acid or alkalies."*

*Dr. Orth describes the gray coating on wounds affected with Hospital Gangrene, and lining the uterus in puerperal fever, as being made up cheifly of micrococci and bacteria. He also asserts, what I long ago believed and taught, that in metastastic abscesses, and probably in carbuncles and boils, the starting point of the slough which forms the core, is found in a small artery plugged up by a little wandering mass of micrococci or fungous spores.

The latest, and perhaps most important, advance toward actual proof the Germ Theory, has just been made by my friend, Professor E. Klein, F. R. S., of London, who, in a series of admirable investigations, partly communicated to the Royal Society in February, 1878, shows that a kind of Bacterium found in the peritoneal exudation of pigs affected with the disease sometimes called typhoid fever (but more properly entitled *Pneumo-enteritis contagiosa*), may be cultivated in indifferent fluids outside the animal's body *for eight successive generations*, and then produce the original malady in healthy animals upon which it is inoculated.

The daily success of Lister's Antiseptic Method of Dressing Wounds, now firmly established in the London and many of the Continental hospitals, is a further and almost unanswerable evidence of the infective power of germs, and the wonderfully lucid explanations and ingenious experiments of Professor Tyndall have done much to enable all to realize the intimate relation which exists between Dust (which consists largely of germs) and Disease.

It may not be amiss, before leaving this part of my subject, to reply to an objection which has been frequently offered to observations upon Bacteria, met with in connection with various diseases, namely, that such organisms, apparently quite identical, are often detected in absolutely healthy animals, and therefore can not be causes of disease. Those who urge this argument, however, seem to forget that since the Bacterial spores and rods are only the analogues of the seeds and roots of larger plants, and by no means entire organisms, it is, therefore, no more reasonable to expect us to distinguish the Bacterium which develops into the cause of Yellow Fever, for instance, from that which produces simple putrefaction, than it is to demand we should discriminate at sight, the root and seed of a choke pear, from those of a seckle. In either case it may be only by cultivating the plant to its full perfection, and testing its ripe fruit, that we can determine its place in nature.

Abandoning, as I said before, all claim at present to certainty that the Germ Theory of Disease is true, let us consider in conclusion, what modifications of the ordinary sanitary precautions we can wisely adopt in view of the

probability that Bacteria, or closely allied organisms are the actual causes of constitutional diseases.

In the first place, it seems to me that great benefit would result from its being understood by every man, woman, and child, that the contagion of small-pox, scarlet fever, typhoid fever, yellow fever, measles, diphtheria, cholera, etc., is probably composed of exceedingly minute spores, or seeds, so small, that 20,000 of them placed end to end, would measure less than one inch in length, and a mass the diameter of one of the periods (.) upon this printed page might contain 50,000,000. Each one of these 50,000,000 of seeds is capable, under favorable circumstances, of reproducing its kind with almost inconceivable rapidity; so that, supposing, for example, the Zygodesmus of Professor Letzerich is really the morbific agent causing diphtheria, a particle of the grayish false membrane of the size of the dot just mentioned, would contain separate seeds enough to infect every inhabitant of the whole continent of North America with dipththeritic disease. But, whilst this is the theoretical possibility, practically, the same law of prodigality of nature exemplified in the spawn of the herring and salmon holds good, and not more than one spore in a thousand, a million, or a hundred million, perhaps, has an opportunity to reproduce its species.

As there is no doubt that the contagion of the diseases just enumerated may penetrate into our systems by the air we breathe, the food we eat, and especially the water we drink, it is obvious that only the most scrupulous care can save us from these extremely minute seeds, or insure their destruction after entrance into our bodies is accomplished. If these germs were singly disseminated, it would be almost impossible to avert constant infection, but as they generally are carried about by winds or currents in aggregations of thousands or ten of thousands, of course the chance of imprisoning them, or otherwise shielding ourselves from them, is largely increased. It seems probable that the epithelial cells continually shed from our integument and constantly floating about in the atmosphere in great numbers, and which, as shown in some observations of my own, upon the white incrustations upon brick-house fronts, are met with in the dust deposited upon the highest points of four-story buildings

in crowded thoroughfares, are often vehicles for small groups of these spores which adhere to them.

The obvious deductions from these facts tend to strengthen the urgent recommendations of sanitarians, that every effort should be made, first, to prevent these morbific germs from being let loose upon the world, and second, when they have made their escape into the free air or water, to destroy all spores likely to come in contact with unprotected persons; that is to say, human beings from whose bodies one crop of small-pox (or cow pox), fungus, yellow fever, bacteria, relapsing fever spirilla, etc., has not already been raised.

Each individual affected with small-pox, scarlet fever, diphtheria, or any other of the diseases above mentioned, is, according to this theory, to be looked upon as a sort of *hot-bed* or forcing-house for the seeds or spores of that malady. From his or her body are continually given off, in all directions, by the skin, the breath, the perspiration and other secretions, millions of spores of the extreme minuteness I have described to you, each one of which, if it were received into a human system, under favorable circumstances, would rapidly reproduce itself, and after a few days or weeks (corresponding, as already mentioned, to what is known as the period of incubation) give rise to a new case of the disease, again a new hot-bed of contagion for other unprotected organisms.

Now these spores, just like the seeds of larger noxious weeds, which, when allowed to gain a foot-hold in our fields and gardens, propagate themselves with such immense rapidity, have no power to move of their own accord, and can only develop if they meet with air, moisture, and congenial soil suited to their peculiar requirements. That is, if a small-pox patient is shut up in a germ-tight room so that the seeds can not escape, or, if whilst in the open air that air is stagnant, so that no seeds are wafted away from the immediate neighborhood of the individual, or, if when carried along by the wind, they are blown away from any human habitations, are dessicated in a dry atmosphere, baked by the sun's rays or artificial heat, frozen by extreme cold (as seems to be the case with yellow fever germs), or finally, if they happen to meet with no persons but those who have had small-pox or been sufficiently vaccinated, in other words, if they do not "fall upon *good* ground," all this wealth of pro-

vision by which nature tries so hard to secure the perpetuation of the poisonous plant, causing small-pox in our systems, becomes unavailing, and her malevolent design against our race, carried out with such a prodigality of murderous weapons, utterly fails.

This brings me to the notice of one of the most common and most mischievous popular errors which a general acceptance of the Germ Theory will necessarily subvert, namely, the belief that small-pox and other contagious maladies often arise without previous exposure to the seeds of the disease. This doctrine, frequently advanced in private life as an excuse for neglect of proper care and caution in regard to children, etc., and occasionally sustained by public authorities as an apology for violation of quarantine and other sanitary regulations, is exceedingly pernicious, and our warmest gratitude would be due to the Germ Theory of disease, even should its establishment render no other service to humanity than the explosion of this fallacy. The fact is, as I firmly believe, that (inverting the Scriptural aphorism), we can no more gather thorns from grapes, or thistles from figs, than we can have, for instance, the germs of yellow fever growing from clean cotton, or those of cholera developing from uninfected rice.

Putting aside the primary origin of diseases, which, with one or two doubtful exceptions, is a question of prehistoric time, the Germ Theory of disease teaches us that every new case of the contagious maladies, already enumerated, is the immediate offspring of a preceding case, and the direct result of exposure of an unprotected human being to the chance of having the spores or seeds of disease implanted in its system, an exposure which it only required sufficient knowledge, sufficient foresight and sufficient care to avoid.

This pernicious belief, as I deem it, in the spontaneous endemic origin of the contagious diseases rests, at any rate, on entirely negative evidence, namely, the circumstance that cases do sometimes spring up in which it is impossible to trace the affection back to a personal source of specific propagation, and yet, such an event is only what we have reason to expect from the very nature of these diseases, since the active principle of the poison is invisible to the naked eye. Hence, in the ordinary affairs of life, unless special precautions are resorted to, ways

are open for the spread of these microscopic agents of propagation in a thousand unseen modes, so that, obviously, the precise source of infection and its track must often remain undiscovered by the best wisdom of man. I have seldom been more forcibly impressed with this truth than when, upon one occasion a few years ago, a stalwart man entered, in his turn, my prescribing-room in the Pennsylvania Hospital, and on his lifting his hat I saw his forehead was covered with well-filled pustules of small-pox, at about the sixth day of their development. In reply to my reproof for thus exposing other patients in the waiting-room of the Hospital to this terrible disease, he assured me (mendaciously, I presume), that he did not know what was the matter with him, and that, being a stranger in the city, without home or friends, he had, when taken sick, come to the Hospital, since "he must have some place to go to." I hastened him off to the office of the Board of Health, whence he was doubtless forwarded to the Municipal Hospital; but the point of interest in this connection is, that if, as is probably often the case, there had happened to be in that waiting-room an unvaccinated child upon whom the infection from these pustules was propagated, no one connected with the infant could have suspected the source of contagion, as my small-pox patient had his hands concealed in gloves and wore a full, heavy beard, which, with a hat pulled low down over his eyes, effectually shielded his loathsome disorder from observation.

Of course this is not an isolated case, but only an example of what we all, young and old alike, are constantly exposed to in the streets, the cars, and all public places in a large city. I can not but hope, however, that as soon as our legislators become convinced that the Germ Theory is true, we will have what our English cousins enjoy the advantage of; *i. e.*, stringent laws to prevent such culpable injury to innocent persons. Meanwhile, our only safeguard is to protect those under our care by the precautions of early vaccination and the most watchful seclusion from possible exposure to the sphere of influence of such contaminating individuals, who constitute, as I consider, hot-beds for generating the tangible seeds of disease.*

*Some years ago a medical friend of mine attended, in a large town not a hundred miles from New York, two successive cases of small-pox in the

In all such instances, indeed, isolation from unprotected persons, carried out with every due consideration and kindness, is, therefore, to be practiced, if possible, and under other conditions, means which will destroy the life of the spores, such as dry heat of high degree, superheated steam, prolonged boiling in water, caustic acids or alkalies, are to be used, with a firm confidence that if they are employed thoroughly enough they will absolutely put a stop to all spread of disease.

A very important suggestion in regard to the use of disinfectants, arising from our knowledge of the Germ Theory, is, that since these spores doubtless float in the atmosphere, as do the seeds of the thistle or dandelion, and are no more susceptible to the action of chemicals, with which the air containing them is inpregnated, it is useless to expect any certain and complete results from the milder ærial disinfectants, as usually employed, that is, by scenting the medium in which they are suspended with carbolic acid, camphor, acetic acid, and similar, non-corrosive agents.

As to the lesson we may deduce from these teachings in regard to Public Hygiene, I think its importance is only surpassed by its simplicity.

For such contagious and infectious maladies it is: *Avoid, at any cost, the entrance into communities of living spores or seeds of disease.* And this should be insured, not as in former times, with the mere *hope* that somehow we might escape the visitation, but with the absolute certainty that with proper care infection can not occur.

No doubt many of us have smiled at the story of certain terror-stricken authorities in a German town, who, when a single potato-bud was discovered in a field near them, immediately covered the whole plantation with straw soaked in kerosene, and, setting fire to it, destroyed every vestige of animal and vegetable life for acres around. An yet, if we consider a moment, we realize the fact that this apparent waste of time, trouble, and potato

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house of a dealer in ready-made clothing. The whole stock of coats, pantaloons, etc., numbering many hundreds had an opportunity of being impregnated with the seeds of the complaint, and should have been disinfected with scrupulous care. They were, however, sold at retail, just as usual, and may have given rise to scores of cases of "idiopathic" (?) small-pox.

vines, was the wisest and most economical expenditure that could possibly have been made.

How much more, then, when our own lives and the lives of those that are dear to us, in addition to scores of millions of dollars are at stake, as they are now in the South, should sanitary authorities be armed with almost despotic power, in order that they may shut out, or kill every one of these actually visible and even tangible seeds of disease. Quarantine, disinfection, and prolonged detention of persons, with disinfection, or frequently total destruction of goods from infected districts, is, it appears to me, the *right* of the many at the expense of the few; and even if, as I should advocate, for the sake of strict justice, ample compensation for loss of time and loss of property were allowed by law to those who suffered, I believe the community at large would be tenfold better off pecuniarily, to say nothing of the far more important saving of human life and human suffering, which would be secured.

Selections.

Miscellaneous Surgical Notes from Berlin.

As a place for the study of surgery, and the witnessing of surgical operations, Berlin is undoubtedly the very best point in all Europe, and hence probably the best in the world.

Other cities have as much or more surgical material, but it is generally, as here in London, so divided between different hospitals and different operators, that it is impossible for one to witness it all, or to be benefited by it, to such a degree as at "Langenbeck's Clinic" in the German capital. For from two to four hours each day, for six days in the week, you can witness here every variety of surgical operation, from the opening of an abscess to those the most grave known to the domain of surgery.

To-day Prof. Langenbeck is to surgery in Prussia, what no other man is to this branch of medicine in any other country.

Although he has introduced and is really the father of many of the great operations that he performs, he is a

man without a hobby, and never speaks of any procedure as being an invention of his own. While Pean, Gosselin, and Verneuil seldom quote anything but French authority, and Bryant, Lister, and Paget are partial to British authors, Langenbeck is as cosmopolitan in the sources from which he draws his knowledge of the branch that he teaches, as the universe itself.

As a didactic teacher, he never would have been a success in America, where a certain eloquence of delivery is considered so essential in the lecture-room. In lecturing, he often hesitates, and will sometimes stop for several seconds between the phrases of his sentences. In treating of any surgical procedure of importance, he first gives the views and teachings of others, and then compares the same with his own experience; which, taking the whole field of surgery together, is probably the most varied and extensive of any man's now living. While Pean, of Paris, does only the most important part of his surgery, leaving the closing and dressing of wounds to his assistants, Langenbeck attends to every detail himself, ties every artery and puts in every suture.

AMPUTATION OF THE FEMUR.

A man, aged thirty-six years, suffering from a malignant disease of the lower end of the femur, was brought into the ampitheater, and while the assistants were administering chloroform to the patient, and making other necessary arrangements for the amputation, Prof. Langenbeck made the following general remarks on the subject:

"Where it can be done, I make *side* flaps, instead of antero-posterior ones, as is generally done. I do this, first, because a better drainage can be effected after the operation, and second, because I believe any resulting cicatrix is more likely to be situated at a point that will render it less liable to be irritated by the friction connected with the movements of the stump.

"Again, I make my flaps *entirely* of skin and its immediately adjoining tissues. I want no muscular tissue overlapping the end of the bone. If you have a long muscular flap, it is sure to either slough away or gradually become absorbed. If it should slough, it immediately complicates your case by adding to the dangers from septicæmia."

When he had made his skin flaps he then made a section of the periosteum, extending half way around the shaft of the bone, and six centimeters in length. Having peeled this carefully back, he had a perfect covering for the end of the bone, after the later was sawn off. He says, that since he has adopted this mode of procedure, he has never had a single case of secondary disease, such as caries or necrosis, following his amputations. When he had sawn off the femur, and brought the skin over the end of the stump, lo! his flaps were so short that they would not come together without considerable tension. He remarked: "As you see, gentlemen, the end of my bone is little too long, or my flaps are too short, and, as I can not lengthen the latter, I shall have to shorten the former;" and without another word of explanation he proceeded to saw off another six centimeters from the end of his stump.

Before he closed the wound, he applied eighteen ligatures, all of which, except the one to the main branch of the femoral artery, were of carbolized catgut. These ligatures of course were all cut short and left to be absorbed; and I have never seen him leave the long ends of ligatures out of a wound with a view to their future removal. A drainage tube was introduced into the inferior and superior border of the stump, and the whole was sewed together in the most painstaking manner. The stump was dressed with Lister's antiseptic dressing, the whole operation being done under the spray. The operation lasted one hour and ten minutes. In contrast with this time, I have seen Prof. Jas. R. Wood, of New York, do this operation complete in five minutes, making his flaps and sawing off the bone in forty-five seconds.

The result of this operation was most satisfactory indeed. The whole wound healed by first intention, and the patient never had a temperature above 37.5, and never suffered any considerable amount of pain.

In speaking of the rapid recovery of this case, Prof. Langenbeck said that he attributed it mainly to the painstaking manner in which he had arrested *every vestige* of hemorrhage before closing the wound. He believed that in the vast majority of cases where a constitutional reaction followed surgical operations of this kind, and which we had formerly been taught to look upon as having its origin in an inflammatory reaction, was in fact of a septic

character, and that a decomposed blood clot situated at the extremities of open blood-vessels, was the very best possible condition for generating such a process.

PROLAPSUS ANI.

A boy aged six years was brought into the clinic, suffering from this affection. It had troubled him for two years, but until within the last month the gut only came down at the time of the stools. For the last four weeks it had been down constantly, and neither the mother nor her family physician had been able to replace it. In connection with the case Prof. Langenbeck said: "In this disease I have been able to cure *every case* in which I have instituted the treatment I shall adopt in this one, where the patient has been above three years of age.

"Why I have not been equally successful in those of more tender years, I can not tell, but am disposed to attribute my failures to the fact of younger children being less manageable, and their pressing down efforts when they cry."

His treatment consists in the injection of ergotine into the cellular tissue beside the rectum. He passes the hypodermic syringe parallel with the gut to the depth of about three centimeters, and injects about twenty minims of the solution into each point, usually making the injection at two or three places around the sphincter.

As the mucous membrane of the prolapsed gut in this case was very relaxed and superabundant, he made three parallel incisions through it, about four centimeters in length, with the thermocautery, with a view of producing a cicatricial growth that would contract the parts when it healed. This last procedure he did not consider essential to the treatment, but it would probably hasten the cure. The gut was now replaced, and the boy put to bed, and the cure was complete, as the bowel never again came down.

I have been most highly pleased to witness Prof. Langenbeck's operations upon the uterus, and in listening to his lectures upon this subject, not only on account of his wide range of personal experience, but also on account of the fact that I look upon him as a man who is the least influenced by any special hobby of any man that I have ever seen operate on that organ.

UTERINE POLYPI AND FIBROIDS.

I saw him operate on a woman for the removal of a uterine fibroid polypus that had descended into the vagina and filled this organ so completely that the evacuation of both the rectum and bladder was completely obstructed.

The growth was so large that he was unable to pass the ecraseur over the entire mass to its cervical attachment, and hence he had to pass the chain of the instrument around its lower segment, and remove it in three separate portions.

The last was so large that he had to extract it with a pair of obstetrical forceps. He said: "Whether these growths be solid, soft, or cystic, there are only three modes of removing them that I recognize as proper to adopt, and these are, the knife or scissors, the ecraseur and the galvano-cautery. When they are attached high up in the uterus, I do not like the galvano-cautery, for the reason that you can never be really certain what you are burning, and you may destroy tissues that will lead to disastrous consequences."

The use of the ligature for the removal of these foreign bodies he especially condemned. In the early years of his professional life, he had seen two patients die of septicæmia following the removal of a uterine polypus in this manner.

We must remember, in all our operations upon the uterus, that although we have to do with an organ that will tolerate a good deal of mechanical violence, that we have also to do with a mucous surface that will the most rapidly absorb effete matter of any tissue in the entire body; and that when a polypus is ligated it soon becomes a putrid mass, from which the whole economy may become rapidly contaminated. The twisting off of polypi he also considers a bad practice, and has seen at least one case where the extensive laceration of the mucous surface of the womb attending the operation resulted in a metritis from which the patient died.

Prof. Schroder had in his wards at the Charite, this winter, some interesting cases to illustrate his management of different forms of uterine fibroids. In our treatment of these cases, he says, we should remember one fundamental rule, which is, that in the history of every such

case there usually comes a time when the morbid growth will cease to increase in size, begin perhaps to undergo a retrograde metamorphosis, and become in time entirely innoxious as far as the well-being of our patient is concerned. Directly opposed to this are the facts connected with the history of most cases of ovarian cysts. Their tendency is ever to increase in size, and their removal will sooner or later be imperatively demanded. Keeping these facts in view, we seize upon the most appropriate time for our operative interference. In the management of a case of uterine fibroid, he says, investigate your case accurately as to this fact. Is its attachment situated upon the lining membrane of the *body* of the womb, or upon the cervix uteri? If it have its origin from the body of the womb, you are to consider it as a *noli me tangere*, unless it be the direct cause of symptoms that are likely to prove dangerous to the life of the woman. On the other hand, if it spring from the cervix uteri, you may operate on it in almost any way with comparative safety.

To arrest the hemorrhages that accompany these cases, he swabs out the inner surface of the womb with either the tincture of iodine or a solution of one of the astringent salts of iron.

A question in which I have been greatly interested, and upon which I have interviewed everybody, is the value of the hypodermic injection of ergotine in the treatment of uterine fibroids.

Prof. Schroder says that he has often seen cases greatly benefited by this treatment, but has never seen a case entirely cured by it. By its use the hemorrhage will often cease, and the tumor become greatly lessened in size. To test the remedy he says you must use at least one hundred injections. He makes them into the cellular tissue of the abdominal walls, and repeats them as often as every alternate day. As so protracted a use of an agent that is often very painful, taxes to the utmost the patience of both physician and patient, few carry it out thoroughly.

Braun, of Vienna, makes these injections into the outer aspect of the thigh, where they are better borne. He uses also Bourbellon's ergotine, and none other, as he says you never have an abscess follow its use. Its name, I believe, is derived from a Swiss chemist who manufactured it.

Dr. Routh, of Dorset House Hospital for Women and Children, in London, is the greatest enthusiast of any I have met in Europe as regards the efficacy of his treatment of intrauterine fibroids. His plan is to first puncture the tumor by passing a sharp-pointed instrument into it about the size of a number six English catheter. The depth to which he makes this puncture will depend upon the size of the tumor, but will usually be to about one-half of the thickness of the growth. After making his puncture, he introduces into the hole thus made a wire of nearly the same size, heated to a red heat. He claims that in this way you can excite an inflammatory change in the body of the fibroid that will lead to its absorption, and that too without any of the dangers of a septic process following the procedure, which would be likely to occur if you attempted to accomplish the same object in any other way. He says that he has never failed to benefit a case that he has treated in this manner.

He was surprised when I told him that I had seen Prof. Pean, of Paris, carry out the same idea in the management of some cases at St. Louis.

AMPUTATION OF THE CERVIX UTERI.

Of the various modes of doing this operation, Prof. Langenbeck prefers the knife or the scissors. The ecraseur, he says, should *never* be used for this purpose. He relates a case that occurred in his clinic, when Prof. Bilroth was his assistant, in which, although he applied the instrument with great care, and kept his finger on the chain during the whole operation, Prof. B. tightening the screw, a portion of the bladder was included in the incision, and the patient died two days later of peritonitis. The objection that Prof. Langenbeck has to the galvanocutery in this operation is, that you can never be positively sure as to *just* how much tissue you are removing.

On the other hand, since I have been in London I have seen Prof. Barnes amputate the cervix twice with the ecraseur. He used the instrument without a speculum, being guided wholly by the index finger of each hand, which he kept in contact with the chain.

After the cervix is removed, he applies the thermo-cautery, to arrest any hemorrhage that may exist. This, he tells me, is his *uniform* mode of doing this operation, and that he is perfectly satisfied with his results. Prof.

Barnes brought out a patient and laid her on the operating table, telling me as he did so, that he was going to show me the American operation (Emmet's).

But on examining the cervix, and seeing it very red and congested, he concluded that he would wait a few days, until the congestion in the parts subsided. In fact, he feared the hemorrhage that would follow. I could but contrast his timidity with the confidence with which some German operators would have attacked these parts with the knife, without the least fear or hesitation.

I have seen the amputation of the cervix done with scalpel about forty times during my stay in Berlin, and not a single instance have I seen any serious trouble in arresting the bleeding. Dr. A. Martin, of this city, read a paper last year before the gynæcological section of the German Medical Society, on "The Therapeutics of Chronic Metritis," in which, after going on to state that as all medication, both local and constitutional, had proved of no avail in the management of this disease, he had been induced to resort to an operative procedure for its cure, which operation consisted in an amputation of the cervix uteri.

At that date (August last) he had done the operation one hundred and nine times. Of these patients, seventy-two suffered from a simple chronic metritis, one-half of which number he had had under observation and treatment for many months without the least improvement in their condition. Twenty-six were performed for a cancerous condition of the cervix, and eight for a local hypertrophia of one or both lips of the neck of the womb. Of these cases, only two died as a direct result of the operation. One of these was very anæmic from loss of blood before the operation, and died of septicæmia soon after. The other proved fatal from the supervention of typhoid fever.

His mode of doing this operation is to cut away a portion somewhat funnel-shaped, the base below and the apex above, of from three to five centimeters in length, depending upon the length of the uterus, as measured by the sound before he operates.

I have followed Dr. Martin carefully for nearly four months, and have seen him and assisted him at this operation more than thirty times; and while I am perfectly sure that no ecraseur nor galvano-cautery can do this

operation so well as does his knife, I am sorry to be compelled to believe that, like some other of our noted gynæcologists, he is bent on doing "*his*" operation as often as possible, and so submits many a poor woman to this treatment, who might be relieved by a more simple procedure.

Unfortunately, like many another celebrated operator, he is inclined, I fear, to keep in the background as much as possible the accidents that follow his treatment.

I saw a woman in the service of another gynæcologist of Berlin, operated on for complete occlusion of the os uteri and hæmatometra, that followed an amputation of the cervix by Dr. Martin.

When I related the case to Dr. M., he said that this patient was one of two who had had secondary hemorrhage following the operation, and he attributed this bad result in her case to the extra stitches that he had had to put in, in order to stop the bleeding, as well as having left his service and passed out from under his observation sooner than she should have done. Prof. Schroder's mode of amputating the cervix, and which Prof. Lagenbeck recommends, is, in my mind, at once the most simple and easy of execution of any of the numerous modes of doing this operation that I have seen tried. Dr. Martin, however, objects to it because the resulting stump is somewhat flat, while when done after his plan (Dr. Martin's) the stump is conical in shape. Prof. Schroder's reply to this is, that nature has to re-shape the parts after any cutting procedure of this kind, and that in the end his operation leaves as natural a cervix as any other. To do this operation Prof. Schroder places his patient on her back, her thighs flexed upon the abdomen and the legs upon the thighs. (I have never seen a German operator place a woman in Sims' position.)

A Simon's speculum is next introduced, and the perineum pressed well down. A Hegar's irrigator containing a five per cent. solution of carbolic acid is now made to throw a constant stream of this fluid upon the cervix uteri during the entire operation. In fact, Prof. Schroder claims to make this operation strictly antiseptically, substituting the fluid carbolized solution for the spray. A pair of scissors are now introduced into the os uteri, and the os incised as high up as the vaginal insertion on each side. The cervix is thus divided into two flaps, and while an

assistant pulls down upon and steadies the womb by means of a pair of forceps made fast to one flap, the surgeon seizes the other and amputates it rapidly with the knife, cutting, of course, from below upward, so that you have left after the amputation a somewhat long flap-shaped mucous membrane to cover the stump.

By means of a curved needle, armed with a heavy silk ligature, two sutures are now passed from the vaginal mucous surface of the stump into the os. These sutures are each placed one centimeter from the median line at their point of entry into the vaginal walls. They are now tied tightly, and serve to render the os uteri patulous, as well as to pull down and hold the womb firmly, while the other lip is being cut away in the same manner. From three to four stitches are next applied on each side of these central ones, and the operation is completed. The vagina is now tamponed well with salicylated cotton, which seals up the wound and makes the whole procedure antiseptic.

With the uterus thus firmly held, and with a needle curved to a semicircle and armed with a silk thread, there is but little difficulty in passing a suture through the muscular walls of the uterine stump in such a manner that when it is tightly tied it will include any bleeding vessel and effectually arrest any hemorrhage.

German operators do not use the silver wire for sutures, either for this operation or Emmet's, as they claim that the silk answers every purpose, and is much easier to apply and remove.

Prof. Langenbeck lays down one very emphatic rule as to the use of styptics to arrest hemorrhage where operations have been done in the vagina, and where the probabilities are that the peritoneum has been encroached upon. *Never*, he says, use preparations of *iron* for this purpose. He relates several cases where he used a solution of iron, and after his patients died of peritonitis he found that the walls of the peritoneum had sloughed away from the effect of his styptic. He believes that even a moderately strong solution of iron will cause a necrosis of any serous membrane to which it is applied.

Prof. Freund, late of Breslau, but now called to Strasburg to fill the place of Prof. Gusserow, appointed as Professor of Midwifery in the University of Berlin, spent a month in the latter city this winter. As the reader

perhaps knows, Prof. Freund is the father of the revised method of extirpation of the entire uterus through the abdominal walls.

I saw him operate on a case for Dr. Schroder just before I left Berlin. The patient was alive four days after the operation, but her recovery was considered doubtful. I saw him begin another operation of the same kind for Dr. Martin, but after making his abdominal incision, he found the pelvic glands so invaded by cancerous infiltration that he would not attempt the removal of the uterus.

He closed up the wound, and Dr. Martin then performed his amputation of the cervix uteri as a palliatory expedient. This poor woman had a good deal of constitutional disturbance, but was convalescing the last time I saw her, ten days after the operation.

Prof. Freund has done this operation of the total extirpation of the womb twelve times and has had seven recoveries, while in Dr. West's tabulated twenty-five cases there occurred twenty-three deaths.

The enucleation of the womb entire through the vaginal walls, of which a lately published case is reported by Prof. Lane (I believe), of San Francisco, Prof. Langenbeck considers an anatomical *impossibility*.

He says, that while you may with considerable facility separate the *cervical* portion of the womb from its attachment, that when you reach the *body* of that organ, you can not separate its muscular tissues from its peritoneal coating without the greatest difficulty, even when you have the uterus removed from the body and dissect with the greatest care, and as an operative procedure upon the living body he does not think its accomplishment possible.

TRACHEOTOMY.

A child six years old was brought into Prof. Langenbeck's clinic, and being placed upon the table, he said:

"Gentlemen, you would scarcely imagine on looking at this little boy and seeing how little his respiration is embarrassed, that I am about to open his trachea."

The patient was suffering from diphtheria, and had twenty-four hours previously developed a croupy cough. Prof. L. laid it down as a rule, to which there should be no exception, that in the management of these cases that you should operate before signs of extreme dyspnœa and blood poisoning come on. Waiting will do no good, for

with an almost absolute certainty tracheotomy will be necessary, and the longer you wait the less are your chances of success. The operation itself is not dangerous unless done when the patient is in extremis. Since 1870 he has done this operation seven hundred times in this clinic. In some years he has saved as high as 40 per cent. of his cases operated on, and in others only 10 per cent.

He was not able to explain why there should be this great difference in the mortality of his cases in different years; but one fact he did know, and that was that since he had given out word to the physicians of Berlin that they should send their diphtheritic patients earlier for this operation, that his success had been much better.

In the City Hospital of Berlin diphtheritic patients are kept in a ward adjoining that devoted to the chronic diseases of women. On making one of my evening visits to this institution with Dr. Alberts, physician in charge, he showed me a boy ten years old who had just been brought in with this disease, and upon whom he proposed to perform the operation of tracheotomy if the case did not improve after one hour.

I administered the chloroform, and the doctor cut down through the skin and underlying fascia, and with great care separated, as he thought, the two lobes of the thyroid gland with the handle of his scalpel, and finally reaching what he thought to be the trachea, made an incision into it. No air escaped, though he pulled the edges of the wound open with a pair of forceps. The true condition of things now flashed over him in an instant. He had gone outside of and behind the trachea, and had opened into the œsophagus. After waiting a few moments and expressing his great horror at what he termed his *extreme stupidity*, he opened the trachea and put in the tube. With even this mishap this case did well as far as the operation was concerned, though the patient died five days later from extension of the diphtheritic process into the bronchi. The boy was not given any nourishment by the mouth for twenty-four hours, but after that time he was given fluid nourishment, which passed into the stomach without hindrance.— *W. S. Caldwell, in St. Louis Medical and Surgical Journal.*

Jaborandi in Pleuritic Effusions.

[A. Laramée. L'Union Médicale du Canada, January, 1879.]

Before coming to the main point, the author gives a brief history of this medicine. Jaborandi (*pilocarpus pinnatus*) is a shrub, eight or ten feet in height, with leaves alternate, pennate, compound, growing in the north of Brazil, near Pernambuco. It bears flowers and fruit, but up to the present, only the leaves, it seems, have been experimented with in therapeutics.

The active principle of jaborandi, pilocarpine, was discovered by Hardy in 1875. This alkaloid, known under the name of nitrate or muriate of pilocarpine, is high priced; but, on the other hand, an exceedingly small quantity, three centigrams, equals four grams of the leaves in infusion. The most common and economical plan of giving jaborandi is to give the infusion of the leaves, which is prepared by infusing four grams of the bruised leaves in a cup of boiling water for quarter of an hour, and give to the patient immediately afterward.

It is also given in the form of fluid extract in the dose of thirty drops to four grams, and in pills of twenty centigrams, each pill equaling four grams of the leaves. The muriate and nitrate of pilocarpine are often used for hypodermic injections in the proportions of sixteen milligrams.

All the doses mentioned may be increased. The leaves furnish a large quantity of essential oil, but it has not yet been experimented with.

General opinion attributes the discovery of jaborandi to Dr. Continho, of Pernambuco. This gentleman having experimented with it, and having recognized sialagogues and sudorific properties in a high degree, sent some samples to France in 1873.

The contradictory reports, which have circulated for some time, regarding the effects of jaborandi, arise from the fact that a plant coming from South America and bearing the same name was confounded with the true plant, but it is now certain that the true species is the only one exported to Europe and the United States.

Prof. Gubler, at the Beaufon Hospital, Paris, experimented with it on a large scale; and some months later, MM. A. Robin, Vulpian, Hardy, and several others, carefully studied jaborandi, especially its physiological prop-

erties. All recognized in it a powerful action on the salivary and sudoriferous glands. Since then jaborandi is regarded as the most energetic sudorific and sialagogue with which we are acquainted.

Under the action of this medicine, five to fifteen minutes usually, but never later than twenty-five minutes after its administration, salivation and sweating take place and go on increasing. Salivation, which begins first, ceases generally at the end of two hours, and the sweating a little later. The patients are tormented by a continual spitting, and frequently by nausea, and even vomiting, especially if they swallow the saliva. The salivary glands are then more or less swollen and at times painful. Sweating is less marked in persons subject to gastric disorders and constipation, but more free in those subject to sweating.

The temperature of the body is not sensibly modified. Sometimes vertigo comes on, but it is only temporary.

M. Gubler has noticed secondary actions, such as hypersecretion, from the lachrymal glands, from the nasal membrane and from the pharyngeal, tracheal and bronchial glands.

M. A. Robin observed that the day of the experiment the urine diminished notably, but the day after there was a considerable increase. However, other things being equal, it may be said that the reduction of the amount of urine is not proportioned to the loss of fluids from the skin and salivary glands.

There is a marked antagonism between jaborandi and atropine. At the University College, London, they succeeded with six milligrams of nitrate of pilocarpine in producing an abundant salivation, and with 3-10 of a milligram of atropine it was arrested. At Paris, M. Vulpian succeeded in preventing salivation and sweating in one of his patients, to whom he had given a few minutes previously a milligram of sulphate of atropine.

One drop of solution of nitrate of pilocarpine (in the proportion of sixty-five milligrams to thirty grams of water) is sufficient to produce contraction of the pupil when dropped in the eye.

The above are the most important physiological properties of jaborandi. The author gives the two following cases to illustrate its action in pleuritic effusions:

The first case, in December, 1877, was that of a man

aged forty years, the subject of pleurisy for about twelve days. All the signs indicating inflammation of the left pleura were present; pain in the side, dry cough, early effusion, producing dullness, which changed its position with that of patient, absence of respiratory murmur, bronchial respiration, etc. He had recourse first to the classic treatment, emetic, vesicants, calmatives, etc. He finally tried jaborandi, four grams of the leaves infused for fifteen minutes and given in one dose. Five minutes after, salivation began and lasted for nearly two hours. It was abundant; sweating less prominent, showing itself especially between the shoulders. There was some nausea, but no vomiting. The sensibility and swelling of the salivary glands were tolerably well marked. Nothing peculiar as regards secondary actions. The same day the patient felt much better, the dullness diminished sensibly, and the respiration was more free. Two days after, the signs indicating renewed effusion, a second dose was given; and this time the effusion disappeared permanently.

The second case was a lady of forty years. She had latent effusion on the right side of six weeks' standing when she entered the hospital. Jaborandi was given in the same dose and manner. The effusion was greater than in the first case. He had resource to jaborandi four times during twelve days. Sweating and salivation were abundant. There was some nausea and vomiting, swelling of salivary glands, and hypersecretion from lachrymal glands, and nasal membrane. A third and similar case was also cured in the same manner by the author. The author remarks that the first dose was more energetic than the following ones. Patients should avoid exposure to cold during the sweating. After the disappearance of the effusion the friction of the pleura was very distinct.

Prof. Combal thus formulates the action of jaborandi in pleuritic effusions:

1. Jaborandi is very useful in the treatment of pleuritic effusions of whatever age or however abundant the liquid.

2. Jaborandi causes most often the liquid to disappear very rapidly, and the friction sounds to be heard.

3. The effects of jaborandi are of short duration; the liquid often reforms with great rapidity. It is necessary then to insist upon the use of jaborandi, and usually the liquid may be made to disappear permanently.

4. But when once the liquid has disappeared and the

friction sounds have appeared, jaborandi becomes absolutely useless. We must then, more generally, to accomplish a cure, resort to tonic treatment, and sometimes to local applications of tincture of iodine for example.

M. Dujardin-Beaumetz has employed jaborandi with success in albuminaria, in which there was general œdema, continual vomiting, and scarcely sixty grams of urine passed a day. An infusion of six grams of the leaves in ninety grams of water was given by the rectum, and produced an abundant salivation and sweating. The patient was improved promptly.

Jaborandi also finds a use in asthma, especially in the humid variety.

Iodoform—Its Uses.

Mr. Wyndham Cottle, in the London *Lancet*, gives the following statements as to the therapeutic applications of iodoform:

As an Internal Remedy.—For the latter forms of syphilitic disease, especially of the tongue, iodoform has been highly recommended by Mr. Berkeley Hill, and also for naso-pharyngeal affections by Dr. Prosser James. A grain or a grain and a half, with extract of gentian, sarsaparilla, etc., in the form of a pill twice or three times daily, is advised. I have given it in many cases of syphilis. I must, however, confess my experience of iodoform, when administered internally, has not been equally favorable. I did not find the improvement I had hoped for in my patient's condition, while the most marked effects of iodine were very often induced—intense frontal pain, coryza, loss of appetite and sickness, with heightened temperature and quickened pulse. In one case these severe symptoms followed the administration of half a grain twice daily.

As a Local Application.—For some years in America, on the Continent, and in England, iodoform has been a remedy rapidly growing in favor both for venereal and primary syphilitic sores. Its advantages in these cases are attested by the highest authorities. Very useful is it also in most forms of ulceration, whether specific or not, and in almost any situation. It may be applied with advantage to ulcers of the legs, to rupial sores, to buboes

that have become open wounds, to ulcerations of the vagina, uterus, etc. This agent has been highly spoken of as an application in cases of post nasal-catarrh, of ulcerations of the throat, of ozena, whether syphilitic or not. As a parasiticide it is serviceable, many cases of tinea tonsurans, sycosis, etc., improving under its influence. Most soothing, too, is it generally when used topically to malignant ulcerations. Indolent sinuses may often also be beneficially injected with solutions of iodoform.

Two points of clinical importance must, however, be borne in mind in the employment of iodoform. Though a local anodyne, it is in some degrees an irritant. It should never, therefore, be applied to an inflamed surface, since it is likely to cause irritation and pain. It is to the indolent ulcer, in which action is absent or deficient, that it acts so beneficially. And, again, iodoform is apt to inflame the sound skin that surrounds the lesion it is intended to benefit, if kept in contact with it for any lengthened period.

Many plans have been devised for applying this drug. On ulcers and venereal sores, previously cleaned and dried, it may, when finely powdered, be lightly dusted, a piece of dry lint being laid over it, and the dressing renewed night and morning, while the discharge is profuse, once daily being afterward sufficient. Tannin or fuller's earth may be mixed with the iodoform in any proportion if it is desired to moderate its action, equal parts of the ingredients being generally prescribed. Iodoform can also readily, by trituration, be made into an ointment with lard or vaseline, or any of the petroleum derivatives, five to twenty grains to an ounce of the base. This mode is especially useful when it is desired to make the application to internal cavities.

Iodoform is sparingly soluble in water and glycerine, somewhat more so in alcohol and warm oil, but readily dissolves in ether, and to still greater degree in chloroform. This property furnishes us with perhaps the most convenient and easy method of application. A solution of one part of iodoform in six to twelve of either of the last-named bodies is painted with a camel's hair brush over the surface to which it is desired to apply it. The solvent evaporates, leaving a film of iodoform, and in most cases the process should be repeated once or twice daily. To avoid the pain which this evaporation of the solvent is

apt to produce in sensitive parts, such as the nasal fossæ, Dr. Woakes advised "iodoformed wool"—that is, finely-carded cotton-wool with which an equal weight of the drug has been intimately blended. A piece of this medicated wool is to be placed in the required situation, and allowed to remain there from one to twenty hours.

The extremely penetrating and disagreeable odor of iodoform is its chief objection in practice. I find this is best obviated by great care that none of this powerfully-smelling drug is dropped on the patient's clothes, that when applied it is as far as possible covered over, and in some degree it may be disguised when made into an ointment by prescribing with it some essential oil. Tannin, also, when mixed with iodoform possesses the peculiar property of in some measure removing its odor.

Treatment of Alcoholism.

Some of the most distressing cases we, as medical men, are called upon to attend are those of alcoholism, and it has, unfortunately, fallen to my lot during the last few years to have several, from time to time, under my charge. A good deal has been written by different persons with regard to treatment, but I do not think this ought to deter one from putting on record his own personal observations, since it is only by accumulation of evidence that proper conclusions can be arrived at. As far as I can see, there would appear to be three different stages in the disease, viz:

1. *Sleeplessness*, accompanied by a hard quick pulse; loss of appetite in the morning, and morning sickness.

2. *Drowsiness*, accompanied by a slow, somewhat compressible and excitable pulse; complete loss of appetite; and constant sickness. The blood has in it an excessive amount of hydrocarbon.

3. *Delirium*, accompanied by complete absence of sleep and the presence of horrible apparitions, especially at night. The pulse is small, quick, easily excitable and compressible. The blood is deficient in red corpuscles. Hydrocarbons are present in poisonous quantities; the brain undergoes little or no repair. The vaso-motor nerve influence is almost entirely lost. The treatment I have found beneficial in each stage is the following:

First stage.—Træ. rhei, - - - min. x.
Træ. card. co., - - - ʒ ss.
Træ. hyoscyami, - - - ʒ ss.
Acid. hydrocyanic. dil., - - min. iij.
Sp. chloroformi, - - min. xv.
Aquam adʒj. quartis horis.

The prussic acid acts as a sedative to the stomach, heart, and brain. The hyoscyamus has also, to a certain extent, the same effect.

Abstinence from stimulants in this, as in the other stages, is strictly enjoined, but when I find it difficult to get this carried out, I allow a glass of claret three times a day. It is essential that the patient gets plenty of light and easily digestible food, and with this object I order Brand's essence of beef, milk and eggs beaten up together, and barley water. This diet is suitable to each stage. The only thing to be said is the more the depression the more the nourishment.

Second stage.—The treatment should be the same as just described, only it is as well to omit the prussic acid, as there is not the same excitement present.

Third stage.—Chloral should be given in thirty-grain doses every four hours, till sleep comes on, and then repeated as often as necessary. The nourishment should be by no means forgotten, and stimulants should be strictly forbidden.

If chloral is gone on with beyond a certain time, a sleepless condition recurs, when nux vomica and gentian should be given as follows:

Træ. nucis vomicæ, - - min x.
Træ. gentian co., - - - ʒ ss.
Ess. limonis. - - - min. j.
Sp. chloroformi. - - - min. xv.
Aquam ad ʒi. ter quarterve die.

This rarely fails to reinduce sleep, but if persisted in long after it has produced its effect, sleeplessness returns. When this is the case the tincture of gentian, calumba or chiretta should be given alone.—*Dr. Atkinson, in London Pract.*

New York Pathological Society.

Stated Meeting, March 12, 1879.

OVARIOTOMY.

Dr. Bozeman presented two ovarian tumors removed by him from the same patient. The interesting point in the specimens was the looping of the pedicle of one of the diseased ovaries around the round ligament of the uterus.

The patient, single, aged twenty-three, having a healthy family and personal history, first felt symptoms about a year before the operation. There was pain in the left iliac and in the lumbar regions; this increased and gradually was felt in the left groin, hip, and labium. At the same time a small tumor appeared in the left iliac region, which was rather sensitive and somewhat movable. This increased in size till the time of examination. It was then the size of a man's head. The uterus was normal in size, anteflexed, and inclined to the *left side* very much.

Upon operating, January 24th, in the usual way, under Lister, a non-adherent, multilocular cyst was discovered. The fluid was drawn off with a trocar and canula. It was then found that the pedicle was twisted seven times upon itself, and was also looped around the round ligament. This looping took place, evidently, when the tumor was small, and as it grew up out of the pelvic cavity it drew upon the round ligament, making it very tense. The pedicle was tied, severed, and left in the abdominal cavity. The other ovary, being considerably enlarged, was removed also, and the operation concluded without any complications.

The explanation suggested for this peculiar looping was, that there had been a prolapse of the ovary, as happens in ovarian hernia, but the ovary instead of entering the abdominal ring, dropped down into the triangular space between the round ligament and the uterus; it then gradually worked its way toward the recto-uterine space, and, as it increased in size, was lifted out of the pelvis, its pedicle in this way being carried under the round ligament. The twisting of the pedicle is not rare, but this is the first reported case where it was thus looped.

The patient made a good recovery and now menstruates regularly, although completely unsexed.

INTERESTING CASE OF UTERINE DISPLACEMENT.

Dr. Peabody exhibited the uterus, left ovary, and bladder removed post-mortem from a woman aged fifty years, and upon which theration of ovariotomy had been performed some time before at St. Thomas' Hospital, London. He gave the following points in the history:

Dr. Partridge was called to see a woman, and found her dying from exhaustion. She died four hours after. He found vagina occluded by a dense, firm, hard mass, so as to admit only only one finger. There was a fetid discharge from vagina. Diagnosis of cancer of uterus had been made by previous attendant. There was nothing to be done. Post-mortem examination showed broad ligament fixed at lower angle of a cicatrix in abdomen; uterus elongated about five inches, and distorted by constant traction. There was no tumor connected with uterus; no ulceration. Pelvis was filled with dense, firm mass, which proved to be only connective tissue. No enlarged glands; urethra surrounded by mass. Bladder distended to umbilicus, and very thin. No abscess found. Case is of interest in relation to the operation of ovariotomy for uterine displacement in case where ovaries are not affected. Dr. Koeberle, of Strasburg, relates a case in which irreducible retroversion of uterus gave rise to intestinal obstruction which could not be overcome, and in which permanent cure was effected by gastrotomy. Patient was twenty-seven years old; had suffered from obstinate constipation, having passed nothing from the bowels for four months. At intervals had fecal vomiting. For several months confined to bed. For two months nourished by milk alone. Abdomen was hard, and left flank filled by fecal masses of stony hardness. Rectum empty, and uterus completely retroverted. Condition attributed to a fall from a carriage six months previously. All efforts to replace uterus had failed, notwithstanding various and energetic treatment.

After trying enemata and drastic purgatives, Dr. P. resolved on operative interference—not on account of obstruction. Resolved, however, also, to cure displacement by excising one ovary and fixing its pedicle to abdominal wall, as in ovariotomy; uterus was removed from its place, not without some force, being impacted by intestines full of scybala, which lay above it. Intestines were kneaded by fingers to make scybala pass downward.

Left ovary was drawn out of lower angle of wound in abdomen, cut off, and pedicle fixed in wound. Convalescence was rapid, as after easy case of ovariotomy. A large quantity of hard scybala was passed spontaneously on first day, and enormous quantity after enema of senna on third day. Colic and vomiting disappeared at once, menstruation was normal, and patient enjoyed good health for four years. At end of that time she again came under observation with vaginismus, constipation, and vesical tenesmus. Profound hysteria had been established in consequence of reverse of fortune. Examination showed that uterus remained in a somewhat anteverted position, and use of sound showed that it was still firmly attached to anterior abdominal wall.

LIPOMA WITH CALCEREOUS DEPOSIT.

Dr. W. T. Bull presented a lipoma with calcareous deposit. The tumor formed a mass the size of a man's fist, hanging by a narrow pedicle from the anterior axillary fold of a woman fifty-one years of age. The growth, always painless, of twenty years' existence, presented all the features of a subcutaneous fatty tumor, except that at the lower part there was a lump of stony hardness as large as a horse-chestnut. It was removed by cutting pedicle with scalpel. No vessels bled. A longitudinal section (with knife and saw) disclosed a fibrous capsule inclosing fat tissue. The hard lump had an outer layer one or two lines thick of bony consistence, the rest of the mass like thick paste. Both parts found to consist of carbonate of lime by treating with sulphuric acid (under the microscope).

Dr. Post remarked that in lipomata of long standing, calcareous degeneration was not uncommon.

CHYLOUS URINE AND FILARIA IN BLOOD.

Dr. Satterthwaite presented a specimen of chylous urine in behalf of a candidate for admission to the society, stating that an interesting point in the history of the case, viz: the presence of filaria in the blood, had not been mentioned.

Dr. Abbe remarked that the case was one of much interest, as the subject was now receiving considerable attention from English observers.

It is eight or nine years since Dr. T. R. Lewis had re-

ported his first observations on some fifteen cases of chyluria studied in tropical climates, where it was prevalent, and announced his discovery that the blood of patients with chyluria swarmed with a minute filaria.

So numerous were they, that a drop of blood obtained from pricking the lobe of the ear, or other part of the body, would commonly contain from one to six filaria.

These were of minute size—in length from $\frac{1}{150}$ to $\frac{1}{250}$ of an inch, and in diameter $\frac{1}{2500}$, and were regarded as an embryonic stage of some larger parasite, which, however, eluded discovery until within the past three years, when Cobbold, Lewis, and Carter each claim to have found mature filaria in blood clots and lymphatic abscesses of the axillæ of patients in tropical climates. The mature worm measures in length three and a half inches.

Dr. Abbe had himself observed two interesting cases of this rare disease. The first was in 1875.

The patient, who was twenty-eight years old, and a native of the West Indies, had had recurrent attacks of chylous urine during the previous eleven years. And a most remarkable feature of these attacks was, that each was preceded by the emission of a soft gelatinous lump, which *immediately* ushered in a flow of chylous urine.

When I saw him, he was passing urine that was as white as pure milk, which, upon standing a short time, would coagulate in the vessel so that it could be turned out like thin blanc-mange, and would retain the shape of the vessel. In the course of a few hours, however, this would disintegrate and liquefy. The addition of ether would instantly clarify it by dissolving the oil. Quantitative analysis showed eight grains of oil to the ounce of urine.

The daily amount of urine voided was from thirty-two to fifty-four ounces, and the maximum of oil thrown out by this channel daily, half an ounce.

Careful search of the gelatinous lumps, which proved to be very tough mucus, streaked occasionally with blood, revealed the filaria, which I often found as numerous as thirty or forty in a small mass of mucus. This parasite resembled in size and general appearance the common trichina spiralis straightened out. At that time I had not heard of the discovery of Dr. Lewis, and did not therefore examine the patient's blood.

Shortly afterward, however, the second case came under my care. The patient was a middle-aged man, and had

suffered for many years from chyluria, though, as in the first case, his general health was not much impaired.

Careful examination of this patient's blood revealed no sign of the parasite.

These cases were both successfully treated by turpentine, given in twenty-drop doses three times a day.

TUBAL DROPSY.

Dr. Abbe presented a specimen of tubal dropsy. The woman from whom it was removed died shortly after admission into the Roosevelt Hospital, and as the result of injuries received at the hands of her husband. The right Fallopian tube was distended to a size somewhat larger than a coil of small intestine, while the left Fallopian tube was somewhat smaller. The fimbriated extremities of each tube were matted to their respective ovaries and were stenosed. The uterus was bound down by pelvic cellulitis.

GANGRENE OF LEG AND FOOT.

Dr. Post presented a specimen of mortification of the leg and foot removed by amputation. The patient was a large, stout man, aged fifty years. In the early part of February he was attacked with pain and swelling in the right leg, for which he was sent to the Presbyterian Hospital, entering the medical side of the house, in the service of Dr. Jas. L. Banks. On examining the limb, Dr. Banks discovered entire obstruction to its circulation. The patient was accordingly transferred to the surgical side and came under the care of Dr. Post. In the course of a few days the foot and leg became livid gangrene within a few inches of the knee. As soon as a line of demarkation had appeared at that point, amputation of the thigh was decided upon and performed. The operation was done that afternoon by the double lateral flap method. The femoral artery was found completly occulated by a firm, fibrinous plug. Only one small muscular arterial twig required ligature. In consequence of the density of the tissues a section of the bone could not be made as high at first as was desirable. At the point of section the medulla seemed to be diseased, and after some difficulty the bone was removed higher up through a healthy portion.

The cause of the plugging of the artery was not known. In the absence of any history of syphilis and of the ex-

istence of cardiac disease, it was thought that arteritis had occurred. The vessel was occluded from the groin downward.

Dr. Post presented the arteries of the lower extremity taken from a female patient, aged eighty years, who died of senile gangrene. She was admitted to the hospital several months ago in consequence of an injury to her thigh. The vessels exhibited were in an advanced stage of calcification.

EROSION OF CARTILAGES OF KNEE-JOINT—AMPUTATION OF THIGH

Dr. Post presented a third specimen, which consisted of a leg removed by amputation, from a boy aged nineteen years. Four or five months ago he came into the Presbyterian Hospital on account of an abscess of the thorax, below the axilla. When Dr. Post came on duty he found that the abscess had not healed, and that there were still slight traces of pleuritic effusion in the lower part of the chest. The main trouble, however, was a swollen and painful condition of the knee. The latter was bent at a somewhat acute angle, and it could not be moved without occasioning great agony. The patient was feeble and emaciated, and the presence of the disease in his knee-joint seemed to be an extra burden, which he seemed incapable of bearing. Amputation of the thigh was decided upon as the only means of giving him a chance for his life. Contrary to expectation, the patient bore the operation quite well. At the end of a week afterward his temperature was much lower than formerly, and the patient was free from pain.

The lesion of the joint was mainly in the erosion of the cartilages. The latter appeared as if made by a gouge. The epiphysis, which was not yet consolidated with this shaft, presented a small cavity near one of its edges, around which the bone was slightly softened, and which contained a little pus. That was the only disease detected in the interior of the bone. The bone of the extremity was light and porous, but did not present any marked disease. The disease which commenced in the articular cartilages was one of the rare forms, and was as usual extremely painful. In the substance of the thigh were several elongated abscesses which necessitated the use of drainage-tubes in dressing the stump.

Dr. Stimson thought there were some reasons for sup-

posing that the plugging in the case of gangrene of the leg commenced in the veins. The inner coats of the femoral vein were softened and changed, the calf of the leg was infiltrated with partially decomposed blood, and before discoloration appeared there was œdema of the limb.

Dr. Briddon did not see how it was possible to have such an occlusion of the artery, and so high up, due to primary plugging of the veins.

Dr. A. E. M. Purdy presented a specimen of what appeared to be fibrinous casts of the bronchial tubes. It was expectorated by a calf.

The specimen was, on motion, referred to Dr. Liautard for a report.

STRANGULATED FEMORAL HERNIA.

Dr. Stimson presented a specimen of strangulated hernia, removed post-mortem from a woman aged forty-three years. She began to vomit on Thursday and continued to do so at varying intervals until Saturday, when a physician was called. Strangulated femoral hernia of left side was discovered, but no attempt was made at taxis. She was taken suddenly worse yesterday afternoon, and died at eight o'clock in the evening. At post-mortem examination the hernia was found to be nothing more than a mere knuckle of intestine.

MULTIPLE ABSCESS OF BLADDER.

Dr. Stimson also presented a specimen of multiple abscess of the bladder, removed from a man aged twenty-five years, who, after a prolonged spree, was seized with retention. After a dribbling for forty-eight hours he entered the hospital and died in about three hours. At the autopsy several interstitial abscesses of the bladder were seen, in some of which there was perforation. The latter condition was supposed, however, to be post-mortem. There were well-marked pyelitis on left side and a double ureter on right side. The right kidney was free from disease, due probably to the fact that on account of the two ureters there was left no obstacle to the urinary flow.

West Chicago Medical Society.

Regular Meeting, March 24, 1879.

TRAUMATIC INSANITY.

Dr. D. R. Brower read a paper on this subject and reported three cases. The first case was that of an army officer, who, before injury, was noted for his kindliness of disposition, temperance and affection for his friends and family. He received an injury of the head, a scalp wound, with possibly a slight injury to the skull, from which he apparently recovered. Afterward, his emotional disposition began to change; he would have cephalagia, at times very severely, and soon got to taking liquor to intoxication at these times. At such times he was suspicious, vindictive, and brutal, and would beat his wife and children. These attacks were fits of mania. They continued at intervals as long as the case was kept track of. The second case was that of J. K., lately tried in a local court for murder. He was an Irishman of middle age. Had been educated by a brother who was a priest of the Catholic Church, to which the patient was devotedly attached. He was naturally kind and peaceful. He received while in the army, a head wound, involving the skull in a depression. Some months afterward he began to be suspicious of those about him at times; to have severe attacks of cephalalgia. Finally he would have attacks of *petit mal*, and the reporter thought there was, from the evidence, no doubt he had had two fits of *grand mal*. He had become estranged from most of his old friends; repeatedly left situations for the sole reason that he thought his employers and comrades were "down on him;" had acquired a mortal enmity toward the Catholic Church and the members of its orders. In his attacks of cephalalgia he was often thought dangerous by those about him, who kept out of his way. He had camphor about him constantly to keep evil spirits away. He woke out of a sleep one night and shot his wife who was beside him, and then shot himself. The wife died. He, recovering, was tried for murder. The verdict was that the prisoner was guilty of murder, but that at the time of the trial he was insane. Shortly afterward he cut his throat in his cell and died.

The third case was of a man also tried in the local courts for the murder of his wife, but who, at the time,

and at the time of the murder, was so unmistakably insane that nobody doubted it, and he was sent to the asylum. In this case the insanity was clearly traceable to an injury of the head, received years before, and which was followed slowly by, first, headache, then inattention to business, then by other more positive symptoms of insanity.

Dr. Brower thought these cases illustrated the chronicity and slow development of insanity from traumatic injuries to the head; the comparatively slight injury required often to cause insanity; the fact that cephalalgia is the first symptom, which is followed by emotional disturbance, which latter always precedes intellectual aberration, and finally the general absence of anything like acute meningitis. He believed that in many such cases there was chronic meningitis. The teaching of cases like those described was, that no injury to the head was so slight as not to be important. At the same time it was true, hardly any injury to the head was so severe as to be despaired of.

Dr. E. L. Holmes related the history of a case of a naval officer, who had received a wound of the head from a shell. Recovering from the injury, as was supposed, he not long afterward began to be emotionally changed; was unreliable, soon became dissolute in his habits—a thing unknown before his injury—and was quarrelsome. He was finally dismissed the service for drunkenness. On returning home, he was found to have symptoms of intoxication when he had not partaken of liquor, and was secretive as to his history while in the service. On his death, an autopsy revealed an abscess of the brain, just beneath the seat of injury in the skull.

Dr. H. M. Lyman related the history of several cases very similar to those reported by Dr. Brower. In one case there was a scalp wound over the left eye, made by a blow from a tin dipper. This healed. In three months convulsions occurred, and the wound reopened; hemiplegia took place. A post-mortem examination discovered an abscess of the left frontal lobe. In another case—that of a man in jail for some crime—there was found a considerable depression of the left parietal bone beneath a cicatrix. The man was dumb, he thought from aphasia, as he was able to make with a pencil, when asked the cause of his injury, a hieroglyphic, evidently meant to

represent the word glass, which Dr. L. took to mean that the injury had been inflicted by a blow with a beer-mug. The man was moody, and fancied he was followed by some one. He was clearly insane.

Dr. A. B. Strong described the case of a lad who had received a kick from a horse upon the left side of the head, just above and a little in front of the ear. The scalp was cut, but he thought the bone was not fractured. Insensibility was at first produced, which disappeared rapidly. In four days there appeared suddenly paralysis of the left side of the face and the right arm, and aphasia. No other paralysis was present.

A slow recovery from the paralysis followed. The aphasia improved so far that, in a few weeks, the boy could talk well when free from excitement, but, on any perturbation of spirit, or an attempt to talk rapidly, he was dumb.

PERIODICAL MANIA.

Dr. J. H. Salisbury read the history of a case of this character that recovered while taking antiperiodic doses of quinine. The patient was a man of twenty-five, a teamster, temperate, and healthy previous to the present illness. It was reported that two weeks before admission to hospital he had fallen from his wagon, and was injured to the extent of scratches about the head. That night he had vomited. He was sane six days, although not well. On the seventh day he had a chill, followed by fever, and an attack of delirious mania. This subsided, to be repeated in two days. When brought to the hospital he was in a state of wild delirium, and had to have a straitjacket. On admission his temperature was only 100° F., and the pupils were slightly dilated and alike. Bromide of potassium and chloral were given to quiet him, and he slept. Next morning he was quiet, but not entirely rational. He had no symptoms of acute meningitis afterward, but had several slighter attacks of maniacal delirium, occurring with no particular regularity. He was given five to ten grains of quinine each day. In a few days he had entirely recovered.

Dr. A. B. Strong exhibited a specimen of spinal column, illustrating the process of cure of Pott's disease by anchylosis.

Another specimen was described, which had been found

in the dissecting-room of Rush College, in which there was complete bony anchylosis of the whole spinal column, of the attachments of the ribs to the vertebræ, and of the ribs to the sternum. No motion was possible, except perhaps a slight antero-posterior one of the upper two or three cervical vertebræ. The head could only be moved with a slight bowing motion. There was no deformity anywhere. Respiration must have been wholly diaphragmatic. There was no appearance about the body that indicated ill-health or lack of vigor. The individual was a male, and past the meridian of life.

Remarks on Jaborandi.

Although jaborandi was introduced to the notice of the profession in the year 1865, it is only within a comparatively recent period that its physiological effects and therapeutic uses have attracted attention.

During the last year, with a view to ascertaining more exactly the pathological conditions in which it might be useful, I have given it to a considerable number of individuals, both in health and disease, and have taken it in my own person in varying quantities.

The first effect noticeable after the administration of a full dose—50–60 grs. in infusion, or 40–50 m. of the fluid extract—is flushing of the face; this is followed in a very short time by an increase in the salivary secretion and profuse perspiration; these appearing in from ten to twenty minutes after taking it.

The pulse is usually somewhat accelerated; the temperature rises slightly at first, but soon falls to the normal, or below. Nausea occasionally occurs; but this has never happened to the cases in which I administered it, when the precaution was observed of expectorating the saliva secreted instead of swallowing it. In ordinary doses it produces little or no depression. In large doses, however, there are produced some prostration, exaggeration of all the effects previously mentioned, evident increase in the bronchial, nasal, and lachrymal secretions, and disturbance of vision.

Given to animals in excessively large doses, it causes, in addition to the effect upon the skin, mucous mem-

branes, and salivary glands, great prostration, with staggering gait, convulsions, and death; intense congestion of the brain, spinal cord, lungs, and abdominal viscera being found on post-mortem examination.

Occasionally, when it fails to produce its usual effect upon the skin and salivary glands, it causes an increase in the flow of urine; under the same circumstances diarrhœa may be produced.

Given in a case of suppression of urine, accompanied by uræmic phenomena, following an attack of scarlatina, it produced little or no effect upon the skin or salivary glands, but notably augmented the flow of urine, the quantity being increased from f. ℥ viij. in twenty-four hours, to Oiij. in the same period of time. This effect upon the kidneys, although not the rule, is by no means an infrequent one in scarlatina. Prof. Demme (of Berne) has reported a similar result.*

An alkaloid has been obtained from jaborandi to which the name pilocarpine has been given. This alkaloid is the active principle, all the effects of jaborandi following its administration.

Upon one occasion I took of nitrate of pilocarpine one grain, by the mouth. In fifteen minutes from the time of taking, there was flushing of the face with suffusion of the eyes; this was soon followed by a flow of mucus from the nostrils, resembling very much that from an ordinary coryza, increase in the salivary secretion and profuse perspiration; these effects continued to increase for an hour, when they reached their height; dimness of vision now occurred which lasted for half an hour; perspiration literally streamed from every pore; the saliva constantly filled my mouth; the quantity expectorated in three to four hours, by subsequent measurement, was f. ℥ xvi. The temperature, which in the first half hour had risen a degree, fell to the normal; the pulse was full and rapid, but became less so at the end of an hour. The effects of the drug continued from four to five hours, when they gradually disappeared, leaving no ill-effect behind. [The quantity of pilocarpine taken was excessive, $\frac{1}{4}$–$\frac{1}{3}$ gr. being the ordinary dose.]

A solution of pilocarpine applied to the conjunctiva produces contraction of the pupil, but I have never ob-

*Med. Exam., July 18, 1878.

served this result follow its administration by the mouth or hypodermically.

In the female, jaborandi produces an increase in the lacteal secretion, acting as a true galactagogue. Muller (of Berne) and Saenger (of Leipsic) state that pilocarpine stimulates the uterus to contraction when a tendency to expulsion already exists.

A marked antagonism exists between jaborandi and belladonna, all effects of the former quickly disappearing upon the administration of full doses of the latter, and Ringer has reported two cases of belladonna-poisoning, in which hypodermic injections of pilocarpine were followed by complete recovery.

In consequence of its diaphoretic properties, jaborandi is a useful addition to fever mixtures, and in the first stage of bronchitis may be substituted for opium; but its therapeutic value is most evident in its effect upon dropsical effusions. It causes the effusions of pleurisy and pericarditis to rapidly disappear, but does not prevent their reproduction.

Prof. Pepper has reported a case of pericarditis with effusion, in which he derived marked benefit from its use.

It may be given with great advantage in acute Bright's disease accompaning scarlatina, in which there is suppression of urine and uræmic symptoms, or to relieve the anasarca which is a so frequent sequel of this affection.

In chronic Bright's disease it rapidly moves the œdema, but I have never found it to diminish the quantity of albumen in the urine, although such result has been reported. In patients suffering with diabetes insipidus it lessens the flow of urine, but does not exert a curative influence, the quantity of urine again increasing upon the suspension of the drug. Dr. Langlet (of Rheims) reports that he has successfully treated the albuminuria of pregnancy with this remedy, and Stroynowski gave hypodermic injections of pilocarpine in puerperal eclampsia, no convulsions occurring after the first injection. In view of its action upon the uterus, it may be advantageously given during labor, and from its effect upon the mammary glands it is indicated in partial or complete suppression of the lacteal secretion.

The best form for administration is the alkaloid pilocarpine, in doses of $\frac{1}{4}$–$\frac{1}{3}$ gr.; from the smallness of dose and

its complete solubility in water it is well suited for hypodermic use.

Children bear proportionally larger doses than adults, and its effects do not seem to be as certainly produced in them.—*M. B. Hartzell, M. D.*

Tendon-Reflex.

In the *Archiv f. Psychiatrie*, Bd. V., 1875, Erb and Westphal described, independently of one another, a peculiar symptom which had hitherto passed unnoticed, and which has since, under the term tendon-reflex, become the subject of considerable discussion. If the ligamentum patellæ be rendered tense by flexing the knee at a right angle (the thigh being supported by crossing it over the other limb), and the tendon be then smartly tapped with the finger or with a percussion-hammer, an involuntary muscular spasm will be produced in the quadriceps extensor femoris. This contraction may be so powerful as to cause a vigorous propulsive movement of the leg, and even of the entire limb. This phenomenon has been observed in various cerebral and spinal diseases, such as epilepsy, hemorrhage, embolism, tumor of the brain, cerebra-spinal sclerosis, myelitis, hematomyelie, lateral spinal sclerosis, etc. With exceedingly few exceptions, it has been found absent in locomotor ataxia, even in the initial stage, before the symptoms proper of ataxia have become developed. It is also usually, though not invariably, present, to a certain extent, in healthy individuals. Analogous symptoms may be produced upon almost all of the other tendons of the body, but, with the exception of the ankle or foot clonus (due to stimulation of the tendo Achillis), they are not so well marked as when the ligamentum patellæ is experimented upon.

The question at once arises with regard to the causation of this symptom, "Is it merely local and due to mechanical irritation of the parts, or is it a reflex act?" In the first article which he devoted to this subject, Westphal came to the conclusion that it was due to direct irritation of and increase of tension in the ligamentum patellæ and to the secondary increase of tension in the muscular fibers of the quadriceps, which are all inserted into the upper part of the tendon. There is no doubt that

the symptom is due to irritation of the tendon itself, and not of the overlying skin. If the integument covering the ligamentum patellæ be pinched or otherwise irritated, or if the skin be drawn away from the tendon and then percussed, similar phenomena will not be produced. Percussion of the patellæ is also attended with negative results. These facts do not, however, prove that the phenomenon is not reflex, but merely that it is not an ordinary cutaneous reflex.

Schulze and Fuerbringer, in the course of their investigations on this question, observed that, in the rabbit, section of the crural nerve (which innervates the quadriceps extensor) will cause a disappearance of the phenomenon, and they therefore concluded that the symptom was a reflex. But Westphal demonstrated that the section of the nerve produced relaxation of the muscular fibers, and that the condition necessary for the production of the phenomenon (increased tension of the muscle) was thus abolished.

In the latter part of the year 1878, Tschirjew made an exhaustive review of the entire subject, and thereby arrived at certain definite and indisputable conclusions.

In order to determine whether the abolition of the symptom, after section of the crural nerve, was really due to the relaxation of the muscle, he adopted the ingenious expedient of gently stimulating the peripheral portion of the cut nerve with the electrical current in order to restore the previous tension, and then attempted to produce the phenomenon in the usual manner. This attempt was always followed by negative results.

Furthermore, if the "knee-phenomenon" is due to mechanical irritation of the muscular fibers which are inserted into the ligamentum patellæ, the wave of muscular contraction should pass from below upward. Tschirjew's experiments with a registering apparatus have shown conclusively that the muscular wave, which occurs during the production of the "knee-phenomenon," assumes no particular direction, a fact which we would naturally expect if the muscular stimulus has passed through the nerves.

Finally, experiments with the myograph proved that the time which elapses between striking the tendon and the resulting muscular contraction is too great for the mere propagation of the irritation from the tendon to the

insertion of the muscle. The latter experiments were also confirmed by the recent investigations of Gowers (reported in January of this year, before the Royal Medical and Chirurgical Society), who found that the interval between the tap upon the tendon and the contraction of the quadriceps, varied from .09–.15 of a second, a period which corresponds to the time necessary for the performance of a reflex action (conduction .045 second, latent stimulation .01 second, reflex process in the cord .05 second).

We can therefore no longer doubt that the phenomenon in question is really a tendon-reflex, and that its production is due to increased reflex excitability of the spinal nervous centers.

According to Trchirjew, the tendon-reflex has important bearings upon the vexed question of muscular tonus. As is well known, the existence of such a condition has been recently questioned by various physiologists, and even those who admit its existence have offered no satisfactory explanation thereof. Tschirjew thinks that muscular tonus is very probably a tendon-reflex, induced by the tension to which the various tendons throughout the body are subjected, partly on account of the anatomical relations of the insertions of the muscles, and partly on account of the varying position of the levers which are connected with the ends of the muscles (the bones).

The clinical relations of the tendon-reflex in question are not, by any means, so well understood as its physiological bearings. It is, however, pretty well established that the "knee-phenomenon" is abolished at an extremely early stage of locomotor ataxia, when the only symptoms in the case consist, perhaps, of an affection of certain of the cranial nerves, and the characteristic lightning-like pains in the legs. In rare cases this symptom has been found present in ataxia, but in these instances sensation was little or not at all affected, and the shooting pains in the limbs were likewise absent.

We must, therefore, regard the knee-reflex as a very valuable sign in differentiating the early, incipient stage of locomotor ataxia from the beginning of other obscure cerebral or spinal diseases. In this way, the symptom has an important bearing on the prognosis of ataxia, since our only chance of causing a favorable termination of this terrible disease lies in our ability to make a positive

diagnosis before the ataxic symptoms proper have developed.

It is probable that continued observation upon the occurrence of knee reflex will furnish us with additional important guides with regard to the diagnosis and prognosis of other nervous affections.—*Med. Record.*

Microscopy.

Microscopical Society of San Francisco.

The subject of adopting a proposed unit in Micrometric Measurement, in accordance with the suggestions of the late Microscopical Congress at Indianapolis, was brought up for discussion, and a letter from R. H. Ward and A. W. Bower, the Committee of the Troy Scientific Association, giving their views on the matter and submitting certain propositions, was read and discussed. On motion, it was resolved that a vote of the Society be taken on the first proposition, namely: "Is it expedient at present to adopt a standard for micrometry?" and on such a vote, it was resolved in the affirmative.

It was then, on motion, resolved that the metric system should be employed for that purpose.

Dr. Gustaf Eisen, who has for some time past investigated the class of molluscs called Pteropoda, exhibited some admirably executed drawings of two species most generally met with near the shores of Southern California. The drawings showed the animals in natural size and colors, and also several anatomical details of their nervous, generative and gastric systems.

The class of *Pteropoda* had hitherto been divided in two orders, viz: *Thecosomata* and *Gymnosomata*, the animals belonging to the former being covered by a hard shell, those of the latter being perfectly naked. The Doctor thought a better characteristic would be the presence or absence of a silicate radula in the palate. The two genera exhibited were very likely new, but seemingly related to *Tiedemannia* and *Pneumodermon*.

The wings of the former genus were drawn more minutely, and especially their anterior margin was seen in a highly magnified scale. The Doctor had here found

some new organs of sense, consisting of an agglomeration of larger cells situated on a pear-shaped body of minute granulated cells. In the middle of the larger cells was was to be seen a small opaque, pearl-shaped body, immediately connected with a nerve ganglion. Such peculiar organs were distributed over only a small surface of the hyaline wing. The masticatory organs of this genus were situated in the stomach, and consisted chiefly of four pyramidal chitinous teeth. The same organ of *Pneumodermon* was seen to consist of a radula full of silicate teeth. On both sides of this radula, and also in front of the same, were large round, or triangular bodies, covered with chitinous teeth, between which the food apparently was ground before entering between the teeth of the more delicate radula.

The animals of both genera being hermaphrodites, their male and female generative organs were found to be connected in the same individual. In both genera they seem to resemble each other to some extent, but, as could be seen by the drawings, those of *Pneumodermon* were the most complicated, as having near to the exterior porus an additional large prostrata gland.

New York Microscopical Society.

Reported for MEDICAL NEWS, by Chas. S. Shultz, Secretary, Hoboken, N. J.

THE annual election of the New York Microscopical Society was held on the evening of Jan. 3, 1879, Mr. Hyatt, the President, in the chair.

On motion, the President appointed as a Nominating Committee, Messrs. Hubbard, Wall and Yates. They made their report, when the voting for officers took place, which resulted as follows:

President—J. D. Hyatt.
Vice-President—A. A. Julien.
Recording Secretary—C. S. Shultz.
Corresponding Secretary—W. H. Mead.
Treasurer—W. C. Hubbard.
Librarian and Curator—J. Warnock.
Auditors—Messrs. G. I. Whitehead, J. L. Wall, A. J. Swan.

The annual meeting of the New York Microscopical

Society was held Jan. 17, 1879, President Hyatt in the chair.

The President made a favorable report on the state of the society. He stated there were thirty-two active, eight associate, and three honorary members.

The Treasurer made his report.

Messrs. Julien, Deems and Mead were appointed a committee to find suitable rooms for this year's meetings.

R. HITCHCOCK, Recording Secretary.

[Abstract by C. S. Shultz.]

The annual reception of the New York Microscopical Society was held informally in the Society's rooms, Feb. 7, 1879.

The President, Mr. Hyatt (who had been re-elected), in lieu of his valedictory, read an interesting paper on "The Tongue of the Honey Bee," stating in substance that he had determined the exact structure, by numerous thin sections, which, when examined by transmitted light, showed that enomologists had fallen into many errors respecting the true character of this organ.

The new officers took their seats, when Mr. Hitchcock exhibited one of the new large pattern stands made by Mr. Bulloch, of Chicago.

Donations of diatomaceous material were received with thanks, from Mons. E. Mauler, of Travers, Switzerland, through Messrs. Hitchcock and Wall.

There were present as visitors, Mr. Hanaman, Secretary of the Troy Scientific Association; also Messrs. Besson, Cooper and Rugge.

The meeting then adjourned to view the numerous interesting objects (both living and on slides) that were placed under the microscopes for exhibition.

The regular meeting of the New York Microscopical Society was held Feb. 21, 1879, President Hyatt in the chair.

There were received "Bulletin of Comparative Zoology," Cambridge; also fifty copies of the "Transactions" of this society, from Messrs. Hitchcock and Wall, for all of which the donors were tendered the thanks of the society.

Mr. R. Hitchcock read a short paper on "Some of the Lower Forms of Fresh Water Algæ. He referred more particularly to the Palmellacea. He stated, among other

things, that, on account of the changeable form of these plants, much confusion had resulted. He gave the distinguishing character of the plants known as Protococcus, and several others, as they appeared to him. He exhibited under a microscope a specimen of Dictyosphaerium, which he had been watching for the past few months.

Mr. C. Van Brunt followed him on the "Preserving and Mounting of Algæ," etc., and in his experience had found that a cell made of asphalt and gold size, in which the algæ or other plant had been placed in carbolated water, and the cover sealed with hard balsam in benzole, covered with size, etc., that such mounting had been well preserved for eighteen years in his hands.

The regular meeting of the New York Microscopical Society was held March 7, 1879, Vice-President Julien in the chair.

The Committee on Excursions and Field Work reported their list of places to visit on alternate Saturdays during the summer, and, on motion, were empowered to print the lists and make all arrangements.

Mr. M. R. Cooper, of this city, was elected an active member.

Dr. R. H. Ward, President of the Troy Scientific Association, was present as a visitor, and invited the members to attend the next meeting, at Buffalo, of the American Association of Microscopists, of which he is the President.

The meeting adjourned to view some test objects under a Tolles 1–10th, and Woodward prism as a means of illumination, as shown by Mr. Hitchcock. Other interesting objects were exhibited by various members.

CHAS. S. SHULTZ, Recording Secretary.

DR. EPHRAIM CUTTER, of Boston, projected Beale's and Salisbury's (chiefly) hereditary taints before the Richmond Academy of Medicine at a special meeting March 3d, 1879. The results of work done with the best modern instruments of precision were shown so that all could see for themselves. Micro-photographs of syphilitic and consumptive blood, taken with Tolles' $\frac{1}{5}$, $\frac{1}{10}$, $\frac{1}{16}$, $\frac{1}{50}$, $\frac{1}{75}$ inch objectives, occupied undivided attention for about two hours. Yeast and algæ were demonstrated as examples of nocent and innocent parasitic vegetation. The spores of yeast found in the blood of consumptives, even one year

before organic lung disease, were shown and approved as examples of the Salisbury doctrine, which is that a yeast in the blood is the cause of tuberculosis. As evidence, bread raised with the yeast in the fæcal diarrhœal dejections of third stage (after Salisbury) were shown. It was also stated that Dr. Salisbury had killed 104 animals by consumption, and artificially induced it by feeding with food saturated with yeast; and, further, that, by starving out the yeast from the blood, both Drs. Salisbury and Cutter had, in a large number of cases (over 1,000), convinced themselves that this is the nearest approach to the real nature of tuberculosis they knew of. A combined work is ready for the press by subscription ($5). A physical demonstration was shown of the power of the Salisbury plan to clear the blood and reduce the enlarged white blood corpuscles.

Dr. W. R. Weisiger, of Manchester, ably assisted Dr. Cutter in his demonstrations. Dr. Cutter tells us he is an honor to our State. The progress in micrology made by a "Virginia country doctor" in active practice and middle life, is very encouraging to those who would solace advancing years with the micsoscope, and creditable to Dr. Weisiger.— *Va. Med. Monthly.*

Spencer's Immersion—$\frac{1}{10}$ of 180° Angle.

Some weeks ago Mr. Spencer made for us an immersion, $\frac{1}{10}$ of 180° angle. Having been sick much of the time since receiving it, we had not had opportunity of testing its capacity for resolving. Our friend, Gov. J. D. Cox, who takes much interest in microscopy, and the natural sciences generally, differing greatly in this respect from other leading statesmen, who are only interested in politics, happening lately to drop into our office, we handed the objective to him for an evening's trial. The note from him, which we append, tells what he did with it in a very brief trial:

"Wednesday, A. M., *April* 16, 1879.

"Dr. Thacker:

"*My Dear Sir*—It may interest you to know that my last evening's work with your Spencer's *tenth* was quite satisfactory.

"On a slide of *amphipleura pellucida*, from Bridge of

Allan, Scotland, in balsam (which Mr. Spencer gave me), the resolution of the striæ was unmistakably good. On this slide the shells are single (not whole brustules, with two valves, as in the specimen on my *probe platte*), and this made the work much easier. I used the Woodward prism and the glycerine immersion. I think I shall have no difficulty in repeating it when next we meet.

"Yours, very truly, "J. D. Cox."

GLEANINGS.

A NEW GYNÆCOLOGICAL OPERATING-TABLE.—Mr. Lewis Thompson, of Philadelphia, has lately constructed for Dr. William Goodell an operating-table based on that of Dr. M. D. Mann, of New York City, but presenting several valuable points of difference from the table invented by that gentleman.

Dr. Goodell's table is two feet and a half high at one end and two feet nine inches high at the other—its upper surface thus presenting an inclined plane (bringing the hips of the patient to a level above that of her head), four feet in length, and two and a half feet in width. By moving a crank at one side of the table, the "Sims' latero-ventral position" may be exaggerated, this side of the table being thus raised three inches above the level of the other side.

The two sides of the table forming the feet of these two inclined planes are protected by their upright strips of board, which prevent the patient from slipping off the top of the table. At one end of the table, which rolls on casters, is a drawer partitioned off so as to hold sponges, instruments, absorbent cotton, etc. A narrow strip of board, which is provided with a heel and which slides in and out of the body of the table beside the drawer, affords support for the ankle in the "Sims'" position.

Prof. Goodell has one of these tables at his office, and employs another at his clinic at the University Hospital.

A SUBSTITUTE FOR THE HORSE.—A number of country practitioners in England are employing bicycles or tricycles as means of locomotion, and the use of these vehicles is increasing considerably. They do not supply the place of a horse entirely, but they enable the physician to do away with an extra one. The bicycles are made of iron and steel, the rim of the wheel being covered with rubber. Upon them one can travel over tolerably rough and icy roads and up quite steep grades. On good ground the rate of speed is a mile in five minutes; racing speed being, however, much greater. The ordinary rate of travel is eight or ten miles an hour. Tricycles are also made, which are safer than the bicycles and nearly as fast. In these the rider sits between two wheels which he propels with a treading motion; a third and guiding wheel is placed in front. There are very likely many places in this country where this mode of locomotion could be used with advantage.

STRYCHNIA—ITS ANATOMICAL AND ITS PHYSIOLOGICAL EFFECTS UPON THE BRAIN, SPINAL CORD AND NERVES.—Dr. W. H. Klapp (*Journal of Nervous Diseases*, October, 1878) details at length some very elaborate experiments made upon the above topic. The care and skill exhibited lead us to the belief that his conclusions are approximately correct. They are: (1) Strychnia produces no appreciable primary lesion of nerve substance proper; that secondary lesions are produced—granular degeneration—by the engorgement of the vascular system, and that this is more marked in the brain and cord than in the nerves. (2) The convulsions of strychnia are not cerebral, and they are much more severe after the ablation of the cerebrum owing to the removal of Setschenow's ganglia. (3)

Strychnia does not affect either the sensory or motor nerves at their periphery. (4) Both sensory and motor nerves in their course are unaffected by strychnia. (5) The tetanus-producing power of strychnia has its only action in the gray matter of the spinal cord. (6) In small doses the primary action of strychnia is to excite the vaso-motor center, causing thus a rise in the arterial pressure, and secondarily to paralyze this center, and hence to supplement this rise by a fall. (7) In large doses the vaso-motor center is immediately paralyzed. (8) The slowing of the pulse produced by the exhibition of strychnia to both warm and cold-blooded animals is in neither case produced by any action on the central or peripheral ends of the pneumogastrics; but in warm-blooded animals is due to action on the excito-motor ganglia of the heart, and in cold-blooded animals is due to action on the ganglia situated in the sinus vonosus. (9) The main vaso-motor center for strychnia is situated in the medulla oblongata, but simpler centers exist in the spinal cord. (10) The pneumogastric nerves are *not* paralyzed by strychnia in either warm or cold-blooded animals. (11) Strychnia decreases the number of respiratory movements; at first from too little blood, and afterward from too much blood flowing to the respiratory centers. (12) The decrease is not due to any action of the pneumogastrics. (13) Artificial respiration always moderates and sometimes stops the spasms; and this power is due to a maintenance of the oxygenation of the blood until the poison can be eliminated, and is not due to a reflex stimulation of the pneumogastrics.—*Detroit Lancet.*

The Pathology and Treatment of Headache. By Dr. Day, Clinical Lecturer in the Samaritan Hospital, London, England.—Dr. Day, in a clinical lecture delivered at the Samaritan Hospital, considers the various forms of headache and their appropriate methods of treatment. Headache occurs in cases of anæmia, and in hyperæmia. In headache from cerebral anæmia the pain is referred to the top of the head, which often feels hot and burning; whilst in headache from hyperæmia the pain is frontal, throbbing and bursting. Dr. Day further distinguishes in headache common to both sexes a sympathetic variety, due to some eccentric cause of irritation; nervous headache caused by temporary derangement of the nervous

centers, and neuralgic headache. Headache also arises from menorrhagia, and from the action of poisoned blood upon the nerve centers; organic headache is brought about by morbid changes within the skull. Headaches are of frequent occurrence in children, and, if persistent, are very significant, and should invite more serious attention than a similar disorder in the adult. As to the treatment of headache, Dr. Day advises as a preliminary step a diligent search after the cause of the disorder, which, when found, should be removed as speedily as possible. The remedies to be used are tonic or calmative, as the case may require. If the brain be over-excited, bromides of potassium and ammonium, chloral hydrate and morphia as a hypodermic injection or in other form, may be used. The morphia combined with an infinitesimal dose of atropia, and used with care, has been found to be an invaluable remedy, even in cases of organic disease. In nervous headaches a stimulating emetic of sulphate of zinc, mustard or ipecacuanha will act like magic, as will also a mustard leaf at the back of the neck, the feet and legs being at the same time put into hot water. In the neuralgic variety tonics are serviceable, especially cod-liver oil, phosphorus, quinine and arsenic. The local application of aconitina ointment is serviceable in that form known as brow ague. As a general treatment it is recommended to elevate the head at night, and to make use of hard pillow. In every case the first principle to inculcate is rest.—*Brit. Med. Jour.*

COPAIBA IN CIRRHOSIS AND JAUNDICE.—The value of copaiba as a diuretic and cholagogue is not sufficiently appreciated. The following case, reported in the *British Medical Journal*, by Dr. B. J. Massiah, illustrates it: W. D., aged 37, a clerk, was a spirit drinker for four years, seven years ago, and during the last four years and a half has had three prolonged and painful attacks of jaundice, with ascites and œdema of lower limbs. On admission, three months ago, he was tawny, thin, rather weak. He complained of constant pain in the umbilical and lumbar regions. His fluctuating abdomen measured thirty-four inches in circumference, and the vertical hepatic dullness in the nipple-line was three inches. The urine was scanty, bilious and exalbuminous.

During the first month he took bitartrate of potash and

compound jalap powder; and the abdomen increased two inches, the urine remaining scanty. Then, under a scruple of copaiba thrice daily, it rose on successive days, from one pint in twenty-four hours to three, four and five pints; while the ascites began to subside. Once, for a fortnight, he took half a dram of tincture of belladonna thrice daily, for the abdominal pain, and the quantity of urine fell below two pints daily. Since then, he has returned to the copaiba, and his urine has averaged three or four pints daily. The abdomen now measures thirty-three inches in circumference, and his general health is much improved.—*Med. and Surg. Reporter.*

Treatment of Post-Partum Hemorrhage.—At a meeting of the American Gynecological Society, Dr. Penrose—in a paper on vinegar as a remedy in the treatment of post-partum hemorrhage—presented the following advantages:

1. It could be easily obtained.
2. It could be easily applied and instantly, without special apparatus.
3. It always cured the hemorrhage; or rather it had not failed in his practice.
4. It was sufficiently irritating to excite the most sluggish uterus to contraction, and yet not so irritating as to be subsequently injurious.
5. It was an admirable antiseptic.
6. It acted upon the lining membrane of the uterus as an astringent.

The remedy was applied as follows: Saturate a rag with vinegar; carry it into the cavity of the uterus, and squeeze it.

In the vast majority of cases, the hemorrhage ceased as if by magic when the vinegar passed over the surface of the uterus and vagina. It could be easily repeated, in case the first application failed.

Westphal's Diagnostic Point in Locomotor Ataxia.—Prof. Westphal about a year ago asserted that he had discovered a pathognomonic sign of sclerosis of the posterior columns. It is a very simple one. When in health, sitting with one knee across the other and the foot of the uppermost leg freely suspended, it is well known that a small tap with a narrow instrument, such as a ruler, delivered on the tendon of the quadriceps, just below the patella, will cause the foot and lower leg to spring up

with a jerk. Well, Dr. Westphal maintained that this jerk does not occur in posterior sclerosis, and that its absence is a sure sign of the presence of that formidable disease.

His conclusions were attacked by several observers at the last meeting of the British Medical Association; and it seems pretty clear that his statement requires modification. No doubt the absence of this involuntary act is a significant sign of some important organic change. A new study of it has been made by Dr. S. Tschirjew in the *Archiv fur Psychiatrie*, and with great accuracy. The clinical result he reaches is that the absence of the reflex motion in man points to degeneration of the posterior spinal roots and columns at the level of the third and fourth roots of the crural plexus; but that in degeneration of the columns which does not reach so low as this the reflex phenomenon may appear. This very interesting result vindicates the symptom as of great importance. —*Med. Surg. Rep.*

Thymol and its Uses.—As an antiseptic, thymal is much more powerful than phenol or cresol (carbolic acid). Ranke uses a solution of one part thymol to one thousand parts water, instead of the carbolic solution of Lister. Dr. B. Kussner, of Halle, has tried it internally. In doses of three to five drops of a one per cent. solution he found it useful in the diarrhœa of children. An inhalation of one part to one thousand of water reduced the fever and expectoration in a phthisical case.

Animals poisoned with thymol sink into a profound coma. After death their blood is dark and fluid. Fatty degeneration of internal organs is, however, not found. Injected into the veins it lowers the temperature and induces stupor.—*Med. Surg. Rep.*

Curare in Epilepsy.—In the opinion of Kunze we possess in curare a remedy by means of which we may cure cases of epilepsy of long standing. He employs a solution of seven grains of curare in seventy-five minims of water, to which he adds two drops of hydrochloric acid. At intervals of about a week he injects beneath the skin eight drops of this solution, and in various cases in which convulsions had occurred for several years, he obtained a complete cure after eight or ten injections.—*Canada Med. Rec.*

Book Notices.

HEALTH, AND HOW TO PROMOTE IT.—By Richard McSherry, M. D., Professor in University of Maryland. 12mo. Pp. 185. New York: D. Appleton & Co. Cincinnati: R. Clarke & Co. Price, $1.25. 1879.

"Hygiene," as the author very truly says, "is a subject in which all mankind has an interest, even if it be, as it too often is, an unconscious interest. The life of every man, woman and child ought to be guided and governed by its laws. This being so, the subject ought to be presented and agitated in many forms, so that its importance shall be everywhere appreciated. Physicians and their patients are equally interested in it, for the success of physic will be vastly greater wherever hygiene is understood."

The present work is addressed to the general reader, and is, therefore, as free as such a work can be made from scientific technicalities. But while intended for popular use, the physician will find it highly instructive. We have long since observed that, from a knowledge of anatomy, physiology, pathology and treatment of disease, a knowledge of hygiene does not necessarily spring, but that the principles upon which it is founded must be studied by themselves. Our author has succeeded in elucidating these very satisfactorily, and we take pleasure in commending his work to our professional brethren for their study. There will be found discussed, at length, food, clothing, exercise or work, water, air, race, temperament, sewers, cesspools, inheritance, habit, condiments, various articles of diet, longevity, animal emanations, schools, temperance and intemperance, etc., etc., with very many other subjects beside these we have promiscuously jumbled together in enumerating.

THE PRINCIPLES AND PRACTICE OF GYNECOLOGY.—By Thomas Addis Emmet, M. D., Surgeon to the Woman's Hospital of the State of New York, etc. With 130 Illustrations. 8vo. Pp. 855. 1879. Philadelphia: H. C. Lea. Price, $6.

This is not a new edition of a work some time before the profession, but it is an entirely new work—a new candidate for favor.

Dr. Emmet has been for a long time known to the pro-

fession of the United States by his gynecological contributions to the medical journals, and is known to be thoroughly versed in the department of medicine which he has made a specialty—gynecology. In the Hospital for Women, with which he has been connected for the last twenty-five years, his experience in the treatment of diseases of females has been the greatest; and being an accurate and unprejudiced observer and endowed with logical powers of mind, it would be expected that a work by him would be one of very great merit. That the one before us is of that character, we think will be generally conceded.

The work is essentially a clinical digest. If we had the space we would like very much to go through the different chapters, and present our readers with an outline of his discussion of the various diseases of which he treats—the results of his observations in regard to the history and pathology of many of them, and his mode of treatment. We have no doubt such a review would be interesting and instructive. But we must forego it.

Although there are very many works upon gynecology at the present time, yet we feel very sure that all who take an interest in that department of medicine will be abundantly compensated in procuring this work and attentively studying it. The medical student, especially, will find it valuable as a text-book.

A Manual of Examination of the Eyes: A Course of Lectures delivered at the "Ecole Practitude." By Dr. E. Landolt, of the Ophthalmological Laboratory of the Sarbonne, Paris. Translated by Swan M. Burnett, M. D. Revised and enlarged by the Author. 8vo. Pp. 312. Philadelphia: D. G. Brinton, 115 South Seventh Street. Price, $3.00.

"This work, written by one of the most eminent of the younger European ophthalmologists, is a concise yet comprehensive description of the methods of examining the different parts and functions of the eye. While full enough for the specialist, it will enable the general practitioner to diagnose the condition of the organ, and determine whether the services of an oculist are needed or not."

In this work we find the philosophy of sight very completely explained. The mechanism of the eye, its movements, its actions as a lens, are all set forth so as to be

easily understood by the student who has a knowledge of the principles of natural philosophy. It will, therefore, be perceived that the work is not made up merely of instructions in diagnosing diseases of the eye, as one might suppose from the title page. Students and practitioners will find it of great aid to them.

CHEMISTRY: GENERAL, MEDICAL, AND PHARMACEUTICAL. Including the Chemistry of the United States Pharmacopæia. A Manual of General Principles of the Science, and their Applications in Medicine and Pharmacy. By John Attfield, M. A., Ph. D., of the University of Tubingen; Professor of Chemistry to the Pharmaceutical Society of Great Britain, etc., etc. Eighth Edition. Revised by the Author. 12mo. Pp. 697. 1879. Philadelphia: H. C. Lea. Cincinnati: R. Clarke & Co. Price, $3.00.

This very popular and meritorious work has now reached its eighth edition, which fact speaks in the highest terms in commendation of its excellence. It has now become the principal text-book of chemistry in all the medical colleges in the United States. The *Chemical News*, in speaking of it, says: "For all the numerous class of students who are preparing for the medical or pharmaceutical profession, we know of no work in the language which can be compared with the one before us."

The present edition contains such alterations and additions as seemed necessary for the demonstration of the latest developments of chemical principles, and the latest applications of chemistry to pharmacy. It is scarcely necessary for us to say that it exhibits chemistry in its present advanced state.

ATLAS OF SKIN DISEASES. By Louis A. Duhring, M. D., Professor in the Hospital of the University of Pennsylvania. Part V. Philadelphia: J. B. Lippincott & Co. Cincinnati: R. Clarke & Co.

In the September issue, 1878, of the MEDICAL NEWS, we gave quite a full description of this Atlas. It consists of very finely colored plates, after life, of the various skin affections. After each plate follows a description of the disease which it represents. The price of the Parts, royal quarto in size, are $2.50.

In Part V. are represented scabies, herpes zoster, tinea sycosis, eczema (vesiculosum). There will be from eight

to ten Parts, appearing from four to five months apart. It has been denominated "the most valuable work of the kind ever published."

HEALTH PRIMERS, NOS. 1, 2, 3, 4. New York: D. Appleton & Co. Cincinnati: R. Clarke & Co. 18mo. 40 cents each.

Each number forms a little work by itself, devoted to some subject of hygiene. In the series of the four before us, No. 1 is devoted to "Exercise and Training;" No. 2 to "Alcohol;" No. 3 to "The House;" No. 4 to "Premature Death: Its Promotion or Prevention."

These *Primers* will be found to contain a large amount of valuable information upon the subjects of which they treat. They are small—averaging about ninety-five pages each—yet they are *multum in parvo*. The one on "The House" should be studied by every one contemplating building a home. The one on "Alcohol" is worth the price of all of them. It treats very fully the use and abuse of alcohol. The ones devoted to "Premature Death" and "Exercise and Training" are no less valuable than the others.

EDITORIAL.

DECEASE OF PROF. DANIEL VAUGHN.—This remarkable man passed away April 6th—dying at the Good Samaritan Hospital of this city. Though it was known to his friends that he had been very seriously ill, his death was not expected; for after his removal to the hospital he had, under the tender care received there, according to appearances, very rapidly improved. He died without a struggle or any evidence of suffering. He was fifty-eight years of age.

We had the honor of being a colleague, in one of the medical schools of Cincinnati, of this eminently learned man, but who, with all his learning in literature and science, had not sufficient financial ability to feed and clothe himself, and often went through the streets suffer the gnawings of hunger and shivering with cold from insufficiency of clothing. Poor Simon Ockley, the eminent Oriental scholar and historian, who wrote the History of the Saracens, and of whose great learning and abilities Gibbon, in his "Decline and Fall of the Roman Empire," speaks in the highest terms, suffered greatly

with poverty and underwent imprisonment in Cambridge Castle for debt, yet he was well to do in comparison with poor Vaughn. Ockley had a friend and patron part of his life in the Earl of Oxford, and, besides, would find occasionally other friends and helpers, but Prof. Vaughn had at no time friends or helpers, unless now and then, after going several days without a morsel of food, some one would slip into his hand a dollar or two with which to appease his hunger and satisfy an urgent want or so. We recollect at one time of his disappearing, and being gone so long a time that all his colleagues had but little doubt of his being drowned in the Ohio River—returning, however, unexpectedly, he presented himself at the office of one of his colleagues in a most ragged condition, and stated that he had not tasted food for three days, which was undoubtedly true. His colleague gave him a couple of dollars with which to purchase something to eat for the time being. A meeting of the faculty was then called together, and a committee of one appointed to take him to a merchant-tailoring establishment and purchase him a respectable suit of clothing throughout; to secure for him a good, comfortable boarding place for the fall and winter months, and arrange that the bills for the same should be brought to the treasurer and paid by him directly, and to do whatever else might be necessary for his welfare. Money in itself having no value whatever in his eyes, his present wants being supplied, he was altogether careless of what became of any surplus he might accidentally have, and would part with it as easily as would a little child. He was often engaged in inventions; and if he needed any apparatus, it mattered but little to him whether one dollar or five dollars was charged for it, if he had the amount, it would be paid without a thought as regards from where to-morrow's meal was to come.

The Hon. W. M. Corry, of this city, as much of a friend of poor Prof. Vaughn as he would permit any one to be, has written a brief sketch of him for the *Commercial*. Although we will be devoting an unusual amount of space in an obituary notice by publishing it, yet, so interteresting is the history of this really strange and very learned man, we feel sure our readers will not blame us for occupying several pages in his biography. We will take the liberty to shorten Mr. Corry's sketch by omitting a sentence here and there:

"With all his stores of knowledge, and his insight into laws and systems, and his familiarity with the grand rhythm of the universe; with his capacity and readiness to teach made known to the residents and institutions of this great city, the proceeds of his lessons and lectures were too meager to buy him bread and shelter. He lived apart and alone, not seeking to discuss the ordinary topics, nor waste his time and lower his standard of thought to the capacity of what is called society, and society has effectually resented his indifference. For twenty-five years privation in every form has been the lot of Prof. Vaughn in Cincinnati. From the time when, a quarter of a century ago, the libraries and learned organizations, literary and scientific, of the city, first attracted him to it, till his dying day, he has never been able to suffice for the most ordinary wants. He had neither taste nor faculty for acquisition, for his whole soul and all its powers were absorbed in the pursuits of philosophy, in her highest and most hidden recesses. His own body was entirely overlooked, and suffered accordingly. It had to freeze and starve, and totter with weakness, because the Professor was wholly absorbed in books and the labor of thinking and writing, and the pursuit of the most profound and remote speculations. None ever accused or suspected him of any vice or even indulgence; he was neither indolent, aimless, nor dissipated, but he ought to have made himself comfortable. If he failed to do it, it was the duty of his fellow-citizens, who could appreciate his scientific value, to have secured him a decent living. He was a foreigner, who had selected Cincinnati for his residence, and he was anxious that her fame should go out to the world, and to furnish his share of the materials to make her known as a scientific center. Indeed, he has done it. He had no sooner qualified himself to claim the attention of the leaders of thought throughout the earth than he put himself in communication with them. He wrote one or two volumes upon mathematics and astronomy, which were his special studies, but his favorite mode of publication was by correspondence with scientific periodicals, in whose columns at home and abroad he was a welcome guest. Especially with the Journal of the British Association for the Advancement of Science, during the time when Sir David Brewster and Sir Robert Murchison were editors, his frequent papers appeared on

the first page in the first column. We believe that his poverty alone compelled him to forego the pleasure of writing for the Journal, which appears, we believe, simultaneously at London and Edinburgh, since it has been conducted by its present editor, Sir Wm. Thompson. Mr. Vaughn's papers were translated into French and German, and he was corresponding with a distinguished French *savant* upon his astronomical theories and discoveries till lately. In short, Prof. Vaughn stands among the foremost astronomers and the boldest thinkers of this or any other country. All these arduous labors were perperformed without any compensation whatever. It may be said in this connection that he has recently been paid to his satisfaction for several essays over his name in the *Popular Science Monthly.* A most pathetic incident of the last one is, that the very day before his death, he sat upon his bed and corrected the proofs, which ought to have been done for him, but which he would never ask any one to do, and which, if it did not cost him his life, without doubt shortened his few remaining hours. He tried to eke out a living by giving private lessons in mathematics and astronomy, and also in the languages. Of these he was master of his own and German, French, Italian, ancient add modern Greek, Latin, Spanish, and Italian. The students were few, and the lessons poorly paid, although he was faithful, and lost much valuable time, owing to the inattention and negligence of pupils.

"For years some kind woman, whose name we are sorry not to know, boarded and lodged Prof. Vaughn, and gave him more sympathy than he got from all the rest of the town, and more also of substantial support. He was always sure of a pleasant reception at her humble home, and was not required to be punctual in his settlements. The boarding-house was broken up a year or two ago, and our poor friend was the worst sufferer. He took a room which was cheap, but every way cheerless, inaccessible and uncomfortable. A chair and a bedstead, with a pile of rags, a worn-out stove, and an old coffee-pot, with a few musty shelves of books, covered with soot, were all his furniture. He lived, sick and feeble and old, from hand to mouth, often unable to go abroad for food, and as badly off for helping himself indoors. It were bad to have any human being so utterly abandoned, and so suffering. Here and there, at wide intervals, there was a

man or woman who would have done much to modify this misery, but it ought never to have been left to those who could scarcely afford to curtail their own allowance of plain clothes and victuals for another. This long and terrible winter has been almost of itself a death warrant to this drooping and destitute man. There was an obstacle to good offices in himself which must be admitted. He would not give his address to his friends, nor permit them to ferret him out and ascertain with their own eyes his actual condition. Nor would he make any explanation, much less ask or accept any pecuniary assistance. But how admirable does this firm and indomitable spirit appear in contrast to average humanity. It was the solid basis of his lofty character, which never yielded an opinion, disguised a conviction, nor allowed interference with any essential matter, or indeed in non-essentials. Prof. Vaughn's scientific forms and most extraordinary attainments lifted the city so high above her natural plane that he was most truly public property. He was the only man among the hundreds of thousands of our people whose name will survive the next century. The European scientists and philosophers knew Daniel Vaughn's place of residence to be Cincinnati, and inquired after him with the greatest interest whenever a stranger among them mentioned his name. 'Prof. Vaughn lives at Cincinnati. We are great admirers of his scientific labors, and would be delighted to greet him here. He is worthy of a high place among modern or ancient philosophers and scholars.' It is recorded that such remarks were a complete surprise to the Cincinnatians who heard them, and that the first time in their lives they heard of Prof. Vaughn at London, several thousand miles from home. There can be no doubt that the city has incurred a deep and lasting reproach by permitting such a treasure to be destroyed prematurely by disease and actual want, and that she should be told of it, and should suffer the consequences. This is called the Paris of America; it boasts of its Fountain, its great University and Observatory, its Music Hall, its Expositions of Art, its Fire Department, its grand hotels and opera-houses, its wealth, respectability, learning and learned professions, and yet—O shame, where is thy blush?—it has seen its greatest genius and most famous citizen reduced to rags and starvation.

"Lest the reader may think that either Prof. Vaughn's

merits are strained, or the city's demerits aggravated, we would have him look at our imperfect catalogue of the wonderful range and profundity of subjects, which he was constantly presenting in all the force of most choice English composition.

'He treated with the greatest originality such topics as the following: 'The Doctrine of Gravitation,' 'The Cause and Effects of the Tides,' 'The Rings of Saturn' (that *Pons asinorum* of astronomy), 'The Light and Heat of the Sun,' 'The Origin and the End of the World,' 'The Advent and Appearance of New Stars,' 'The Asteroids," 'The Nebular Hypothesis,' 'The Secondary Planets,' 'The Plurality of Worlds,' 'Stellar Astronomy,' "Meteoric Astronomy,' 'The Remote Planets,' 'The Moon,' 'Earthquakes,' 'Volcanoes,' 'The Deluge,' 'The Sources of Power Accessible to Man,' 'The Distribution of Metals,' 'The Geography of Disease,' 'The Abuses of Science,' 'The Absence of Trees from Prairies,' 'Surface Geology,' 'The Primitive Earth,' 'The Ancient Atmosphere,' 'The Silurian Strata,' 'The Carboniferous Formations,' 'The Origin of Lakes,' 'Origin of Mountains,' 'The Cause of Rain, Winds, and Storms,' 'History and Nature and Uses of Electricity, its Agency in Nature,' 'Galvanism,' 'Magnetism,' 'Ocean Currents,' 'The Life of Newton,' 'Of Laplace,' 'The Physics of the Internal Earth,' 'Determination of Planetary Distances,' Geographical Advantages for National Ascendency,' 'Physics of the Internal Earth,' 'Discovery of Neptune,' 'Resolutions of Spectrum Analysis,' 'The Theory of Probabilities in the Detection of Crime,' 'The Catastrophies in Celestial Space.' These and many other discourses were the daily food of this singular and distinguished man. Is it any wonder that he who was so wrapt in the survey, scrutiny, and society of the upper and under worlds, should have neglected things of daily life at his feet; or that he should have prepared for history the anguish and mortification of contrasting the conditions of misery with that of those fashionable and superficial votaries of science who are proudly installed by public authorities in sinecures of several thousands a year, for which private beneficence and the citizens of all classes pay taxes, and labor under the mistake that they are getting an equivalent? If the lamentable tragedy which, in life as well as death, has been passing before our eyes

without our comprehending it, shall move the minds of men and women, whether here assembled or elsewhere dispersed, to take a solemn resolution that any such repetition shall hereafter be made impossible, then it is to be hoped that Daniel Vaughn has not lived, struggled, and died a saint and a martyr in our midst, all in vain. But the heinous offense we have been guilty of in the sight of all men and before high heaven ought not to be condoned to this generation nor pass out of the memory of its successors.

"Prof. Daniel Vaughn was an Irishman, born near Cork, of wealthy parents, about the year 1821. He had a good education from a tutor, and also of the village school, where he was soon noted for great proficiency in mathematics. From a wild notion of liberty and discovery, or some domestic trouble, or both, he left home for the United States at the age of sixteen, landed at New York, and, seeking his destiny, came very directly west.

"He has been almost a constant resident of Cincinnati ever since, although for a short time he left and went to Lagrange, Ky., to teach in a private school where, however, he had no opportunities and small recompense. He came back, and thenceforth he may be said to have lived in the two great public libraries. He scanned all the scientific periodicals and other publications, and kept himself read up to the latest theories, discoveries, and speculations in Europe. He read the great Reviews of England and Scotland, and was very partial to the Paris *Revue des Deux Mondes*, in which some of his articles were favorably criticised.

Grimmer and darker, however, became the daily struggle for subsistence, but it seemed not to obscure the inner light, nor to make him despondent. It was one of the most painful city sights to meet the shadow of his former self, as Mr. Vaughn tottered past, inquiring, with his imperfect step, after the city news, and the health and prosperity of a few friends, to whom he was wont to resort more than before, because he felt the pressure of weakness and despondency. It was near the end, and we do not wish to dwell upon the mournful subject further than to say that his last hours were made comfortable by Sister Anthony, and that his departure was peaceful and painless. An autopsy revealed the wreck of his vital system, and proved that the long and dreadful process of freezing

and starving had dried up the very sources of life. It was no longer desirable to live. We believe that excellent artist, Mr. Webber, has made a good portrait of Prof. Vaughn, and that will be a precious souvenir to his admirers. The funeral will be duly announced, and will no doubt be attended by the true *elite* of the city."

As Mr. Corry states, Prof. Vaughn was well versed in a number of languages, ancient and modern. He has translated both from French and German Journals for the MEDICAL NEWS; and as he has sat in our office we have known him to read from Tacitus and other Latin authors with the ease he would read from an English work.

DEATH OF DR. ISAAC HAYS.—We record in this number of the MEDICAL NEWS an unusual number of deaths of distinguished physicians.

Dr. Isaac Hays, who has edited the *American Journal of the Medical Sciences*, published by Henry C. Lea, of Philadelphia, for a period of *fifty-two years*, died April 13, in the eighty-third year of his age. He was born in Philadelphia of Hebrew descent, July 5, 1796, and graduated at the University of Pennsylvania in 1816. He received his medical degree at the same institution in 1820. In 1827 he became editor of the Philadelphia *Journal of the Medical and Physical Sciences*, the predecessor of the present quarterly. It has always ranked very high among periodicals of its class. Though his specialty was diseases of the eye, Dr. Hays showed a thorough appreciation of all branches of medical science. He retired from practice about fifteen years ago. He edited American editions of several foreign medical works, and was a member of various European and American societies. He never attended any place of worship.

DECEASE OF GEORGE B. WOOD, M. D., LL.D.—This most eminent American physician and author died in Philadelphia, March 30. We clip the following very brief synopsis in regard to him from an exchange: "Dr. Wood had been an invalid for a number of years, having been confined to his house for the last four years, almost two of which he passed in bed. He was born March 13, 1797, and was educated at the University of Pennsylvania, receiving the degree of A. B. in 1815. Commencing the study of medicine, he graduated from the medical depart-

ment of the University in 1818. In 1822 he was made Professor of Chemistry in the Philadelphia College of Pharmacy, which position he filled until 1831, when he was made the Professor of Materia Medica, in the same school. In 1835 he was made Professor of Materia Medica in the medical department of the University of Pennsylvania, and in 1850 Professor of Theory and Practice of Medicine, being the successor to Prof. Chapman. This chair Prof. Wood retained until 1860, when he resigned and was made Emeritus Professor. He was also one of the physicians to the Pennsylvania Hospital from 1835 to 1859. Dr. Wood has contributed largely to medical literature, having written a number of valuable works, among the most noted being the United States Dispensatory, which was so popular as to reach its thirteenth edition. Also, a Treatise on the Practice of Medicine; Treatise on Therapeutics and Pharmacology; History of the Pennsylvania Hospital; History of Girard College, and a History of the University of Pennsylvania. At the time of his death Dr. Wood was the President of the College of Physicians, of which Society he has been a member since 1827. Dr. Wood was also a member of the Philadelphia County Medical Society, having been elected to membership in 1849.

THE PLAGUE.—There is no doubt that the medical profession in Russia are at the present moment in a state of profound unrest as to the near future of plague there. From the beginning of the outbreak in the province of Astrakhan, there has been a fear—determined perhaps by the course which the plague pursued during its recent prevalence in the province of Ghilan, Northwestern Persia—that this outbreak was probably but the forerunner of a wider and more serious manifestation in Russia which might be looked for in the course of spring. The cessation of the outbreak in the province of Astrakhan has not in any degree modified this view of the subject, and as the spring draws on, expectation is on the alert to distinguish the first indications of that which is dreaded. The occurrence of another and happily not fatal case of plague within the infected area on th Volga, in the course of last week, gave rise to a momentary fear that the period of intermission between the forerunning outbreak and the greater invasion apprehended had come to an end. It has not, however, the indication of this direction

which exercises at the present moment the minds of our professional brethren in Russia. Their attention is fixed upon the seeming forerunners of the dreaded malady, which would appear to be scattered over the whole area of Russia in Europe. Our readers will remember the case of bubonic malady, unattended with much general disturbance of the system, which Professor Botkine observed a few weeks ago in St. Petersburg, and which he pronounced to be the slight form of plague which often precedes the deadlier manifestations of the disease. The weight of medical opinion in St. Petersburg declared itself against Professor Botkine's view of this case. It is now known that the case in question is not the only one of the sort which has occurred in St. Petersburg, and that the later cases have been free from the complications which led to doubt in the earlier case. It is now known, too, that similar cases of this dubious bubonic affection have been observed also in Vitebsk, Tsaritsyn, Odessa, and in Warsaw; and it may be inferred that there is at present widely scattered in Russia a form of bubonic disease, of seemingly trivial character, unfamiliar to the medical profession there, and which it is feared may be of the sort which preceded the several recent appearances of plague in Mesopotamia, which occurred also prior to the late outbreak of plague in the province of Astrakhan, and which is, in fact, a form of plague.

Under these circumstances, it can be understood with what anxiety the near future as to plague is regarded in Russia by those who are most competent to judge of the possibilities of the case, and how anxiously obscure forms of disease are now being scanned over a large part of that empire. It is well that this state of things should be fully apprehended here. We shall not now have long to wait before the fate of Russia and our own prospect as to plague for the present year may be determined. But with the events of the Mesopotamian and Persian outbreaks before us, if Europe should be so fortunate as to escape from any further appearance of plague this year, it will be premature to think we have escaped with only the circumscribed explosion on the Volga until another winter and spring have passed.

THE MANATEE.—We find the following letter in the London *Times*, of March 27: "Sir—Will you allow me to sup-

plement the interesting observations which have already appeared in your contemporaries on the above subject with the following facts, which appear hitherto to have escaped general notice. The sirens were formerly no strangers to the shores of Britain, for the near relative of the manatee, the nalitherium, occurs as a fossil in the red crag formation of Suffolk. It existed, however, at a time when there was no human being to record the living presence of what may, perhaps, be regarded as the archetypal "mermaid;" for the fossils, though found in the red crag of Suffolk, are yet generally considered by geologists as derived from much earlier beds of the miocene age, which once occupied a large area of what is now the German Ocean, whence they have been washed out and re-deposited on the coast of Suffolk. Similar remains are also found in the miocene of Belgium and Germany. The discovery of the British species formed the subject of a most interesting and instructive paper by Professor W. H. Flower, F. R. S., Hunterian Professor of the Royal College of Surgeons, and now President of the Zoological Society. It was published in the quarterly *Journal* of the Geological Society for February, in volume XXX., to which your readers are referred for further details by.

NATURALIST STUDENT.

MARRIED.—We are happy to announce the marriage of DR. JOHN G. NUGENT to MISS AMELIA J. MACHUNE, by the Rev. E. Bell, all of Jerusalem, N. B., Canada. Dr. Nugent is a good physician, and we wish him and his wife a long and happy married life.

If we mistake not, we have mislaid marriage notices of other physicians sent us. Hope any who have been neglected will notify us again.

WE should have mentioned some time ago that Dr. O. W. Weeks is now at Marion, Ohio, where he should be addressed; also that Dr. J. Bunn is at Batavia, Ohio.

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ORIGINAL CONTRIBUTIONS.

Report on the Use of the Obstetric Forceps.

BY I. R. LANE, M. D.

Read before the Macoupin County (Ill.) Medical Society, at Chesterfield, April 15.

IN compliance with the duties imposed, I will endeavor to offer a report on the use of the obstetrical forceps. In the last three decades, medicine as a whole has passed through many important changes. The obstetric art has not failed to keep pace with other sections of this department of science. I have avoided any attempt at entering into an elaborate description of the various modifications of the instrument. The forceps is of two kinds, the long and short. The first used in modern times was, doubtless, the one constructed by the Chamberlanes, which represented the short type, and was supplied with the cephalic curve only. At a later date, as is known to you all, the pelvic curve was invented, which greatly extends the limits of forceps delivery. The real difference between the long and short is in the construction of the shank. The blades, as a general rule, are about the same length—six inches or a little over. The shank, which converts the short instrument into the long, is two and a half to three inches in length; the handle six to seven inches. Both long and short may be provided with a double curve. It is useless to more than mention that the long forceps, which is supplied with the pelvic curve, is the only one applicable in high adjustments. The instrument has three modes of actions—leverage, compression, and traction. It undoubtedly has its greatest range of usefulness as a tractor; however, some able obstetricians, at the

present time, prefer a forceps, constructed with a view to compression. It is this that makes the cardinal difference between the patterns of Hodge, Davis, and Wallace, and an instrument planned by those who oppose the idea of compression. A forceps, designed to reduce the cranial diameters to the greatest extent, is two and one-fourth to two and one-half inches at the widest part between the blades when locked, and a half an inch between the points. One used mainly as a tractor is three and a quarter to three and one-half inches at the widest space between the blades when closed, and one and one-eighth between the tips. Suffice it to say, the obstetric forceps should be of the very best material and of sufficient strength to tolerate all the force required in any given case, at the same time should be as light as is consistent with the capacity of endurance. The edges should be neatly beveled, and the whole instrument highly polished. It is more especially in operative midwifery that the views and teachings in the last few years have undergone the most decided innovations. The use of the forceps is now much extended, and is resorted to with a frequency which would have met with the most bitter opposition by the older physicians. Of all obstetric instruments, the forceps is the most important, as it is the most conservative. It is almost always used with a view of saving the life of the child and relieving the mother of her suffering, and when judiciously applied by the cautious and skilled hand, violence of any gravity is seldom ever sustained by mother or child. That great harm may, and often does follow its use in the hands of uneducated and ignorant persons, none of you will doubt. Such occurrences, however, should be no plea in favor of limiting the use of the instrument, but a greater necessity for the practitioner to be more thorough in the knowledge of the anatomy of the pelvis and pelvic organs. The mechanism of labor, physiologically and pathologically, and the indispensable mechanical skill, is required to be a successful operator. The causes that may immediately demand the interposition of the accoucher are numerous, varied, and by no means always have the same mode of action. Those that may here be mentioned, are want of power in the forces necessary for the expulsion of the fœtus; disproportion between the dimensions of the pelvic canal and those of the body to be extruded. Complications are liable to

arise in the most favorable cases, which endanger the life of the mother or child, such as accidental hemorrhage, convulsions, exhaustion, prolapsus of the cord, thrombus. Among the difficulties connected with obstetric practice, there are none of more frequent occurrence, and none demanding more accurate knowledge of the whole phenomena of labor, than those dependent upon deficient or irregular action of the expulsive power. Labor may be impeded or entirely arrested by other causes aside from those mentioned, as tumors, adventitious growths of various kinds, pelvic deformities, abnormal developments of the uterus, monstrosities, multiple pregancy, and placenta prævia. The latter, however, would possibly be most successfully treated in the majority of cases by version. As to when, and under what circumstances the physician should give instrumental aid, there are no definite rules to govern his action. The best is his good sense, based upon a proper knowledge of obstetrics and the mechanical application of instruments. The established custom in the Rotunda Hospital, and similar views have been adopted by the abler obstetricians of this country, is, that so long as nature is able to effect its purpose without prejudice to the constitution of the patient, danger to the soft parts, or the life of the child, we are in duty bound to allow the labor to proceed; but as soon as we find the natural efforts are beginning to fail, and after having tried the milder means for relaxing the parts, or stimulating the uterus to increased action, and the desired effects not being produced, we consider we are in duty bound to resort to still prompter means, and by our timely assistance relieve the sufferer from her distress and her offspring from an imminent death. The above is the language of Dr. Johnston.

It appears to be almost the uniform custom with the most renowned accoucheurs to apply the forceps once in every eight or ten cases of labor, where, as thirty years ago, the forceps were not used in the great European hospitals more than once in every three hundred and ten cases. Craniotomy was performed then, by far, more often than what it is at the present time. Every one is too familiar with the evils associated with prolonged labor, particularly in the second stage, to require special comment. Speaking from my own past experience, I feel quite sure physicians, who do a general practice, are too

liable to be intimidated by the old adage, meddlesome midwifery is bad. Many mothers have unnecessarily been allowed to remain in the throes of labor, the practitioner trusting to the sanative efforts of nature, until the soft parts have been irreparably damaged by pressure, or shock to the nerve centers, from which the patient never survived. Sudden rise of the temperature of the body should be taken as an omen of near approach of danger. I believe it proper not to wait over two hours in the majority of cases after the progress of labor has been arrested and the os uteri sufficiently dilated, without giving instrumental aid. It matters not whether the delay be dependent upon feeble uterine contraction, or disproportion between the size of the head and pelvis, nor does it make any difference in what part of the parturient canal thehead is arrested, let it be a t the superior strait in the cavity, or at the outlet of the pelvis. Mere temporary suspension of labor pains should be no reason for interception; but when there is a probabilty that the powers of nature are likely to fail in effecting their purpose, time is not always a sure guide. An impacted head would do more violence to the soft parts of the mother in one or two hours than a receding head after each pain would in four or six hours. It is an established fact that labor may be prolonged without prejudice to mother or child, nevertheless, it is a growing opinion among obstetricians that the mere prolongation of labor is in its self a serious thing. The state of the uterus, in protracted labor, when the pains have partially ceased or entirely subsided, should not be overlooked. It is liable to be found on examination by palpation, in a state of continued or tonic contraction, and more than likely the irritation set up by this condition is one of the chief causes of powerless clonic contractions. Under such circumstances, instrumental assistance should not be delayed. There are other complications demanding the use of the forceps I have not attempted to give in detail. It is presumed every physician will, or at least should, resort to the means at his command as soon as obstacles arise, which, if not obviated, would prove detrimental to mother or child.

APPLICATION OF THE FORCEPS.

Before making the slightest attempt in this direction some preparation is necessary. The patient must be

placed in the proper position; the rectum and bladder must be empty. The dorsal position is the one preferred in this country, which certainly has advantages over the semiprone, especially in the high forceps operation. We must assure ourselves the membranes have ruptured, the os properly dilated, the exact position of the head fully determined, and the possibility of pelvic deformity. In adjusting the forceps in vertex presentations, it is only necessary to remember there are practically but four cranial positions—two occipito-anterior and two occipito-posterior. The advice heretofore given in most all of the text-books on obstetrics, is to apply the blades to the transverse or biparietal diameters of the head, making it necessary in manipulating to introduce the blades with regard to each position. As to the use of anæsthetics in forceps delivery, that depends upon the nature of the case, whether the vertex is low in the excavation of the pelvis, or rests upon the perineum in the first and second cranial positions, and no serious complications existing. There is no necessity for etherizing the patient. The operation is excedingly simple, easily performed, and accompanied with but little pain. The condition of affairs met with in the high operation are quite different. In the latter it becomes necessary to pass the whole hand into the vagina, and possibly partially into the uterus, as the only sure guide to the introduction of the blades. Such a procedure is an exceedingly painful one to the patient before the genital tract has been dilated by the expulsion of the fœtus. The great disadvantage under which the physician has to operate when the head is high in the cavity of the pelvis, or above the superior strait, makes it imperative for the patient to be perfectly quiet. Hence the necessity of administering anæsthetics in the high operation, which should be pushed to the surgical degree. Having decided to operate, the patient is placed in the lithotomy position across the bed, the nates brought near its edge, and a covering thrown over the body, etherizing or not, as the case may require. And, taking for granted it is the simpler variety of the operation with which we have to contend, before rotation has been established, in the first cranial position, and that the blades should be applied over the parietal eminences. In this position the head occupies the right oblique diameter, with the forehead toward the right sacro-iliac syncondrosis, and the oc-

ciput toward the left acetabulum. In this case, the first blade is passed in the direction of the left sacro-iliac junction. The second, when introduced, corresponds to the right foramen ovale. In adjusting the forceps in the second cranial position, the manipulation is simply the reverse of the first. It is only necessary to remember the head lies in the left diagonal diameter of the pelvis. Usually more difficulty is associated with the management of occipito-posterior positions, by reason of the abnormal condition. In the third cranial position, the forceps are introduced precisely as in the first; and in the fourth cranial position the manipulation is the same as in the second. The forceps must be handled with the greatest possible care, to avoid the risk of injury to mother or child. The blades must be applied, during the absence of pain, directly to the surface of the fœtal head, guided by two or more fingers of the free hand. After the blades have been successfully introduced, and properly locked, the operator is required, in the first and second cranial positions, before rotation has taken place, to use traction alone, or combined with a very gentle swaying motion, invariably to be made in reference to the pelvic axis. No more compression should be exerted than what is sufficient to give a firm grasp of the hand, and to keep the blades from slipping. The occiput will rotate anteriorally as it descends, provided the proper amount of time be allowed the diffluent head to adapt itself to the pelvic cavity; the handles held loosely during the intervals of pain, and traction kept up simultaneously with uterine action. In occipito-posterior positions, there are some peculiarities in the mode of delivery which it is necessary to bear in mind. Rotation anteriorally of the occiput often occurs spontaneously, even at a very advanced period of labor. In this class of cases we are justifiable, during extraction, of imparting a moderate amount of rotary action to the blades. The danger associated with any undue attempt at artificial rotation is obvious to you all. There is a very close analogy between the mechanism of vertex and face presentation. The face, like the head, descends into the pelvis, with its long diameter in one or the other of the oblique diameters of the brim. Taking the chin as the mechanical equivalent of the occipit, there are four face positions—two mento-anterior and two mento-posterior. In case it should become necessary to use the forceps in mento-

anterior positions, traction in the axis of the pelvis, remembering to raise the handles toward the symphysis as the forehead, vertex, and occiput successively sweep over the perineum, is all that is required, except to keep in mind that traction must be made synchronous with the pains; and, in case of inertia, we are to stimulate the natural expulsive efforts as much as possible. The chin will rotate to the front as the head descends, and the labor will terminate with but little more difficulty than in vertex presentations. Few obstacles are met with in obstetric practice which give the physician more anxiety than mento-posterior positions—wherein the chin rotates into the hollow of the sacrum. In this class of cases, we should not hesitate to make a very decided effort, keeping out of harm's way, to rotate the chin anteriorally, before the face fully occupies the antero-posterior diameter of the pelvis. It is here, possibly, the straight forceps will be found of the most service. In the high forceps operation more difficulty obtains. We may be required to grasp a movable head above the superior strait, or it may be tightly wedged in the upper part of the cavity, with its long diameter in the transverse of the pelvis. The operation can not be performed without incurring more or less risk. Every one should feel the weight of responsibility before making the attempt. The conditions which justify the expedient are those in which the distortions do not reduce the conjugate diameter below three and one-half inches. The head must be arrested at the brim, or it will not descend beyond the upper part of the cavity, by reason of moderate contractions. Hemorrhage, inertia, and the like, may occasionally demand it. The general principles of adjustment and traction are identical in most all cases. When the operation is to be performed before the head enters the pelvic brim, it should be fixed as firmly as possible by abdominal pressure—the cervix and other soft parts guarded from injury. As has been implied, obstetric authors heretofore have strongly urged the propriety of applying the forceps to the sides of the child's head, especially in the low operation; and some contend it is best in all cases. The practice, of late, has been almost entirely abandoned by many of the most distinguished accoucheurs. It is admitted, in adjusting the forceps in the high operation, the blades must be introduced with regard to the sides of the pelvis,

disregarding the position of the head. At present, it is generally advised that this should be the plan adopted in all cases of forceps delivery, whether the head be high or low. Drs. Barnes and Harris strongly contend, let us do what we will, and attempt as we may to pass the blades in rotation to the child's head, they find their way to the sides of the pelvis, and the marks of the fenestra on the head always show that it has been grasped by the brow and sides of the occiput; hence, it is considered to be an unnecessary complexity and embarrassmant to endeavor to vary the position of the blades in each case—a needless procedure which renders more difficult an operation that should be simplified as much as possible. The precise position of the head should be determined—not that it is required specially in the introduction of the blades, but that we may fully understand its progress. Rotation of the head within the blades will take place as it descends if a proper instrument is used—one which will not reduce the cranial diameters by actual compression. Such an instrument is found in the pattern of Simpson. His forceps are three and one-half inches at the widest part between the blades after being closed, and one inch and an eighth at their extremities. At present, we have two varieties of forceps in general use. Simpson's represents one type, which is designed to act as a tractor, and is applied to the sides of the pelvis in all cases. Hodge's forceps is one of the most extreme of the other class. It is a powerful compressor, consequently is adjusted to the biparietal diameter of the head.

The position of the patient for the use of the long forceps, at the superior strait, is the same as for an operation in the pelvic cavity. The left-hand blade is introduced first, well guarded with the fingers of the right, or, if needs be, the whole hand inserted into the vagina. The blade is carried along with exceeding care, in accordance with the curves of the pelvis, being sure of its passing inside of the uterus and judiciously applied to the surface of the fœtal head. The right-hand blade is adjusted in a like manner, proper caution being observed that they should lock without force, which they will do if properly manipulated. After junction, the first efforts of traction must be altogether in the axis of the brim, and this is accomplished by pressing the handles well back toward the perineum; and, if compression of the blades

is not too great as the head descends, it will probably take the usual turn of itself. All in all, it is better for the operator not to make any decided attempt at artificial rotation. The direction of the tractive force should be changed as the head advances to the axis of the outlet. In case the blades rotate with the head, it is better to unlock and reapply them with regard to the sides of the pelvis. Too great caution can not be observed in preserving the perineum. When the presenting part has reached the floor of the pelvis, we should desist from making further traction, and trust thereafter to the expulsive power at least until the parts have become relaxed; and, if the indications are that the perineum is likely to give way, we should advise the patient not to bear down. The almost irresistible desire to speedily terminate the labor is an evil which must be scrupulously guarded against. Time and exceeding care are the chief elements of success at this stage of the operation. How are we to manage the after-coming head? The safer plan, I think, for us to adopt, is, when the time comes, for us to give assistance. The patient should be placed in the proper position for the use of the forceps—the instrument prepared and placed near at hand; and, in case the head be arrested, and after speedily resorting in vain to the most reliable means to dislodge it—knowing at best there will be suspended animation of the child in five or six minutes—the blades had better be quickly slipped over the parietal eminences and locked, the head disengaged immediately. As a general rule, it will be found that rotation of the head has taken place. The blades are inserted on the abdominal side of the child without much difficulty, an assistant being required to raise its body well up toward the symphysis of the mother.

Are we justifiable in attempting to deliver by the forceps before the os uteri is fully dilated; and, if so, to what extent must it be at the time of operation? It is assumed that four inches is the greatest diameter of expansion of the os at the time the head is passing through it. In order to have a more correct understanding, Dr. Johnston divides this four inches into five equal parts. He, with others, thinks it safe in skilled hands to commence the operation when the os is dilated two-fifths, provided the parts are dilatable. In his recent clinical report he gives fifty-nine tabulated cases in which the forceps were used,

when the os was dilated to the extent above mentioned; seventy-one cases where the os uteri was three-fifths dilated, and thirty-nine where it was four-fifths dilated. It appears the ratio of deaths of mothers and children was a little higher in the first class of cases than in either second or third. However, the complications which demanded instrumental interference were much more severe in the first class.

At the conclusion of Dr. Lane's paper the subject raised in it was taken under discussion by the Society, pertinent remarks being made by Drs. Day, Ash, Seaman, Carr, Reed, and Clements.

Dr. Brothers, of Bunker Hill, said:

Dr. Lane's paper has afforded me much gratification. In it he has so nearly gone over all the ground as to leave little to be said, and less to take exception to. If I understand him correctly, he does not use the forceps as a compressor. In this I believe he deceives himself. From the construction of the fœtal cranium, it is very susceptible of being, and generally *is*, more or less, compressed in natural labor; and, by use of the forceps, compression necessarily ensues, if not before, certainly when traction is made, and the head is drawn from a larger to a smaller space; and experience demonstrates that children are often saved by the forceps in contracted passages in which the head was arrested.

The extent to which compression can be carried with safety we have no means of determining in advance. In the use of instruments, the line of safety may be said to be where the disproportion between the diameters of the fœtal head and the pelvis is not great enough to make delivery impossible without injury to the maternal structure, or dangerous compression of the fœtal cranium, always providing the forceps are judiciously chosen and intelligently used.

At the superior strait the operation is never devoid of the risk of these dangers. How much were these risks lessened by following the teaching of the older writers, who never used the long forceps, but resorted to craniotomy, thus sacrificing *every* infant.

Fortunately a flood of light has been let in, and on this point an almost entire change of front has taken place within a half century among the English speaking writers.

The Continental writers were in advance of their Angli-

can contemporaries in the use of the forceps; and their statistics, in marked contrast, present food for serious reflection; for, according to Prof. Barker, while Nagle delivered with forceps 1 in 31, and Seibold 1 in 7, they respectively performed craniotomy 1 in 1,711, and 1 in 2,093; while Churchill, who delivered by forceps 1 in 546, found it necessary to perform craniotomy 1 in 149! Has the thought never occurred that possibly there may have been too frequent slaughter of the innocents?

The only case of craniotomy I know any thing of personally occurred nearly twenty years ago, in which, after perforation, a messenger was dispatched to another town after more chloroform; the patient regained consciousness, and was delivered unassisted of the mutilated child. I examined it next day. My feelings are that this was one of the unnecessary slaughters.

Fistula and ruptured perineum have been alluded to in the discussion as possible results of the use of forceps. In over twenty years' practice I have had but one of the first, and that in a case to which I was called when the woman had been ninety-six hours in labor. The long continued pressure of an enormous head is what I attributed the calamity to, and not to the instruments, which did not touch the site of the fistula. In the past five years I have applied forceps once in eight cases—not all in my own practice. In twenty-one forceps deliveries there has been only one slightly lacerated perineum. I think full that large a percentage of that accident will be found in normal labor, if not more. In fact I am convinced that the forceps, properly used, prevents, rather than causes rupture. Reviewing my use of the forceps from the standpoint of the experience had, and results accomplished, I have never regretted its use in a single case. On the contrary, the regrets have been, at the time, in some cases, that the use had not been earlier, and in others that they had not been used at all.

Michigan State Board of Health.

The regular meeting of the State Board of Health was held in Lansing, on Tuesday, April 8, 1879. The following members were present: Dr. R. C. Kedzie, Hon. LeRoy

Parker, Rev. D. C. Jacokes, Dr. H. O. Hitchcock, and Secretary Henry B. Baker.

President Kedzie stated that on account of ill health and business connected with oil matters, he had been unable to prepare his annual address. By a vote of the board, he was requested, if convenient, to make his annual address on the subject of the history of legislation relative to illuminating oils in the State of Michigan. The motion also included a request to have, in condensed form, the main facts bearing upon the dangers in the use of kerosene oil.

Dr. Kedzie was unanimously re-elected president of the board for the ensuing two years.

SLAUGHTER-HOUSES.

Dr. Kedzie presented the subject of slaughter-houses in towns and rural districts, and read a letter from F. Andrews, of Dowagiac, relative to slaughter-houses in his vicinity. Dr. Kedzie referred to the rules which he had prepared for the government of slaughter-houses in the township of Lansing, and suggested the desirability of butchers uniting in one house in cities of even the size of Lansing, for greater ease of methods, for cleanliness and sanitary arrangements. Referred to a committee of investigation and report. This committee is also expected to prepare a model set of rules for the regulation of slaughter-houses.

DEATH OF REV. MR. BRIGHAM.

The secretary announced the death of Rev. C. H. Brigham, a former member of the board, and proper resolutions of respect to his memory were passed.

NEW LEGISLATION.

The secretary also announced the passage by the present legislature of three new laws, which will tend to promote the public health in this State and increase the efficiency of local boards of health.

Of these laws, one provides that the council of each city and village shall be a board of health, unless there is other provision by special law, so that hereafter there is to be a local board of health in every township, village, and city in the State; one law makes it the duty of health officers of cities and villages to notify the prosecuting attorney of any neglect by householders or physicians to

report cases of disease dangerous to the public health; and one authorizes boards of health in cities, villages, and townships to furnish free vaccination to the inhabitants thereof. The secretary is to prepare a circular to health officers in cities, townships, and villages, calling attention to some of their duties under the new laws, and otherwise setting forth their duties as health officers.

The board adopted a resolution tendering a hearty vote of thanks to Congressman McGowan for his labors in procuring the passage of the bill which has recently become a law, establishing a national board of health.

COMMUNICATIONS WERE RECEIVED

From Hon. C. D. Randall, of Coldwater, suggesting the propriety of the selection of healthy locations and the determining of plans and specifications for all new State institutions, by the board of health, and that all systems of drainage, sewerage, etc., in public buildings hereafter to be erected, should be approved by the State Board of Health previous to their adoption.

Also, from J. A. Russell, M. D., of Edinburgh, Scotland, setting forth a plan for the mutual sanitary protective association for cities, accompanied with a leaflet, giving the plan adopted in that city.

Also, from the national educational bureau at Washingington, inclosing a communication from Wm. M. Evarts, Secretary of State, giving notice of a prize of £100 offered by the Royal College of Physicians, of London, for the best essay on hydrophobia, its nature, prevention, and treatment.

Also, a communication from B. B. Ross, of East Saginaw, suggesting that health officers ought to visit all cases reported as dangerous to the public health and verify the diagnosis of the attending physician. He thought this would improve the accuracy of the weekly reports of diseases by health officers. The communication was referred to the committee on legislation, as was also a suggestion by Dr. Baker that the health officer should be authorized to act promptly for the restriction of such diseases, if found to be correctly reported. Another communication on the same subject, received from E. S. Richardson, M. D., was referred to the same committee.

At the afternoon session, Dr. Lyster was present, and

presented an article, portions of which he read, relative to the reclamation of

OVERFLOWED, OR SATUATED LANDS.

Reference was made to large tracts of land on the Crapo farm, the Chandler farm, and near Detroit, and descriptions given of the methods adopted and their results. It also included a record of experiments made for the past twenty years in a large tract of country near Bordeaux, France, translated from a French report. This paper showed the great importance of the work, both pecuniarily and as directly related to health. The original French paper was illustrated with a diagram, showing the relations of the birth-rate to the death-rate as connected with this process of reclamation. It showed an increase of the birth-rate over the mortality until the Franco-Prussian war.

In the discussion which followed, Dr. Kedzie referred to a paper by Judge Albert Miller, of Bay City, on the same subject, giving his experience in the Saginaw Valley, where he is reclaiming a section of very valuable land by protecting it with dykes, pumping the water out with steam pumps, and then keeping down the leakage by means of wind-mills. He received the thanks of the board for his paper, and was requested to extend his investigations far enough to include the inspection of overflowed lands in Gratiot County and some other portions of the State, and report upon them, together with recommendations as to what ought to be done.

Dr. Lyster also reported having prepared, by request of the board, the draft of a plan for a circular on the subject of

HOUSE-DRAINS AND PUBLIC SEWERS.

The circular is to be studied and elaborated by each member of the board before it is printed and sent out.

Dr. Kedzie said he wished to give an additional point to be considered in testing tin utensils for the presence of lead. His method heretofore published, as thus modified, would be to moisten the tin with nitric acid, over a space the size of a dime, dry thoroughly, place thereon a drop of water, and then a drop of iodide of potassium. If the tin is adulterated with lead, the spot will assume a yellow color.

In reply to a question as to the

DEATH-RATE IN THIS STATE,

Whether increasing or decreasing under the enlarged sanitary work done in the past, Dr. Baker said it was difficult to speak as regards the whole State, but he brought forward a statement received from Dr. W. H. Rouse, correspondent in Detroit, giving the total interments in that city since 1873, whereby it appears that while the number of inhabitants has been constantly increasing, the number of interments has been constantly decreasing. The figures given were as follows: Interments in 1873, 2,506; in 1874, 2,386; in 1875, 2,321; in 1876, 2,317; in 1877, 2,105; in 1878, 1,909. He gives for the years 1876–7–8 the number of deaths from each cause, whereby it appears that the decrease has been, in certain preventable diseases, rather tending to show that the sanitary work at Detroit, in perfecting the water-supply and otherwise, has resulted in lessening the death-rate. In one instance it is almost certain that the lessening of deaths has come from vaccination. In 1877 there were one hundred and seven deaths from small-pox, and vigorous efforts were made for a thorough vaccination throughout the city. In 1878 not a single death was reported from this cause.

NEW LEGISLATION.

Hon. LeRoy Parker, from the committee on legislation, reported having prepared various bills which had been brought before the legislature, three of which had become law. One relative to an improved system of holding coroners' inquests, and another, in which he had acted with the secretary of the board, in reference to an improved method of collecting vital statistics, are now before the legislature. The memorial for

A SANITARY SURVEY

Had been delayed, owing to lack of time and to the difficulty of getting the matter properly before the legislature. Mr. Parker and Dr. Baker recommended that the details of a plan be worked out in the board before presenting it two years hence for legislative action; and that there be a committee on sanitary survey, charged with the preparation of schedules for such survey, to which committee all papers or suggestions relating to the subject should be referred. A committee of three was appointed.

This was the meeting for the reorganization of committees; but as there are vacancies in the board, the subject was postponed until the July meeting. A large portion of the work of the board is assigned to committees, and as communications come to the secretary, they are forwarded to the proper committees for action.

During the quarter, communications have been received and referred to committees as follows:

To Homer O. Hitchcock, M. D., (1.) A postal from W. W. Switzer, M. D., relative to three cases of typhoid fever, caused by the use of bad water; (2.) A letter from S. P. Gray, relative to sawdust and mill-refuse in streams; (3.) A letter from J. D. Johnson, sending a petition against allowing sawdust, etc., to flow into the lake; (4.) A letter from C. W. Marvin, M. D., being a study of an outbreak of diphtheria in Gratiot County.

To Henry F. Lyster, M. D., (1.) A letter from Josiah Miller, relative to flooding Chippewa River for driving logs; (2.) A letter from Daniel F. Swain, of Hungerford, relative to cutting away a dam; (3.) A letter from W. F. Jenison, of Eagle, relative to drainage, etc.; (4.) A letter from J. Van Zandt, relative to the dam on Lincoln Lake.

The secretary, having made some experiments and had some correspondence on the subject of illuminating oils, was requested to turn over to Dr. Kedzie, if he desired it, all correspondence in relation to that subject.

EXAMINATIONS IN SANITARY SCIENCE.

Dr. Lyster made a report on the proposition, originally made by him, that the board shall offer to examine candidates in sanitary science and its different branches, recommending that the board make preparations for examinations by its different committees on subjects assigned to them, and that certificates be given to those who ask for and sustain examinations. It was thought that the publication of the examination papers would tend to increase the interest and knowledge concerning the subject among the people generally; and that the examinations would tend to secure throughout the State a class of physicians especially intelligent on the subject of sanitary science, and the public could have proof of their qualifications by means of these certificates. If the people see fit to select such persons for health officers, it

would react well on the interest of public health, which it is the duty of the board to promote.

Dr. Baker favored it, and suggested that schedules of questions in each of the several branches of sanitary science be prepared for this purpose. The secretary was directed to procure copies of the examination papers in sanitary science from different colleges in foreign countries.

SANITARY CONVENTIONS.

A communication was received from Dr. Peters, of Tecumseh, inviting the board to hold a convention at that place. The board voted to hold two public sanitary conventions next winter, and each member pledged himself to make them a success. It is desired to procure at these meetings the greatest collection of sanitary utensils which can be obtained, from a common pie-dish to the most elaborate apparatus for heating and ventilation.

The time and place for holding such conventions will be announced as soon as determined upon; and it is hoped that dealers in sanitary appliances will exhibit their wares, and describe their uses and advantages.

Drs. Hitchcock, Lyster, and Baker were appointed a committee to prepare for the details of these sanitary conventions.

The secretary presented a report of work done in the office during the quarter. It included the distribution of over one thousand copies of the sixth annual report; the printing, addressing, and mailing of about two thousand five hundred blanks for return of annual reports of health officers and clerks of local boards of health, a large number of which had been received, examined, and filed. Circular 29, relative to diseases in Michigan in 1878, had been sent to each correspondent, and replies from twenty-six persons had been received, examined, and filed. Meteorological observations had been taken at the office during the quarter. Meteorological registers and reports of diseases had been received from observers, to whom, also, the regular distribution of blanks had been made. Work had been done in compiling the weekly reports of diseases, and the meteorological registers for 1878. The correspondence and the routine work of the office had been fully up to the average.

The subject of

ANNUAL REPORTS OF HEALTH OFFICERS

And clerks of local boards of health was discussed. It is found difficult to compile these reports in a satisfactory manner by counties, because in many cases one or more townships are not represented by reports.

Some officers fail to report because no reports are made to them; though one effort of the State Board is to learn just such facts as the probable extent of delinquencies in the reports of physicians and householders.

The next regular meeting of the board will be held July 8.

SELECTIONS.

New York Academy of Medicine.

Stated Meeting, Thursday Evening, April 3, 1879.

FORDYCE BARKER, M. D., LL.D., PRESIDENT, IN THE CHAIR.

THE paper of the evening was then read by Dr. James R. Leaming, on

A NEW CLASSIFICATION OF PULMONARY PHTHISIS, WITH PRACTICAL CONSIDERATIONS.

The tendency of the present time, he said, was to rearrange, classify, and describe, with more detail, the various affections met with in the practice of medicine. As an instance of the advantage of this he cited the case of the so-called typhoid diseases, such as typhoid, typhus, and typho-malarial fevers, which were formerly considered but a single affection (this even being a decided advance over the extreme confusion that had previously prevailed), and were afterward described, by Murchison and others, each as a distinct disorder, differing from the others of the group in its etiology, lesions, clinical history, and duration. That which had been so successfully accomplished in this class of affections remained to be done for the various forms of disease now known under the general name of pulmonary phthisis. He then quoted Sydenham's graphic delineation of the clinical characteristics of consumption, and remarked how little had been added to this description written two hundred years ago! Laen-

nec believed that, with scarcely an exception, all cases of phthisis were of a tuberculous character; while Broussais inclined to the idea of the ancients, that they were of an inflammatory nature. Laennic was deserving of all praise for his distinguished services, but, unfortunately, his well-earned fame had been instrumental in carrying some grave errors down to the present time. The more modern pathologists (particularly the Germans) had demonstrated that there were other forms of phthisis besides the purely tubercular, and their views had been adopted by many English and American authorities. Dr. Andrew Clark, in a lecture delivered at the Bellevue Hospital Medical College, and reported in the New York *Medical Record* of December 14th and 21st, 1878, divided pulmonary phthisis into three natural classes, and Dr. Leaming stated that he accepted his classification in part. The tuberculous and fibroid forms he regarded as not only distinct, but essentially opposite diseases, although they sometimes coexisted, and thus produced peculiar results. The classification which he had himself adopted, and which he now proposed to set forth, was founded both on clinical and *post-mortem* investigation. There were two principal forms of phthisis, he said, the tuberculous and the fibroid varieties. Under each class he enumerated two subdivisions, as follows:

I. Tubercular Phthisis.

(1.) *Uncomplicated tubercular lung.*
(2.) *Tubercular lung with fibroid pleura.*

II. Fibroid Phthisis.

(1.) *Fibroid lung and fibroid pleura.*
(2.) *Fibroid lung and pleura, complicated with tubercle.*

UNCOMPLICATED TUBERCULAR LUNG

He believed to be a very rare condition. He had distinct recollections of but three cases of it, and no notes upon them. Louis had said that nothing was so frequent as adhesions of the lungs to the pleura, and out of one hundred and twelve cases, in only two were the lungs free from adhesions throughout their whole extent. In that form of phthisis, the early history was very apt to be obscure, and the diagnosis difficult. Often the first sign only made its appearance after a cavity had been formed. It generally occurred in early adult life, and in those who

had been living on poor food, or surrounded by unwholesome sanitary conditions. In the early stage, when careful auscultation was made, a deficiency in the respiratory murmur, with slightly raised pitch, could be detected; but no rales. Neither was there any cough. When the tuberculous nodules softened, we had cough, expectoration, hectic, and all the well-known rational signs of phthisis. Then it was that fatal hemorrhage might occur from erosion of arteries.

When a cavity had been formed, the physical signs denoting its presence were not so plain as in fibroid phthisis, because the healthy lung tissue by which it was ordinarily surrrounded was not a good conductor of sound. Wasting of the body commenced with the formation of cavities; and the case might end in general tuberculosis.

As to the treatment, that was of the greatest service which acted in the way of prevention. Chloride of ammonium was both a preventive and a curative agent; and cod-liver oil, quinine, the various other tonics, and change of scene and air, might all prove useful. If the heart's action was feeble and irregular, digitalis should be given, and atropia should be used to control night-sweats. In the way of local measures, strapping with adhesive strips were of service, and small blisters might assist nature by inducing adhesions. If forced expansion was made when there were newly formed cavities, there was great danger of pneumorrhagia. Fatal hemorrhage rarely occurred after a cavity was a week old.

TUBERCULAR LUNG WITH FIBROID PLEURA.

In the second subdivision of Dr. Leaming we had tubercular concretions following fibroid in the pleura. In that there was a greater liability to fatal hemorrhage than in the other. The arteries seemed to be more easily eroded, and when the hemorrhage (which was apt to occur early in the disease) came, it was almost always a surprise to the physician, as well as to the patient and his friends. The first indication of danger was the filling up of the nose and mouth with frothy blood, and the patient was literally drowned before anything could be done to relieve him. Another accident which might occur (and which was also liable in the first variety) was the causation of hydro-pneumothorax by an opening being formed into the pleural cavity as the result of the softening of a

tubercular concretion. That gave rise to a great amount of pain and dyspnœ; and death was pretty sure to occur after a longer or shorter period. Recovery was rare after this condition has occurred. The diagnosis was sufficiently easy, and the indications in the treatment were to secure perfect rest (which could best be accomplished by strapping the chest), relieve pain, and control inflammatory action.

FIBROID LUNG AND FIBROID PLEURA.

In the first subdivision of the second class we had fibroid lung with fibroid pleura. Here was something, said Dr. Leaming, quite opposite to the tubercular process. There was really a destruction of tissue, while that was merely a destruction of function. It differed from the tubercular variety of disease also in being much more amenable to treatment.

The writer was of the opinion that nine-tenths of all cases of phthisis commenced with interpleural plastic exudation. Hence, the early recognition and treatment of that condition were of vital importance, and he believed that the day was not far distant when (on account of the more general adoption of that view) the mortality from phthisis would be much less than now.

In that class the disease always originated in fibrination of the pleura. That was the local starting-point; but there was always a predisposing cause in some depression of the vital force which might be due to various circumstances. Thus, any individual who had long been attendant upon the sick, the student unsuccessful in passing his examinations, the man of business perplexed with unusual care, the disappointed lover, the defeated soldier, were all peculiarly liable to be attacked with fibroid phthisis. In like manner, syphilis, masturbation, the sequelæ of the various exanthemata, and similar depressing influences were prolific in its causation. The interpleural exudation, said Dr. Leaming, was a makeshift of nature, and it was often immediately reabsorbed. If it was not reabsorbed, however, it underwent organization and increased in extent; the result being that the pleura was pressed firmly down upon the air-sacs beneath.

The writer then went on to describe at some length the peculiar anatomical characters of the nutrient arteries of the lung, which, he believed, played a very important part in the history of fibroid phthisis, and also satisfac-

torily explained some phenomena which would otherwise remain complete mysteries.

As fibrination went on, he continued, the patient gradually yielded before it. The outward form of the chest became more or less contracted and altered in shape, and the sufferer was obliged to stoop forward to prevent the racking cough that was so troublesome. Like some strong anaconda, the fibroid process was winding its ever-tightening coils about him.

Thus far the trouble had been confined entirely to the pleura; but in the second stage of the disease the fibrous bands extended down through the lungs themselves, and also involved the heart. Often a loud, systolic murmur was thus occasioned.

The early physical signs were the same in each variety. Their distinguishing characteristic was soft tearing rales, which it required a somewhat practiced ear to separate from the ordinary respiratory murmur beneath. When such signs could be made out, however, two facts were certain, viz: that there was plastic exudation in the pleura, and that the lungs were free. At the later state of the process the rales were dry and crackling, and there was no trouble about making them out.

The treatment was simple and easy enough at the beginning of the trouble; but the longer the process went on the more difficult it became. Even if the exudation had existed for several weeks, however, the disease might be cured. Perhaps the most useful of all remedies here was the chloride of ammonium, which should be given in doses of from six to ten grains every waking hour. In addition, the patient should be surrounded by the best hygienic conditions, walk out in the country as much as possible, take deep and long inspirations to expand the chest, and live to a great extent on milk diet. If these measures were unsuccessful, the bichloride of mercury in small doses should be tried, and Dr. Leaming believed that it acted as a tonic, as well as an alterant and solvent of adhesions. Some cases would not yield even to that, and then he advised the administration of mercurials to the point of salivation; which he thought had saved the life of the patient in a number of instances in his hands. In addition, small blisters would usually be of service; and, above all, chest-expansion should never be neglected. One of the best means of securing that, he believed, was

to ride a fast-walking horse. Care must be observed, however, not to do violence to the adhesions that had formed by taking too active exercise. When from that cause, or as the result of any accident, pulmonary apoplexy ensued, complete rest should be enjoined, and the chest strapped with adhesive plaster. The advantages of climate and change of scene were also dwelt upon.

FIBROID LUNG AND PLEURA, COMPLICATED WITH TUBERCLE.

In the second subdivision of the second class were found the greater proportion of all patients suffering from phthisis. That form he believed to be also essentially fibroid; the tubercular element being a secondary phenomenon.

Niemeyer, said Dr. Leaming, made the statement that the greatest danger to be apprehended in catarrhal pneumonia was that it might become tubercular. We would say rather that that was the greatest danger to be apprehended in fibroid phthisis. As the result of that condition, the well-known symptoms of phthisis were noted —such as cough, chills, fever, night-sweats, wasting, etc.—and at length the characteristic expectoration announced the formation of a cavity. The physical signs were always very distinct here, on account of the fibroid tissues in the lung and the hardened condition of the pleura. When the cavity had been formed, perhaps the patient might begin to sleep well, have an increased appetite, and feel better in every way; but there was seldom complete relief, and even if there was it was usually of short duration, for there were apt to be other tuberculous concretions undergoing softening at the same time.

Cavities in the lung, however, were not always of tubercular origin, as they might be due to fibroid disease, gangrene, etc., and might also be of traumatic origin. But to whatever causes it might be due the formation of a cavity in a fibroid lung was always of grave import, because it was so liable to become tubercular.

The treatment of that variety must consist in a judicious combination of that previously given for the fibroid and tubercular forms of phthisis. When the tubercular element had not already supervened, one supreme effort must be to prevent that complication. If, however, there were tubercular concretions, we must direct our attention toward preventing the extension of either form of dis-

ease. To that end the application of small blisters, and the confining of the patient to an exclusively milk diet for a time, were frequently of great service. Whenever fibroid phthisis was present we must endeavor to invigorate the vital powers, and Dr. Leaming, as before mentioned, fully believed in the tonic effect of mercury, as well as in its usefulness, in carrying off effete products from the system. Of course caution must be observed in its use, but we need not deprive ourselves of its invaluable aid on that account. What would be thought, said he, of a surgeon who was afraid of a sharp knife?

The President, in announcing that the paper was now before the Academy, remarked that it showed great evidence of profound study and thought, as well as careful clinical observation, and that he hoped that the novel pathological and therapeutical views which it contained would elicit a full discussion on the part of the Fellows present. He would call first, therefore, on Prof. Flint.

Dr. Flint said that before coming to the meeting he was not aware what line of remark the paper would take. As the Chair had stated, the classification was a novel one, and he thought that a certain amount of study upon it would be necessary before one could intelligently adopt it. At present he was not prepared either to take issue with the writer or to accept his opinions. He recognized in Dr. Leaming a very zealous worker; but there was one pathological condition underlying his views, which, he must say, he believed to be erroneous, and that was the relations of pleurisy to phthisis. It had always seemed to him that the pleuritic disease met with in these cases was secondary to the pulmonary; while the writer regarded the pleuritic trouble as primary.

The classification of phthisis was a large subject, but he proposed to make but a very few remarks upon it on this occasion. Acute tuberculosis, he thought, must necessarily be considered as a distinct affection. So the purely fibroid variety of phthisis could be readily distinguished from other forms. Then there remained those cases of chronic lung-trouble, in which each of these elements seemed to enter to some extent; and it was difficult to know how to designate them.

The point at issue was, whether true miliary tubercles were present, and what was their relation to cases of chronic phthisis characterized by softening of the lung-

tissue, the formation of cavities, etc. The views held as to this relation must, therefore, govern, to a great extent, our adoption of any classification. At present he did not feel that he could conscientiously commit himself to any definite opinion in regard to the matter; and he was content to wait until further research should perhaps decide it. Such studies were to be based both on histological data and clinical data; but he believed the latter to be of really the most value.

Dr. Loomis thought that the paper deserved careful consideration, and that the views which it advanced should be discussed from different stand-points. Any satisfactory classification, he believed, should be based on three things: *first*, etiology; *second*, morbid anatomy; and *third*, clinical history; and it seemed to him very difficult to make such a classification in which these various points would not clash. The reason was, that the opinions of the scientific world as to some of the most prominent and constant histological changes observed in phthisis were not yet settled. If he understood Dr. Leaming properly, he took issue with the ordinary view that pthisis originated in the lung-tissue, and held that the primary changes in the disease occurred in the pleura instead. He did not understand, however, exactly what the writer meant by the term "fibrination," or the expression "plastic exudation undergoing organization." If we were satisfied in regard to any pathological facts, it was that all plastic material underwent absorption, and that the later changes observed, such as adhesions, fibrous bands, etc., were the result of a hyperplasia, or increase in connective tissue in the pleura, the pericardium or the peritoneum. At length contractions took place in this tissue, and thus, when occurring in the pleura, they interfered more or less with the circulation and nutrition of the surface of the lung beneath. If Dr. Leaming were correct in his opinion very great pathological changes must necessarily take place in the pleura before they were discoverable; for in a large proportion of cases important changes could be detected in the lung long before there was any evidence whatever of trouble in the pleura. It was a difficult question to decide where the primary trouble originated, because the *post-mortem* examinations necessary to settle it must be made at a very early stage of the disease. Where autopsies were made in the advanced stages it

was rather an assumption to say where the difficulty commenced. Auscultatory evidence, he thought, would not answer, because good diagnosticians differed utterly as to the significance of various signs met with in the chest. Personally he believed in three forms of phthisis, as described by Dr. Andrew Clark in his lecture; although this classification had been known to New York long before the visit of that distinguished physician. He could satisfy himself better with that division than any other; but he certainly was not bigoted in his views, and was still open to conviction.

Dr. E. Darwin Hudson, jr., believed that pleurisy was one, at least, of the causes of phthisis. Every student, he said, must notice the occurrence of pleuritic adhesions, not merely in connection with the later, but also the early stages of phthisis. We were taught that in inflammation of the pleura the serous membrane became denuded of its epithelium, and then assumed a villous condition, when adhesions were apt to be formed. He believed that if adhesions were present to such an extent as to cause more or less contraction of the chest, there would be definite and significant physical signs present, as had long since been recognized by Dr. Leaming. The latter was of the opinion that in a large majority of cases of phthisis interpleural plastic exudation was the commencement of the trouble, and that when that was present it could always be detected by a soft subcrepitant rale heard directly under the ear, and comparable to the sound produced by the tearing of wet cloth. He had also the authority of Rindfleisch for saying that no case of pleurisy ever occurred without a certain number of the air-sacs of the lung beneath becoming consolidated.

Dr. E. G. Janeway was the last speaker. He remarked that the question as to how far pleurisy could originate tuberculosis must be looked at in two ways. He had sometimes seen cases in which acute disseminated tubercle undoubtedly resulted from pleurisy, by septic infection: a process which it was difficult to explain. He could recall two instances in which, when there was no trouble whatever in the lung, there had been a sudden eruption of tubercle throughout the body; but at the same time he did not believe that phthisis ordinarily was to be ascribed to pleurisy. On the contrary, he considered that autopsies every day showed that when trouble both

in the lung and pleura were found, that in the lung was undoubtedly the older of the two. That was evident, he contended, in those portions where the process was most recent. To his mind, therefore, it seemed plain that we could not, in the majority of instances at all events, attribute the phthisis to interpleural exudation.

As to pure fibroid of the lung, he was of the opinion that it was very rarely met with. If by the term fibroid, however, was meant a thickening of connective tissue associated with the presence of lymphoid cells, that was a much more common condition. Pathologists were by no means agreed as to what tubercle really was, and hence a great confusion of terms had arisen; but there now seemed to be a gravitation of current opinion toward the view that tubercle was of more frequent occurrence than was for a time supposed. In the last edition of Niemeyer's work a considerable modification of the views expressed by that writer was noticeable, and Rindfleisch had gone further back toward the old ideas than any other authority. There was a growing appreciation at the present time of the necessity for the consideration of constitutional tendencies; and it seemed demonstrable that there was ordinarily more of tubercle in phthisical lungs than Virchow formerly taught. Even Virchow, he imagined, was returning, to some extent, to the adoption of views that had once been discarded.

Professional Advertising in the Daily Press.

To the Editor of the Medical Record:

Dear Sir—Your correspondent, "Sic Nos," etc., has done the profession a service in calling attention to an abuse that appears to be rapidly extending. Hardly a week passes but one of the metropolitan journals contains a flattering notice of some favored member of the profession, and one journal in particular appears to have taken special pains to keep before the public the name of a prominent specialist in connection with certain "Talks to Young Men," etc. Just before reading the letter of "Sic Nos" in to-day's issue of the *Record*, I found in the New York *Times* a notice, nearly a column in length, of a new medical journal, "Edited by Dr. E. C. Seguin." The notice commences: "This is a new medical journal, and

having a man so distinguished as Dr. Seguin for an editor," etc. Farther on we read: "This brings us to the editorial department of the journal, in which we find, first, some valuable matter by the editor on diseases pertaining to the nervous system, *for whose treatment he is particularly celebrated*," etc. (Italics our own.) Now, sir, where is this thing to stop, and where is the line to be drawn? Have we still a committee of ethics, or did it go out of existence with the subsidence of the mineral-water excitement that called it into being? If that committee is dead, we think that an end can be put to this sort of thing if you will give the different gentlemen concerned a little additional gratuitous advertising by transferring to your columns the public press notices as they from time to time appear, and we trust that those who have the real welfare of the profession at heart will take the trouble to send you such clippings as fall under their eye. NONNE?

Color-Blindness.

Read before the Medical Society, District of Columbia, April 9, 1879.

BY SWAN M. BURNETT, M. D.

By the eye we take in not only the forms of objects, together with the variation in the intensity of the illumination known as light and shade, but also that peculiar quality we call color. If we saw only the form with the variation in light and shade, all objects would appear to us as they do in a photograph.

The quality of color does not depend upon the intensity of the light, that is upon the strength of the aerial vibrations, but upon the rapidity with which these vibrations follow each other. When the vibrations are of a certain slowness we have a sensation of red; when they attain the greatest rapidity which is appreciable by the optic apparatus, the sensation is that of violet. Between these two extremes we find inclosed all the colors of the so-called solar-spectrum, each color corresponding to a certain fixed number of vibrations of the luminiferous ether.

We can not enter into a consideration of the various theories that have been advanced respecting the perception of colors at the different periods in the history of physiology. We shall confine our attention to the one

that has most common acceptance, since by it most of the phenomena of color perception are satisfactorily explained, as well as those of color-blindness.

I will state, by way of parenthesis, that there are some very valid objections to this theory, and physiologists are on the *qui vive* for one more satisfactory and more in keeping with the known laws of physiology and physics.

The theory that has appeared in most particulars to satisfy the demands of science is that known as the Young-Helmholtz theory. It was first promulgated by that great English genius, Thomas Young; but the times were not ripe for its acceptance, and his papers lay buried in the archives of the Royal Society until rediscovered and exhumed by the great German genius, Helmholtz. This theory recognizes three distinct kinds of nerves in the visual apparatus, which correspond to the three fundamental colors. These fundamental colors are not as was formerly supposed—red, yellow and blue—but, as has been abundantly demonstrated by Helmholtz and many others, red, green and violet. They are called fundamental because by various combinations of these all the other colors can be produced.

It has been supposed, then, that to each fundamental color corresponds a special division of the optic nerve. In other words, there are three kinds of nerve fibers entering into the composition of the nervous apparatus of vision. One of these is affected by red, a second by green, and a third by violet. But while red, for instance, affects most strongly one set of fibers, it affects in a less degree the other fibers also; and green, while acting principally on the fibers belonging peculiarly to it, affects also those of red and violet. When all these fibers are excited in an almost equal degree, we have the sensation of *whiteness*. White, therefore, would correspond to the sum of all the sensations which the visual apparatus is capable of perceiving. When all the fibers are excited, but one to a greater degree than the others, we then have the corresponding color predominant, but more whitish; that is, less saturated than when it is excited alone. When it is excited alone we have the color pure and in the condition known as saturation; that is, without any admixture of another color or of whiteness.

Having premised this much in respect to the physiology of color perception, we will proceed to an examination of

those conditions where there is a departure from the normal. True color-blindness, in accordance with this theory, can be of four kinds; that is, *total*, where no color is perceived, but only light or shade; or *red*, *green*, or *violet* blindness. In the last condition, or *complete* color-blindness, as it is called, one of the sets of fibers corresponding to the three fundamental colors must be hindered in the performance of its functions. Under these circumstances we will have a marked alteration in all the remaining colors.

Suppose, for instance, that red is the lacking color. Not only will saturated red not be perceived and become black to such an observer, but all the other colors into which red enters will likewise be modified. Thus, for example, a feebly luminous red which contains also a small quantity of green, will be likened to green, because the red in it will no longer be perceived. Yellow will be whitish green, because it contains also a certain quantity of violet, green and violet in proper proportions being to such an eye white, and green itself will be a whitish yellow or red. Gray, you will understand, is a shade of white or a mixture of white and black, and only a relative term. A cloth which would appear white against a black wall will be gray if laid on the freshly fallen snow.

If green is the lacking color, saturated red will be more saturated, so to speak, than to the normal eye; yellow will be a lighter red; green will be gray, because it contains an almost equal quantity of red and violet, its *two* fundamental colors, an admixture of which must, according to the theory, produce white. Those shades inclining to yellow will be more reddish and of course confounded with the light shades of that color.

These examples will suffice to show you the modifications which the principal colors undergo in the two most common forms of color-blindness (red-green blindness) according to the theory, and they have been found to conform very closely with the facts as we have them in the actual cases under examination.

A few words would not be out of place here with reference to the history of the study of color-blindness. It appears that the first mention of color-blindness is to be found in a letter addressed to Joseph Priestly by Joseph Huddart in 1777, just a little over a century ago. The first important study of the question, however, was made

by the English *savant*, John Dalton, the author of the Atomic theory, and in France, and, to a less extent, in other European countries, color-blindness is known as Daltonism. It seems, however, to be hardly the fitting thing to associate the name of the founder of modern chemistry with a defect in one of the senses. After him the matter was made the subject of study by Hemholtz and other physiologists. The subject was first studied in regard to its connection with practical life by George Wilson, of Edinburgh, in 1855. Farve, of Lyons, France, has also recently made many examinations of the employes of railways with reference to their perception of color.

To Professor Holmgren, of Upsala, Sweden, however, is due the credit of putting us in the way of making these examinations with great rapidity and exactness, and of giving such an impetus to the investigation of the matter that it is safe to say in a year's time there will not be an employe in railway or marine service in Europe whose color perception will not have been tested. Seldom has the labor of one man yielded such fruit in such a short time.

The important question now arises: How shall we test for color-blindness?

Several methods will probably suggest themselves to your minds at once. The examinee might be asked to name a large number of colors placed before him. This, however, would not give us the desired information; for many persons who are perfectly able to distinguish one color from another will give them the wrong names—calling red blue, and blue red. We can not therefore trust to this plan. He might be shown the solar-spectrum and asked to give the names of the colors and their shades; but the same objection would apply to this method, and besides a solar-spectrum can be used only under peculiar circumstances, such as we can not easily command in the routine of practice or in examining large bodies of people.

The simplest method would be to allow the examinee to select from a quantity of colors those which correspond to one which is given him as a sample. It is not then necessary for him to name the colors, and we obtain exactly what we wish, namely, his capacity of discriminating between different colors and different shades of the same color.

A second practical question now comes up, the importance of which those who have had no experience in such examinations will hardly appreciate at its full value, and that is the choice of the methods for the test-colors. We require a material whose colors are pure, that is easily handled, readily transported, and not expensive. The colored liquids are of pure color, but they are not readily transported, and the bottles would be easily broken. Colored glass is open to the same objection. Colored papers have the disadvantages of being easily soiled and of reflecting too much light from their surface, which would change the tone of the color, and they curl up and are easily torn.

Without mentioning further those which are for some reason or other objectionable, I will say that we find in skeins of Berlin wool, such as are found in all fancy stores, everything that we desire. We can get all shades of every color; the tints being aniline are pure; it is easily handled, readily carried from place to place, light is not reflected from its surface, and it is cheap.

Seebeck first suggested the use of these wools, but the peculiar method of employing them for obtaining a rapid examination and a certain result is due to Holmgren. These two points, however, are of the greatest possible importance when we have to examine large bodies of people, as the employes of railways, schools, etc.

We will now proceed to a brief examination of the Holmgren method of testing. We take as large an assortment of Berlin wools as can be procured, representing all the colors and at least five shades of each color. Green, gray, violet, and the shades of pink and brown should be especially well represented.

It is of first importance, of course, to determine whether the examinee is color-blind, and in the second place to find the kind of color-blindness from which he suffers. For the first test, then, we take a bright shade of green and lay this aside as a sample, and ask the examinee to select from the pile of colors all the shades which appear to him like it. If he selects only the shades of green he is not color-blind; if he selects, together with some shades of green, one or more of other shades of color, then he is color-blind, and we proceed to find the particular kind of color-blindness with which he is afflicted.

You will perhaps ask why it is that green is the color selected to test color blindness, and how an error in

matching a green shade would imply the existence of blindness for other colors.

Green occupies a middle ground, as it were, and reaching, as it does, to both extremes of the spectrum it influences more than either of the other fundamental colors, the shades arising from a mixture of any two fundamental colors, and when any one of the fundamental colors is absent green will feel it most because it contains most of the other colors, that is, is less saturated or more brilliant. The sample selected as a "test" should be to the normal eye a bright shade of green, because it will then be most easily confounded with gray if any one of the fundamental colors is absent.

When it has been demonstrated that color-blindness exists, we apply the second test to make the differential diagnosis. The "test" sample in this case is a purple, which is a mixture of blue or violet and red, the two extremes of the spectrum.

Now, if the individual is not capable of perceiving red, of course the blue in the purple will be the only color seen, and he will lay blue skeins by the sample. If he is green-blind his two remaining fundamental colors, red and violet, which are purple to the normal eye, are gray to him, and hence green, gray, and purple are essentially of the same color. The red-blind lays, therefore, with the purple, blue, and violet, and the green-blind, green and gray, or other neutral tint. The violet-blind would confuse purple with red and orange.

Another point of great practical moment is the relative frequency of color-blindness. In our railway service there are many thousands of employes who control the movements of trains loaded with human freight by colored signals. If an engineer, for instance, can not distinguish red from green (the most common form of color-blindness), what but a merciful interposition of Providence is to hinder him from running into an obstruction ahead, though a red light warns him that the way is not clear? Red and green are the same to him, and he drives his engine ahead, carrying his passengers to death or mutilation. There are at least ten passenger trains whose safe incomings and outgoings every night at our two depots depend upon the correct appreciation of colors, and yet there is no law to require that the railway companies should test the color-perception of those to whom the

lives of the community is intrusted. That there have not been more accidents referable to this cause is a miracle.

The examinations that have been carried on in Europe show that among males there is one color-blind in about every fifty.

It is a very remarkable fact that the defect is exceedingly rare in females. Among twelve thousand women examined and reported upon up to date, only thirty-one were found color-blind, or about one-fourth of one per cent. Even this, I think, will be considerably reduced by a more strict examination, since some are without doubt included who are only partially color-blind, that is, have some confusion as regards the finer shades of colors.

This fact would seem a support to the other facts pointed out by Darwin relative to the transmission of certain peculiarities by sex. Women, we all know, are much more engaged in discriminating between colors and different shades of the same color than men, and this more highly educated sense seems really to be transmitted to their daughters as a sexual peculiarity.

Another question of interest also presents itself in this connection regarding the influence exercised by race and nationality on the color perception.

From statistics thus far obtained, it would seem that the Jews are more liable to color-blindness than Christians. Whereas among Christians the percentage is about 2, in the Jews it is about 4. It was for the purpose of determining whether race did exert an influence on the ability to perceive colors that I obtained permission from the board of school commissioners to test the color perception of the children in the colored schools of this district.

I have examined up to this time 3,050 pupils, ranging in ages from six to eighteen years. Of these 1,359 were boys, and 1,691 girls. I found twenty-two boys color-blind, or 1.6 per cent., and two girls, or 0.11 per cent. Total percentage, 0.78. There were among the boys seventy-eight with a diminished color-sense, that is, though making mistakes at first, they were able, after a long examination, to sample the colors properly. Among the girls there were thirty-one with this diminished color-sense.

The distinctive difference between these two classes of color-blindness and diminished color-sense is, that the former is a congenital defect and can not be remedied by

education, whereas the latter is, without doubt, capable of being greatly improved. The importance of this distinction to the individual affected is, as you can readily see, very great. One whose color-blindness is a physical defect in the construction of his nervous optic apparatus, incapable of remedy, would clearly be debarred from many occupations open to those with a normal color perception.

Comparing, then, the results of my examinations with those made by other investigators among the white race, I find that the negro race is less liable to this defect than the white race. Among the whites the males have a percentage of about 2.5, while according to my examinations the male negro has only 1.6 per cent. Of course it may be objected to my results that the negro in this country is not of pure blood, but all those I have examined had a greater or less mixture of the negro blood, and their antecedents on one side at least were lately slaves. A limited admixture often carries with it the tendency to, or immunity from a disease. Thus, as I have shown,* the negro has a most enviable immunity from true trachoma or granular lids, and the immunity even extends to the mulattoes. So we are justified in inferring that the less tendency to to color-blindness in the negro—if it should ultimately be proven to be a fact—would be shared by those of mixed blood. The probable reasons of this low percentage of color-blindness in this race is a question for an ethnological society, pure and simple, rather than a medical society, and I have reserved its consideration for another paper.—*National Review.*

The Cure of Hemorrhoids by the Hypodermic Syringe.

BY EDMUND ANDREWS, A. M., M. D.,
Professor of Surgery in the Chicago] Medical College.

In a former number of this journal, I published the secret method of certain itinerant "Pile Doctors," and asked for information from all physicians who had any knowledge of the practical results of the treatment.

*See paper on "Trachoma as Influenced by Race." Trans. International Ophthalmological Congress. N. Y. 1876.

This request, supplemented by other inquiries, has brought me responses from about three hundred physicians, and given me more or less knowledge of the results of over three thousand three hundred cases treated by the new method. From the material thus collected, I am able to present the following history:

In the year 1871, there lived in the village of Clinton, Ill., a physician named Mitchell. His practice being small, he employed his superabundant leisure in planning a new treatment for hemorrhoids. He was a good thinker, and soon conceived the idea of charging a hypodermic syringe with equal parts of carbolic acid and olive oil, and injecting the contents into the hemorrhoidal tumors. He also devised another and totally different plan, which was to take two large needles with triangular points, like those used by saddlers, and then to pick the piles to pieces, little by little, with the needles. Mitchell himself is said to prefer the needle operation, and several others have adopted it from him, but the plan of injections has proved by far the most popular with others, and has recruited, in a quiet way, a surprising number of operators. The secret was sold from man to man, and the price and enthusiasm rose simultaneously. "State and county rights", to practice it were vended at high rates, reaching in one instance the sum of $3,000. Regular physicians abandoned their practice, and even mortgaged their property for money with which to buy the secret, and set themselves up as itinerants, while ignorant laymen joined in the rush until they filled the whole West with their clamor, and at last whitened the sands of the Pacific shores with their hand-bills.

The chief managers of the business settle in the larger towns in the winter, where they advertise and practice, but as spring advances to the time when the wild-geese begin to fly, they feel the migratory instinct, and go from place to place, selling the secret to all who will buy it, and operating meanwhile on the people of the farms and villages. In this way they have treated more than ten thousand patients in the States west of the Allegheny Mountains. A secret so extensively sold always gets out. Three years ago I discovered and published it, thus putting a check on the business of selling, and induced large numbers of the regular profession to try the plan among their patients. These physicians have furnished me my

best information, but I also opened communication with the principal itinerants themselves, and induced several of them to come out frankly and tell what they knew, and, by checking one statement against another, was able to sift out pretty well the few attempts at deception.

Mitchell's original plans have excited widely extended thought and experimentation among his followers, so that his two methods have branched out into numerous varieties. The original injection seems to have consisted of equal parts of crystallized carbolic acid and olive oil. The operator exposes the piles to view, and smears the anus with an ointment to prevent smarting in case the fluid should chance to drop; he then takes a sharp-pointed hypodermic syringe, charged with the carbolized liquid, and slowly throws a few drops into one of the piles. The pipe is left in the puncture a few moments to prevent the fluid from running out, and to allow it to become fixed in the tissue. The pile turns white, and in the most successful cases withers away without pain, suppuration, or sloughing. Only one pile is treated at a time, and about a week is allowed between the sessions, until all are cured. The itinerants often advertise their methods as "painless," but as a matter of fact only about one patient in four gets anything like exemption from pain. Most of them suffer a sharp, temporary smarting, and a few have a terrible and prolonged agony. The majority are cured, however, without interrupting their business.

The original plan has sprouted into numerous varieties. Instead of using olive oil as the excipient, many use glycerine. Then every operator has his favorite degree of strength. Several claim that the stronger the fluid the better it is, and actually inject crystals of carbolic acid melted by heat, while others use mixtures varying in strength all the way down the scale, until we find Dr. Weir, of New York, experimenting with one part of acid to twenty or thirty parts of the solvent. The dose injected varies in like manner. Some advocate great caution, and only put in from one to three drops, while others cram the pile with a syringe full, and seek to make it suppurate or slough. I find two men using creosote instead of carbolic acid, and several add anodynes, such as morphine, chloral, or iodoform. Ergotine is also a favorite injection, and a great number of mixed formulæ have been imparted to me, some of them containing five or six

ingredients. Mr. Colles, of Dublin, injects muriated tincture of iron. Dr. Hill, of Bloomington, Ill., and Dr. Drake, of Hastings, Mich., use the iron persulphate, while others have tried tannin, chromic acid, tincture of iodine, etc. One itinerant, who writes in a straightforward, manly tone, says that he has experimented on almost every coagulating agent in the vegetable and mineral kingdoms. His preference is for the strongest carbolic acid. He adds the following remarks: "The difficulty with all remedies, except carbolic acid, is the suppuration being limited to a small portion of the tumor, or, like the preparations of iron, causing it to swell and become very painful. Carbolic acid is, so to speak, used up in cooking the blood throughout the entire tumor. The appearance of the pile, in from five to twenty seconds, shows such to be the fact. Suppuration takes place in three or four days, with sloughing. No danger of hemorrhage."

The results of these various methods of treatment may be summed up as follows: In the first place the needle operation has never become a favorite. I can learn of only five persons who make much use of it. The following case was probably treated in that way. The patient, a plethoric man of forty-five years, went to a quack in Chicago, and, as the result, a varicose hemorrhoidal vein was widely opened. He says the blood gushed out freely, but after some trouble was arrested through the applications of means not clearly understood by him. He then returned home in great agony, sent for his family physician, who in turn called me in council. The family physician took off sundry cloths and compresses, and found a large opening in a vein plugged with a vial cork. The quack, I presume, tore open the thin walls of a dilated vein, and being driven to his wits' end by the gush of blood, finally concluded to cork up his patient like a demijohn.

My informants agree that the injection method seldom fails to cure the disease, but they report some serious disasters. The writers know of about 3,304 cases treated in their vicinities by these methods, and though they can not always give exact numbers and details, yet the circumstances are such that a case of rapid death from the treatment could not be concealed, though minor troubles, such as pain, sloughing, etc., might frequently escape their notice. It is probable, therefore, that the list of

deaths is pretty complete, while the figures, giving the minor accidents, are too small.

LIST OF ACCIDENTS.

Deaths	9
Embolism of the liver (suspected)	8
Very dangerous hemorrhage	5
Less dangerous hemorrhage	5
Carbolic acid poisoning (recovered)	1
Sloughing (generally but not always confined to the piles)	23
Abscess (of the liver)	1
Severe inflammation	10
Violent pain	83
Stricture of the rectum	2
Permanent impotence	1
Long sickness (2 weeks to 6 months)	6
Relapsed	7
Failed of cure of piles	11
Sundry other accidents	12
	184

Cases of sloughing and suppuration of the piles are innumerable. Some itinerants use strong injections with the express purpose of producing these results, deeming that the plan of causing them to atrophy without suppuration, lacks certainty and permanence.

The list shows that while the deaths are so few that the risk is no greater than in other modes of treatment, yet the minor accidents are very numerous. The imperfection of the reports renders a thorough study of the accidents impossible, but the following information has been gleaned. One of the deaths was caused by inflammation followed by immense abscesses, erysipelas, and pyæmia. The patient died on the fifth day.

Another death apparently resulted from embolism of the liver. That viscus nearly ceased its function; the stools were light-colored and scanty, the skin yellow, and all the lymphatic glands of the groin, axillæ, and neck became enlarged. A full dose of calomel always brought temporary improvement, but no permanent benefit. The patient lingered along, and died unrelieved, about one hundred days after the operation. The next fatal case was that of a man eighty-four years of age. The person who injected the pile, said it was "very large and very deeply seated." It was suspected that he mistook the enlarged prostate for a hemorrhoid. Be that as it may, the patient was attacked with violent pain and retention of urine, and, though relieved by the catheter, died the

third day. There is no proof, however, that the prostate was injected, nor that it would be fatal if it were.

The fourth death was also attributed to injecting the prostate, but no symptoms are given.

The five remaining deaths are so vaguely reported, that I am unable to give any particulars about them. It is possible that three of the reports refer to the same patient, and ought to be counted as one, in which case the whole number of deaths is only seven. This number of fatal results in three thousand three hundred cases, treated often in the most reckless and ignorant manner, is certainly not large, and tends to show that the injection method is as safe as any other, so far as life is concerned.

The same relative immunity appears respecting hemorrhage. Five dangerous cases of it are reported, but in most, if not all of them, it occurred from the fool-hardy practice of allowing the patient to take long rides and walks when he should have been in bed; but even with all this imprudence the hemorrhagic cases are fewer than occur after the use of the clamp and the ligature. Allingham reports more instances of hemorrhage after his favorite operation, the ligature, than I can find among all these cases of injection.

The chief objection of the profession to this operation has been the fear of embolism. The two lower pairs of hemorrhoidal veins send their blood by the route of the internal iliacs to the heart, but they are small, while the upper pair is much larger, and carries the great mass of the blood of the hemorrhoidal plexus to the liver, hence we should expect that embolism, if it occurred at all, would be of the latter organ. The facts agree with the indications of the anatomy, for not a single case is reported of a sudden death, such as would proceed from clots swept to the heart and lungs, but there are eight instances of suspected embolism of the liver; only one of them died, and there was no post-mortem examination, so that possible proof is wanting.

The first is the fatal case of liver trouble already described. The second was marked by an abscess of the liver, but the patient recovered. In the third case the patient was attacked one hour after the injection with severe pain in the liver. After some time the pain was relieved, and no further trouble followed, but the physician feared to repeat the injection.

In the remaining cases it is simply reported to me that the patients, after operat on, were attacked with disease of the liver, but did not die; no particulars were given. It is probable that in a portion of the cases the liver disease pre-existed, and was the cause of the piles and not the consequence of the operation. On the whole, there does not appear to be any decided danger of embolism, if the case is carefully handled. I may mention here, that Dr. Whitmire, of Metamora, Ill., practices tamponing the upper part of the rectum for twenty-four hours, to prevent any emboli from moving in that direction.

Sloughing and suppuration of the piles generally follows large and concentrated injections, but not the small and dilute ones. A few cases only of extensive abscesses have occurred.

The most frequent of all accidents is the occurrence of severe pain. The verge of the anus is extremely sensitive, and injections put in near that circle are liable to produce fearful distress, but above the verge, the sensibility rapidly diminishes, so that much less suffering is entailed by the injection of internal piles. In about one-fourth of the patients the pain is very slight. Dr. Weir, of New York, injected two series of patients, one with strong, and the other with weak carbolized solutions, using in the latter only one part of carbolic acid to ten, twenty, or thirty of the excipient. He found that the pain and the abscesses followed the use of the strong injections, but were escaped when weaker ones were employed.

The remaining accidents in the list are not peculiar to this operation, nor greater in number than occur in other methods. The operation was a new one, and its conditions of safety were unknown. When we consider that many of the operators were ignorant blockheads, with no qualifications for the business except a bottle of carbolic acid and a hypodermic syringe, and with no idea of efficiency but to distend the hemorrhoidal plexus, with all the liquid caustic they could get into it, we shall not be surprised at discovering a few deaths and a number of minor accidents. Had the method itself not been an unusually safe one, they would certainly have slaughtered their scores of victims, for the difference is world-wide between their ignorant injecting, and cautious, scientific surgery. If the following rules be observed, I believe that the method

of treatment by hypodermic injection will be less painful than any other, and equally safe.

1. Inject only internal piles.

2. Use diluted forms of the remedy at first and stronger ones only when these fail.

3. Treat one pile at a time, and allow from four to ten days between the operations.

4. Inject from one to six drops, having smeared the membranes with cosmoline to guard against dripping. Inject very slowly and keep the pipe in place a few moments to allow the fluid to become fixed in the tissues.

5. Confine the patient to bed the first day, and also subsequently if any severe symptoms appear. Prohibit any but very moderate exercise during the treatment.

Under all treatments, as well as when left without treatment, piles are subject to possible hemorrhage. Allingham gives the following method of applying the tampon where the bleeding vessel can not be found promptly, and controlled by other means: He takes a good-sized sponge and fastens a strong, double string through its center. (He prefers a bell-shaped sponge, inserted with the open end downward.) Having pushed the sponge up the rectum some inches beyond the bleeding point, he fills the parts below with cotton dusted with powdered alum or persulphate of iron, and ties a stick across the finished tampon with the double string. By turning the stick like the handle of a gimlet, he twists and tightens the string, forcing the tampon firmly up against the sponge and causing it to spread laterally and compress the bleeding vessels. He advises the insertion of a large catheter with the tampon to give exit to the flatus. By the help of opiates the tampon is often tolerated several days.

My final conclusion is, that the wild itinerants of the prairies have really made a valuable contribution to scientific knowledge, and that the cautious injection of hemorrhoids with carbolized solution will remain as one of the permanent operations of surgery.—*Medical Quarterly and Examiner.*

The Plague.

Prof. Virchow recently delivered a lecture on the plague before the Berlin Medical Society (*Berliner Klin. Wochenschrift*, No. 9, 1879), which deserves special attention, and of the principal points of which the following is an abstract:

Virchow began by stating that our knowledge of the plague in the light of modern medical science is practically *nil*. The latest and most copious reports on the subject date from the great epidemic in Egypt, and from the Commission of which Bulard, Clot-Bey, and others were members. "The clinical and anatomical methods which the Commissioners used in their investigation were not indeed unsuitable; but they were so imperfect that we are still in doubt what the state of things in Egypt really was." Hence Virchow blames the European Governments, and especially the Russian, for not sending properly qualified men to the places where plague was said to be prevalent, to examine the disease with modern appliances, and in harmony with modern knowledge. The universities of Kazan and Kharkov could have furnished thoroughly trained observers; whereas, in fact unknown men have been selected for the work. Passing to the plague itself, Virchow points out that we do not even now know whether the buboes so constantly spoken of as a symptom are an integral part of the disease, or whether the very acute forms of plague can occur without them. This, he says, is one of the most doubtful questions, and one on which the old observers were not agreed. Another question is: What is the nature of the change in the lymphatic glands on which the buboes depend? Is it a cellular hyperplasia, or an hyperæmia? May hyperæmia be combined with hemorrhagic effusions into the gland-substance? In fact, is it not probable that in the plague-bubo all the changes occur which we now know to be associated with all acute glandular swellings of whatever kind? Virchow inclines to answer this last question in the affirmative.

We are also in the dark as to why the plague-bubo ulcerates. The best observers of this condition assert that the suppuration begins at the outside of the lymphatic gland, but it is difficult to find an analogous change in the ordinary acute febrile diseases of Europe. It is only

rarely that in typhoid fever the mesenteric glands suppurate; but then the suppuration, says Virchow, is within the gland, and the process is identical with the formation of a typhoid ulcer in the bowel. Occasionally suppurating inguinal buboes occur in typhoid fever; but in exanthematic typhus Virchow has never met with them. If we knew that the suppuration originated in typhoid fever and in plague in the same way, we should be justified in assuming some relationship between the two diseases. At present there is a gap in our knowledge which needs to be filled up. Still, in spite of our ignorance on this point, Virchow confesses that he regards the buboes as the most important diagnostic signs of plague. They are present in the great majority of all the cases.

Next to them come the "carbuncles," which are found in about one-fifth of the cases, and which closely resemble those of malignant pustule (*Milzbrand*). Virchow has failed to convince himself that they ever occur in the internal organs. Petechiæ, or rather large ecchymoses, are common in the skin, and still more so in internal organs. These three phenomena—buboes, carbuncles, and petechiæ—are the most prominent symptoms of the plague, in company with severe fever of rapid onset, and soon involving the nervous system. Swelling of the spleen is a less characteristic, but appears to be a very constant, symptom; and the pathological alteration is probably similar to that occurring in other infectious diseases. Swelling of the liver and kidneys is also described, and may probably be referred to acute parenchymatous degeneration.

In spite of the fact, already mentioned, that buboes are never found in exanthematous typhus, Virchow points out that in the beginning of every epidemic of plague the medical men declare the disease to be typhus. This was the case recently when plague appeared in Kurdistan and Mesopotamia. The Turkish doctors diagnosed typhus; and it was not until Dr. Tholozan, the Shah's physician, took up the matter, that the truth came out. And this brings us to the origin of the epidemic in Astrakhan and on the borders of the Caspian Sea. Some authorities, and chief among them Prof. Hirsch, of Berlin, believe that the plague was somehow imported from India, where two forms of it have been met with within living memory:

the first called "Palipest," which spread from Cutch and Gujerat in the Northwestern Provinces south of the Indus into the interior, and which disappeared for the last time in 1838; and the second, an endemic plague, first described by Allan Webb, and which is limited at the present day, according to recent report of Dr. Lewis, to two small districts in the Himalayas, not far below the snow line on the borders of Nepaul.

Professor Virchow therefore assumes—and the argument appears conclusive—that the present Eastern plague can not be the Palipest, which was long ago extinct, nor the endemic plague of North India, which has never been known to break its barriers. His own theory is, that the modern plague has come from Kurdistan and Mesopotamia *via* Persia, and has thence reached the Caspian Sea. Whether its transmission has been due to the movement of troops in the late war can not, he thinks, be at present decided.

And is what has been called the plague really the plague after all? Professor Virchow thinks that, if the reports of suppurating buboes are correct, it is, though the extent of the epidemic has probably been exaggerated. In any case he considers that his own Government was perfectly right to take all precautions possible against the introduction of the plague into Germany. He doubts, however, the possibility of protecting a long *land* frontier by any system of quarantine based on passes and bills of health. "If the Russian officials," he says, "were angels, it might be done; but they are men, and hence fallible." Virchow refers, *en passant*, to the way in which the province of Bari, in the kingdom of Naples, was protected by quarantine in 1815 against the plague, which had attacked the Noya, one of the last places in Europe which suffered from it. Cordons of troops were drawn round the town at widening intervals, and the sentinels had orders to shoot any person who, after a single warning, tried to break through. The historian Schonberg, who relates the story, says the shooting had "a very salutary effect;" and Virchow states his own opinion to be that "border quarantine (*Grenzsperre*) is an illusion unless shooting is allowed."

The practical measures he suggests are—first, to determine whether the returning Russian army is or is not plague-free; and, secondly, in case the plague should

reach Germany, to put in force the sanitary measures common to all epidemics, and, while allowing full communication between country and country, to isolate and treat all patients as rapidly as possible. Remembering that the plague has certain analogies to malignant pustule (*Milzbrand*), and that the skin and hair of a diseased beast can retain their infectious power for months, Professor Virchow refuses to admit that clothes, bedding, and such like, may not convey the contagion of plague in a similar way. The analogy of malignant pustule to plague, it should be added, he considers so strong that he regards "it as very possible that an organism may be discovered by which the disease is conveyed," though "the search for it has scarcely begun." Lastly, Professor Virchow says a word on disinfection, and, in opposition to Professor Pettenkofer, who has advised the German Government to rely on sulphurous acid, he recommends that all clothes, linen, wool, rags, etc., shall be subjected to the dry heat of a proper oven, and he recalls Bulard's assertion that *the immersion of infected objects in water* for a few hours destroys the contagion of the plague entirely. On the whole, the impression which Virchow's lecture leaves on our mind is, that there is no great need for apprehending an epidemic of plague in Western Europe. At any rate it is clear that anything like panic is foolish, and Professor Botkin's recent error in diagnosing syphilis as plague at St. Petersburg, should warn medical men to keep their heads cool, and not let their fears get the better of their judgment. Professor Virchow will not have spoken in vain if he helps to tranquilize the European public.—*Medical Times and Gazette*, March 15, 1879.

Dyspepsia from Constipation.

BY JOSEPH L. BAUER, M. D.

MUCH has been written upon a disease which is supposed to linger within the stomachs of at least one half of the native population of America. Indeed, the more that is said the less is accomplished for its relief or alleviation. Its insidiousness is the more to be feared on account of its varied complications of a dangerous character. I mean dyspepsia, indigestion, etc., etc. Of late I have had sev-

eral opportunities of testing the merits of the old and new ideas of its treatment, only to find that I have grappled in vain. I write this short note in order to call forth some discussion, and to recite my ideas as to its causation and its consequent treatment. Although I do not claim any originality in the proposition, still, I have doubted its propriety time and again until at last fully convinced of its truth. If I am not mistaken, Professor Louis Bauer, of your city, is one of its firm advocates, and his results alone are consistent arguments in its favor.

I will relate a case of the disease which I have lately attended, and state my reasons for its treatment:

H. L., a farmer, aged forty-five years, has been sick eight years. Previous to his sickness he suffered from constipation, which was generally relieved by aperients. During his illness he has made a trip to Europe, in order to partake of some of its mineral waters and to consult with some prominent physicians; but he derived no benefit from them. He has consulted physicians in his vicinity whenever he required it, but nothing had the desired effect. His last physician consigned him to the incurable list.

When I was called, the following presented itself: Upon entering the room the temperature was unbearable, and the patient in a profuse perspiration; I requested the opening of doors and windows in order to have a little fresh air, but the patient remarked that he was always very chilly without a large fire; I insisted upon it and proceeded with the examination: Tongue coated and dry, with fiery edges; skin pale and sallow; perspiration clammy and odorous; pulse weak and rapid; urine scanty and high-colored; bowels constipated sometimes for four days; appetite moderate, with pain and fullness after eating. Liver and spleen were normal, but the stomach and intestines were distended with gas and very painful. He, of course, had frequent bitter, gaseous eructations, and presented a good picture of hypochondria.

It will be seen that I had a genuine case of dyspepsia to deal with, so pronounced by all of his physicians and myself. I immediately prescribed for him light diet, fresh air and healthful exercise; also a combination of quinine, herb belladonna, bismuth and lactopeptine. This availed nothing, as all the other *et ceteras* prescribed for this disease that were at hand. Acting upon the new

theory, as suggested above, I prescribed a pill composed of ext. hyoscyamus, ext. colocynth comp., ext. aloes aquos. and Rochelle salts as an aperient, and gave the following medicine additionally:

℞ Bismuth subnitr. - - - ℥ss;
Tinct. nucis vomicæ - - ℥ii;
" belladonnæ - - - ℥iss;
Syr. rhei. arom. - - - ℥i;
Aquæ. destil. - - - - ℥iiss;
Misce. ft. mistura.
Sig. A teaspoonful three times daily.

Under this treatment, my patient improved rapidly, and three months having elapsed since his recovery, finds him enjoying good health.

Dyspepsia has usually been recognized as an independent disease, with a pathology peculiar to itself; thus it has been treated from time immemorial. Now, I think that it is a secondary condition, dependent upon obstinate constipation of the bowels. In this case, we have the previous history of constipation of the primary cause, and in whatever way the constipation may have been produced, his symptoms followed in logical order. In these cases of constipation, we have, in the first place, fæcal decomposition generating irritating ammoniacal gases; second, intestinal distension; third, paralysis of the intestinal muscles; fourth, cessation of peristaltic action; fifth, the passage upward of the gases into the stomach, producing irritation and erosion of the mucous membrane of that viscus.

Upon this hypothesis, I based my treatment and find that my results at least give some evidence of its truth. If I have reasoned incorrectly, I hope some experienced practitioners will take up the subject and test the truth of my suppositions. In this connection, I would state that the pills in question were made by Parke, Davis & Co., of Detroit, and have proven very effective. Their process of sugar-coating prevents the mass from getting dry and indigestible.—*St. Louis Clinical Record.*

Mysophobia.

Dr. W. A. Hammond read a paper upon the above subject, in which he described a form of mental derangement

that consisted in a *fear of defilement or contamination.* Ten cases had fallen under his observation, but not fully recognizing the exact nature of the earlier ones, he based his paper upon the complete clinical histories of the last three. In the first case described there was an overpowering desire to wash the hands, and in that occupation the patient spent a large share of her time. The fear of becoming contaminated gave her the most intense mental anxiety, suffering and distress; and although she was able to recognize the absurdity in her case, yet during her waking hours she was haunted and followed by what was to her a most terrible distressing fear.

In the second case the fear of pollution was more extended and serious, and the patient washed her hands as many as two hundred times a day.

The third case was equally well defined, but not so severe. When the patient visited the doctor's office she could not be induced to touch the door-knob when she was ready to leave the consultation-room, because of the tormenting and distressing fear of becoming contaminated, which held her in its complete possession. The treatment which he had exhibited had been to keep the bowels quite soluble by means of pills composed of podophyllin, aloes, and ox-gall; to administer bromide of potassium, sodium, or calcium, and in combination with opium if there was a tendency to melancholia; and to use tonics—such as cod-liver oil, strychnia, iron, and quinine.

Dr. E. C. Seguin referred to a case in which the patient suffered through fear of croton bugs. The fear followed her, and she saw the bugs when it was well established that there were none present. She was cured by moral treatment and by tonics.

Dr. Spitzka spoke of phobia as a symptom which complicated different conditions, and

Dr. Kiernan mentioned cases of chronic mania in which he had seen similar symptoms.

Dr. Hammond remarked that the cases which he had reported, and to which he referred, were not cases of insanity, for they had neither hallucinations nor delusions.

The Society then went into executive session.

MICROSCOPY.

Royal Microscopical Society of London.

UNDER the above heading the *Journal de Micrographie*, of Paris, publishes a report, from which the following extracts are translated and condensed:

A meeting of the Royal Microscopical Society of London was held on the 12th of February, for the annual election of the President, officers and council.

It is usual for the President of the R. M. S. to remain in office two years, but the President of last year, M. Slack, did not offer himself for re-election. Why, indeed, was he ever made President? I can not say. Surely England possesses many eminent men certainly worthier and more capable of filling such a position. It was a singular business. * * *

In the month of February, 1878, M. Slack, who had been Secretary during many years, was elected President. It had been held by many persons that his influence had not been favorable to the interests of the society.

* * * He was elected only by a majority, and not unanimously, as is usual. It is even said that if his adversaries abstained from active opposition by not publicly protesting against his nomination, it was out of respect for the society, and to avoid the scandal of a contest; and so he was elected.

It should be known that when the monthly microscopical journal ceased to appear, at the end of 1877, the editor, Dr. Lawson, being dead, and the publishers, Hardwick & Bogue, not caring to continue their responsibility, the council of the society discussed the question of the publication of the transactions by the society. It had long been desired by many Fellows that the society should adopt this course; the opportunity was favorable, and it was decided upon.

A publication committee was chosen from the officers, and council charged with the business of selecting and classifying the articles that should be published in the journal.

M. Slack was the chairman of this committee. And so, in the month of March, 1878, appeared the first number

of the journal of the Royal Microscopical Society. The second number was to appear in May.

Some disagreements appear to have arisen in connection with the editing of the second number, M. Slack, thinking himself privileged to act without the direct assent of his colleagues; the upshot being that M. Frank Crisp (Junior Secretary) thought right to summon a special meeting of the Publication Committee, at which M. Slack did not attend. The special meeting decided on energetic action, and thus provoked M. Slack, who seeing his petty omnipotence set aside, and himself reduced to the position of a mere voter on the committee, felt the tempest of pride rage in his Olympian cranium.

M. Crisp had to bear the brunt of M. Slack's ire, but after some stormy scenes, a sort of truce was proclaimed. Nevertheless, the matter made a noise in the society, for it was impossible to keep it secret. It got discussed among the Fellows, who generally blamed M. Slack's conduct as being by no means respectful to the active members of the committee; and it is more than probable if the matter had been brought before a special general meeting, the discussion would have ended in a request addressed to M. Slack that he should resign. But certain members of the council desiring peace at any price used their influence to prevent such an *expose*, and M. Slack consented to put in writing that he had no further subject of dispute with M. Crisp, and thus matters remained.

It is said that M. Slack ceased attending the council meetings, and that later on, when he found he had not the slightest chance of being elected for the second year, he made a convenient pretext to announce that he would not offer himself again as a candidate for the presidency. In doing so, he acted prudently; he saved the society the scandal of a contest and himself the humiliation of a certain defeat.

On the 12th of February, M. Slack, on vacating the chair, seized the occasion to read a statement, justifying himself, and explaining the motives that induced him to withdraw from the presidency. He launched into a violent attack on Dr. Millar, M. Stephenson, and, above all, on M. Crisp. If the audience had known what he was aiming at, they would not have listened to his statement, but taken by surprise—knowing not what was coming out of the chaos of emphasis and words—they listened in

silence until he attacked M. Crisp. Then arose murmurs; and these gentlemen might have felt themselves to have been insulted by his words had they not had the assurance of the sympathy of the audience. Thus the filth which M. Slack spat in the air fell on himself, for being silly enough to read a few words which were not complimentary to himself, his voice was drowned in applause. His vacating the chair was also greeted with derision.

Before quitting the room M. Slack requested the testimony of M. Reeves (Assistant Secretary) about some petty matters in dispute. Then he asked M. Badcock to give details about the proceedings at certain meetings of council. M. Badcock rose as if with regret, saying he did not wish to say anything to wound any one—nor to embroil the discussion. He then sat down.

The personal question as between M. Crisp and M. Slack is now settled. M. Slack must have seen from his reception, on this occasion, that the feeling of the society is against him. Among the council it is known from another source (Dr. Matthews saying so much on behalf of the council) that on the matter in dispute the votes were two for M. Slack and fourteen for M. Crisp.

Thus happily ended a meeting that might have been more than stormy but for the moderation of the audience. Happily, I say, for all appear glad, and have reason to be so, being rid of M. President Slack. All are glad, save, be it understood, Slack and his faithful Pylades. I mean Piggott. "X. Y. Z."

In the March number of the same journal the following appears under the heading, "Correspondence:

Sir—I have been told that in your journal (which I beg you to believe I never read, for it treats of matters of which I know nothing) one of your correspondents narrated a story of a certain President who gave in his resignation knowing he would not be re-elected. It appears that your gracious correspondent conveyed the impression that said President was something akin to a simpleton; that he had tried to create for himself a sort of "petty omnipotence," and not succeeding therein, he had fully scattered among his colleagues the wrath that foamed in his "Olympian cranium."

I don't know to whom your correspondent alluded, but as this story resembles that of many Presidents, and mine

in particular, your readers (and 'tis said you have some) might make interpretations unfavorable to myself, you will not judge ill of me if I furnish you with a few details relative to the case in which I am personally concerned. Even if you do judge ill of me, I don't care.

Well, I, also have been President of a Society (we have many here, and I shan't tell you which), and had been its Secretary for a long time. Not "Junior Secretary," mind you. I don't care a fig for the whole tribe of "Junior Secretaries."

You surely won't ask me why I was elected President? You are not so simple as not to understand that I should never have left my post of Secretary for nothing—never! It was very agreeable being Secretary, and I was fond of the position. My colleagues were good-enough sort of fellows, who let me do as I liked, happy to find in me a man of decision and of intellect. I had some authority, and authority is a good thing; every one likes to possess it (you yourself probably), and clings to it with all his might "to the very end," as they used to say in your country lately, if he can. That's quite natural, is it not?

One fine day they proposed I should quit. Perhaps they wanted a change in the Secretaryship; perhaps they wanted my place for somebody else. Give up my position? Oh, no! unless I gave it up to be President. So they made me President. No more fuss was made about it, nor do I see why any one should bother more about it. It was, after all, due to me in fair acknowledgment of my long services. That is what is termed "paddling one's own canoe" *adroitly*, and there is merit in that. I thus got more authority, and if I took a little more than my share, that only proves my value. At the same time the Society had a clear gain in having a notable President. For I am a notable man, sir—notable in every way—firstly by my weight! I am awfully fat—have an enormous, aye, a monumental belly. Silenus, "that's me!" I am proud of, and well satisfied with my belly. The preponderance in this world is with the belly-potent. I will wager your correspondent is thin. Then I have an Olympian head. I am not bald, sir. I have luxuriant curls flowing on my shoulders; and my hair is not a wig, whatever may have been thought of it. It is not always in good order, because I'm afraid of spoiling it. Now, hair is very useful (I will wager your correspondent is bald). You may

not be aware that a single human hair can be distinguished a long, long way off—at an incredible distance, and even farther if one knows how to see, and puts a little willingness into the business. Hair thus serves as a measure of the limits of visibility; and, without doubt, a hairy man distinguishes himself more readily than others, and more readily thrusts himself to the fore.

I have an Olympian head. My face is like the sun; the heat of my surging brains bathes my face in perspiration, and when I wipe it with my colored cotton handkerchief, I might well be likened to Jupiter the Thunderer, veiling his face with clouds so as not to confound poor mortals with his fierce gaze.

And then I am a chatterbox—such a twaddler! Well, it's very good to talk. It matters not what one says so that one talks. That keeps one to the fore also, and makes believe one has ideas. Besides, I have a great facility for seizing upon other's ideas, and demonstrating that their discoveries, however novel, were evident beforehand and proved by the nature of things. Add to this that I am admirably endowed with a wheezy *alto* voice. It has been said my voice resulted from a surgical operation. I beg you not to believe such fudge.

You see, sir, I am a remarkable man physically, and have a right to be pleased with myself? Beyond this, I am talented—really and truly talented. Ask Pylades (my friend). I have made profound researches on the cracks in silica films—a remarkable study. And then they are going to make a head of me in silica films when they are deposited of sufficient thickness. You shall see it if you are then alive.

I have done other work too. I have endeavored to discover the limits of visibility; but on this matter let me recommend my faithful Pylades. He treats of spherical and chromatic aberrations and a mass of queer things, absolutely as though he knew something about them. It is marvelous! In the matter of chromatics, he has invented a new crime—the "chromatic crime." I have never seen that mentioned in any law-book, and I don't know what it means, but Pylades, who has been at the University of Camford or Oxbridge—I don't know which—knows all about it, at least so he says, and that's enough for me. We understand each other very well, we do, especially after a good dinner. Oh, sir! those are jolly

times with us! Thus do we console ourselves for the ingratitude of men. For men *are* ungrateful. You may now see that I ought to have shed a luster on the society honored by my Presidency. But somehow that didn't come to pass. Would you believe it? No sooner was I made President than I found myself surrounded by a lot of people who wouldn't be led—not a bit of it! Then I, you know, am hot-tempered, and when I'm in a rage I'm not over-polite; I get confused, and the more I get confused the more I am angered. My colleagues knew this, and amused themselves by provoking me.

Then the Society wanted to publish its own journal. As President and Member of the Publication Committee, I wanted to manage the journal myself. Well, no! the committee got huffy. There were one or two among them—sly, malicious dogs, whom I abominated, for no matter what I said, they wouldn't be angry, they shrugged their shoulders at me. One, above all—he was my horror—aye, even the sight of him made my flesh crisp up. These people thought my "copy" all bosh, and the Society would have thought so to no doubt. They wouldn't let me manage the journal myself, so I threw it up. But I gave them a bit of my mind, and so would you. I must admit I made a failure of it. But, as I've already said, men are unjust.

At the end of the year I was obliged to retire, for I couldn't hold no longer. I knew I shouldn't be re-elected; that was as clear as the moon. When one doesn't care to hold on to the bitter end, one resigns, especially when one can't do otherwise. That's what I did. I profited by my last appearance as President to give my adversaries a bit of my mind, which I did roundly, I assure you. You can imagine it was prudent of me to resign rather than be turned out—prudent to launch my attack whilst I had the right to speak, for later on they would have made me hold my tongue.

Now you know the whole story. As to what your correspondent may have said, I haven't read it, and don't care a button. Let me tell you, I know how much a foot of criticism is worth. I have written criticism myself, for I have been a journalist, and I laugh at it. As to those who doubt my talents, I pity them.

I am none the less, sir, truly yours,

"SILENUS."

The Aperture Question.

BY J. MAYALL, JUN., F. R. M. S.

Read before the Royal Microscopical Society, and communicated to the MEDICAL NEWS.

THE question of the existence of apertures, by means of the immersion system, greater than correspond to the maximum possible for dry lenses, has received such powerful support in the affirmative from Zeiss' new oil lenses, that it is almost superfluous to call attention to the position of the discussion. But as the chief exponent of the adverse view still maintains that it is an "undecided question," I will briefly state the most obvious points that occur to me.

It had been asserted by Mr. Wenham that 82° in the body of the front lens is the *limit* beyond which no object-glass can collect image-forming rays. I quote a passage from his writings to show that he has clearly pledged himself that this limit obtains equally in dry and immersion lenses on balsamed objects:

".....the immersion lens ..... had no property for collecting from balsam-mounted object a greater number of rays, but that the limit is the same as in the dry lens."

Many passages might be cited conveying the same view.

This is equivalent to asserting the existence of a *natural limit*, depending on twice the critical angle (from glass to air), and, consequently, the impossibility of any objective collecting to a focus a pencil of rays from a radiant in balsam of greater aperture than that which in this medium corresponds to 180° in air. It was to this assertion as regards the *limit* in relation to immersion lenses that exception was taken.

On this question Prof. Stokes was urged by me to give a demonstration, and I think it must be admitted that the assertion is thereby refuted as a question of theory. Mr. Wenham admits the validity of the reasoning, but insists that in practical constructions the *limit* of 82° obtains.

Mr. Wenham's views had been brought to definite issue by his published report of his measurement of the aperture of Tolles' 1-6 immersion lens (owned by Mr. Crisp). The constructor had alleged the lens to be made on a formula by which an aperture was obtained, measured in the body of the front lens (or in a suitable adjusted semi-

cylinder—for it is demonstrated that the results are equivalent), 16° beyond the maximum possible for dry lenses, that is to say, Mr. Tolles claimed for it an aperture in glass of 98°.

Mr. Wenham reported the aperture to be 68° in glass.

The point of interest to me was to prove whether the aperture exceeded 82°.

Passing over some discussions that took place in correspondence, which were not communications to the society, I may state that I felt under an obligation to place before the society the evidence I could adduce on behalf of the original claim that the aperture of the 1-6 exceeded 82°, the evidence being Prof. Keith's computation of the angle, and the actual measurement by means of Prof. Abbe's apertometer which I exhibited at the meeting in June last.

Mr. Wenham's answer to the computation amounts to this: because the computed angle is based on the assumption that the radiant is in balsam, therefore it falls to the ground.

Now the question with regard to this lens never was to know if the aperture in the body of the front lens could exceed 82° when adjusted so as to have a front-focus in air. No one had ever alleged such a proposition. All admit that 82° (in glass) is the *limit* for dry lenses, and, of course, all lenses may be regarded as dry if there be a stratum of air between the object and the front lens. The question was, what is the aperture when the lens is adjusted to have a front-focus in balsam? To this Prof. Keith's computation answers by tracing the paths of different rays from the back-focus to the front-focus in balsam, and the result (110°) proves that the formula is designed to produce an aperture greater than corresponds to 180° in air—which was to be demonstrated. Mr. Wenham's criticism upon it is thus seen to be irrelevant.

When the radiant is in balsam, and in immersion contact with the front lens, the critical angle (between glass and air) is no longer a factor in the elements, and can have nothing to do with the aperture, because the rays do not go into air until their emergence at the second surface of the front lens, which is not parallel to the plane front, but deeply curved. With a dry lens, the effective angle of rays from the object in balsam is limited *at the object itself* to 82°—no greater pencil can emerge from

the cover-glass. With an emersion lens this limit varies with the immersion medium; with water it is about 126°, with oil the limit depends on the construction of the lens, and may possibly be carried as near to 180° in glass as the present dry lenses approach their limit of 82°. This is a matter for the ingenuity of the opticians.

With regard to the elements furnished for the computation, it is extremely improbable that Mr. Tolles arrived at the precise numerical data by mere guessing; but even in that case, as formerly remarked by Prof. Keith, "the force of the result would have been the same."

In confutation of Mr. Wenham's position in the aperture question, we have had two formulæ for immersions placed before us, by which an aperture in the body of the front lens exceeding the *limit* of dry objectives has been traced to the radiant in balsam: the one relating to the 1-10 (three-system) by Tolles in the collection of the United States Army Medical Museum; the other, to the 1-6 (four-system) referred to above; in each of which Prof. Keith has computed the aperture to be about 110°. We have Prof. Stokes' authority for the validity of these computations.

As to practical measurements: we have the testimony and report of Dr. Woodward, Prof. S. Newcomb, and Prof. Keith on behalf of a four-system 1-5 by Tolles. We have Dr. Woodward's report of the measurement of the 1-10 to which the earlier computation referred; and I exhibited the measurement of the 1-6 before the society, with Prof. Abbe's apertometer. In all these cases apertures were recorded beyond the limit contended for by Mr. Wenham.

I felt bound to exhibit the actual measurement of the 1-6 to which the newer computation referred; at the same time I was provided with twelve other immersion lenses by Tolles, Powell and Lealand, and Zeiss, all of which would have afforded similar proof.

I do not attempt to follow Mr. Wenham in his various suggestions for angle measuring. I have found the results obtained with Prof. Abbe's apertometer confirmed by a modification of Prof. Robinson's plan of measuring (adapted for immersion lenses), and therefore, until Mr. Wenham can show some material error likely to arise from the proper use of the apertometer, I shall continue to regard it as a convenient and reliable appliance.

With regard to the supposed effect of the "outer oblique rays extending to the margin of the field," Prof. Keith's computations refer only to the central pencil—have nothing to do with any appreciable diameter of field. If apertures be measured by means of a small pencil of sunlight from the eye-piece, the diameter of the field at the front focus is almost inappreciable, and, therefore, no question can possibly arise concerning "outer oblique ray;" this has been done in many cases to test the accuracy of the apertometer method.

A Word or Two More About the Nucleus in Blood-Corpuscles.

BY J. EDWARDS SMITH, M. D.

To the Editor of the Cincinnati Medical News :

In the April number of the *Quarterly Microscopical Journal*, I find a short article by its editor, referring to a contribution which lately appeared in the Medical News, relating to observations of mine on the "Nucleus in the Red Blood Corpuscles of Mammalia."

Mr. Hitchcock says that "the appearance of a nucleus when the corpuscles are viewed in this manner (*i. e.*, as described in the News) has long been familiar to observers, and it is safe to assert that no true nucleus can thus be demonstrated."

A word or two about the "appearance of a nucleus" is all that I have to say at this writing.

This "appearance of a nucleus" can only be well seen by the conjoint use of objectives of the highest balsam apertures, with the Beck vertical illuminator as modified by me. The original idea is due to Mr. G. W. Morehouse, to whom I have always given proper credit.

Mr. Morehouse's discovery was announced in his paper read before the Dunkirk Microscopical Society, entitled "Illumination of Objects Under High Powers by Reflected Light." Being myself present at the next meeting of the Society, I displayed several objects, including the Nobert Nineteenth Band, in illustration of Mr. Morehouse's paper. These demonstrations were cordially received by the Society, and the novelty of the method of illumination admitted. The "appearance of the nucleus" was also

shown, and record made thereof in the "proceedings" of the Society. The matter was presented to the public through the agency of Dr. C. P. Alling shortly afterward.

If Mr. Hitchcock can show that similar observations were in print prior to the dates already given, let him do so and without delay. It is time that such loose statements were at an end, and that writers confine themselves to facts.

The modified illuminator used, as I have described, allows the observer to use reflected lights at angles near the vertical. The results obtained are thus far in advance of those secured by any other of the methods employed in this kind of illumination.

The structure of the true "nucleus" is a question yet *sub judice*. I simply claim to have shown what had not before been seen under the microscope, Mr. Hitchcock to the contrary notwithstanding.

CLEVELAND, OHIO, *May*, 1879.

BOOK NOTICES.

DEMONSTRATIONS OF ANATOMY: Being a Guide to the Knowledge of the Human Body by Dissection. By George Viner Ellis, Emeritus Professor of Anatomy in University College, London. From the Eighth and Revised English Edition. Illustrated by 249 Engravings on Wood. 8vo. Pp. 716. Philadelphia: Henry C. Lea. Cincinnati: R. Clarke & Co.

The plan of the work is as follows: "In the dissection of a part the attention of the student is directed first to the superficial prominences of bone and muscles, and to the hollows that point out the situation of the subjacent vessels. Next the cutaneous structures, and the different layers of muscles with their appertaining vessels and nerves are examined in succession, so that the several objects between the surface of the body and the bones may be observed in much the same order as they would be met with in a surgical operation. The anatomical description of the part under examination is arranged in conformity with the dissection in regions, and each muscle, bloodvessel, nerve, or other structure, is described only to such an extent as it may be laid bare."

As a dissector, or a work to have in hand and studied while one is engaged in dissecting, we regard it as the very best work extant, which is certainly saying a very great deal. As a text-book to be studied in the dissecting-room, it is superior to any of the works upon anatomy; for, as has been stated, it is arranged for studying the parts as they are brought into view by dissecting. Not an artery or a nerve is taken in hand, and it studied exclusively from its origin to its distribution, as in a work upon anatomy; but after the integuments have been raised in a region, then the student studies muscles, blood-vessels, nerves, lymphatics, glands, etc., of that region, exclusively from outward, downward, until everything belonging to it is dissected away.

This work is very popular in England, as is shown by the fact that there, in a brief period, it has passed through eight editions. We have no doubt but that it will become equally popular in this country. Price, $5.25, in leather.

A Tabular Handbook of Auscultation and Percussion. For Students and Physicians. By Herbert C. Clapp, A. M., M. D. With four Plates. 8vo. Pp. 95. Boston: Houghton, Osgood & Co. Cincinnati: Robert Clarke & Co.

This is a work that every student of medicine ought to have. Though it is small, it is emphatically *multum in parvo*.

It is not necessary for us to enter upon a description of the work. It will suffice to say that it has been gotten up for students, and it is just what they need. An attentive study of it will disclose to the medical student all the mysteries of auscultation and percussion, and make him an adept in physical diagnosis.

Hints on the Obstetric Procedure. By Wm. B. Atkinson, A. M., M. D., Physician to Howard Hospital, Philadelphia. 12mo. Pp. 121. Philadelphia: D. G. Brinton, 115 South Seventh Street. 1879.

This little work has reached a second edition, showing that it has been well received by the profession.

The practitioner will find in it very many excellent hints as regards the management, in labor, of hemorrhage, convulsions, inefficient pains, placenta, false pains, forceps, after-pains, and many other important matters. Easily

carried in the pocket, the student can keep it by him and study it whenever he has a leisure moment. We very cheerfully commend it.

On Diseases of the Abdomen, Comprising those of the Stomach and other Parts of the Alimentary Canal, Œsophagus, Cæcum, Intestines, and Peritoneum. By S. O. Habershon, M. D., London. With Illustrations. Second American from the Third Enlarged and Revised English Edition. 8vo. Pp. 554. 1879. Philadelphia: Henry C. Lea. Cincinnati: R. Clarke & Co. Price, $3.50.

The writings of Dr. Habershon are considered of high authority; and while such distinguished physicians as Budd, Handfield Jones, Chambers, Brinton, Wilson, Fox, and a number of others have written upon the diseases which Dr. Habershon makes a specialty of, yet the works of none of them have a higher standing than his.

The design in this work has been to illustrate the diseases treated upon, by cases which have come under the author's personal observations, with a few remarks upon them, and some general deductions. During his curatorship of the Museum at Guy's, and of his demonstratorship of Morbid Anatomy for several years, very numerous opportunities were presented of noticing diseases of the stomach and intestines in their varied phases.

The work contains twenty-one chapters, and we have treated in these digestion and indigestion, the antagonism of disease, the action of remedies modified by the condition of the recipient, diseases of the tongue and mouth, diseases of the pharynx, of the œsophagus, organic diseases of the stomach, functional diseases of the stomach, diseases of the duodenum, muco-enteritis and enteritis, strumous and tubercular disease of the alimentary canal, of the cæcum and appendix cæci, diarrhea, dysentery and catarrhal inflammation of the colon, typhoid disease of the intestine, colic, constipation, organic obstruction, internal strangulation, intussusception and carcinoma of the intestine, suppuration of the abdominal parietes, perforation, etc., intestinal worms, peritonitis, ascites, abdominal tumors.

The reader will find the work a most thorough and complete one; discussing most minutely all the various subjects of which it treats. Of course vastly more infor-

mation can be had from such a work, in regard to diseases of the alimentary canal, than can possibly be obtained from any work on Practice; and as these diseases form a large part of the diseases which a practitioner is called upon to treat, every physician should feel it his duty to have such a work.

PRACTICAL INSTRUCTION IN ANIMAL MAGNETISM. By J. P. F. Deleuze. Translated by Thomas Hartshorn. Revised edition, with an Appendix of Notes by the translator, with Letters from eminent Physicians and others descriptive of Cases in the United States. 12mo. Pp. 524. Cloth. Price, $2. Sam'l R. Wells & Co., Publishers, New York.

Magnetism is a subject of which we do not know anything about. This work, however, gives full information in regard to it, and if our readers will purchase, they will be able to inform themselves. It is claimed to be applicable in the treatment of many diseases. We have heard eminent medical men assert that it is superior as an anæsthetic.

We quote from the *Phrenological Journal* in regard to the work:

"A careful examination of the volume warrants us in saying that it stands alone among treatises in print as a clear exponent of the practical application of magnetism, written by a French physician of extensive practice and wide knowledge. It is an exceedingly careful and minute account of the modes of procedure to obtain the somnambulistic condition, and for the application of animal magnetism to the treatment of disease.

"In the beginning the author considers the principles of magnetism, and indicates the various processes employed in magnetizing. He next supplies information concerning the auxiliaries by which the force of magnetism may be augmented. Next he treats of somnambulism and the procedure of the somnambulist. Then he discusses the precautions that a patient should take in choosing a magnetizer; further on, the application of magnetism to various diseases and its association with medicine. He does not overlook the dangers of magnetism and how they may be prevented, furnishing suggestions on the method of developing and strengthening the magnetic power in one's self, and what agents would aid in the

acquisition. It must be seen by the reader, from this cursory view of the points dwelt upon by the author, that the book is the result of no little reflection as well as experience."

THE TRANSACTIONS OF THE AMERICAN MEDICAL ASSOCIATION. Instituted 1847. Volume XXIX. 8vo. Pp. 900.

This volume was sent us some time ago, but an oversight on the part of the gentleman in whose care it was placed, prevented our receiving it until recently.

This, if not the most valuable, is the largest volume of Transactions that has been issued for a long time; for besides the 900 pages of proceedings and papers, there is bound in it a "Prize Essay" of nearly 300 pages, by John A. Wyeth, M. D., on "The Surgical Anatomy and History of the Common, External, and Internal Carotid Arteries, and the Surgical Anatomy and History of the Innominate and sub-Clavian Arteries," etc.

But this volume is not only a large one, but it is a valuable one, and will bear very favorable comparison with its predecessors. The papers read before the Association, and published in it, are of an unusually high order. Previous to papers being printed in the Transactions, they are now referred to experts who decide upon their fitness for publication. The consequence is that such as can not abide the critical ordeal to which they are subjected, having no originality or real value, are cast aside.

The brief report of the Librarian of the Association is interesting. He adds to it a very large catalogue of all donations made to the library during the year. By means of exchanging the volume of Transactions, the Librarian is enabled to add to the library each year copies of all the medical journals published in this country, transactions of societies, reports of hospitals, boards of health, etc.; also copies of foreign medical journals and transactions of foreign medical bodies.

Much credit is due to Dr. Wm. B. Atkinson, the permanent secretary, and others associated with him, for the handsome style in which this volume is gotten out.

PROPOSED LEGISLATION ON THE ADULTERATION OF FOOD AND MEDICINE. By Edward R. Squibb, of Brooklyn. 12mo. Pp. 57. New York: G. P. Putnam's Sons.

This little work has reached us too late to give an extended notice of it this month. We must defer it to another time. We will merely mention now that it is a draft of a proposed law to prevent the adulteration of food and medicines, and to create a State Board of Health, with explanations and illustrations of the principal points of the law.

EDITORIAL.

ST. LOUIS AS A HEALTH RESORT.—We do not suppose that the city of St. Louis has ever been presented for a moment to the mind of any one as a superior health resort for those in feeble health. We have no doubt it would provoke a smile with any intelligent physician if the place was mentioned to him in that relation, calling to mind how commonly epidemics prevail there of small-pox, scarlatina, diphtheria, typhus and typhoid fever, and miasmatic fevers generally. In fact, we never hear the place mentioned, that we do not hear at the same time that an epidemic of some kind is prevailing. Notwithstanding this, however, in the last issue of the St. Louis *Courier of Medicine* is a lengthy editorial on "*The Cause of the Low Mortality Rate of St. Louis.*" On first reading this heading we felt very sure that a typographical error had been made, and that the printer had set up "low," when the editor had written "high." We presumed that the editor had felt it to be his duty to call the attention of the St. Louis profession to the large number of deaths taking place in the city, and to endeavor to have them bring their influences to bear upon the Board of Health and other municipal authorities to institute certain sanitary measures that appeared to him would conduce to the health of the city and lessen the uncommonly large mortality; but that the printer, in the heading, had stated the subject to be precisely the opposite of what it was. On glancing over the article, however, very much to our astonishment, we found it starting off with a table exhibiting the *estimated* population of the principal cities of the United States, deaths during the past month, death-rate per 1,000 living for past month and for past year. In this remarkable table, the *estimated* population of St. Louis is set down at 500,000; deaths during the past

month (April), 425; death-rate per 1,000 living for past month, 10.88; for past year, 12.00. For New York City the figures are 1,093,171—2,260—26.78—23.42; Philadelphia, 876,118—1,256—18.77—21.57; Chicago, 460,000—533—11.60—16.50; Cincinnati, 280,000—418—19.46—15.81.

Our readers will notice that St. Louis, with an *estimated* population of 500,000, had in April but seven more deaths than Cincinnati, with an *estimated* population of little more than one-half—280,000.

At the request, the editor says, of Dr. R. M. Wyckoff, Secretary of the King's County Medical Society, Brooklyn, N. Y., he proceeds "to give, editorially, the *cause* of the low mortality of the city of St. Louis." He first admits that there has been continued incredulity as to the low death-rate of St. Louis by sanitarians and registrars, so much so that they have refused, in many instances, to publish it. Of course sensible, intelligent people will not give credence to statements so manifestly untrue. Every one who knows anything about St. Louis, knows that the rate per cent. is more than double what it is stated to be. The editor argues that because none but graduates are allowed to practice medicine, and because all physicians are compelled to register under heavy penalties, forsooth, all the deaths must be reported by them to the health officer. It may be owing to our stupidity, but we can not perceive any relation whatever between graduating and registering and the reporting of deaths. Why a registered doctor should be any more liable to report than one who has not registered, is beyond our ken.

In the second place, the editor considers the question, "Is our estimated population much too high?" In reply he says, "By every known means of estimate, except actual count, it is not. The census of 1860 and 1870 gave a relation of total population to the names in the city directory of four and one-half to one. The directory of 1878 gave 120,000 names, which, by the former ratio, would make a present population of 540,000, whereas we have been calling it 500,000."

To estimate the population of a city by multiplying the number of names in a directory by a certain figure is absurd. How many names will be in a directory will depend very largely upon the enterprise of the individual getting it up. One projector of such a work would

exhibit probably double the names another would. And then, again, as such a work is published every year, there is felt a necessity each year to enlarge and introduce new features in order to cause patrons to feel a necessity to purchase a new edition; but if multiplying the number of names in the city directory by four and one-half is a correcting mode of ascertaining the population, Cincinnati has a greater population than St. Louis; for its city directory contains more than 120,000. But a more correct method of ascertaining the relative population of different cities, without actually counting their citizens, is by comparing the votes cast at general elections, when there is reason to believe that the interest everywhere is the same. Now the writer in the *Courier* must know, for it has been commented upon so frequently by the newspapers of the two cities, that the number of votes cast at general elections in Cincinnati exceeds that of St. Louis, and also Chicago, by several thousands. Again, the number of school children between certain ages exceeds that of St. Louis, and also that of Chicago. These are facts that can not be gainsayed. And knowing these things to be true, how absurd then to persist in such false statements of mortality. We have before us the *Bulletin of Public Health*, issued by the Surgeon-General U. S. Marine-Hospital Service. It receives its reports from the mortality statisticians of St. Louis, and accordingly announces the mortality of St. Louis, for the week ending May 3, to be eighty-seven with its 500,000 inhabitants, that of Cincinnati, with its 280,000 inhabitants—only one-half as great —to be 100.

There are no advantages mentioned by the editor of the *Courier*, as tending to promote health, possessed by St. Louis, that are not possessed by Cincinnati to a still greater extent. The city rises from the river to a much greater height than St. Louis does, and, therefore, the "surface allows of admirable fall for drainage" to a greater extent. It has also many miles of sewerage, "with sufficient fall for rapid emptying into the river, which, with quick and never failing current, carries from the city front all refuse material." There is a daily average consumption of pure river water not of only 22,000,000 gallons, the amount used at St. Louis, as stated by the *Courier*, but a consumption of over 30,000,000. And is it

not a little remarkable that a city of 280.000 inhabitants should use more water than one of 500,000?

All the facts, except that of actual count, show very conclusively that Cincinnati has a larger population than St. Louis. It has never condescended to misrepresent. It has an abiding faith in its strength. Its people are enterprising and prosperous. No city in the world possesses the amount of wealth that it does in proportion to its population. It has more citizens of large means, who have retired from business and are spending their days in the ease which their riches allow of; not a slothful ease, but that which is free from the pressing cares of life, which wear out the body and induce premature death. So far from any of its wealthy citizens permitting themselves to rust out, colleges of music, universities, public libraries, art organizations, etc., etc., show a healthy, intellectual activity, far removed from sloth.

In conclusion, we will reiterate the statement that there are no advantages for maintaining an excellent state of health possessed by any city in the United States that is not possessed in a superior degree by Cincinnati.

Longview Lunatic Asylum.—Senator Marsh, from Hamilton County, presented to the Senate of the Ohio Legislative Assembly, May 10th, the report of the Senate Committee appointed to investigate the charges against the management of Longview Asylum. The investigation made by the Committee was very thorough and complete, much more so than that of the Estill House Committee, which was a mere star-chamber proceeding, gotten up for the purpose, not of developing facts, but of finding the charges true. The Estill House Committee, therefore, never visited the asylum, but in their room at the Grand Hotel, several miles from the institution, sat with closed doors, refusing admittance to the Trustees, the Superintendent, and all officers. No witnesses were examined but those who had promulgated the charges of cruelty and bad management, such as discharged nurses and other employes. And these were not permitted to be cross-examined. A more shameless investigation was probably never instituted—not even the appearance of fairness was kept up.

The Senate Committee in their report say: "We find the buildings and premises connected with the institu-

tion in excellent condition, everything indicating the exercise of care and attention on the part of those in charge of the various departments. The Board of Directors, in the management of the business of the institution, have been economical and judicious, the Superintendent and his assistants have been, and are faithful and attentive in the discharge of their duties, and the attendants, generally, are capable and efficient. The condition of the patients is as favorable as the over-crowded condition of the asylum and the limited number of attendants will permit.

The Committee commend the classification of the patients, which the present Superintendent, Dr. C. A. Miller, devised, and which we described several months ago in the MEDICAL NEWS. They regard it as contributing largely to the favorable condition in which the patients are at present found, and strongly recommend its adoption by the similar institutions throughout the State.

The conscientiousness, intelligence, and high character of the three gentlemen composing the Committee are displayed in the closing paragraph of their report. It shows that, however zealous partisans they may be in politics, and we have no doubt they are incited by a due amount of party zeal, they are capable of rising above party when humanity and the public good require it. Not so, however, with many politicians, and not so, let it be to their shame, with the fellow-members of these gentlemen, belonging to the same party of the Senate. This concluding paragraph caused the rejection of the resolution to have the report and the accompanying evidence printed, so that they are relegated to the archives of the Legislature, there to be without publicity. In fact, quite a breeze was stirred up by the partisan members in the majority, Messrs. Seitz, Forrest, and Carson, especially being loud in their denunciations. The latter gentleman, whose part it seems is to do the small business, said that his objections to reorganization of the humanitarian institutions of the State in order to put the dominant party in power over them, was not because it was an injury to the efficiency of those institutions, but because the Republicans had been given any representation at all on the Boards. "As it is," he said, "there is one Republican on each Board, and it affords opportunity for spying

and mischief-making." He would have the Boards wholly Democratic. The districts that sent such a man to the Legislature should now send him to some other place, where persons of his mental endowment are needed to forward such purposes as he is capable of promoting.

The concluding paragraph, so obnoxious to the members of the dominant party of the Senate, is as follows:

"The Committee feel confident a fruitful source of difficulty, as herein before stated, is the want of proper authority, and take this occasion of condemning the practice of reorganizing the charitable institutions of the State for purely political purposes. We believe that such institutions should be kept free, as far as possible, from purely political influences, and that no officer or employe, who is competent and faithful, should be discharged on the account of his political sentiments. The sooner that such institutions are thoroughly and completely divorced from politics the better it will be for all interested, and we believe the full measure of efficiency can not be attained until this is accomplished.

"All of which is respectfully submitted.

"THEODORE MARSH,
"J. R. JOHNSON,
"GEO. W. WILSON,

"Members of Longview Asylum Investigating Committee."

Messrs. Marsh, Johnson, and Wilson deserve the respect of all good men. Such men would always receive our vote, whether they were members of the same party with us or not.

DEXTRO-QUININE AS AN ANTI-PERIODIC.—Dr. Dunlap, of Chillicothe, O., in the *Ohio Medical Recorder*, speaks very highly of Dextro-Quinine as an anti-periodic. He says: "Dextro-Quinine requires only the same number of grains to effect the same amount of good, that would have to be present of the sulphate of quinine, to get a corresponding benefit; and it has, indeed, appeared to me to exert more *salutary* effect on old *cachectic* cases of malarial poisoning, than sulphate of quinine."

He has never known of *tinnitus aurium* or *deafness* happening even when the doses were large and frequently repeated. The weakest stomach tolerates it.

It is sold at about one-third the price of quinine.

THE MEDICAL HERALD. Louisville, Ky., is rich in medical journals. There are published there the *Richmond and Louisville Medical Journal*, the *American Medical Bi-Weekly*, the *Medical News*, and now we have a new journal called the *Medical Herald*, Dudley A. Reynolds, M. D., editor.

The new journal has forty-eight pages, double columns, and presents a very neat appearance. The editor claims a paying list of subscribers with the issue of the first number, which is remarkable in the history of medical journalism in this country. The first number contains several valuable original articles and other matter interesting to the physician. It has our best wishes for success.

THE BOARD OF HEALTH RESOLUTIONS.—The following resolutions have been passed by the Philadelphia Board of Health:

Resolved, That hereafter, when death has resulted from a contagious disease, the Board of Health require that the cause shall be mentioned in the published death notice.

Resolved, That the public should avoid unnecessary attendance upon the funerals of those dead from contagious diseases.

Resolved, That among the diseases especially calling for this caution are, scarlet fever, measles, whooping cough, diphtheria, and small-pox or varioloid.

Resolved, That wherever possible, air-tight burial cases be used, and if such can not be obtained, the funeral be strictly private.

RAMOLLISSEMENT ROUGE, producing insanity, is what the Louisville Chancery Court called it on high medical authority, and the court ordered that Professor Edwin S. Gaillard, M. D., be committed to the Asylum for the Insane at Anchorage. He was committed. The papers bewailed the hopeless form of the malady. The attending physician said it must soon prove fatal. Three or four days after the unfortunate gentleman was committed to the asylum, he had so far recovered as to warrant the superintendent to allow Dr. Gaillard to return home. He entered at once upon the discharge of his professional duties, and is now in the full enjoyment of a vigorous intellectual and physical manhood. The rapid and complete recovery

from a malady supposed to be incurable brings joy to the friends of Dr. Gaillard, and restores a most vigorous and untiring journalist to a position envied by many.—*Medical Herald.*

ALUM AND IRON MASS, FROM BEDFORD SPRINGS, VIRGINIA.—This Mass is the combined medicinal substances of this wonderful water, condensed in the most convenient form for use and transportation. It is put up in bottles, and in boxes in pill form, which are sent anywhere, postpaid, for 25 cents, 50 cents, or $1, or $1.25 or 2.50 or $5 for half dozen. Each $1 bottle, or box, contains the curative virtue of five gallons of water. This Mass has an established reputation of twenty-six years, and its efficiency is attested by the actual result in many cases.

The medical properties of this standard natural remedy are tonic, alterative, astringent, aperient, solvent, diuretic and anti-periodic. The chief constituents are aluminum, iron, magnesium, calcium, sodium, potassium, lithia, ammonium.

This Mass is efficient for throat, stomach, skin, blood, uterine and malarial diseases.

MALTINE.—Have our subscribers made use of maltine as made by Messrs. Reed and Carnrick, of New York, and advertised in the MEDICAL NEWS? It is an extract of malted barley, wheat and oats, more concentrated than the preparation called extract of malt. From what we learn, maltine and extract of malt are largely taking the place of cod-liver oil.

Maltine is highly recommended in cases of general and nervous debility, indigestion, phthisis pulmonalis and chronic lung affections generally. In fact, in all low forms of disease it is often used with great benefit.

Maltine is combined with all the various salts of iron, with quinine, strychnine, hypophosphites, pepsine and pancreatine, cod-liver oil, etc. Thus combined, its tonic properties are often much improved. We would advise our subscribers to make a trial of it.

As an instance of its rapidly extending use by the physicians of Great Britain, we would mention that Reed and Carnrick obtained a cablegram order from London for 3,000 gallons (24.000 pints) of maltine and its compounds; and for a certificate as to its composition and therapeutical value, they would refer to the report of Prof. John Attfield, F. C. S., chemist, who speaks of it in high terms.

THE

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ORIGINAL CONTRIBUTIONS.

Lecture on Typhoid Fever.

Arranged for the MEDICAL NEWS.

TYPHOID FEVER, which has as synonyms Enteric Fever, Ileo-Typhus, Abdominal Typhus, Typhus Mitior, Dothinteritis, Common Continued Fever, etc., is a zymotic affection, and is classed among the essential or idiopathic fevers, produced by some morbific agent, generated without the body, poisoning the blood. Besides existing sporadically, it prevails endemically and epidemically, and is communicable. Its greatest ravages, as stated by Drs. Jenner and Trousseau,* are among young people. Children between the ages of five and eleven years are quite obnoxious to it. After twenty-five years of age there is the greatest immunity from it. But persons over sixty years old are known to contract it. It seldom attacks infants under two years of age.

The leading symptoms presented may be briefly stated as follows: There is continued fever. The accession of the fever, however, is very gradual in *all* cases, occupying three or four days in reaching its height; an increase of temperature in the evening and remission in the morning following one another, "the temperature every morning and every evening being about 2.2° Fahr. higher than on the preceding morning and evening, while the morning temperature is generally about 1.1° lower than that of the previous evening; or according to the following formula: "*First day*, morning, 98.5°; evening, 100.5: *second day*, morning, 99.5°; evening, 101.5°: *third day*, morning,

*Trous. Clin. Med.—Amer. Edition. Vol. I. P. 235.

100.5°; evening, 102.5: *fourth day*, morning, 101.5; evening, 104°." (*Aitken.*) If a person who was well yesterday, or ailing but little, has to-day a temperature of 103° or over, whatever may be the disease, typhoid fever may be certainly excluded. Languor and debility are felt from the beginning. Frontal headache and pains in the abdomen, usually exist with vague pains in the lower limbs, buzzing in the ears, and flashes before the eyes: dizziness is considerable when the patient rises up suddenly and attempts to walk. Insomnia is often present, and when the patient does sleep, the sleep is restless and disturbed by dreams. During the first week, the disease having begun, although the patient is quite conscious, yet he usually takes but little interest in things around him, and replies to questions seemingly reluctantly. Diarrhea sets in early in the disease, and, as it advances, it increases. The discharges are liquid, usually of a bright, yellow color, sometimes containing altered blood, and are alkaline in their reaction. Some describes them as being "like that of pea-soup." Between the seventh and fifteenth days of the disease, rose-colored spots make their appearance upon the surface. The most usual time, probably, is between the seventh and eighth days—sometimes between the third and fifth days; but they may be delayed considerably. In some cases they are absent altogether. At first they are few in number, and appear only on the the trunk, but soon they are observed on the neck and extremities, and finally are seen on the whole surface, except on the face. They are slightly elevated, but the elevation frequently is only observed by passing the finger gently over them. They are circular, and are of a bright, rose color, "the color fading insensibly into the natural hue of the skin around." They disappear on pressure, but reappear when the pressure is removed. They vary in size, varying from one to one and a half lines in diameter. The number rarely exceed from twelve to twenty or thirty, and sometimes there are but two or three. After the first appearance of the eruption, fresh ones make their appearance every day or two, each papule lasting about two days, for fourteen or fifteen days. The urine is of a febrile character, urea and uric acid being in large quantities, indicating the waste that is going on, and consequently of a high specific gravity. Gurgling on firm pressure in the iliac fossæ is quite common, and may be

regarded as a peculiar symptom. Pressure over the abdomen is attended with tenderness, and, at the same time, there is fullness from tympanitis and resonance on percussion. The mesenteric glands, and glands of Peyer, and minute solitary glands, present *specific lesions*, which we will hereafter describe, but which do not constitute the disease, and are not the source of the symptoms, but are always present to a greater or less extent, and, without them, the disease can not be said to exist.

Typhoid fever is usually ushered in with rigors, chilliness, or diarrhea. Now and then it may be ushered in somewhat suddenly, but generally it comes on insidiously, so much so sometimes that the patient has difficulty in stating just on what day his illness began. In numbers of cases there will be felt, for some days, only a feeling of malaise, attended with a feeling of weariness in the limbs, and a disposition to be on the feet as little as possible. The appetite is poor or fails altogether. In other cases the patient suffers from irregular chills and flushes of heat. The pulse is increased in frequency, the limbs ache, there is headache, redness or coating of the tongue. During the day there will be, perhaps, a tendency to drowsiness, and at night to wakefulness, restlessness, and dreaming. With the other symptoms there are usually associated, or very soon follow, and generally form the most striking phenomena of the early symptoms, vomiting and diarrhea, with abdominal pain and tenderness in the umbilical region. Now and then they are not present.

As has been intimated, feebleness is usually marked from the beginning of the disease, and not unfrequently the patient is not able to leave the bed during the first week, but in other cases, while the symptoms gradually increase in severity, he may be able to be up more or less, and even walk around dressed. If it happen that the bowels were any ways constipated at first, their condition will usually be changed before the end of the week. They will be found at this time very sensitive to anything tending to irritate them. If an emetic be given, it will sometimes produce severe diarrhea. So that care must be employed as to the character of the medicines administered—it being far more easy to set up a profuse diarrhea than it is to check it after it has been started.

It is not unusual for more or less epistaxis to take place

during the first week. This has a tendency sometimes to relieve the head symptoms. As stated by Niemeyer, in most, but not in all cases, cough and mucous expectoration indicate bronchial catarrh, which may also be discoverd by physical examination. But beyond this bronchial catarrh, which may extend to the smaller bronchi, as may be observed by the extensive whistling sound, the lung affection does not extend further, unless there is set up the condition known as typhoid-pneumonia. The pulse increases in frequency, and rises to ninety or a hundred, or more, and so also are the respirations increased; but the normal ratio between the pulse beats and the respirations are not preserved, nor does the frequency of the pulse always correspond with the increased rise of temperature. The pulse is very easily disturbed, as the act of sitting up will sometimes raise it twenty or thirty pulsations a minute. "Other things being equal, rapidity of pulse implies severity of attack." Curiously it has occurred that during marked fever the pulse has fallen below fifty or sixty. Dr. Murchison has observed it to fall to thirty-seven. In this case, however, I do not recollect whether it is mentioned that the pulsations of the heart were the same. In some instances the feebleness of the muscles of the heart may be so great that every wave of blood following upon the systole of the heart may not reach the radial artery. During the early period of the disease, the pulse is generally full, but quite soft. In the latter stages, when the debility is great, along with greatly increased frequency, it is very small, and may assume a thready feel, and become so compressible that care must be employed in examining, or it will be obliterated by the fingers. In some cases the tongue may be but little altered in appearance. But generally it is covered at first with a moist, whitish brown fur, not thick. Afterward it becomes red, fissured, and dry, or incrusted with a brown or black coating, while dark sordes collect upon the teeth, gums, and lips. Especially if the diarrhea has been severe, there will be noticed the gurgling sound—the ileo-cecal gurgling—before alluded to on pressure in the right iliac region. The abdomen will be found more or less tympanitic, with tenderness upon pressure. "Toward the end of the first week," says Niemeyer, "the enlargement of the spleen is ordinarily marked. The enlarged organ has usually a horizontal

position; it rarely projects beyond the ribs, and is pressed upward and backward against the spinal column by the distended intestines." Hence, it is difficult to reach it by palpation. We may, however succeed to some extent in defining the increased space occupied by it, by placing the patient on his right side and percussing the lower ribs of the left side. "But a greatly enlarged spleen may induce but little dullness when it is pressed into the hollow of the diaphragm by the distended intestines, and only a small part of it lies in contact with the thoracic wall."

In the *second* week of the disease, especially after the middle (in the severer cases), the patient complains less of pain in the head and limbs. In fact, he may cease to complain altogether. This is not in consequence of the morbid conditions producing the pains becoming less, but is the result of the general blunting of the sensibilities by the action of the blood-poison upon the nerve centers. Deafness also sets in, which Niemeyer states is produced by the propagation of the typhous oral and pharyngeal catarrh to the eustachian tube and cavity of the tympanum. But it is no doubt due to no inconsiderable extent to the paralyzed condition of the nerve functions. The expression becomes stupid, and it requires considerable effort to attract the attention of the patient. It is oftentimes difficult to get him to protrude his tongue. When shaken and spoken loudly to, in order to arouse him, he will manifest annoyances, and request to be let alone. In other cases there will be active delirium of a violent character, requiring two or three persons to hold the patient in bed. But, as the disease advances into a low form, the delirium is modified accordingly, and assumes a low, muttering character. A very common delusion, on the part of the patient, is, that he is among strangers far away from home, and he mutters a wish to be taken there. Toward the end of the week the evacuations are frequently involuntary—the patient being insensible to the distension of the bladder and rectum when full, or, in consequence of the mental torpidity, unable to bring sufficient will-power to bear to prevent. These grave symptoms, commencing at the latter part of the second week, in the severer cases, continue on into the third week, increasing in gravity and have added to them other profound ones. But in milder cases, "at the *beginning of the second week*,

or at least during its second half, severe and mild cases diverge so unmistakably," says Dr. Aitken, "that the course of that period is decisive as regard what the future progress will be. A favorable course during the second week permits us to anticipate a favorable termination of the disease. In mild cases, although the evening temperature may reach 103°, and even exceed 104°, considerable abatement (1° to 2°) takes place during the morning, which becomes more and more obvious towards the end of the second week." These mild cases progress favorably when we find a diminution of morning temperature over that of the evening steadily continuing, and especially when there is an undoubted decrease of the morning or evening from that of the previous morning or evening, even if it be not more than a half degree. It is said that a retardation of recovery, until at least the fourth week, is to be anticipated, when in the second week the morning temperature is above 103°, and the evening above 104.5°; when the exacerbations occur early in the forenoon and remain after midnight; and lastly, when a fall of temperature about the middle of the week does not take place.

In the *third* week of typhoid fever, the symptoms just enumerated are increased in severity, and others added to them, providing the phenomena have not before this exhibited a lessening in severity, marked by a decrease of temperature. In this disease, probably more than in any other, is the temperature to be accurately observed and studied; for almost upon it alone is the pronosis based.

Hemorrhage from the nostrils is not unfrequent in typhoid fever in its early stages as we have before stated, but at that time usually it is very moderate and not important, but, when occurring in the latter stages, the third or fourth week, it is more abundant, and may demand the interference of remedies. But *hemorrhage from the bowels*, which is not an uncommon phenomena in the advanced stages, is much more important. It produces exhaustion, and is of bad omen. Sometimes the blood is red, at other times it is black and disintegrated. Bleeding takes place from other mucous surfaces, and, as Dr. Wood states, the petechiæ, which occur in the low form, are nothing more than examples of an interstitial hemorrhage. In the third and fourth weeks the patient becomes very weak, and if

the bed be any way inclined, or the pillows somewhat high, he has a tendency to slide down to the foot of it. Somnolence and stupor become great—the delirium, which before was more or less of a noisy character, and the restlessness ceasing. *Subsultus tendinum* occurs—the contraction of a single fasciculus of a muscle—and also *floccitatio,* or picking at the bed-clothes, and at imaginary objects floating in the air, termed *muscæ volitantes,* the result of minute extravasations in the retinæ, which the patient fancies he sees. The coating upon the tongue increases, becomes dark or black; sordes collect upon the teeth and gums. The diarrhea is usually profuse, and meteorism often happens, which Dr. Aitken says takes place to a greater or less degree in half the cases, and if severe, a fatal result generally follows. The rose-colored spots fade, but there occur petechiæ and sudamina. The heat of the body is acrid, and the odor exhaled has been likened to that emanating from mice. Bed-sores, attended with sloughing, are common on those parts of the body which have been exposed to pressure, as over the sacrum, heels, scapulæ, trochanters. Gangrene, too, may attack blistered surfaces, leech-bites, etc. When the disease assumes a low form, parts of the body pressed upon in lying should be frequently examined, as extensive inflammation, with sloughing, may occur without the patient making any complaint. I have known nearly the whole sacrum to be exposed to view without the patient showing any signs of suffering. At the commencement of the third week, there being a tendency to a fatal termination, the temperature increases in height and the pulse in frequency. The morning remissions become indistinct, and the temperature may rise higher than on the previous evening. Fatal termination is most common in the third week. If not induced by some peculiar accident, Niemeyer says that death results from edema of the lungs, after the prostration weakness, temperature, and pulse have reached the highest grade. The more the respiration is affected, the sooner and more readily paralysis of the heart occurs. But if the case terminates favorably, the symptoms exhibit an improvement about the middle of the third week. The sort of comatose state in which the patient has been lying is lessened, and he is more easily aroused. He soon begins to give some attention to things around him,

and when he sleeps he sleeps more naturally, and seems to be refreshed. His sensibilities, too, are increased, and he complains of the pain of his bed-sores. The stools are diminished in frequency and are more consistent. "The blue, sodden appearance of the patient disappears, the face becomes paler; the tongue grows moist at the tip and edges, its coating is gradually thrown off; speech becomes more intelligible . . . With the abatement of the other symptoms, the difference between the morning and evening temperature becomes remarkable; while the thermometer in the axilla still rises to 104° or 106° in the evening, in the morning it is only 101° to 103°, or even less. These lower degrees are not observed in the evening for some time yet." As the temperature lessens, the pulse falls, although the relation between the two is not maintained.

In some cases that recover, having proceeded into the third or fourth week before any decided abatement of the symptoms has begun to manifest itself, the nervous centres having been greatly implicated, a condition of idiocy or insanity remains behind for some time after the physical system has been restored to comparative health; and in pretty nearly all cases in which there has been great cerebral depression, there seems to be some diminution of mental power for some time after convalescence. Dr. Jenner relates that many cases have come under his observation in which childishness of mind continued for more than a month after apparent restoration to health. Typhoid fever, in mild cases, continues at its height a week or two weeks, or from eleven to eighteen days in its whole duration. Now and then cases are so exceedingly mild that the patient is confined to his bed but a few days; and, sometimes, in such cases, it might be doubted that he had the disease, if there were not other substantial evidence, besides a want of severity in the symptoms, of blood poisoning by a marked poison. From the subsidence of the disease or exhaustion of the poison, convalescence occupies from ten to fourteen days. In severe cases writers differ very much as to the duration of the disease and the length of time occupied by convalescence. Dr. Aitken states that the whole disease extends from four and a half to ten weeks, or even longer; Dr. Roberts says that it rarely continues beyond the thirtieth day—the usual range being from three to four

weeks. Murchison mentions an instance in which fresh spots appeared up to the sixtieth day. Other writers give twenty, twenty-two, twenty-four, twenty-eight days as the mean duration.

There is scarcely any disease so reliable to *relapses*, after convalescence has seemingly fairly set in, as this disease. It is said that they are more apt to occur about ten days or a fornight after convalescence from the first attack, and are marked by a return of all the former symptoms, even the rose-colored spots reappearing. No person having had typhoid fever, although so far convalescent as to be able to be up and able to attend to business, is to be regarded as free from danger so long as the thermometer records in the evening a higher temperature than normal, although it may not be more than a degree or even less. Danger is not to be considered as passed until the temperature, having reached the normal standard, is found to *continue* there. A great danger to be apprehended during convalescence is perforation of the bowels. This accident may also occur during the first weeks of the disease "from the formation of a slough, not only in the mucous coat covering the patches, but also in the muscular and serous coats at the affected parts." (*Niemeyer.*) But an ulcer, which may not have penetrated through the intestinal parietes, while the disease is at its height, may continue its erosive action after other morbid processes have abated and make its way through the walls after convalescence has begun. When this has occurred, all the symptoms of an intense peritonitis are usually at once set up—severe pain in the abdomen, which becomes extreme from the slightest pressure—followed by collapse. Niemeyer says that the most certain points in the diagnosis of perforation is the escape of air into the peritoneal cavity, which is shown by the liver being pressed away from the abdominal wall and a consequence disappearance of the liver-dullness. If this symptom be absent, he says, there is at least a possibility that the peritonitis is not due to perforation of the intestine, Perforation occurs in about one of five fatal cases. The point generally at which it happens is in the ileum near the valve.

The causes of death in typhoid fever, according to Dr. Murchison and others, are as follows: 1st. By direct action of the poisoning. Sometimes the poison is of so intense

a character that it destroys life during the first days of the disease. In some cases the nervous centres seem to be overwhelmed by its malignancy, or the blood to become decomposed. Gas has been detected in the veins at the root of the neck for some minutes before death. 2d. By implication of the kidneys, as shown by hemorrhage from them, and by bloody urine. 3d. By congestion of the lungs or brain. 4th. By hemorrhage from the bowels. 5th. By exhaustion of diarrhea. 6th. By peritonitis with or without perforation of the bowels.

The average mortality, as stated by some writers, is one in five and a half to one in six. But, in this country, I do not think it is so great, unless it be in some more than usually malignant epidemics.

We have mentioned that there are certain lesions accompanying typhoid fever, which, although they do not constitute the disease, are not the cause of the symptoms, yet are necessary manifestations, so that unless they are present, the disease can not be regarded as one of typhoid fever. An eruption upon the skin is a necessary manifestation in small-pox, although the primary fever and other phenomena are not dependent upon it, but upon a *specific* poison, poisoning the blood. So in typhoid there is a *specific* poison acting upon the blood and nervous centres, accompanied by certain specific lesions and other characteristic phenomena. These lesions consist of affections of the intestinal glands, those of Peyer and Bruner, and the solitary mesenteric glands. Messrs. Jones and Sieveking, following the description of Rokitansky in describing the changes that takes place in these glands, give the following account: "Hyperemia, to a greater or less extent, is set up around the solitary follicles, and in and around Peyer's patches. Enlargement and extension of these glandular structures proceed nearly *pari passu* with the hyperemic congestion. After a certain time, the length of which varies in different cases, the contents of the glandular masses soften, break down, and are discharged. The cavity, which remains on the mucous surface, constitutes the typhous ulcer, the size of it varies from that of a hemp seed to that of a half-crown. Its form is elliptical, round, or irregular, and sinuous, according to the shape of the part which has been affected. The base of the ulcer is formed by a delicate layer of submucous tissues which covers the muscular

coat. While the small intestine—the lower third being the most obnoxious—is the usual seat of the ulcerative process. Rokitansky has seen the mucous membrane of the large intestine, down to the rectum, riddled with ulcers." There is usually not always thickening and induration in the side of the ulcer. When there is not, it indicates an absence of reparative action. The agminate and solitary glands become tumefied from a kind of albuminous exudation. Black granules and grains of pigmentary matter are often present in it, but they are not peculiar to the typhoid state. They give to the glands a black dotted appearance, as seen by the naked eye. The mesenteric glands become invariably enlarged. Their enlargement seems simply to be the result of inflammation. There is found nothing in their substance besides the normal nuclei but granular and amorphous matter, and some celloid cells. The vessels of their capsule and of their interior are usually much congested. Dr. Watson states that the cicatrization of the ulcers is not unfrequent: "The ulcerated surface seems to clothe itself afresh, by degrees, with a new mucous membrane, which is thin, however, and adherent to the subjacent tissues, and does not slide over them when pressed with the finger and thumb, as the healthy portions of the coats of the bowels will do upon each other. And in place of the cicatrix there is usually to be seen a manifest puckering, and a number of little wrinkles or lines, radiating from a common center."

As to the CAUSES of typhoid fever, there has been a great deal of discussion; and while it is true that we now possess more extensive and accurate information on the subject than formerly, yet it must be confessed that there is still a good deal to be learned.

There is no doubt, as pointed out by Niemeyer, that it not unfrequently has its origin in *miasm;* for it is known to occur in localities far removed from travel, which have had no communication with other places, and in which there has been no case for years. But while it often has its origin in *miasm*, there is very positive evidence that it is propagated by contagion—the virus having its nidus in the dejections of the patient, and finding a lodgment in others, in whom it springs into activity through the water drank by them. It is generally agreed

that it can not be transmitted by means of the exhalations of the lungs or skin.

But there is reason to believe that no only the dejections of typhoid patients may contain the poison of the disease, but feculent matter generally may generate it through decomposition. Says Dr. Roberts: "It is in the feces that the poison is chiefly contained, and by their agency the disease is propagated." "*Water*," however, he continues to say, "is the great channel by which the poison is conveyed, and numerous epidemics and endemics as well as sporadic cases of typhoid fever have been traced to some special water-supply." In this assertion, Dr. Roberts not merely expresses his own opinion, but that of many eminent physicians, among them a number of Germans. Niemeyer, however, states that the absorption of the *contagium* is chiefly through the lungs, but recognizes the fact that persons have contracted the disease by drinking water from a well that communicated with a privy. Dr. Bristowe, in speaking of the poison having its origin in the feces, says: "It has been proved beyond all cavil, that enteric fever is *par excellence* the fever of fecal decomposition. . . . It has been observed, however, over and over again, that the feces, which are probably at first wholly ineffective, become, in the course of putrefaction, virulent in a high degree, and impart their infectious properties largely to the contents of cess-pools and sewers, and thence to well and other waters, with which the former happen to communicate. In many cases, indeed, the source of an enteric fever outbreak has been distinctly traced to the water of a well, into which there has been percolation from a neighboring cess-pool recently contaminated with the evacuations of a patient suffering from that fever." Almost every one has heard of instances of the sudden appearance and spread of typhoid among the numerous residents of a hotel, seminary, tenement-house, or other large building, on the accidental opening of an old privy vault, which was supposed to have been filled up, and then covered over and floored over. The morbific germs which seemed to be contained in the putrefied feculent matter, spreading over the house, have struck down with disease every one about. But, in such instances, have not these germs found their entrance into the system through the lungs?

The TREATMENT of typhoid fever in the last twenty-five years or less time has undergone almost a complete revolution. Experience has demonstrated that in this disease the strength of the patient from the beginning must be husbanded. Even at the onset there should be no *spoliation* of the vital resources, of the patient; for, during the course of the disease it often seems to be a contest of strength between it and the patient, as to which one is able to hold out the longer before becoming exhausted. It not unfrequently happens that all our hopes of recovery of the patient are based upon his strength to hold out for a given time, feeling sure that if endurance continues unabated to that period he will recover, if not, he will die.

There is no *specific* remedy in the treatment of this disease. It must be treated "*on general principles*;" viz: such medicines are to be administered from day to day as *are indicated*, and only such. The disease is a self-limited one. It is a disease which, when it has become established, has a definite course to run, and it can not be cut short—we can only hope to conduct it to a safe issue by carefully watching for complications and combating them, if any make their appearance. The physician is not to entertain the expectation of curing it, for no self-limited disease can be cured.

A typhoid fever patient should be placed under the most favorable hygienic conditions possible. The room should be kept at a temperature of about 65 or 70 degrees. A thermometer should always be kept hung up in the room, and the nurse instructed to carefully notice that it never registers less than 65 degrees or more than 70 degrees. Besides maintaining the room at an even temperature, great care should be taken that it be properly ventilated without exposing the patient to draught, and endangering him to "take cold." In ventilating, doors should not be kept open, nor windows pushed up from the bottom. The best mode is to have one or more of the windows, most distant from the patient, let down at a proper degree from the top. The evacuations of the patient should be disinfected before being emptied into the water-closet; and after being emptied out, the vessel which held them should be thoroughly rinsed, and, if possible, rinsed with a disinfecting solution. All water-closets, drains, and sewers should be assiduously kept

clean and frequently disinfected. An excellent disinfectant to be thrown into a vault is a solution of commercial sulphate of iron (copperas). The solution may be made by dissolving a pound of the iron salt in about a bucketful, or three gallons, of water. A cheap disinfectant, also, is commercial carbolic acid, dissolved in water. Other disinfectants are bromine, Condy's fluid, chloride of lime, chloride of soda, chlorine gas, etc., one or the other of which may be employed according as it may be appropriate for the purpose required. It should be kept in mind, however, that chlorine gas should not be inhaled. The Health Officer of Cincinnati, in cases of infectious disease, directs shallow vessels, containing bromine, to be placed about in different parts of the room.

As has been mentioned, in typhoid, there is either diarrhea from the commencement or a tendency to it. In cases of the former, which is most generally the condition, remedies should be employed to hold it in check. Some very eminent physicians direct that the discharges, if possible, should be stopped at once, and the bowels kept locked up. Others urge that the diarrhea should not be entirely checked, but only kept in moderate bounds—that it is largely through the intestinal excretion that the morbid poison of the affection is eliminated—and that if this excretion is prevented the elimination is hindered. In some cases, probably, it would be better not at once to stop the diarrhea, but to permit it to continue moderately, but my experience enables me to be quite sure that in very many cases it is best, while the bowels are not made costive, to check all appearance of diarrhea—to limit the stools to one a day. The poison that originated the disease, in my opinion, is neutralized or exhausted in the system, and it does not require to be eliminated, in order for its action to be destroyed. If, on the contrary, there be constipation at first, and not diarrhea, mild laxatives should be exhibited occasionally, but the greatest care should be observed that diarrhea is not set up by them. The best purgatives are castor oil, seidlitz powder, and small doses of rhubarb; but much the safest mode of acting upon the bowels are by enemata of pure water, or starch water, or water with a small amount of common salt dissolved in it or castile soap. For checking diarrhea, opium, Dover's powder, or small doses of morphine combined with nit. or carb. bismuth,

and with vegetable astringents, as kino, tannin, etc. During the first few days of the disease, but never after the first week, I administer a few quite small doses of calomel. A very common prescription with me in an adult case, when first called, and there is diarrhea, is the following:

℞. Pulver. Opii gr. IV;
Hydrarg. Chlor. Mitis gr. III;
Bismuth Sub-Nit. gr. XV;
Sacchar Lactis ℈i.
M. Div. in Chrt. No. VI.
Sig. Give one every three or four hours.

A little calomel, during the first few days of the disease, acts beneficially in the way of correcting the secretions of the liver and other glandular organs. The greatest care should be observed that ptyalism is *never* produced. In fact, three or four grains of calomel, divided into half a dozen doses, is generally all that is needed of it.

Other indications that will be met with is to diminish the morbid heat and lessen the action of the heart. But whatever means accomplish one of these will tend to bring the other about. Digitalis not only lowers the heart-beats, but directly moderates the temperature. When, therefore, there is a high temperature and a rapid pulse, but not very small, it may very properly be prescribed; but its action should be carefully noticed on account of its well-known cumulative properties. Other medicines that lessen the pulsations of the heart are veratrum viride and aconite. The former is a very depressing agent when its specific effects are brought about; but if employed with any caution it will lessen the number of the pulse-beats without producing the slightest sickness of stomach or bringing about any unpleasant effects whatever. Four or five drops of the tincture may be given every four hours to an adult.

But the most direct means of acting upon the temperature, when it has become excessive, is to place the patient's whole body in a bath-tub conveniently placed. If any therapeutic agent will shorten the disease, after it has become established, it will. In private practice, however, it is often difficult, on account of scruples of friends, of carrying it into execution. At the beginning of the bath, the temperature of the water should be but

a few degrees lower than that of the body of the patient; but afterward it should be lessened by pouring in cold water. Cases have been reported in which the temperature of the water has been reduced to 40 degrees and 50 degrees, with most favorable effects by putting ice into the bath. The patient should be kept in the water until there is a decided diminishing of his heat unless exhaustion of strength forbids it. When taken out, he should be rapidly wiped dry, and comfortably covered up in bed. Sometimes sponging the body with cold water while the patient lies in bed is beneficial—sponging a part of the body at a time, as a limb, and wiping dry before passing to another part. But the bath is by far the most efficient.

Hemorrhage from the nose generally needs no treatment, especially if it occurs in the first stage. Hemorrhage from the bowels during the course of the disease is a very dangerous symptom, and requires prompt action. For arresting it, full doses of tannic and gallic acids may be given, or acetate of lead with opium. Turpentine has been used with benefit. For tympanitis enemata of turpentine may be employed, or of assafetida. Also a liniment composed of equal parts of turpentine and sweet oil may be employed over the bowels. Passing a gum-elastic tube far up the rectum has sometimes *acted favorably in relieving* the bowels of their gas.

If perforation should take place or peritonitis set up, absolute rest must be enforced, and the patient kept under the influence of opium. Purgatives, under such circumstances, must not be used, even if there be considerable constipation. Abstinence from food, also, should as much as possible be enjoined. If administered at all it should be of a liquid form, easily absorbed.

The diet, in typhoid, from first to last, should be nutritious, but of a form that is easily digested. It should consist of what are termed "slops." Chicken soup will be found excellent. Physicians should be careful not to starve to death their patients by the so-called beef teas, under the impression that, in taking them, the patients are getting much nourishment. Beef tea has in it no nutritive properties whatever. By boiling beef in water, the salts, and may be a few other elements, are dissolved, but the albumen, the chief element of nutrition in beef, is left behind in the meat coagulated, not a particle being dissolved. The tea, therefore, is some stimulating but not

at all nutritious. A very nutritious preparation is made by grating the beef, after the boiling, into the tea. Liebig's and some other preparations of meat are said to be quite nutritious.

As the disease assumes a lower form, tonics and stimulants must be employed. Our most reliable tonic is sulph. quinine. It may be given in grain doses every three or four hours. I frequently use quinine, at the outset of the affection, as a sedative to the heart's action, and to diminish the body heat. For this purpose, I prescribe it in doses of 1 1-2 to 2 grains every three or four hours. The effects are often well marked. In low stages, alcoholic stimulants, as brandy and whisky, should be administered in as large quantities as the patient will bear without unpleasant effects. Some patients will bear well a pint of either. But alcoholic stimulants should never be forced upon a patient who does not tolerate them well. If they produce headache, increase the stupor, add to the frequency of the pulse and not to its volume, make the tongue dryer if possible, contract or dilate the pupil more, according to circumstances, they should be discarded altogether. Carbonate ammonia, given in a solution of gum-arabic, sometimes acts well, also the acromatic spirits of ammonia.

Careful attention should be given to any bed-sores that may arise. Portions of skin that have become inflamed may be covered by diacylon plaster. Sloughing parts should be poulticed and protected from pressure. Previous to applying a poultice a weak solution of iodine should be applied to stimulate granulating. But circumstances and conditions of the patient and the sores must govern us in our treatment of these complications.

It should be kept in mind that perforation sometimes happens after convalescence has set in. So long as there is an increase of temperature in the evening, as shown by the thermometer, the patient is not out of danger of perforation. In fact, if this increase is persistent after convalescence, even if it be but slight, it is a cause of alarm. The patient should, therefore, be carefully watched during the whole time of convalescence—attention being given to his diet, amount of exercise, regular habits

Yangono Naviti, or Piper Methysticum in Gonorrhea, Etc.

BY HENRY M. MARSHALL, M. D., GUNDAGAI, NEW SOUTH WALES.

SOME years ago, whilst traveling through and residing for a time among the islands of the South Pacific, more especially the Vitian or Fijian group, before the cession of those charming and fertile islands to the British Crown, I obtained a very good knowledge of the "vosa viti," Fijian language, which is the dialect spoken throughout the whole of the Vitian or Fijian Archipelago, numbering some 250 islands.

Making myself at home and friendly to the islanders, rendering them many valuable medical services, I gained their fullest confidence, and became quite a celebrity among them as a "mattai ni matti," tradesman, or master of the sick. The Fijians are by far the most intelligent, and, medically speaking, knowledgeable of all the native races inhabiting the numerous isles of the intertropical South Pacific. They possess many valuable medicinal herbs and medical secrets, their knowledge of which they are by no means adverse to impart to those who possess their confidence and esteem; in fact, such was my experience. Soon discovering their amatory tendencies and inclinations, and observing little or no gonorrheal affections among them, I inquired the reason, when they informed me: drinking the "Yangona Naviti" was a specific for all urethral and vaginal discharges and diseases of a contagious character, which I subsequently proved and ascertained to be a fact. Anxious to see and learn the manufacture of this important and valuable specific, my wishes were complied with. Being conducted to the "vale" house of a powerful chieftain named Tui Cakou or Tui Vanua Lever, at Somo-Somo, I was a witness to the perfect and complete preparation of the "Yangona Naviti." A large clean wooden bowl standing on four legs, called a "tarcona," made out of one solid piece of wood of the vessy tree, having a perfect polish caused by frequent use, capable of containing five to ten gallons, was brought in and placed in position before the assembled chieftains. A number of young girls with teeth as sound as ripe acorns, and white

as bleached coral, were placed around the "tarcona," and ordered to proceed with the manufacture. A large yangona root was then laid before them, scraped clean and cut into moderate sized pieces. Each girl took as much of the root as her mouth would comfortably contain, and commenced chewing vigorously. When the chewing was completed, *i. e.*, the root reduced to a pulp, the mass was removed from the mouth and placed into the "tarcona." After a sufficiency had been chewed, water was poured into the mass and all thoroughly mixed together, the fibers of the root being separated from the liquor by straining. The strained liquor had now the appearance of brown soap suds. A cocoanut shell called "mbelo," containing about a pint, was filled with the liquor and handed to the chieftains, according to their rank, and drank off with apparent gusto—each chief emptying his "mbelo" at one draught before returning it to be refilled and passed to another. The root I ascertained to belong to the order piperacea, being the piper methysticum. Not admiring the salivary mode of manufacture I had just witnessed, I determined to try a plan of my own, and see if a more cleanly and civilized style of preparation would not have the same therapeutical effect as the "ma-ma," or masticatory process. Obtaining a quantity of the root, drying and grating it, and mixing the gratings with cold water as required, produced a drink far more pleasant and enjoyable to an educated white man's ideas of correctness, and also of equal potency to the chewed mass. The root is easily grown in Fiji, and I should think could be readily cultivated in all tropical countries possessing a sufficiency of moisture or rainfall. The plant is propagated by cuttings from the stems, in precisely the same manner as the grape-vine—thus leaving all the roots available for home use or commerce. The root carefully dried retains its medicinal virtues; also keeps well.

Upon my return to civilization, I treated some forty cases of gonorrhea, male and female ulcerative leucorrhea, vaginitis and urethritis, with the happiest results. In no single instance did the preparation disagree with the patient; never caused eructations or gastric disturbances. In fact, drinking the cold infusion produces a pleasant effect upon the whole, leaving a warm, aromatic, grateful taste in the mouth. Unfortunately,

my stock of the yangona root became soon exhausted, and hitherto I have been unable to renew my stock to enable me to continue my experimental researches. Of this I am fully and perfectly satisfied, that in the contained juices of the roots and lower portions of the stems of the "Yangona Naviti" piper methysticum we possess a most valuable adjunct to the materia medica for superseding all the ordinarily used remedies for the easy, safe, and successful treatment of gonorrhea and allied affections, being pleasant to take, always tolerated by the weakest and most susceptible stomachs, and leaving no troublesome gleety discharges as sequences to follow its judicious exhibition.

Archebiasis, or Spontaneous Generation.

BY S. P. CUTTER, M. D., MEMPHIS, TENNESSEE.

BELOW will be found a descriptive list of a dozen different solutions, of oxides, salts, acids, and alkalies, all but one specimen giving unmistakable organic developments, in great perfection and beauty, in many instances wholly unexpected.

Quite a number of other preparations, made up about the same time, have proven barren of results, neither crystals nor any other deposits taking place.

Microscopic investigation into the mysterious researches of the following described lists far exceed any anticipated results, when these investigations commenced.

New theories and ideas will, of necessity, follow results so unexpected, and I may say marvelous, brought about without the employment in any way of organic matter.

The reader will be the better able to judge for himself, when he reads my details, though very imperfectly rendered, the milk in the cocoanut being the main object of these descriptive researches, instead of the cocoanut with the "hair" on it, unbroken.

In some instances a few months, and in others six or twelve months, were necessary to bring about the results given.

ZYMOTIC FUNGI—SERIES NO. 2, INCLUSIVE.

(1.) Solution of acetate of zinc, twelve grains to six ounces of water, made up for an eye-wash, after standing

several months, had a large quantity of light-colored deposit at the bottom, which led to microscopic investigation, with the following results, under 500 diameters.

The sediment proved to be "mycelum" mainly, the threads of indefinite length, regular in outline, apparently hollow tubes; some of them, however, are beaded or baccated, as though the tubes were filled with round bodies, in single file, just large enough to fill the tubes, making them very striking objects under the instrument.

Besides these, there are some coarse cells, resembling very closely those seen in celery and other esculent and succulent vegetables; these cells are of a brownish color.

In the above preparation we have carbon of the acetic acid, as a basis of structure, also hydrogen and oxygen, constituting the elements essential to the ternary or amylaceous compounds of vegetable life. Azote, so essential to cell formation, is wholly wanting in the mixture; in consequence, nothing higher than an imitation of a true plant could be expected.

Formula of the salt of zinc is—

$$C_4\ H_3\ O_3\ Q\ H_2\ O \times Z\ O.$$

The fact is worth knowing that a weak solution of the above salt of zinc is unstable and unreliable, from zymotic degeneration. Next in order is—

(2.) Carbolic acid solution, fourteen grains to six ounces of cistern water, "pure," made up also for medicinal use. After several months this preparation also contained a large amount of deposit, of a light color, not unlike the zinc in appearance.

Microscopic analysis gave most perfect "penicilium glaucuni," with clusters of cells, resembling very much clusters of grapes on their stems. These cells, "tarula," have sharp, clear greenish nuclei, refracting light strongly. They vary very much in size, from very minute to the size of "beer fungus." Some other large dim cell-like structures, without nuclei, made their appearance; also some necklace beads or fingered yeast could be seen; "baccated harmicumi," no doubt. Also cells or corpuscles resembling closely leucocytes or white blood, mucous, or pus corpuscles. Other patches of coarse ribbon or tape-like fibers—resembling coarse wood in structure, all joined together, completes the descriptive list on the field of view.

The formula of the acid is—

$$C_{12}\ H_3\ O \times Q\ H_2\ O_{-}.$$

The above acid has very weak acid reaction, though one of the most energetic remedies in full strength known to "materia medica."

This acid can not be called organic, although originally of vegetable origin long ages gone by.

It contains the elements of starch and sugar, but not in the equal proportion of those.

CREAM OF TARTAR SOLUTION.

(3.) Twenty-six grains to eight ounces of water, of several months' standing, contains great quantities of white cloud-like flocculi, tough and adherent, floating in the bottle, not on the bottom, as in case of the others described.

Microscopic appearances are very beautiful and striking, consisting of very fine "leptomitus filaments"—nuclei—all interwoven or reticulated, very much like lace work, almost invisible under 500 diameters.

Besides, there are masses of coarse brown ribbon-like parallel adherent fibers, one-half inch in diameter, under the above power; innumerable "tarula corpuscles" of variable sizes, some coarse, united lineally, like beads on a string; they all have sharp nucleated centers shining like so many diamonds, and of a deep green color. In point of beauty, they surpass any other specimen examined.

Formula—$K\ O_1\ H_2\ O \times C_8\ H_4\ O_{10} \times Q\ H_2\ O$

In the above formula I find the starch elements with potash, an essential element in organic nature.

(4.) A solution of the chloride of lime, twelve grains to six ounces of water, produced no organic results; instead, perfect masses of prismatic hexagonal crystals.

Formula—$Ca\ Cl—H_2\ O.$

SOLUTION OF CARBONATE OF SODA.

(5.) About the same strength as the others, three months old, under the microscope, gave large bundles or fasciculi of coarse fibers, from forty to fifty in a bunch, of indefinite length. At one end the rods are even and square, as though it was the starting point of growth. They are smooth and taper to a point, and as coarse as the human hair; internal arrangement tubular; color greenish.

Formula—$Nao\ G \times Q\ H_2\ O.$

In the above we note two elements only of vegetable life.

SOLUTION OF CHLORATE OF POTASH.

(6.) Of similar strength and age of the last named, under the microscope, shows vegetable structures similar to the last described; the only difference being, the last named have a cell-like structure. I find no drawings in any of the books anything like these.

(7.) A solution of muriate of ammonia, fourteen grains to six ounces of water, of three months, has a dark detached sediment scattered over the bottom of bottle.

Microscopic features—Coarse and fine fibers are conspicuous, of various shades of color; the coarser ones having cells as though composed of lineal cell arrangement, not unlike muscular fibers, the fine ones resembling the human hair. Some other patches of unformed matters, evidently "plastic particles," could be seen.

Formula—$N\ H_4\ Cl$.

In the above, I find two very important organic elements, and the third one is found in animals.

(8.) A mixture of sugar of lead and sulphate of zinc, twenty grains each, to one quart of water, made up for an eye-wash, after keeping about a year, has but little sediment or deposit, hence is quite permanent and reliable for medical purposes.

This specimen has organic fibrous rods similar to some already described, together with masses of "nebulous," or unformed matter, with minute cells or globules, having sharp shining centers, highly refractive of light; they might be called "physical constants."

Formula—$Pl\ O_1\ C_4\ H_3\ O_3 \times Q\ H_2\ O \times Z\ O_1\ S\ O_3\ Q\ H_2\ O$.

This formula gives three organic elements.

SOLUTION OF CAUSTIC POTASH.

(9.) Four grains to six ounces of water, made up five months, gave no evidence of any sediment until the past two weeks, which now contains a considerable quantity of beautifully white cloud-like "flocculi," floating in the liquid, not at the bottom nor at the top trough, and difficult to detach a specimen while floating.

Microscopic analysis proves this to be very fine "nuclei," branching extensively, and so transparent as to be almost invisible under high powers; there is, besides,

great quantities of "tarula," or "yeast fungus," and some other sedimental matters, unorganized as yet.

Formula—K O×H_2 O

In the above we find a metal combined with oxygen in a solution of water. The results in this case, to say the least, are very astonishing, and could not have been anticipated.

SOLUTION OF COMMON SALT, OR CHLORIDE OF SODIUM.

(10.) Same strength, made four months ago, has now a dark sediment, not large in quantity.

The microscope shows threads of nuclei of great length, hyaline, no cell arrangement; also large and small corpuscular bodies, resembling oil very closely, though I think they are "tarula."

Formula—Na Cl.

This is a hyaloid salt, of two elements, no organic element in it, though salt may be found in animal bodies not in plants.

SOLUTION OF SULPHATE OF IRON.

The same strength as the last, six weeks old, has a considerable brownish sediment.

The microscope reveals branching "nuclei," five transparent "leptomitus" threads resembling the potash, only branching more, and less reticulated, some beaded strands, coarse, tubulated branches; also "torula."

Formula—Fe S_3×H O.

The reader will now be able to decide for himself the number of organic elements there are in the formula.

SOLUTION OF ACETATE OF LEAD, OR SUGAR OF LEAD.

(12.) Eight grains to four ounces of water, two months old, has detached masses of sediment at the bottom.

Examination under the glass gives almost exactly the same "nuclei" as described in the potash, no fungous corpuscles as in the iron and potash; quantities of minute space-like bodies, too fine, evidently, to be considered organized. Perhaps they are the basal elements of crystals, *i. e.*, "physical constants," so called by myself only, so far as I know.

Formula—C_4 H_3 O_3×Pl O_1×H_2 O.

This last formula will also be readily comprehended by the reader, who has scrutinized carefully the preceding formulas.

None of the foregoing experiments are copied from any

other person's experiments or researches. So far as they go, they are original with myself, and at first more accidental than anticipated, or "aprieu" concept.

A little theorizing at this point may not be out of order.

It has occurred to me in making these investigations, that the first step toward organic life, from the inorganic, is the "crystalloid," it being the first step in "morphology" from "chaotic confusion," if the term be "allowable," or the connecting link between unformed molecular matter, and the colloid or cell structure, viz: rounded outlines in contrast to straight angles and planes, and no curves, the "crystal."

The most normal "type" of all the materials used in the above researches is the "crystalloid;" the simple "radical" of all organic forms of the vegetable kingdom, without any exception, is the most perfect of all crystals, the "diamond" or "carbon radical."

My experiments illustrate the metamorphosis of "nebulous matter," atoms, molecules without form, but not void to that of "form and order," the "crystal," the first step in "morphology," before alluded to.

The second style, by continuing the forces under new and more powerful agencies, and in organic, the "colloid cell;" the straight lines, converted into curves, the old system abandoned or given up to the new departure, results of which have already been given.

Of course, new conditions must be brought to bear; more potent than the old ordinarily the more stable; the "potential" dwelleth in the atoms, relieved of "cohesive embrace," the undisturbed chaos of the primeval universe or "cosmos."

My experiments commence with the "potentials" in solution, unincumbered with cohesive attraction in any way, hence free to assume either of the two forms before them, to be governed by conditions supplied by myself. In some of my preparations the potentials remain permanent; in others they are subordinated to others more potent; that is, "disturbances."

Our molecules are manipulated, as clay in the hands of the potter, to shape as he thinks best.

So it is, the forces in the various solutions, in precipitating their solid elements, meet with controlling factors, causing results already given.

What it is that directs the forces that end in any given form of crystal, I am not competent to determine, any more than in the other case; *i. e.*, the "cell" of rounded outlines.

Whether there are germs or eggs in the case is yet an open question.

We might reasonably conclude that the forces that produce any given form are indwelling in the ultimates themselves, though subject to outside influence, such as light, heat, magnetism, electricity, gravity, ozone, and, perchance, something else we are ignorant of at present.

To say exactly what it is that brings about or conveys out this work of differentiation, is beyond my present state of knowledge.

In our stronger solutions, gravity may carry down our molecules in mass, straight to the bottom; which means, "straight lines," when once assumed, never deviate until all the materials are used up in the crystal, and the process ceases.

In the water solutions, when the molecules or atoms start for the bottom, they may not be heavy enough in mass to be overcome by gravity readily, and meeting with other forces which turn them out of their "straight lines," "wanted to be assumed," they deviate, which is fatal to the "crystal," and forced to take on the only other alternate, the "colloid" or cell-form.

As in the case of straight lines, curved lines, when once started, they can not deviate. They must continue until the materials are all used up, unless something may arrest the process before the supply is fully exhausted.

On the one hand, as before suggested, gravity may govern the process; on the other, electro-magnetism, in co-operation with gravity, or "chemical forces, may come in for a share of the work."

In the one case, the type may be the very highest, and most perfect, the "crystal." In the other, the very lowest type may be the result, from the fact that some elements were lacking in each experiment for a perfect organism.

In the weaker solutions, oxygen, in warm weather, may enter as "ozone," and favor fermentation, my assumed "parent" of the organisms under discussion. In the stronger solutions, oxygen has no action, no influence, as that agent is not essential to crystal formation.

No higher organic "evolution" could be expected from solutions under consideration, as none of them contained the necessary elements to form "protoplasm," the physical basis of "life," according to Mr. Huxley.

Selections.

Mono-Bromide of Camphor in Insanity.

Dr. Mann, late Medical Superintendent New York State Emigrant Insane Asylum (Detroit *Lancet*), has been using this remedy in mental diseases, more especially in cases of hysterical mania in women, with the happiest results. From a long experience with its use, it has proved to be an excellent sedative of the cerebral system, and also at times, as an hypnotic. In cases of dispomania it has proved a very valuable adjunct to the other treatment pursued, quieting the restlessness and excessive nervousness much better than any of the other bromides. It diminishes the number of pulsations of the heart, and lowers the temperature of the body. With the exception of cases of dipsomania, the writer has used it with more success with females than with males. In one very violent case of hysterical insanity, with nymphomania, in a young unmarried lady of twenty years, a most satisfactory cure was obtained from the use of the mono-bromide of camphor, in doses of four grains, in capsules, three times a day, with warm baths, and the use of the constant current as central galvanization. Another case—a young lady of twenty-two years—was admitted, with acute mania of very violent type, from no assignable cause. Upon her admission the tongue was furred; the bowels constipated; head hot; pupils widely dilated. She had hallucination of sight and hearing, and delusions relating to her lover. She destroyed everything within her reach, and evinced great muscular strength, which rendered her a formidable patient to deal with. She was put in warm baths, and chloral and morphine were administered, but she did not sleep; all ordinary treatment proving unavailing, and a general hyperæsthesia, inducing the patient to tear her clothes off, it was determined, as an experiment, to put the patient on the mono-bromide of

camphor. The doses employed were at first two grains, three times a day, and subsequently four grains, three times a day, all other medicine being, for the time, abandoned. After the first few doses, the temperature and the frequency of the pulse were lessened, and the pupils were reduced to their normal size. The patient soon began to sleep and eat, and the hyperæsthesia of the body disappeared, so that she stopped tearing her clothes off. The intense muscular restlessness, which had previously characterized her, also disappeared. The mental faculties improved, and at the expiration of thirteen weeks she was discharged, perfectly well, and has remained so up to the present time. In this case the remedy was persisted in for over two months. In some cases where the mono-bromide of camphor has been used, Fothergill's solution of hydro-bromic acid has been used in connection with it, and always with the best result.

Uterine Polypi and Fibroids.

Dr. Caldwell, in the Chicago *Medical Journal*, gives the following notes from Berlin:

I saw Professor Langenbeck operate on a woman for the removal of a uterine fibroid polypus that had descended into the vagina and filled this organ so completely that the evacuation of both the rectum and bladder was completely obstructed.

The growth was so large that he was unable to pass the ecraseur over the entire mass to its cervical attachment, and hence he had to pass the chain of the instrument around its lower segment, and remove it in three separate portions.

The last was so large that he had to extract it with a pair of obstetrical forceps. He said: "Whether these growths be solid, soft or cystic, there are only three modes of removing them that I recognize as proper to adopt, and these are, the knife or scissors, the ecraseur and the galvano-cautery. When they are attached high up in the uterus, I do not like the galvano-cautery, for the reason that you can never be really certain what you are burning, and you may destroy tissues that will lead to disastrous consequences."

The use of the ligature for the removal of these foreign bodies he especially condemned. In the early years of his professional life, he had seen two patients die of septicæmia following the removal of a uterine polypus in this manner.

' We must remember, in all our operations upon the uterus, that although we have to do with an organ that will tolerate a good deal of mechanical violence, that we have also to do with a mucous surface that will the most rapidly absorb effete matter of any tissue in the entire body; and that when a polypus is ligated it soon becomes a putrid mass, from which the whole economy may become rapidly contaminated. The twisting off of polypi he also considers a bad practice, and has seen at least one case where the extensive laceration of the mucous surface of the womb attending the operation resulted in a mentritis, from which the patient died.

Professor Schroeder had in his wards at the Charite, this winter, some interesting cases to illustrate his management of different forms of uterine fibroids. In our treatment of these cases, he says, we should remember one fundamental rule, which is, that in the history of every such case there usually comes a time when the morbid growth will cease to increase in size, begin perhaps to undergo a retrogade metamorphosis, and become in time entirely innoxious as far as the well-being of our patient is concerned. Directly opposed to this are the facts connected with the history of most cases of ovarian cysts. Their tendency is ever to increase in size, and their removal will sooner or later be imperatively demanded. Keeping these facts in view, we seize upon the most appropriate time for our operative interference. In the management of cases of uterine fibroid, he says, investigate your case accurately as to this fact. Is its attachment situated upon the lining membrane of the *body* of the womb, or upon the cervix uteri. If it has its origin from the body of the womb, you are to consider it a *noli me tangere*, unless it be the direct cause of symptoms that are likely to prove dangerous to the life of the woman. On the other hand, if it spring from the cervix uteri, you may operate on it in almost any way with comparative safety.

To arrest the hemorrhages that accompany these cases, he swabs out the inner surface of the womb with either

tincture of iodine or a solution of one of the astringent salts of iron.

A question in which I had been greatly interested, and upon which I have interviewed everybody, is the value of the hypodermic injection of ergotine in the treatment of uterine fibroids.

Professor Schroeder says that he has often seen cases greatly benefited by this treatment, but has never seen a case entirely cured by it. By its use the hemorrhage will often cease, and the tumor become greatly lessened in size. To test the remedy he says you must use at least one hundred injections. He makes them into the cellular tissues of the abdominal walls, and repeats them as often as every alternate day. As so protracted a use of an agent that is often very painful, taxes to the utmost the patience of both physician and patient, few carry it out thoroughly.

Braun, of Vienna, makes these injections into the outer aspect of the thigh, where they are better borne. He uses also Bourbellon's ergotine, and none other, as he says you never have an abscess follow its use. Its name, I believe, is derived from a Swiss chemist who manufactures it.

Dr. Routh, of Dorset House Hospital for Women and Children, in London, is the greatest enthusiast of any I have met in Europe as regards the efficacy of his treatment of intra-uterine fibroids. His plan is to first puncture the tumor by passing a sharp-pointed instrument into it about the size of a number six English catheter. The depth to which he makes this puncture will depend upon the size of the tumor, but will usually be to about one-half of the thickness of the growth. After making his puncture, he introduces into the hole thus made a wire of nearly the same size, heated to a red heat. He claims that in this way you can excite an inflammatory change in the body of the fibroid that will lead to its absorption, and that too without any of the dangers of a septic process following the procedure, which would be likely to occur if you attempted to accomplish the same object in any other way. He says that he has never failed to benefit a case that he has treated in this manner.

Treatment of Malignant Scarlatina.

(Clinic of Dr. Bouchut.)

When scarlatina is benign, when its course is regular, the treatment should be confined to regulating the hygiene. In this regard, it should be indicated that it is necessary that the child should be only lightly covered in his bed, notwithstanding the opinion of the people who, under pretext of causing the eruption to "come out well," are always ready to overload the patient with coverings. Now, this point is not an insignificant one, for by this vicious practice the temperature of the patient may be raised in notable proportions. In malignant scarlatina, on the contrary, the intervention of the physician should be very active; there is one important element that must be especially considered—the temperature. When this rises to 41° C. (106° F.), and the eruption appears in livid, cyanosed patches, then we have to deal with a form of extreme gravity, which may also be recognized by a sign that Dr. Bouchut indicated long ago: When in the course of a normal eruption we make a line upon the skin by drawing the finger nail over it with some force, this line remains white for some time because of the contraction of the capillaries under this excitation; in very grave cases the skin ceases to be thus impressionable (*châtouilleuse*), the capillaries no longer contract, the white line is not produced; there is a paralytic stasis of the blood. The sign is of the greatest gravity, and, according to Dr. Bouchut, always indicates that the case is a fatal one when it is treated by the ordinary methods. There is only one single method of treatment that can save a certain number of these cases, this is Currie's method; that is, to say, the employment of cold water. However contradictory it may appear (for so far from favoring the eruption, it would seem that the means employed ought to hinder its development), it should be known that we can save two-thirds of these patients in this way, and we must not fear to assume the responsibility of using a process so contrary to general opinion. Currie's method, completely carried out, consists in plunging the patient into a cold bath at least three times a day, according to the lowering of the temperature obtained. Dr. Bouchut thinks that the same results may be reached in a much easier and more practicable manner

by the use of cold ablutions that may be repeated upon the patient while he is in bed, every hour or every two hours. The amelioration thus obtained is almost always very rapid, and greatly facilitates this method of treatment.—*St. Louis Clinical Record.*

Recent Researches on Cerebral Surgical Pathology—Trephining and Cerebral Localizations.

(Journal de Med. et de Chir. Pratiques, Mars, 1879.)

THE editor of the *Journal* has recently written a work, Trephining Guided by Cerebral Localizations, and in the March number he gives a review of recent progress in this direction, from which we condense the following:

He considers trephining not to be a formidable operation, and that it may often be practiced with success and profit.

Clinical facts show that a shock limited to the anterior half of the parietal bone produces divers forms of paralysis. An examination of 13,000 cases of wounds of the head that occurred in the late civil war in the United States, shows 173 cases of localized paralysis, in 139 of which the details were given, showing that the parietal bone had been affected, and, consequently, the cerebral cortex situated beneath it. These paralyses of the arm, leg, both lower extremities, the fore-arm, etc., were in certain cases caused to disappear by operation; the earlier the operation was performed, the more certainly was this result obtained.

Dr. Lucas-Championniere thinks he has demonstrated the capital importance of the following proposition:

"There is a region of the brain that is motor, composed of centers upon which voluntary movements depend; when traumatism affects it, the paralysis that supervenes indicates the portions of the brain involved in the injury."

The portions of the cortex in front of and behind the fissure of Rolando are those recognized as motor. The line over which trephining may be practiced successfully for the relief of localized paralysis is found in this way: measure a line seven centimeters (2 3-4 inches) horizon-

tally backward from the external angular process of the frontal bone, then another three centimeters (1 3-4 inches) perpendicular from the posterior extremity of the first line, then connect the superior extremity of the second with a point situated fifty-five millimeters (2 1-6 inches) posterior to the bregma. Trephining over the oblique line thus formed will relieve pressure from the motor tract, according as it is practiced in the upper or lower portion of its extent. He thinks that in the future this line may be made use of in relieving spontaneous as well as traumatic lesions. The operation itself is easier of performance then ligature of the great vessels. It is of little gravity, even in hospitals, when the antiseptic method is employed.

Dr. Duret has recently published an important work—Experimental and Clinical Studies of Cerebral Traumatisms—in which he gives us a new theory of concussion of the brain. He believes, from his experiments, that the cerebro-spinal fluid conducts the force of a blow received upon the head to the medulla oblongata, or to the ventricles, inflicting injury, severe or trivial, according to the point receiving the blow, and its force. If the force transmitted thus be violent, paralysis may be complete; if the lesion be slight, exaltation of function takes place. From inflammatory reaction we may observe symptoms of exaltation followed by paralysis. Hemorrhage produces the same symptoms as shock. Solid bodies, spiculæ of bone, act by pressure as well as by irritation. It is easy to conceive how necessary it is to remove them, for they have a direct local and a general action upon the nervous system.

One of the most remarkable points brought forward by Dr. Duret, is the demonstration of the part played in head troubles by direct irritation of the dura mater. The exasperated sensibility of this membrane determines reflex phenomena in the muscles—spasms and contractions—troubles of pulse and respiration, and vaso-motor changes in the cerebral hemispheres (drowsiness and coma).

Henceforth, it may be said that we have acquired a better understanding of the value of symptoms due to lesions of the nervous centers, and the necessity of removing all sources of irritation and compression from the intra-cranial soft parts, including the dura mater.

Treatment of Scarlet Fever.

THE late Prof. George T. Elliot, in a lecture on this disease, gave the following method of treatment: To bring the eruption out, if it has not already presented itself, order hot baths and blankets. Give nothing to eat at first in the eruptive state, and only the simplest nourishment the first day. Patients experience great relief from baths, and the application of cold cream, or mutton tallow over the whole body. Visit the patient twice a day. By pouring a pitcherful of cold water over the back of the neck, especially when the glands are enlarged, great comfort is experienced. As a gargle make use of chlorrate of potash or soda. Pieces of ice are good in the mouth. Sprays thrown in with Richardson's instrument, of lime water, solutions of alum and sulphate of zinc, are beneficial. As a palliative to the throat, the vapor from slacked lime can be recommended. Strong beef tea, with opium, may be thrown up the bowel. Begin to feed the patient from the second day of the eruption with animal essences. If the tonsils are enlarged and the pharynx exhibits much redness, with diphtheritic exudation, the physician has a right to say that things look bad. If the throat symptoms do not mitigate on the fourth or fifth day, the voice being affected, then one feels that there is a good deal of danger. When the kidneys show, by peræmia, desquamation, or transitory albuminuria, then there is a twofold danger. Always examine the urine when the patient has kidney disease; the treatment should be directed to the skin and bowels; when the latter are loaded and constipated, give powerful saline cathartics.

To convalescing patients the use of iron is beneficial. The bisulphites have been recommended, but from experience they can not be advocated. Belladonna is not always a prophylactic, although, on account of its innocence, and a feeling of satisfaction to the practitioner and family, it is well to administer it.—*New York Medical Record.*

The Contagium Vivum.

THE best paper on the *contagium vivum*, with which we are acquainted, was presented by Professor J. L. Cabell,

M. D., of the University of Virginia, in his address on State Medicine and Public Hygiene, as chairman of this section in the American Medical Associatiou at Buffalo. We extract the conclusion from the address as it appears in the "Transactions of the American Medical Association" for 1878:

"When we find innumerable analogies between the phenomena of the contagious fevers and those connected with the development and life of certain low organisms, analogies so numerous and so close that every peculiarity in the manifestation of the fevers, as to the mode of development and spreading, will be found to be susceptible of interpretation in terms of the doctrine of a *contagium vivum*, and many of them not susceptible of any other explanation, and that moreover a positive demonstration has, it is universally conceded, been given in the case of splenic fever, not to insist on the almost equally conclusive proof in the case of relapsing fever and septicæmia, nor upon the apparently conclusive demonstration, given by Chauveau and subsequently confirmed by Sanderson and by Braidwood and Vacher, that the contagium of vaccinia and variola consisting of transparent vesicles, first recognized by Lionel Beale, not exceeding, according to Sanderson, the 1-20,000 of an inch in diameter, it does seem to me that a very strong case has been made out in proof of the general doctrine in question.

"Those who are prone to reiterate the assertion that no positive demonstration has been given of a living contagium in the case of typhoid, typhus, or the malarial fevers, and who seem to take for granted that until such demonstration has been given it is more logical to doubt, if not to deny, the possibility of such a mode of causation than to hold it as a provisional hypothesis, forget that ocular demonstration may be absolutely precluded by reason of an ultra-microscopical minuteness of the particles; that moreover, between the microscopic and molecular limits there is space for countless gradations of beings, and that after all inferential proof may be quite as conclusive as sensible demonstration; in some cases indeed much more so, the liability to commit logical fallacies in the one case being balanced or more than balanced by possible errors of interpretation in the other. What would be thought of the scientist who would doubt, not to say deny, the truth of the undulatory theory of

light on the ground that the supposed elastic medium, whose motions are believed to constitute the light of the universe, is itself invisible, impalpable, and absolutely imponderable, that we can not *demonstrate* its presence nor know any thing of its essential nature? The assumption of its existence suggested by observed analogies between many of the phenomena of light and the known effects of the undulations of ponderable fluids not only furnishes a satisfactory explanation of all the previously known facts, but has enabled competent philosophers to predict and thus discover other more recondite phenomena which had escaped direct observation. No proof could be stronger than this. In like manner the extension of the doctrine of contagium vivum from infectious fevers in which positive ocular demonstration of its presence has been given to others of the same class, in regard to which ocular demonstration may be precluded presumably by reason of the extreme minuteness of the particles, is fully justified by the uniformity of nature. The docttine in question thus fulfills every test of a legitimate scientific theory. It assigns a cause which as we have seen is true and appropriate to the effects to be explained, while the facility of its application to the solution of all the phenomena of the infective fevers shows it to be also adequate in extent."

Local Uses of Tannin.

Dr. G. P. Hachenberg, New York *Medical Record*, reports several cases of the use of this remedy in prolapsus uteri, where other means had failed to afford relief. His method is as follows: A glass speculum is introduced into the vagina, so as to push the uterus into its place. Through the speculum a metallic tube or syringe, with the end containing about thirty grains of tannin, is passed. With a piston the tannin is pushed against the uterus, the syringe withdrawn, and the packing neatly and effectually completed with a dry probang, around the mouth and neck of the womb. After the packing is completed, the probang is placed against the tannin, in order to hold it, and the speculum is partially withdrawn. The packing is now fully secured, and the instrument removed.

The application of tannin holds the uterus firmly and securely in place, not by dilatation of the walls of the vagina, but by corrugating and contracting its parts. At first the application may be made weekly; finally, but once or twice a month. It not only overcomes the hypertrophy and elongation of the cervix, but even, the writer thinks, induces a slight atrophy of the parts. As a remedy for leucorrhœa, where the seat of the inflammation is at the mouth of the womb, or within the vagina, it actually gives speedy relief. The doctor also reports a case of chronic ulceration of the rectum which was cured after a few weekly packings of tannin. He has found, moreover, that, in affections of the throat, direct applications of tannin to the diseased parts gives satisfactory results. In a case of extraordinary hypertrophy of the tonsils, preparatory to the operation of extirpation, tannin mixed with tincture of iodine to the consistency of syrup, was applied with the effect of so diminishing the hypertrophy that a surgical operation will, in all probability, not be necessary.

No remedy has given such satisfactory results in certain forms of chronic ophthalmia and opacity of the cornea, as tannin once a week, placed under the eyelids—pure well triturated tannin. An aged lady, who had chronic ophthalmia, was relieved by one application; another, who was blind from opacity of the cornea and chronic ophthalmia, recovered her sight mainly from the local use of powdered tannin.—*Boston Med. and Surg. Journal.*

Malignancy in Tumors.

BY P. W. VAN PEYMA, M. D.

* * * As to the character of cancer cells, I quote also from Green: "The cells are characterized by their large size, by the diversity of their forms, and by the magnitude and prominence of their nuclei and nucleoli. In size they vary from 1-600 to 1-1,500 of an inch in diameter, the majority being about five times as large as a red blood corpuscle. They are round, oval, fusiform, polygonal—exhibiting in short every diversity of outline. * * * The nuclei, which are large and prominent, are

round or oval in shape, and contain one or more nucleoli. The nuclei are perhaps most frequently single; two, however, are frequently met with, and in the softer and more rapidly growing cancers, they may be much more numerous. The cells rapidly undergo retrogressive changes, hence they usually contain molecular fat. They are many times exceedingly destructible, so that sometimes more free nuclei than cells are visible. Cells precisely similar to these are met with in other morbid growths, and also in normal tissues. *There is thus no specific "cancer cells."* It is the general character of the cells, together with their mode of distribution in the meshes of a fibroid stroma, that determines the nature of the growth to which they belong. "The appearance presented by these cells grouped within the alveoli of the cancer sometimes closely simulates in the earlier stages of growth that of simple adenoma," only here the cells are less irregular and more like the normal. It will be noticed that the quotation denies explicitly the existence of a *cancer cell*, that is, a cell characteristic of this growth. On the contrary it is exactly this want of anything characteristic; the great variety of shape and size and condition, which is to any extent peculiar. Add to this the arrangement in alveoli, formed of connective or fibrous tissue, and we have all that is in any sense characteristic of cancer, from a histological standpoint. And even this is not as much so as could be wished. We have already noticed its resemblance to adenoma. Wagner says, "The alveolar structure of cancer was long regarded as especially characteristic. This, however, is not the case. Adenoma also, and many sarcamata and cystomata, show an alveolar structure. To draw conclusions from the alveolar texture of new formations, it is always necessary to consider the structure of the mother tissue." And, in summing up, he concludes as follows: "From these characters it follows that at the present time there are no strict histological peculiarities. At the present time the notion connected with cancer is especially clinical, not anatomical."

In now closing our anatomical description of sarcoma and cancer with a short notice of the course and relation of the blood-vessels and lymphatics, we are led to remark a very interesting anatomical difference between the two growths; and one having an important bearing in path-

ology. In the sarcoma the vessels are not supported by a stroma, as is the case in cancer, but ramify among the cells of the growth, hence the facility with which these tumors become generally disseminated. On the other hand, according to Cornil and Ranvier, the lymphatics communicate directly with the alveoli of cancer. This explains the tendency of cancer to infect lymphatic glands.

We now come to the subject proper, viz: malignancy. Its definition has already been given—a tendency to spread rapidly and to recur after removal. The questions now are upon what does this depend, and why are certain growths more malignant than others. From what has preceded our answer may possibly have been anticipated —that it depends upon the transmission of certain elements, probably cellular, to different parts of the body. This is possible and actually occurs in three ways.

I. Locally by simple extension of the growth.

II. By means of the lymphatics.

III. By way of the blood-vessels.

"As a general rule, the more juice, or cells a growth contains, and the richer it is in blood-vessels and lymphatics, the more quickly will it infect the lymphatic glands and internal organs," and conversely. In addition to this another point must receive consideration, viz: the difference in the mode of growth of tumors. The proportion of central and peripheral growth is not the same in all tumors. Cancers and sarcomata are characterized by a predominantly peripheral growth. Other things being equal, a peripheral growing tumor is more malignant than one whose growths is central. The reason of this is obvious. A centrally growing tumor has its active proliferating cells surmounted by a zone, in many instances a capsule of inactive, if not dead material; while in the case of the peripheral growing tumor the active multiplying and infecting cells are at the periphery in immediate contact with the surrounding tissues. The absorption of the elements of the primary growth has, according to Wagner, been demonstrated. He says: "For some cases it has been demonstrated with certainty that cancer masses as a whole, and cancer cells especially, which are free in the blood-vessels, having been transported hence and deposited in other parts, become the cause of cancerous formations." He gives similar testimony as to

their entrance into the lymphatics. Their mode of action after reaching the part is, according to Green, "by virtue of an influence on the cells of the tissue where they lodge, which may be termed a spermatic influence, and which is strictly comparable with that of the sperm cell in the ovum." That is, it excites the cells of the part to a peculiar activity and multiplication. Of course a similar influence is supposed in the local extension of the primary growth. The comparative frequency and extension of their infection explains the frequent heterology of malignant growths.

While all tumors are therefore probably more or less likely to recur after removal, those are especially so, which are abundant in cells; more particularly the small round cells (this because of their more ready entrance into the vessels); and are richly supplied with blood-vessels and lymphatics.

These factors we have seen to be in a great degree characteristic of cancer and sarcoma. The elongated cells being less fitted for absorption, we find the fibroid tumors recurrent in a lesser degree. The same may be said of the cells of epithelioma. In this connection Wagner says: "Especially do so numerous transitions seem really to exist between the so-called benign and malignant new formations that a fixed limit is at present, and perhaps always will be impossible."

It will have been noticed that in giving our view upon malignancy, no allusion has been made regarding constitutional predisposition. The question of the comparative importance of local and constitutional causes in the etiology of malignant growths must still be considered open, but the belief in the greater importance of local causes is daily gaining ground, and is even at the present day accepted by the principle pathologists. The most generally accepted view at present seems to be, that a certain constitutional predisposition probably exerts *some* influence in determining the peculiarly degenerative and destructive changes. This must, however, not be interpreted as implying any *specific* influence; but rather one, admitting of comparison with that low state of vital activity, seen in certain individuals of broken constitutions, where the tendency to a breaking down of tissues is general. In the study of malignancy we are again reminded in nature there are no sudden jumps from one

extreme to another, but always a gradual transition. One kind of morbid action gradually merges into an other. In a paper read before the Erie County Medical Society, two or three years ago, I arrived at somewhat similar conclusions. After asserting the gradual transition of hyperœmia into imflammation, and *vice versa*, I remarked: "In conclusion I will say, to my mind, inflammation is not alone in the fact of its gradual transition into other conditions. My conviction is settled, that, as we progress in our knowledge of the general principles of disease, the application of the 'law' of transition will be found to approach the universal." Examples or illustrations of this law are found on every side. The fact that authors speak of sarcomatous cancers and carcinomatous sarcomas shows that these growths occasionally merge into each other. Rindfleisch speaks of a mixed tumor which he says, "we must leave undecided, whether it is to be reckoned with the sarcomas or carcinomas." The gradual merging of an adenoma or glandular tumor, into carcicoma, has already been referred to. To quote Rindfleisch once more: "Certain authors," he says, "certainly move the idea of adenoma up and down the scale mentioned, in that they now assign it more to hypertrophy, now more to carcinoma; that however a motion up and down of this kind is possible, just proves the existence of this scale."

Wagner says: "Doubtless between adenoma and glandular cell cancer there are found the most manifold transitions." These he classes under the head adenoma carcinomatodes. One of the synonyms of cancer is "spongoid inflammation;" and Wagner, speaking of the two processes, says: "Of many cases (of cancer) especially of the stomach and mammæ, even after careful microscopical examination, it remains doubtful whether they belong here or represent chronic inflammations with strong cicatricial formation, or with simultaneous glandular hypetrophy."

Rindfleisch considers hard glandular cancer as dependent upon an interstitial inflammation of slow growth; the cellular products of which are metamorphosed into epithelial forms instead of into pus or connective tissue; this in consequence of an epithelial infection due to neighboring epithelial cells.

Much more might be said upon this subject of tran-

sition. And what has been said should have received elaboration and elucidation. But a little thought upon the subject will enable any one to carry this mode of reasoning in various directions, and that to a far-reaching degree.

In conclusion, let me call attention to one of the practical points intimately connected with the subject:

If the views contained in this paper are correct, any expert to whom we may hereafter carry a specimen for examination, will not say "this growth is malignant, or this growth is benignant and harmless." He will rather express his opinion in relative terms, as, for example, "The specimen which I have examined is more or less abundant in cells; their character, as to shape, more or less adapts them for absorption; the arrangement of its blood-vessels and lymphatics is such that they will or will not greatly facilitate absorption and infection of neighhoring tissues; the extent of the degeneration and breaking down of cells, and the comparative number of multinucleated cells and the small round cells, to the exclusion of any decided tendency to elongate and develop, prove its more or less rapid growth and destructive power." The consequence will be that we shall watch all morbid growths with a view to their malignancy, being especially fearful of those possessing the above properties in a marked degree. The question will no longer be, is the growth malignant or benign; but to what degree is it malignant, that is, liable to recur, to spread and be destructive.

The main object of the paper has been, by means of an example, to call attention to the fact of transition as seen in pathology.

Many of the positions taken being contrary to the views held by the majority of medical practitioners, more particularly those who have not given the subject any special study, I have felt warranted in making numerous authoritative quotations.

In the opinion of the writer, more attention should be paid to general principles, both in disease and therapeutics. The result would be a diminishing amount of superstitious belief in specifics and a growing clearness of vision in matters medical.—*Buffalo Medical and Surgical Journal.*

Microscopy.

American Society of Microscopists.—This Society having accepted an invitation to meet at Buffalo, N. Y., will hold its second annual meeting in that city, commencing at 10 o'clock A. M., on Tuesday, August 19th, 1879, and probably continuing four days.

The Constitution of the Society, which was provisionally adopted at the Indianapolis meeting, will come up for discussion, amendment and adoption, at the Buffalo meeting. Persons who may attend are requested to bring to the meeting original papers on microscopy and allied sciences; also to bring microscopes, apparatus and objects which may be instructive to members, or useful at a soiree.

American Society of Microscopists.—As this Society has elected to hold its second annual meeting in Buffalo, N. Y., on the 19th day of August next, the Buffalo Microscopical Club have invited the co-operation of kindred societies of the city, in the election and organization of a General Local Committee of Management; to take in charge all matters pertaining to the reception, and proper accommodation and entertainment, of this important National Convention.

The Committee on Transportation are perfecting arrangements with the various railroad authorities, which will enable members of the convention to secure passage, to and from the meeting, at reduced rates. To what extent this may be possible, they are not at present able with certainty to state; but they will hereafter issue an explanatory card, in time to enable all who purpose attending the meeting, to avail themselves of such facilities as they can not doubt, they will be able to obtain.

New York, *June* 11, 1879.

To the Editor of the Cincinnati Medical News,—I trust you will allow me to make some remarks which seem called for by the communication from Professor J. E. Smith, on page 347 of your May number.

The words for which I am responsible, and which seem to have excited the gentleman not a little, are the following:

"Among other things he claims to have seen the nucleus of the red blood-corpuscles of mammalia in this way, about three years ago. The appearance of a nucleus, when the corpuscles are viewed in this manner, has long been familiar to observers, and it is safe to assert that no true nucleus can be thus demonstrated."

I must premise by saying that I do not deem the subject worthy of serious discussion, as regards its bearing upon the structure of the corpuscles, for I will go even further than saying "appearance of a nucleus" by asserting that there is not even so much as an "appearance" of such a structure to be seen.

Moreover, I believe I am right in saying, that, however original the observations and conclusions of Mr. Morehouse may have been, he was not the first one to examine blood in this way, or to suggest the nucleated structure from the appearance presented.

It is well known that Dr. J. W. Freer, of Chicago, made the same observations about or previous to the year 1871, and the writer was perfectly familiar with the matter long before he ever heard of Professor J. E. Smith or his modification of Beck's illuminator.

He is willing to admit that possibly he has not seen it in the full glory revealed by the above modified instrument; nevertheless he has gazed upon it with objectives of high balsam angle.

The facts here stated have been referred to several times,* in various journals, and what little attention they have attracted is more than they deserve.

I really must suggest to Professor J. E. Smith, that he would stand quite as well as an expounder of science, if he would use a little more consideration in his criticisms. It will be observed that no "loose statements" have been made, and this expression was quite unwarranted.

Respectfully,

R. HITCHCOCK.

A New Reflecting Telescope.

THE question as to the superiority of reflecting or refracting telescopes has been much discussed. Theoretically the former should, on account of their perfect achromatism, give more distinct images, but in practice

*I would give references but my books are not at hand.

refractors are always found superior in optical power to reflectors. MM. Paul and Prosper Henry have lately inquired into the causes of want of distinctness, or rather instability, in the images of the latter, and they attribute it almost wholly to the fact that masses of air of unequal density enter the tube, where they remain in whirling motion. The rays, incident and reflected, traversing this heterogeneous medium are much troubled, so that a confused image reaches the eye. The attempt to remedy the evil by making apertures at the lower part of the tube failed, the images being more confused than before. A better plan which has been adopted is to nearly suppress the tube, leaving only what is sufficient to support in position the object-mirror and the eye-piece; but this is efficacious only in calm weather. Reflecting telescopes have another grave defect, in that the reflecting surfaces tarnish rapidly through contact with air, moisture, dust, etc. M.M. Paul and Henry have sought to remedy these evils by closing the tube hermetically with a glass lens so cut as not in any way to affect the optical power of the instrument. In the mouth of a Newtonian telescope (0.10m. diameter and 0.60m. focal length) they fixed a thin lens of crown glass of the same size as the mirror, and very slightly concave. This form obviates the double image from a plane glass, and it destroys the aberration of the refrangibility of the microscopic eye-piece. The loss of light is very little. This instrument has given remarkable results. With it one can always resolve the double star σ_2 of cancer. The companion of Rigel is distinctly visible, and the image of a bright star is always much steadier than in another reflecting telescope of the same aperture, mounted in the ordinary way. MM. Henry are having constructed, on the same principle, a Cassegrainian telescope, of the largest dimensions. The small convex mirror will here be fixed directly to the interior surface of the crown glass lens.

Notes and Memoranda.

From our London (England) Correspondent..

Employment of Wet Collodion for Microscopic Sections.—M. Mathias Duval points out* the difficulty of finding any body which would firmly hold delicate objects, in

* "Journ. Anat. et Phys." (Robin), XV. (1879) 183.

which there are a large amount of hollows and cavities, such, for example, as embryonic tissues. It is obvious that the best substance would be one, which though solid is not friable, and which at the same time is homogeneous. These conditions are not satisfied by the ordinary imbedding mixtures, such as gelatine, wax and oil, or soapy bodies. One that has been largely used is gum solidified by the action of alcohol; and this has been recommended by Dr. Klein. In the directions appended to their "Treatise on Embryology" (of the Chick), Foster and Balfour expressly state that they do not recommend it for the study with which they are there particularly engaged, nor does the experience of other embryologists seem to do otherwise than confirm their opinion. Nor, again, do the methods ordinarily in use allow of the advantages which would be gained by the use of a transparent imbedding substance.

Already used in its *dry* state for certain observations, collodion has been found to have much to recommend it, bnt it is too hard for delicate bodies. When, however, a small quantity is treated with alcohol at 36°, it is found to retain its volume, while presenting a large amount of consistency, elasticity, or transparency. Having used the substance for six months, M. Duval now feels justified in recommending it to the attention of students. The embryos to be examined are first hardened by osmic acid, alcohol, or some other method, are stained with carmine, and then placed in alcohol; they are then placed for a few minutes in ether, and are then removed to the liquid collodion, in which they remain for a period varying from ten minutes to twenty-four hours. When withdrawn from this, they have attached to them a piece of elder-pith, or are, if their size and state permit of their being cut without any such aid, thrown at once into alcohol; the body now becomes surrounded with an elastic mass of collodion, which solidifies without alteration of volume, and incloses the pith if this has been already added. Thus treated, the tissue is ready for immediate section, or may be kept in alcohol for an indefinite period without danger.

As the sections are made in the ordinary way, that is, the body itself and the razor being both wetted with alcohol, it is obvious that the collodion will be prevented from becoming dry; there is no need to remove the imbedding substance, and the section may be immediately

placed on a slide; a drop of glycerine and a cover-glass are then all that is necessary for the observer to find himself delighted with an object, the optical properties of whose imbedding substance are exactly the same as those of glass. Yet another advantage remains to be noted; the collodion has not in M. Duval's sections lost its transparency after a period of six months.

A similar method may be used for fœtal cerebral structures, and in the study of the eye or of the cochlea and similar delicate parts.

Method of Preserving the More Delicate and Perishable Animal Tissues.—In a valuable article* on the development of the earth-worm *Lumbricus trapezoides Duges*, M. Kleinenberg says that whilst a great part of the earliest formations of the egg can be made out in the living state, the protoplasm being sufficiently transparent to allow the internal parts to be seen, yet afterward the precise outlines of the cells disappear, and nothing can be seen but the grosser structure. To make out the more delicate structure it is necessary to employ reagents.

Osmic acid applied in the state of vapor gives good results; but the preparations obtained by the use of a mixture of picric with sulphuric acid are more satisfactory. It has, however, the same drawback as osmic acid, of occasionally producing swellings in the primitive blastomeres, which, if it only slightly alters the normal conditions, renders the preparations less sightly. This difficulty is overcome by the addition of a little kreosote.

M. Kleinenberg, however, after many experiments, recommends strongly the following method of preservation, which he used for the particular researches treated of, and for the majority of other animal tissues, especially for the more delicate and perishable.

Prepare a saturated solution of picric acid in distilled water, and to a hundred volumes of this add two volumes of concentrated sulphuric acid; all the picric acid which is precipitated must be removed by filtration. One volume of the liquid obtained in this manner is to be diluted with three volumes of water, and, finally, as much pure kreosote must be added as will mix.

The object to be preserved should remain in this liquid for three, four, or more hours; then transferred, in order

* "Quart. Journ. Micr. Sci." XIX. 206.

to harden it and remove the acid, into 70 per cent. alcohol, where it is to remain five or six hours. From this it is to be removed into 90 per cent. alcohol, which is to be changed until the yellow tint has either disappeared or greatly diminished. Alcohol of 90 per cent. is better than absolute for preserving the more delicate structures for a long time uninjured, and for keeping the preparation at the proper degree of hardness.

For coloring crystallized hæmatoxylin is to be used, dissolved in the following mixture: Prepare a saturated solution of calcium chloride in 70 per cent. alcohol, with the addition of a little alum; after having filtered, mix a volume of this with from six to eight volumes of 70 per cent. alcohol. At the time of using the liquid pour into it as many drops of a concentrated solution of hæmatoxylin in absolute alcohol as are sufficient to give the required color to the preparation of greater or less intensity, according to desire.

This mixture, notwithstanding its chemical irrationalty, gives good results. Aqueous solutions, especially when they contain traces of ammonia, are to be avoided, since they are very hurtful to many delicate tissues. The object must remain in the dye for a period varying from a few minutes to six hours, according to its size and to the nature of the tissues composing it. It is a good rule, when intending to make sections, to stain deeply and to cut them *very thin*.

When removed from the dye the preparation is to be washed in 90 per cent. alcohol, in which it may remain from six to twelve hours. Finally, to remove every trace of water, it should remain for half or a whole day in absolute alcohol.

If the preparation is to be cut it must be removed from absolute alcohol to essential oil of bergamot, in which it should remain for some hours, in order to fit it for being imbedded in paraffin, which is removed from the sections when cut by means of a mixture of four parts of essence of turpentine with one part of kreosote. Finally, the sections are mounted in resin dissolved in essence of turpentine.

Histologists are warned not to use a solution of resin in alcohol. The preparations mounted in this are at first beautiful but soon become spoiled, in consequence of the precipitation of crystals or of an amorphous substance.

He lost in this manner many hundreds of preparations, and the same results have occurred in the Zoological Station at Naples.

DR. SEILER'S SLIDES.—We have had occasion to examine Dr. Seiler's microscopical preparations, and found them to be of the very best order. Several points in them deserve to be especially mentioned, as for instance the beautiful effect which is produced by double staining, by which process the different elements of the tissues are differentiated with remarkable clearness. The general outward appearance of the Slides as well as in the cases in which they are kept are very pleasing, and the selections of typical specimens in the departments of normal histology, of pathology and of neophasas is an excellent one, calculated to aid the beginner very materially in his study of these subjects. The Tumor Series which has been only quite recently been put of by Dr. Seiler comprises a large number of sections of cancer as well as rare neophasas, among which a most beautiful example of true adenoma of the heart is exceedingly interesting on account of its rarity.

GLEANINGS.

TROMMER'S EXTRACT OF MALT.—"The malt extract prepared from Trommer's receipt is designed to fulfill much the same purpose as cod-liver oil, carbo-hydrates (malt-sugar, dextrin), taking the place of fatty matter. The simple (much or little hopped) and the chalybeate form of malt extract are coming more and more into favor as substitutes for the oil; they are more palatable and more easily digested, and should, therefore, be preferred in the dyspeptic forms of anæmia. During the last few years malt extract has almost entirely taken the place of cod-liver oil in the treatment of phthisis, and other wasting diseases at the Basle hospital, and we have as yet found no reason for returning to the use of the latter remedy. The extract may be given from one to three times a day in doses varying from a teaspoonful to a tablespoonful in milk, broth, beer, or wine."—*Ziemssen's Encyclopædia of the Practice of Medicine*, Vol. XVI. page 474.

LACTOPEPTINE.—This preparation, which is a composition of Pepsin, Pancreatine, Diastase, or Vegetable Ptyalin Lactic and Hydrochloric Acid and Sugar of Milk, is acquiring a great reputation, both in England and America, in the treatment of many forms of dyspepsia and wasting diseases of children. We have used it in several cases with remarkably beneficial results, and we feel certain the profession will not be disappointed in its effects. It is also an excellent remedy in gastritis, vomiting in pregnancy, dysentery and diarrhœa of children. Pepsin is undoubtedly a valuable remedy in many forms of dyspepsia, but it does not seem to meet all the indications fulfilled by lactopeptine.—*Canada Lancet*, April, 1878.

AGUSTIA, ETC.—From Baltimore Academy of Medicine report in the Maryland *Medical Journal* for March:

Dr. McSherry referred to the case of a lady who took cold two years ago from sleeping in damp sheets, and has been devoid of the sense of smell ever since. The sense of taste is also impaired to so great a degree that she can not distinguish between different sorts of meats and vegetables. Pepper is recognized by its pungency; and so heat and cold produce the ordinary sensations upon the lingual nerves of common sensation. Electricity and various other remedies have been used without effect. The hearing is acute.

Dr. McKew cited the case of a lady who lost the sense of taste many years ago from catarrhal trouble. She is unable to distinguish the different kinds of food and drink. Her mother met with the same loss after typhoid fever and never recovered from it. In another case the sense of smell was lost after illness, that of taste being retained.

Dr. Chisolm had met with a gentleman who could appreciate no odor, but suffered by a subjective sense of an odor resembling that of rotten eggs. Yet there was nothing unpleasant to be detected by others. No treatment was of any avail.

An instance was also cited in which a person could distinguish no color but yellow; another in which only black could be made out.

POTASSIUM BROMIDE IN CHRONIC CHILLS.—A correspondent of the Southern *Medical Record* writes as follows:

Mrs. P., aged 65, has had third-day chills for three years. The morning after the chill I commenced giving bromide,

fifteen grains, three times a day. She has had no more chills for the last three years.

A child of Mrs. N., five years old, has had third-day chills for three years. I gave bromide, in five-grain doses, three times a day. It has had no more chills.

The bromide is kept up for several months, three times a day for eight to ten days, with an equally long intermission.

I have been using the bromide as above for the last six or seven years with uniform success as a preventive.

Another of my patients had chills every summer for several years. I gave the bromide, commencing in the spring. Gave it all summer and fall at intervals, as stated above. He has had no chills since, it being now five or six years. I have seen no unpleasant effects from the use of bromide of potassium.—*Louisville Medical News.*

Extract of Malt.—According to Prof. Douglass, 1,000 parts of the Trommer Extract of Malt contains malt sugar, 46.1; dextrine, hop bitter, extractive matter, 23.6; diastase, 2.469; ash-phosphates, 1.712; alkalies, .377; water, 25.7. In comparing the above analysis with that of the Extract of Malt of the German pharmacopœia, as given by Hager, he finds it to substantially agree with that article.

In the employment of these malt preparations, I have found much benefit in cases where the system had become depraved, either from lack of assimilative power or the drain occasioned by chronic suppurative action, as phthisis, etc. Frequently in cases of chronic dyspepsia, where scarcely any food could be retained upon the stomach, I have been enabled to supply the demands of nutrition by the extract of malt alone, or combined with milk diet. In phthisis I have experienced good results from its administration, combined with cod-liver oil, and find that much of the unpleasant taste of the oil is disguised by combining the two, so that where the oil itself will not be regularly taken by the patient, from disgust, I have had very little trouble in prevailing upon him to continue the use of the malt and oil combined.—*Dr. Chapman, Toledo, O.*

Treatment of Hysterical Reflex-Neuroses.—Professor Weber recommends the protracted employment of chloroform inhalations in the treatment of obstinate and severe cases of hysterical reflex-neuroses, of the respira-

tory apparatus, when the primary seat of irritation can not be discovered and treated. He has himself proved the value of the inhalation in several cases. His first case was a lady with a spasmodic cough, that had proved rebellious to all treatment; she was cured in eight days by the chloroform inhalations, which were administered as often as the cough came on. A child with sneezing spasms was cured in three days by the chloroform. Another lady with a spasmodic cough was treated with the same remedy for fourteen days, the inhalations being administered at first four or five times, and afterward two or three times daily. She was much improved; the cough only came on after a walk, and the inhalations were only required then. In four weeks she was discharged cured; a subsequent slight relapse was cut short by the internal administration of chloroform. In the case of a girl fourteen years of age, who suffered from spasms of sneezing, the inhalations produced a speedy cure.

Vinegar as a Post-Partum Hemostatic.—At a meeting of the American Gynecological Society, Dr. Penrose—in a paper on vinegar as a remedy in the treatment of post-partum hemorrhage—presented the following advantages:

1. It could be easily obtained.
2. It could be easily applied and instantly, without special apparatus.
3. It always cured the hemorrhage; or rather it had not failed in his practice.
4. It was sufficiently irritating to excite the most sluggish uterus to contraction, and yet not so irritating as to be subsequently injurious.
5. It was an admirable antiseptic.
6. It acted upon the lining membrane of the uterus as an astringent.

The remedy was applied as follows: Saturate a rag with vinegar; carry it into the cavity of the uterus, and squeeze it.

In the vast majority of cases, the hemorrhage ceased as if by magic when the vinegar passed over the surface of the uterus and the vagina. It could be easily repeated, in case the first application failed.

Treatment of Epilepsy.—In the treatment of this disease, Dr. O. Berger found cold applications (Chapman's method) of benefit only in the hystero-epileptic forms.

Both this treatment and electricity failed in true epilepsy, though the constant current relieved the vasomotor form. The author got no results from the monobromide of camphor or the bromide of zinc, nor from atropine nor curare. The nitrite of amyl is a good remedy for the attack. The bromide of potassium is the sheet anchor in doses of 6–12 grammes per day. The disease was thus arrested for two years at most but was in no case cured. Bromalhydrat had the same effect as bromide of potassium.—*Deutsche Zeitschrift.*

Opium Habit and Amyl Nitrite.—Dr. Deyman (*Medical and Surgical Journal*) has successfully used amyl nitrite in insomnia consequent upon suddenly discontinuing the opium habit. Two or three whiffs—the flushing of the face being the criterion—were usually sufficient, being followed by refreshing sleep.

Advantages of a Single Puncture of Each Arm in the Vaccination of Very Small Children.—Dr. Hughes (*Gazette Obstetricale* from *Nice Medicale*, September 5, 1878, page 259) establishes the two following conclusions:

1st. Contrary to the general opinion, it must not be believed that variola being rare in the first two or three months of life, it is not necessary to vaccinate at this age. He has observed several cases of small-pox in children less than three months old, which he had refused to vaccinate. He therefore vaccinates any child now at the slightest wish of the parents. But having formerly made three punctures in each arm, and seen several accidents due to extent or intensity of inflammation, he was led to inquire if a single puncture would not be sufficient.

2d. It is entirely sufficient to make but a single puncture in each arm in very young children. In eleven children re-vaccinated at later periods, and even with three punctures, not one was susceptible to the influence of the virus.

Infantile Paralysis.—Dr. Bouchut is convinced that electrization of the paralyzed muscles should be commenced as soon as possible after the onset of essential paralysis of childhood. The general opinion has been that electricity should not be used in these cases until some time has elapsed from the supervention of the paralysis. Dr. Bouchut thinks this is the cause of treatment

being fruitless in many instances. In one case in particular, he used electrization forty-eight hours after the appearance of paralysis and the cure was complete. He has since seen the same treatment carried out by his advice in several cases with the same good results. Continuous currents were always employed, "they constitute the true electricity of nutrition." Adjuvant means were used, such as massage, stimulating frictions and exciting douches.

How to Kill a Tapeworm in an Hour.—Kousso and kamela are expensive drugs, nauseous to the taste, not always effectual, and require several days to effect the death of the worm. Dr. Karl Bettelhiem, of Vienna, narrates in the *Deutches Archiv*, a heroic method and nearly sure cure in the short space of time of three-quarters of an hour or two hours. It is this: He inserts a tube in the œsophagus, to the stomach, and pours down from two hundred to four hundred grammes of a very concentrated decoction of pomegranate root, having previously had his patient fast for twenty-four hours. The worm is stupefied and passed, head and all, to a certainty; the patient has no sickness of the stomach and no nauseous swallowing to do; and the drug is cheap.

On the Employment of Lister's Method in the Treatment of Burns.—The burned part is to be carefully disinfected, and then covered with a piece of linen spread with Lister's boracic acid. Then follows the envelopment with carbolized gauze or salicylic cotton. According to H. Busch, of Bonn, under this dressing the necrosed parts are separated, move gradually and easily, and the granulations never become exuberant. The most striking results, however, are seen in the cicatrix. Instead of the usual extensive cicatricial bridles which project above the surface and exert traction on the neighboring tissues, an almost smooth cicatrix forms, which remains elastic and extensive, and does not cause contracture.

Treatment of Obesity by Arsenic.—Dr. J. T. Whittaker states that he has employed arsenic with success in the treatment of four cases of obesity. One case was so severe that the patient fainted on the slightest movement; he had gained forty pounds in three months. He had no valvular lesions and had never had rheumatism. After the failure of all other methods of treatment, he was put

on five drops of Fowler's solution three times a day. In two months he was restored to health, could walk well, and had lost much of his *embonpoint.* In the three other cases, two of which were complicated with asthma, the effect was also decisive but less rapid.—*Cincinnati Lancet.*

Arsenic in Paper Cigar-Holders.—Professor Jaderholm, of Berlin, has discovered arsenic in dangerous quantities in the pasteboard cigar-holders that are much used at present in Germany. The poison was found in the form of Schweinfurt green, not only in most of the holders which were colored green on the outside, but also in the inner layer of paper in holders which were externally of different colors. The professor earnestly warns smokers against the use of these holders, as the poison they contain is brought into the closest connection with the buccal mucous membrane and the saliva, and thus finds its way into the blood, both from the mouth and the stomach.—*Allg. Med. Cent. Zeit.*

A Cheap Disinfectant and Deodorizer.—Dissolve a drachm of lead nitrate in a pailful, and a drachm of common salt in a jugful of soft water, and mix the two solutions. Soft water is essential, on account of preventing the formation of an insoluble carbonate of lime and lead. Dip rags into the solution, and hang them up in the offensive room, or pour some of the mixture upon excrements, or down the privies or sinks. This is of ordinary strength, but the solution may be made stronger if desired. If carb. lead and lime form, pour off the clear liquid and use none of the sediment.

Bromide of Potassium as a Diuretic.—In the case of a gendarmes suffering from albuminuria and uræmic convulsions, Dr. Sohier administered bromide of potassium in doses of 30 to 45 grains. Free diuresis was produced, between two and three quarts of urine being passed in one night, and the albumen, which was previously present in large quantities, disappeared entirely. In three other cases the bromide produced similar diuretic effects. Its diuretic action is exerted on healthy persons also.—*Centralblatt f. Chir.*

Electricity in Neuralgia.—As a guide to the proper current indicated in the various forms of neuralgia, Dr.

Rockwell says: "I find the effects of pressure are exceedingly useful. I would not lay it down as a law, but it will be found, in the great majority of cases of neuralgia, where firm pressure over the affected nerves aggravates the pain, the galvanic current is indicated, while the Faradic current has the greater power to relieve when such pressure does not cause an increase of pain." —*Med. and Surg. Brief.*

Treatment of Severe Bed-Sores.—Dr. Dyce Duckworth (*Archiv. Dermatology*) communicated to the Am. Derm. Ass. meeting of 1877, a short paper on this subject. He recommends that, in addition to the use of the water-bed, the patient should lie with the buttocks and sacrum constantly upon poultices. These should be made of linseed, and if there be much discharge or fœtor, the cataplasma carbonis should be used. They should be made of pure linseed, and frequently changed. They must be large and secured in position by a binding sheet secured over the abdomen by safety-pins. The balsam of Peru should be added if there is deep excavation and sloughing.—*Am. Med. Bi-Weekly.*

Antidote for Carbolic Acid Poisoning.—Professor Bauman has recommended, and Dr. Senftleben has used, dilute sulphuric acid as antidote to carbolic acid, and with success; the phenol and the acid combining to form phenylsulphuric acid, which is not poisonous. His formula was:

Acid. sulph. dil., ...	10
Mucilag. acaciæ., ...	200
Syrup. simp., ...	20

Dose: A tablespoonful evry hour.—*The Pharmacist.*

To Facilitate the Introduction of Instruments into the Bladder.—Depres recommends that after the patient's urethra be completely filled with oil by means of a syringe, he be ordered to micturate. The consequent relaxation of the sphincter vesicæ allows the escape of oil from the urethra into the bladder. By this procedure large sounds, lithotrites and other instruments which can not be passed by the old method of oiling them are quite easily introduced.—*St. Petersburg Med. Wochenschrift.*

Vaginismus and Irritable Urethra.—Dr. Bedford Brown mentions cases of vaginismus occurriug in his practice,

which he has relived in a short time by the application of pure concentrated carbolic acid over the entire surface of the ostium, the vagina, and the os uteri, in this way obtaining the permanent sedative action of this agent on these surfaces, thereby effectually destroying this state of hyperesthesia in a number of cases of vaginismus and irritable urethra.—*Med. and Surg. Brief.*

CORRESPONDENCE.

To the Hon. the Board of Trustees of the Cincinnati College of Medicine and Surgery:

GENTLEMEN—In a letter under date of June 7, 1878, I exposed to your Honorable Board the very imperfect qualifications of certain members of your Faculty. Your failure to make any effort to disprove all or any of the statements therein contained, must be taken as evidence that you regard them true; and by continuing these persons in your Faculty you tacitly admit that ignorance, deception and indecency before a medical class do not detract from the medical teacher, and that Professors Bramble and Miles are competent to teach in the departments, respectively, of surgery and diseases of women and children, such students as may assemble in the halls of the Cincinnati College of Medicine and Surgery.

I may not question your right to do as you have done, but you will pardon me for intimating that the position you have taken in this matter is not invulnerable. You may trifle with the dearest interests of society, and you may degrade the medical profession by keeping in place incompetent personal friends, but when the facts shall become known the former will arraign you at the bar of public opinion, and the latter will rebuke you by withholding patronage from your enterprise. Yours will be the glory of destroying your college in preference to parting with your personal friends who fail to command the respect of the profession.

In my former communication, I told you that Professor Bramble was without correct moral training. I now and here make the charge against him that he is unfaithful to the medical profession, and his course in the college has been marked by a want of that dignity and honor pecu-

liar to "the pure in heart." His consultations with irregular practitioners, and his *smuggling* through the college an individual who but a few days before his graduation received a diploma from an irregular school, must be regarded as evidences of a weak sense of moral obligation, so weak as to make him unfit to belong to, much less dictate the policy of a medical school.

If you doubt tne correctness of these statements, I am ready to prove them by documents in my possession, and by reference to physicians of high standing.

I have the honor to remain,

Very respectfully,

CHAS. A. LEE REED, M. D.,

Late Prof. of Pathology in Cin. Col. of Med. and Sur'y.

FIDELITY, ILL., *May* 23, 1879.

OBITUARY.

Willis E. Sutton, M. D.

AT the residence of his father, Dr. George Sutton, of Aurora, which had always been his home, Willis E. Sutton, M. D., passed from life into eternity, at 3 o'clock, on Monday morning, February 24, 1879, very unexpectedly, too, to his almost innumerable friends, who, although they knew that disease had attacked him some two years since, yet having seen his ever pleasant face only a few days ago, hardly could believe that so soon the icy hand of death had come to lead him away for ever. But he has gone, and he has left behind him a greater host of friends than scarcely another at his age could claim; for such was the kindliness, the evenness, straightforwardness and steadfastness of his character, that whoever knew him loved him, and no one ever spoke ill of him.

Dr. Willis E. Sutton was born in Aurora, Indiana, June 2, 1848, and died at the residence of his father in Aurora, February 24, 1879. During the first year of his life he was a strong and healthy child, but in the spring of 1849, cholera, which was prevailing as an epidemic at different places along the valleys of the Ohio and Mississippi Rivers, made its appearance on the 19th of May in Aurora. The disease soon assumed its most malignant form, confined, however, to a small portion of the town.

On the 12th of June, a brother of Willis, in the fifth year of his age, was suddenly attacked with the epidemic and died after only a few hours' illness. On the 20th, Willis was attacked. He sank into collapse, his skin became purple, he was cold and shivelled, and he was almost pulseless; contrary, however, to the most distant expectations, he gradually, to a certain extent, recovered.

His system was so enfeebled from this attack that he was not sent to school until he was nearly seven years of age. As he grew older he apparently became vigorous. He received a good education, commencing his schooling with the Aurora graded schools, then the Moore's Hill College, and afterward he was sent to Wabash College, at Crawfordsville. In 1869 he commenced the study of medicine under the tuition of his father. He attended medical lectures at Cincinnati and graduated at the Medical College of Ohio in 1872. The following winter he attended lectures at Jefferson Medical College; he also attended the hospitals at Philadelphia. On his return he commenced the practice of his profession, and soon became popular and successful as a physician. He was an enthusiastic lover of his profession, and conscientious in the discharge of its duties, attending the sick with that spirit of kindness and interest so manifest in his character. He was a good microscopist, and, under the direction of his father, was the first to detect trichinæ in the pork raised in Southeastern Indiana. He rendered valuable assistance in investigating the cases of trichinosis that occurred in Aurora in 1874. He was a member of several medical societies: The Dearborn County Medical Society, the Indiana State Medical Society, and the American Medical Association. In the spring of 1877 he made a trip to Memphis for the benefit of his health. While at Evansville, on his way home, he was caught in a storm of rain and got wet. That night while on the boat he was seized with a chill, followed by an attack of pneumonia. Not being able to treat his case properly while on the boat, the disease assumed alarming symptoms by the time he reached Aurora—his left lung becoming consolidated. During the summer he went to Minnesota, where he remained some time. His health was to some extent improved. In the fall of 1877 he went to Florida, reaching Jacksonville just at the time yellow fever had made its appearance and was creating a

panic among the inhabitants of that city. He wrote a letter on the subject, which was published in the *Independent.*

He remained in Florida until spring, when he returned, his health being but little improved. During the early part of this winter he visited Texas, and, after remaining at Austin about a month, he found the climate did not agree with him, and returned to his home.

The Dearborn County Medical Society and others of which he was a member, passed resolutions expressing great sorrow in consequence of his demise.

Book Notices.

Diseases of the Throat and Nasal Passages. A Guide to the Diagnosis and Treatment of Affections of the Pharynx, Œsophagus, Trachea, Larynx, and Nares. By J. Solis Cohen, M. D., Lecturer on Laryngoscopy and Diseases of the Throat and Chest in Jefferson Medical College, etc., etc. Second Edition. Revised and Amended. With 208 Illustrations. 8vo. Pp. 742. New York: Wm. Wood & Co. Cincinnati: R. Clarke & Co. Price, $5.50.

This work, a very thorough and complete one on the subjects of which it treats, is a work much needed. Diseases of the throat and nasal passages, of the pharynx, œsophagus, trachea, larynx, and nares are diseases which, from various causes, are very prevalent in this country, and physicians, therefore, are very frequently called upon to treat them. In consequence of their frequency, and the incompetency of not a few regular physicians to treat them, very many of the cases fall into the hands of advertising quacks and irregulars, who profess to make the treatment of them a specialty. Scarcely a newspaper can be taken in hand in which there is not the displayed advertisement of some Dr. Hunter, or Jones, or Aborn, or Smith, professing to be just from the hospitals of London, France, and Berlin, setting forth the great success that follows upon his treatment of these affections—curing cases after all the noted "allopathic" physicians of the principal cities had failed. The cause of the failure, oftentimes, by regular physicians in the treatment of diseases of the upper air passages, is due to the fact that

these maladies require given them some special attention for their proper management. This the ordinary physician has seldom done. His attention is mostly taken up with those diseases that make up a large part of his practice, as typhoid fever, acute rheumatism, obstetrics, etc., and he knows scarcely anything about the peculiar features of affections of the throat, larynx, nasal passages, etc. When, therefore, a case comes to him for treatment, he prescribes a gargle or wash, or touches the inflamed part with nitrate of silver, and if a cure does not follow, he can do no more, for his means have become exhausted.

The work of Dr. Cohen is one that will afford the general practitioner a very satisfactory knowledge of all that is peculiar in the pathology and therapeuties of the affections of the upper air passages. The information is the very latest, and is abreast of the most recent progress. The physician who adds it to his library, and will take the time to give it attentive perusal, will become far better qualified to treat a certain class of diseases than he is now. He will not only "put money in his purse"—many hundred dollars very probably—which otherwise he would not have been able to do, but he will obtain for himself "honor and glory," and add credit to his profession. We consider that when a regular physician, by undoubted knowledge and skill, has cured a case which, on his failing to do, would have fallen into the hands of a boasting charlatan, he has rendered a service and done an honor to his profession.

We hope the second edition of this work will meet with the same appreciation as did the first.

A Guide to the Qualitative and Quantitative Analysis of the Urine Designed for Physicians, Chemists, and Pharmacists. By Dr. C. Neubauer, Professor at Wiesbaden, and Dr. J. Vogel, Professor in the University at Halle. With a Preface by Professor Dr. R. Fresenius. Translated from the seventh enlarged and revised German Edition, by Elbridge G. Cutler, M. D., Pathologist at the Boston City Hospital, etc. Revised by Edward S. Wood, M. D., Professor of Chemistry in the Medical School of Harvard University. 8vo. Pp. 551. New York: William Wood & Co. Cincinnati: R. Clarke & Co. Price, $6.00.

This work beyond doubt is the most complete and reliable work upon analysis of the urine extant. It is the leading work in Germany, where it has passed through seven editions, upon the subject of which it treats, and now, translated into English, it will take the same position in this country and Great Britain. By it analysis of urine, and the physiological and pathological indications demonstrated thereby, are almost made into a separate science, instead of only forming a department of medical chemistry. The general practitioner of medicine, on examining this work, will find that, while his ordinary knowledge of chemistry and urinary pathology are good so far as they extend, yet that they admit him but on the threshold of uroscopy. He will be surprised at the extent to which the subject has been cultivated and made available in the study and treatment of disease. None but those capable of the closest study, possessing the critical mind, and having the analytical powers characteristic of the German, could produce such a work.

The scope of this work is far more than the teaching of the methods required to obtain a knowledge of the chemical composition of the urine. It explains the inferences to be drawn in regard to the condition of the patient from the character of the urine; what are the changes going on in the body of the patient; whether there is wasting of the tissues; whether digestion and assimilation, either or both, are being imperfectly performed or not, etc., etc.

The work is divided into two parts. The first by Dr. Neubauer is strictly chemical; the second by Dr. Vogel is chiefly medical.

Dr. Neubauer divides his part into three divisions, and summarizes their contents as follows:

I. Division—
1. Physical and chemical properties of normal urine.
2. Normal constituents.
   a. Organic.
   b. Inorganic.
3. Abnormal constituents.
4. Sediments.
5. Accidental constituents.

II. Division—
Quantitative estimation of the various organic and inorganic constituents.

III. Division—
1. Practical guide to qualitative analysis.
2. Recognition of sediments under the microscope.

3. Practical guide to quantitative analysis.
4. Practical guide to the approximate quantitative estimation. Analytical notes.

The following is a summary of the entire contents:

I. Division—
1. Physical and chemical properties of normal urine.
2. Normal constituents.
   a. Organic.
   b. Inorganic.
3. Abnormal constituents.
4. Sediments.
5. Accidental constituents.

II. Division—
Quantitative estimation of the various organic and inorganic constituents.

Dr. Julius Vogel, the author of the second part, which treats of the semiology of urine, or the estimation and significance of the changes of this fluid, makes two principal divisions and several subdivisions as follows:

I. Division—
Qualitative changes of the urine, including the sediment.
   a. Changes in color, appearance, and odor of urine.
   b. The chemical reaction of the urine and its significance.
   c. The occurrence of unusual or abnormal constituents in the urine.
   d. Urinary sediments.

II. Division—
Quantitative changes of the urine; the increase and diminution of the normal constituents.
   a. Quantitative changes of the urine which can be determined without chemical analysis, and which, on account of their easy detection, are especially important to the physician.
   b. Quantitative changes which require a quantitative chemical analysis for their demonstration.

Every scientific physician who wishes to study all cases of disease scientifically that falls under his care will procure this work. One who observes all phenomena closely, scrutinizes the relations of morbid processes with each other, and is able to rapidly dispose of obscurities by the clear indications which he is always able to discover, would not do without it.

The Messrs. Wood & Co. have gotten the work up in good style. It is printed on beautiful double-sized and callendered paper, in excellent type. There are numerous fine wood-cuts, and some four or five well-executed plates.

Elements of Modern Chemistry. By Adolphe Wurtz, Honorary Dean and Professor of Chemistry of the Faculty

of Medicine of Paris, etc. Translated and Edited, with the approbation of the Author, from the Fourth French Edition. By Wm. H. Greene, M. D., formerly Demonstrator of Chemistry in Jefferson Medical College, etc. With 132 Illustrations. 12mo. Pp. 687. Philadelphia: J. B. Lippincott & Co. Cincinnati: R. Clarke & Co. 1879. Price, $2.50.

The author in the preface to the American edition, after commending the accuracy of the translation of his work into English, says: "It has been the endeavor to keep it up with the current of the latest discoveries, and in it to condense a considerable number of exact and well-selected facts, without banishing the theory which binds them together. Thus the origin and foundation of the atomic theory have been given, as far as possible, in historical order. The nations concerning atomicity, so important for the appreciation of the structure of combinations and for the interpretation of chemical reactions, are presented in an elementary form."

It will be observed that the history of the metalloids is relatively more developed than the remainder of the book. As stated, this is indeed the fundamental part of chemistry, and a familiar knowledge of it is indispensable to the fruitful study of the metals and of organic chemistry. It is also the most attractive portion for beginners, for it is the most easily understood.

Mr. Wurtz has justly won the reputation of being the most able thinker and perspicuous teacher of France. He is the acknowledged leader of modern chemical philosophy, and his labors have firmly established many of the views which long remained unaccepted by the majority of chemists, but which are now regarded as essential to the science.

Such a work as this can not help but become popular in the medical and scientific schools of this country. The lovers of the study of chemistry will be delighted with it. While it elucidates every subject so plainly that the intelligent student can master its teachings without assistance, yet it is by no means a superficial work, but will lead the student to a profound knowledge of chemistry.

The publishers have gotten out the work in handsome style. The paper is of the best quality, the type is clear

and beautiful, and the wood-cuts are excellent. They are not such as have been used to illustrate a half dozen other works.

EDITORIAL.

DELAY.—The June issue of the NEWS has been considerably delayed in consequence of the editor having been compelled to be absent from home for some three weeks. For a number of months the journal has been gotten out somewhat late for a number of causes—principal among them was a family bereavement. It is the intention, hereafter, to hurry and catch up, so as to issue the NEWS promptly on the first of the month of its date.

PAY UP.—We desire to say to subscribers who have not yet paid their subscriptions, that they should endeavor to do so without further waiting. A medical journal can not be issued without cost, and we have the printer to pay whether we are paid or not. It seems strange to us that there should be physicians who make loud complaint of patrons not paying them for their services—who will moralize by the hour of the dishonesty and ingratitude of not compensating them, and yet they themselves will neglect to pay for their medical journal.

HONORS.—At the last meeting of the American Laryngological Association, B. Tauber, M. D., was elected a Fellow of the Association.

At a recent commencement of St. Mary's College, Maryland, Roberts Bartholow, M. D., had conferred upon him the Degree of LL. D.

We congratulate these two gentlemen for the honors thus bestowed upon them. However, they have only received a deserved acknowledgment of their well-known merits.

THE AMERICAN ACADEMY OF MEDICINE.—This association of physicians was organized September, 1876, at Philadelphia, during the sessions of the International Medical Congress, when Traill Green, M. D., LL. D., of Easton, Pa., was elected its first President. Subsequently, meetings

were held in New York (1877), and in Easton, Pa. (1878), at which Frank H. Hamilton, M. D., LL. D., of New York, and Lewis H. Steiner, A. M., M. D., of Frederick, Md., were respectively chosen as Presidents. At these meetings the organization was more thoroughly perfected, and numerous accessions were made to the membership.

The Fellows of the Academy must be Alumni of respectable collegiate institutions, who have received therefrom:

1. The degree of Bachelor of Arts, after a systematic course of study, preparatory and collegiate.

2. The degree of Master of Arts in accordance with the usage of these institutions.

3. The degree of Doctor of Medicine, after a regular course of study, not less than three years, under the direction and instruction of preceptors and professors. They must have also had an experience of three years in the practice of medicine.

Candidates for fellowship must be recommended by at least one Fellow, and be approved by a majority of the Council, after which the consent, by ballot, of two-thirds of the Fellows present will secure their election.

The initiation fee is $5.00, to be paid before initiation and registration.

Blank forms of application for fellowship can be obtained from the Secretary.

The annual meeting for 1879 will be held September 16, in New York.

RICHARD J. DUNGLISON, M. D., *Secretary*,
P. O. Box 2,386, Philadelphia.

THE following extract of an Act of Congress approved June 2, 1879, entitled "An Act to prevent the introduction of contagious or infectious diseases into the United States," is hereby published for the information of all concerned:

* * * * * * * * * *

"SEC. 9. So much of the Act entitled 'An Act to prevent the introduction of contagious or infectious diseases into the United States,' approved April 29, 1878, as requires consular officers or other representatives of the United States at foreign ports to report the sanitary condition of and the departure of vessels from such ports to the Supervising Surgeon-General of the Marine-Hospital Service; and so much of said Act as requires the Surgeon-General

of the Marine-Hospital Service to frame rules and regulations, and to execute said Act, and to give notice to Federal and State officers of the approach of infected vessels, and furnish said officers with weekly abstracts of consular sanitary reports, and all other acts and parts of acts inconsistent with the provisions of this Act, be, and the same are hereby, repealed."

By direction of the Secretary of the Treasury:

J. B. HAMILTON, *Surgeon-General.*
United States Marine-Hospital Service.

A New Electric Apparatus.—We have seen the reports of electrical experts, and had the opportunity of examining for ourselves the Volta Electric Belt, manufactured by the Volta Belt Company, of Chicago. This belt is virtually a galvanic battery, yielding a steady current of electricity of known power, which can be regulated at will, and either diffused through the body generally, or concentrated at one or two points, by means of the conductors and electrodes attached to the belt. No neater, more portable, or more reliable apparatus can be devised for communicating continuous electric currents to the human body; and it will be found unrivaled as a means of applying constant electric action in that large class of nervous and functional disorders in which the tonic and electrolytic action of electricity is indicated, for the purpose of assisting the nutritive processes of assimilation and disassimilation of digestion, absorption and secretion.

College Announcement.—We have received the Announcement of the *Cincinnati College of Medicine and Surgery*, for the year 1879–80. We find it stated that Professor Walton's, of the Chair of Practice, "*literary attainments* have been recognized abroad by his election as *Associate Member of the Societe Francais D'Hygiene*," which society is probably not inferior in standing to any similar society in this country. But nothing is said in regard to the *literary production* by the occupant of the Chair of Surgery on Chloral, read before the Ohio State Medical Society. Nor is there any pointing with pride to the expert testimony by the same individual in a murder trial in which insanity was set up in defense of the criminal. Such invidious distinctions by those who got out the Announcement should be rebuked by the Board

of Trustees. The chloral paper and the expert testimony, as published, speak for themselves, and exhibit the author's remarkable literary and scientific attainments, and surely should have been alluded to in the Announcement.

In the requirements it is said that "certificates of preceptorship from Eclectic, Homeopathic or other so-called 'irregular' practitioners, will not be received." But Prof. C. L. A. Reed does not hesitate to charge, in a letter printed in this number of the MEDICAL NEWS, that the Dean has admitted to the class of the candidates for graduation individuals, who, but a few days before, had graduated at some of the so-called irregular schools.

Professor R. C. S. Reed is very properly complimented for his seventeen years' service in the College, but the fact is concealed that he resigned his position for the reason that he could have no confidence that the present Board of Trustees would take any steps to reform the great abuses existing in the school. There was every reason to believe that the illiteracy and incapacity that marked the occupants of some of the chairs would continue.

We have some MSS. of the *Gynæcologist*, which are pleasant to read in consequence of the *hilarious* manner in which the words are spelled, and grammar and rhetoric made use of.

MILK OF MAGNESIA.—This is the time of the year when physicians are called upon to treat summer complaints of children, infantile diarrhea, and disorders generally of the alimentary canal of the young and adults. In the treatment of these affections, especially in cases of children, antacids are much used. Prominent among them is magnesia. So much is this prescribed, that many families have come to keep it in the house, and to exhibit it themselves without the advice of their physician. But an objection to the calcined magnesia is the risk of its forming concretions in the bowels, and producing distressing symptoms. To meet these difficulties, fluid magnesias have been introduced, using carbonic acid as a solvent. But such preparations are not *fluid magnesias*, but simply solutions of super-carbonate of magnesia. Large doses of them are required even for infants, and

they often produce disagreeable distention of the stomach from the escape of carbonic acid gas.

When in New York recently, we were shown by Mr. C. H. Phillips a preparation of magnesia made by him, By a series of patient experiments most creditable to him. he has succeeded in making a pure hydrate of magnesia, a form which is the most readily soluble and most surely to act upon any acids that may be in the stomach or any portion of the *primæ viæ*. All who know anything about chemistry, know that a hydrate of an agent will enter into chemical combination when the agent itself, or any oxide or salt of it will not. Take, for instance, iron; neither it itself, nor any form of it will enter into chemical combination with arsenic, and so act as an antidote, but the hydrate. Thus, throughout the series of chemical agents, the hydrate is the form which most readily enters into combination.

Mr. Phillips calls his preparation "Milk of Magnesia," from its peculiar appearance, but it is nothing more than a pure hydrate of magnesia with pure water. From its liquid form, and being free from carbonic acid, it can be safely used when other preparations of magnesia can not be. It may be prescribed in all cases in which an antacid is indicated, being much superior as such to any other form of magnesia, or the bi-carbonate soda and potassa. Being very concentrated, the quantity required for a dose is quite small. In using it in our own case, we were pleased with its neutralizing effects without having to suffer the distension inseparable from the liberation of carbonic acid gas which follows upon taking bi-carb. soda. We believe a physician who has witnessed its beneficial results in cases in which alkali is indicated, will always give it the preference.

Although Mr. Phillips' advertisement is to be found in our advertising pages, yet we have not written what we have as a *puff*, but to make our readers acquainted with a new and really very valuable therapeutic agent. Mr. P. takes much interest in chemistry, and we believe a visit to him in his laboratory will convince any one that he is above devising any mere catch-penny preparation. Besides his preparation of magnesia, he prepares cod-liver oil in a way as to be mixible in water in all proportions, thus making it pleasant to take, agreeing with delicate

stomachs, and at the same time losing none of its properties. But we will speak of this quite valuable preparation at another time.

Letter of Dr. C. L. A. Reed.—In this issue we publish a second letter of Dr. Reed to the Trustees of the *Cincinnati College of Medicine and Surgery*. Some persons not acquainted with Dr. Reed, and with the Trustees of the College, will probably be disposed to think that the Doctor has a petty personal spite against the Trustees, and, to avenge it, is desirous of injuring the College. We can assure them that such is not the case. The Doctor is a graduate of the College, and has done a great deal of work for it. His father, who is in active sympathy with him, and who recently resigned his position in the school, held a chair in it for seventeen years, giving it the arduous labor of the best part of his life. Under such circumstances it is out of the question to suppose that he has now become an enemy of it. If we thought for a moment that he was impelled by any motive of destroying the institution, his communications would not be given space in the Medical News. We ourself have expended too much hard work in building up the College, to wish to see it destroyed. It owes its existence to the hard toil of Professor Reed and ourself. What is wished for by Dr. C. A. L. Reed and his friends, is that the school may not go down—that it may be rescued from those who will destroy it. No school can succeed when gross illiteracy and pretension occupy the principal chairs. In a previous number of this journal there was exposed the humiliating illiteracy and ignorance of the big overgrown boy, a short time ago a huckster in the streets of Cincinnati, who fills the chair of Surgery, not by making an unsupported assertion of it, but by having him show it up himself by publishing a portion of his paper read before the State Medical Society. Previous to extracts from it appearing in the News, extracts had been printed in the *Clinic*, of this city, and held up to the contemptuous gaze of the profession. Also, soon after it was read before the State Society, the *Daily Times* quoted from it to prove the want of a common-school education with very many of the members of the medical profession. Here was a physician, a member of one of the principal medical societies of the country, reading a paper before

that organization that as a literary production would disgrace a school-boy ten years old. Of course, the *Times* did not understand that the Society does not have any literary or scientific qualifications for membership, but admits all applicants by a majority vote, against whom no charges have been sustained of quackery.

It is a well-known fact that idiots and insane people not unfrequently display remarkable cunning. Though too destitute of intellect to take care of themselves, and, therefore, under the necessity of having guardians over them, yet they will be possessed of a shrewdness that will enable them to encompass their purposes, especially if those who are over them should be off their guard. In like manner notoriously ignorant and incompetent persons, unrestrained by principle, will get themselves into positions by overreaching to which they have no right, and which they are entirely unfit to fill.

It will seem improbable to many that the Board of Trustees of the College would continue in the Faculty such individuals as are described by Dr. Reed; but who are some of the Board of Trustees? One is a S. S. Davis, at one time Mayor of Cincinnati, but who, at this time, could not be elected to the office of constable—no, not to a lower office still, if there was a lower one. The people of Cincinnati got enough of him while filling the office to which he had been elected, so that when he was offered a second time as a candidate he was overwhelmingly defeated. A high degree of purity of character is not necessary to hold office in Cincinnati by any means, but those of the type of S. S. Davis can not, after they have once exhibited themselves what they are. The first meeting of the Board of Trustees he attended after his election, he stated that he had accepted the position "*to look after the interests of his friend Aub.*" This Aub is not of the Christian sect, and Mr. D., no doubt, thought that Dr. Aub could wield a large influence among his people on his behalf, but all the good that that gentleman can do for him can be placed on the point of a needle. But if he could he wouldn't, after he had used him. He is not one of those who are troubled by feelings of obligation.

Another Trustee is one G. W. Harper, Principal of a High School, who, last year, was voted out of his place by the Directors of his school, but his friends got the vote

reconsidered through their appeals. He got a watch and chain presented him through Miles. The watch itself has not yet been given, nor will not be, except under certain circumstances. He has confessed to us that the Faculty was disgraced by the gross ignorance and incompetency of a number of those who had gotten into it, and that it would never hold but an inferior position until they were eliminated. But when steps were taken to reorganize the Board of Trustees to that end, he caucused with the Rev. F. S. Hoyt to have the nominees that had been agreed upon in open Board thrown aside and others secretly substituted. And Hoyt assented to it; yes, agreed to go back on his word, on his friends, and on the interests of the school. If it be assented that such an individual is a man of piety, can it be said that he is a gentleman? Would he receive recognition among cultivated gentlemen of the world?

And what shall be said of another clerical gentleman, the Rev. C. W. Ketcham, who positively promised, as a member of a committee to investigate the qualifications of Aub for a position in the Faculty, that an opportunity should be had to appear before the Committee and demonstrate A.'s intellectual and moral disqualifications, but not only did not keep his word, but voted for his election right in the face of evidence produced before the Faculty, that Aub had made false charges against a member of the Faculty in a Faculty meeting, in which he had intruded himself. As regards the Rev. K.'s piety as with that of the Rev. Dr. Hoyt's, we have nothing to say. We know, however, how such conduct as theirs is regarded among gentlemen.

As shown by Dr. Reed, there are those among the Board of Trustees who are keeping in their place in the Faculty, men whom they know are grossly incompetent; who are objects of ridicule in the profession, and who, more than once, have been held up in medical journals and newspapers to public contempt.

We have not space nor time to say more now. We will recur to the subject at another time.

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CINCINNATI MEDICAL NEWS.

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ORIGINAL CONTRIBUTIONS.

Some of the Wounds I Met with During the Late War, and a Battle Scene from a Surgeon's Point of View.

A PAPER READ BEFORE THE "MCDOWELL MEDICAL SOCIETY" OF CUMMINSVILLE, JULY 10, 1879, BY CONRAD SOELLHEIM, AND RECOMMENDED BY THE SOCIETY TO BE PUBLISHED.

Gentlemen of the Society: At the close of our last meeting, I promised to submit to your consideration a short thesis for to-night, and choose for my subject—"Some of the Wounds I met with during the Late War.

I choose this subject because it is familiar to me, and because my mind did not fall on anything better right away. Again, until now, the various subjects submitted for the consideration of the Society were all of the medical branch; and so I thought a change for once to a surgical subject might prove acceptable. Moreover, I thought a battle scene, from a surgeon's point of view, would, perhaps, prove new to all of you gentlemen, with the exception of colleague Haight, who, I know, went through the mill himself.

When, at our last meeting, I announced this subject, I thought myself still in possession of original notes, taken at the bedsides of the respective wounded soldiers, and constituting, indeed, a very minute description of a number of peculiar wounds, together with their operations, treatment, and results, and which I would have much liked to submit, at the same time, to your inspection. These notes, however, I have mislaid, and a careful and extensive search for them was of no avail—so I had to rely entirely upon my memory in the description of the following cases

of wounds, which, although some fifteen years have since past, is as yet pretty clear as to the important points of them.

I shall only recite some of the wounds I met in the battles of Chickamauga and Missionary Ridge. I was then already serving on Gen. Van Deveer's staff as Brigade Surgeon, and as such was no longer ordered out to the front; but, instead, and as soon as the command moved to an engagement, assigned some accessible buildings for a Brigade Field Hospital. (See G. Order.)

At the two days' battle of Chickamauga, on September 19th and 20th, 1863, which was fought about ten miles south of Chattanooga, my Field Hospital was located in a hamlet, about six miles south of Chattanooga—this latter city being the base of operations for the army—and consisted of a church, a store-house, and a large cooper-shop. Immediately the floors were cleared of benches, counters, and other *debris*, and a thick layer of straw was put on them.

My brigade moved into the terrible conflict at about nine o'clock A. M., and about one hour later the wounded came pouring in in vast numbers—ambulance trains going back and forth as fast as possible, loaded down on their way to the hospital with groaning and mangled humanity. All day the battle raged, and it was dark night when the last wounded were brought in. By this time every space, nook, and corner (even the passage-ways) were filled with the wounded. Besides these, were a number of severely wounded, whom the surgeons in front would probably have done better to leave on the spot where they fell, and permitted them to die in peace, because they were unconscious and not likely to live over night—all brain wounds. These were left remaining on stretchers in the yards.

All night every surgeon available was hard at work, cutting out and extracting bullets and pieces of clothing —often carried along by the bullets into the wound canals —and putting on some temporary dressings.

It was an awful scene, and confusion reigned supreme! While many of the wounded hallooed at the top of their voices for the doctor to attend to them first, some of the severely wounded, with shattered bones, would beg loud and persistently to be put to death, so as to end their agony of pain. Others, shot through the bowels, or through the ungs, were seen to breathe laboriously, with shrunken

features, sinking fast, and their last hour of life evidently close at hand.

It was not until next morning about eight o'clock that we commenced amputating. But we did not get far on with capital operations. The second day's battle proved very disastrous to the Union army. Already at nine o'clock we were astonished at a fearful cannonade, which opened only about one mile south of our hospital, and the shells flying over and around us in vast numbers, striking in every direction, and causing considerable terror among the wounded and the nurses. One-half hour later an orderly came galloping up, handing me an order from the Medical Director, to the effect that the hospital be evacuated with all possible speed. It further said that the ambulance train would arrive right away, and that all transportable wounded should be carried to Rossville, two miles farther north; all the slightly wounded should be directed to immediately take up their walk toward Chattanooga; I should detail one surgeon and the necessary number of nurses for the wounded that could not bear transportation, and therefore had to be left behind. As I was at the time busy with amputating a hand, I gave the necessary instructions to the Hospital Stewart of my regiment—the Ninth Ohio—for promulgation.

But nearly all arrangements proved futile. The road right outside was already jammed with the disorganized and panic-stricken military, with fugitive cannons, ammunition, and provision wagons, with their maneuvering, wild in the effort to get them out of the reach of the enemy. Just as the ambulance train arrived, a rebel battery commenced playing directly upon the frightened humanity in the road, and tore man and beast, and everything else, to pieces! The ambulances being light-footed, and not taking time to take a single wounded on board, they were the very first ones to escape across the fields.

All the wounded at this time became perfectly terrified with the situation, except the one I had before me under the influence of chloroform—because already then it meant something horrible to be taken South as a prisoner. All who could move a step would rise from their beds of straw and try to escape northward. Presently my hostler, leading my two horses, appeared at the entry of the hospital tent, crying out: "Doctor, make haste; don't you see the rebel infantry down there approaching already in

columns?" Quickly dressing the stump of my patient, I stepped out and mounted the horse, and managed to escape through the fields. I was dressed very light for the big day's work, as we all had anticipated it would be—with light slippers on and a thin blouse. Surgical instruments, medicines, blankets, clothing, the hospital wagon, and, in fact, everything else was left to the enemy.

As I passed along, a most pitiful sight presented itself! The fields, to the extent of more than one-half mile on either side of the road, were strewn with miserable humanity. Many severely wounded managed to get along—some even with a bullet through a foot and with shattered bones. They would help themselves along by means of an improvised crutch—such as a stick or a piece of board. Some would crawl along on three, or all fours, exerting themselves to the utmost to get a few rods farther North; while others were already entirely unable to drag themselves one step farther on, and they had laid down to die or to be taken prisoners. Would their wounds, if taken prisoners, be cared for by the rebel doctors? Not much! as it proved afterward. Because, first, the battle was still raging all afternoon and until sunset, as the gallant Gen. Thomas, with his brave Fourteenth Army Corps—to which I am proud to say my regiment, the Ninth Ohio, belonged—still defied the approaching rebel lines, and only the dark night closed the carnage of death. Then, again, the enemy had too many wounded themselves; for which, of course, they would care for first. Two months later, when the rebel army was hurled back in the glorious battle of Missionary Ridge, and when the battle-field of Chickamauga came again into our possession, it was found that none of our dead had been buried, and that probably many hundreds of our wounded—especially those of the second day's battle, because they could not be collected by us—had died on the spot where they were wounded, for want of surgical attention and of something to eat or drink. For weeks, regiment after regiment was commanded out to that battle-field, to bury our dead, who were, of course, already in an advanced state of decomposition. Even the forty odd of our surgeons, who were captured in that great battle, could do but very little for our wounded within the enemy's lines, which we had already collected into the Field Hospital; because in most cases the rebel surgeons had taken our instruments, and the last dose of med-

icine, and blankets, and hospital stores. Even the private property of our surgeons was not respected, and they were robbed by the Southern soldiers of their blankets, overcoats, watches, moneys, and in some cases even of their pocket-knives.

Yes, war is cruel at any rate, even when you win the battle, and can glorify in the achievement of your arms and your valor, and all necessary appliances close at hand to attend to your many wounded; but it becomes indescribably horrible when you lose the battle, and have to look on the disorganized and panic-striken soldiery, and at the loss of limb, and life, and property! And then, the fate of the prisoners! and how the hearts of the relatives and friends in the far-off home ache at the thought of the uncertain fate of their soldier-boys in the hands of the enemy!

I, and many of my colleagues, lamented the loss of that great battle mostly on account of the glorious opportunity for the great number of capital operations, and of which we were thereby deprived. How much good we could otherwise have done to our wounded and dying comrades, who were just then in such great need of us! how many lives we could have saved! how much suffering spared! how many cases prevented from becoming cripples! how, for once, we could have risen to our full importance and great usefulness and dignity! Now, all was lost!

Now, my fellow-colleagues, you will presently remark, that I don't come down to the work I had promised for this evening; that is, to the description of some of the peculiar wounds of the late war. But only one more moment's indulgence, I beg you, and I hope to be right there where you want me.

Two days after that great battle, the army of the Cumberland had completed its retreat to, and immediately around, Chattanooga, and that whole city was transformed into a hospital.

From the description above, it is evident to you, gentlemen, that the greatest part of our wounded in the hands of the enemy were of the severely wounded class, and the subsistence and care of them, bad as it was, proved to be quite an incumbrance to the enemy. So the rebel General Bragg sent notice to General Rosecrans that he could not readily provide for our wounded, and that he was ready to parole them.

Now, our army was living on very small potatoes already, or rather no potatoes at all; in fact, only on one-half ration of hard tack and bacon, because the enemy surrounded us nearly on all sides, and all our railroad and water communications cut off. On account of all these conditions, the additional wounded would certainly prove an immense burden on us. Moreover, it would take quite a number of our able-bodied men out of our decimated army to nurse those additional wounded, and at a time when the last man was badly needed in the ranks and for the building of breastworks and fortifications. The rebel general knew all these very well, and he calculated on this; but his offer was, nevertheless, promptly accepted. Day after day all our ambulances now moved out toward the enemy's line, where the rebels took charge of them. Our drivers were commanded to stand back, and they waited patiently for hours until their ambulances approached again, loaded down with our unfortunate comrades. Now, our men would take charge of them, and slowly and carefully drive them to Chattanooga.

With pain we now learned that a number of our officers and men had already died of their wounds, whose lives very likely could have been saved by a timely operation or other judicious treatment. Many wounds were in a gangrenous condition, so that a day or two after gangrene wards were set apart.

Here, again, I find my battle scene is becoming too tedious. But perhaps it may not be regretted by my fellow-colleagues assembled here this evening, and may serve you as a faint hint in military practice, since you are all, with only one exception, young in life yet, and may one time be called upon in such an emergency. May a kind Providence keep from us such an emergency; but he has not done so a good many times.

Now, this battle gave me the opportunity to observe the progress of many gun-shot fractures of the femur, for but very few cases a resection or an amputation had been resorted to, as we had to leave our wounded too soon. Without a single exception, as to my knowledge and as to that of many of my colleagues then in the field with me, all these cases died a most painful death, and this after weeks and in many cases after months of excruciating suffering. In such, a fracture of the thigh,

on account of the subsequent handling and transportation, the inflammation necessarily runs very high, the long muscles contracting more and more, and the splinters and sharp edges of the bones burying deeper and deeper into the flesh, and, of course, causing extensive sloughing and suppuration, and finally complete exhaustion and death.

To prevent such a fearful prognosis of these wounds, what should have been done? Most assuredly nothing less than the resorting to a resection or an amputation.

Another class of wounds, accompanied likewise with extreme suffering, and just as fatal in their result, were the gun-shot wounds of the knee-joints. Some of these wounds looked at first to be very trifling, and not a moment's reflection with regard to amputation was entertained. Of course a musket-ball can not enter the knee-joint and make its exit, however short and superficial the wound canal may appear, without severely grazing the bone. Not one of these cases recovered! High inflammation and profuse suppuration would soon set in, and, after some weeks, from twenty to forty ounces of pus would be discharged every twenty-four hours. Of course such a large joint—the largest in the body—with its extensive synovial membrane, forms a favorable point for inflammation, suppuration, and caries. In no other wounds did suppuration attain such a vast extent; and this immense drain of the system would go on for two to three months and over, until, and even in the strongest subjects, emaciation to a mere skeleton was brought about, and the patient died from extreme exhaustion.

Now, again, it must be inquired: What should have been done for this class of wounds to prevent such awful suffering and such fatal results? The answer seems easy enough, and is expressed in one word, viz: amputation; amputation at the outset and without a moment's hesitation!

It is, however, to be taken into account, as already remarked above, that the army suffered greatly from want of provisions, clothing, bedding, and every kind of hospital goods, and this is no small degree aggravated the already bad condition of the wounded.

But again, the average surgeon during the first two years of the war was not up to such an emergency. He would lay off such capital operations, and would express

a wish to save the bone or the limb. And he would look on only for a few days, or a week or two, and see how the case developed, as there was also such a thing as a secondary amputation. In most cases of wounds to the bones, the examination lacked thoroughness, because too painful, and the efforts to take out the splinters were few and mild; better wait a little, as there was such a thing as of loosening of the same by the subsequent suppuration.

Experience makes wise, is an old proverb; and so with the army surgeon; by and by he improved, and in the third year of the war we had an efficient medical staff.

A wise order to the army surgeon emanated from the Surgeon-General's Department, about the time of the battle of Missionary Ridge. Why it was not issued before I do not know, and it is to be much regretted that it did not make its appearance already at the outset of the war. This order made it the duty of the surgeon, that in all cases of wounds to the bones, the wounded soldier was to be put under the influence of chloroform without any delay, to the end that a careful exploration of the injuries may be had, clean the wound of splinters, and, if found necessary, to resect or to amputate right away. It also was argued in the same order, that any wound, where a bone was involved, was too painful for a satisfactory examination, without the use of anæsthetics. I ever afterward proclaimed that that was a wise order, and, late as it appeared, still saved many limbs and lives.

Just about this time the great era of resections was inaugurated, and with the most gratifying results. At the time of the battle of Lookout Mountain and Missionary Ridge, November 24 and 25, 1863, I was assigned to duty in Division Hospital, situated in Chattanooga, and consisting of two large three-story brick buildings, near the Tennessee River. Gun-shot fractures of the femur, if the soft parts were not too extensively torn and the femoral artery intact, were now treated with resection. Usually, and without much regard to the entrance of wound or exit, an incision on the outside, where the bone lies most superficial, of four to six inches long, was made, the muscles more shoved than cut apart, the splinters of bone taken out cleanly, the thigh bent considerably, and the fractured ends of the bone pushed out and sawed off smoothly. These cases got along well, and with the ex-

ception of the shortening of from four to five inches a tolerably useful limb was preserved. Many were the resections of the head of the humerus or a part of its shaft, parts of the ulna and radius, tibia and fibula, with generally very satisfactory results.

For wounds in the knee-joint, amputation was resorted to without hesitation. But in a great number of cases, amputation of the thigh, especially when as far up or above the junction of the upper and middle third, proved at that time very fatal. The cause of these bad results we ascribed mostly to the very reduced condition our soldiers were in at that time, they having, as already hinted above, since the battle of Chickamauga, gone through almost a famine, as also through extreme exposures and fatigues. Clothing and blankets were very scarce, as they had nearly all been lost at the battle of Chickamauga, and, with our broken communications, could not possibly be replenished. Under these unfavorable conditions, we used to consider that an amputation of the thigh produced too large a wound, too large for the constitution to repair.

To my regret I find that my description has been drawn out too long, and that it would be trying your indulgence too much were I yet to describe the special cases of wounds which I had in view for this evening. I therefore desist, and will conclude my paper by relating only one of these special cases. This was a soldier from the 38th Ohio Infantry. He was wounded in the battle of Missionary Ridge, a gun-shot ball piercing his knee-joint right through the middle, and from side to side. The surgeon from that regiment, Dr. Haller, concluded that this was a proper case for resection of the knee joint. It was immediately executed by laying the joint open just in front of the articulation, making one transverse cut right across and nearly half around the joint. The articular surfaces of both the femur and the tibia were sawed off to the thickness of one inch. For six weeks right along this case was doing remarkably well, the outer wounds had all nicely cicatrized, except two or three very small openings, which still kept on discharging a small quantity of good pus. The patient had for weeks a good appetite and rapidly gained in flesh. He was often sitting up in his bed to read and write letters. He was in the best of spirits, and so hopeful was he of his early recovery,

that he spoke daily of the time when he would receive a leave of absence to go home and see his wife and children.

Just at this time Surgeon-General Barnes, of the United States Army, was on a tour of inspection, and arrived in Chattanooga. Being informed of this case of resection of the knee-joint, and of its doing so exceptionally well, he desired to see it. He was led to the bedside of the patient, and he examined this case with intense interest. Coming back to the office of the hospital, the Surgeon-General remarked, that seemingly the case was doing exceedingly well, but that he could not believe in the ultimate recovery of the patient. So far, he said, there was in the whole army of the United States not one case of resection of the knee-joint on record, the result of which was not fatal. The operation had been performed a number of times in the Eastern army, but invariably with fatal results. The wound, the General continued, is too large a one, and especially are the opposing surfaces too vast in extent as to admit of complete repair. In all cases caries had ensued, and he was sure its appearance would also soon show itself in the case now before us.

And, I regret to report, the General was right. Only about one week later this patient suddenly presented all the symptoms of being attacked with pyemia, the openings in the knee discharging a thin unhealthy fluid. Two days later our heroic patient was dead.

The hospital had some time before been raised to a General Hospital, and myself appointed as surgeon in charge. Months before an order had emanated from the Surgeon-General's Department, which made it the duty of all surgeons in charge of General Hospitals, that in all cases of deaths resulting in consequence of injuries to the bones, the specimens of bones must be exsected, preserved, and nicely packed and sent to the Surgeon-General's Department in Washington City. So in this case I had the whole knee-joint, including the soft parts and to the extent of five inches above and below the point of injury exsected, put in a little keg filled with alcohol, and directed to the Surgeon-General. Before the packing was done, however, I and my assistants satisfied ourselves as to how far the healing process in the internal knee had progressed. To our great astonishment, we found that over the whole of the large surfaces of the bones not the

slightest effort at granulation could be detected. On the contrary, they looked black, and while toward their edges, the cut of the saw looked yet as new as possible, the centers were eaten up by caries to the depth of three-fourth of an inch. It is hardly necessary to state here, that we fully concurred in the opinion of the Surgeon-General, and that the chances for recovery for a fellow with a resected knee-joint are like—0.

Fellow-colleagues, this, the history of one of the peculiar wounds and its subsequent treatment, I met with in the field, and of which quite a number are vividly on my mind yet. With the sincere hope that our McDowell Medical Society may continue to prosper, it would afford me great pleasure to relate to you the history of some more of these wounds at some future meeting. Fellow-colleagues, thanking you heartily for your kind attention, I bid you good-night.

Proceedings of the Biological Society of Paris.

TRANSLATED FROM LE PROGRIS MEDICAL BY R. B. DAVY FOR THE "MEDICAL NEWS."

INJECTIONS INTO THE BLOOD CURRENT.

M. BROWN-SEQUARD made some time ago some experiments on injections into the vessels of pure blood, defibrinated blood and milk. He performed them without inconvenience, defibrinated blood being susceptible of injection into the vessels of very different species of animals. When the blood of a bird was injected into the vessels of one of the mammifera, the globules rapidly disappeared. When milk was injected into the blood current, the milk globules disappeared also very quickly; but M. Malassez found that after such injections there were more white blood globules. Injections of milk have been employed successfully in man by several American physicians, and seem to be innocent. M. Brown-Sequard exhibited a dog in whose vessels he had five months ago injected ninety-two grams of milk in place of ninety-five grams of blood withdrawn. He has repeated this experiment, and thinks that milk can be injected to replace an equal quantity of blood taken away. But when shall one stop? Water thrown into the vessels after a loss of blood only hastens

death. It was in altogether different circumstances that Lorain saved an individual from cholera by injections of warm water as mentioned by Moreau. Brown-Sequard injected the liquid cold, and if it did not provoke a chill, as is usually the case with transfusion, it was because he injected it by the arteries and very slowly, so as to allow the temperature to become equalized.

DANGEROUS USE OF ATROPINE.

M. Galezowski pointed out to the society the danger which could happen to many patients from putting a few drops of solution of atropia into the eye. He cited several observations where children and adults had suffered serious accidents from absorption of very small portions of this substance by wounds in the eye. For instance, he operated on a child for cataract, and in order to prevent iritis, used for two days two or three drops of a collyrium, containing two centigrammes of atropine to ten grams of water. The child was taken with convulsions which ceased as soon as the atropine was discontinued. An old preacher of eighty years, operated upon by the same gentleman for a double cataract, was seized with dizziness, and fainting every time atropine was put in his eyes—the wounds singularly facilitating absorption.

To sum up M. Galezowski's thought that atropine was a very useful but also a very dangerous remedy, and should be handled with the greatest caution. Duboisine, a substitute for atropine, is a little less dangerous because it is not so active, but it is not to be believed, however, that the use of this agent is always harmless.

M. Dumontpallier remarked that it was to be wondered at that the history of atropia should present two epochs. Until 1866 physicians employing atropine by hypodermic injections had never met with any accidents. On the contrary, since 1866, symptoms, such as heat in the throat, vomiting, sudden eruptions on the skin, etc., had become very frequent, so much so in fact that now atropine is not used any more in our hospitals.

M. Laborde was convinced, in a physiological point of view, that atropine introduced into the eye produces its effect much more rapidly than in the subcutaneous cellular tissue, and especially if there is a wound in the conjunctiva. So far as the question submitted by M.

Dumontpallier was concerned, he believed it was necessary to seek the solution in the great or less purity of the article used. At the present day there are very few chemically pure products. He declared, moreover, that terminal convulsions did not constitute a physiological effect of atropia.

DIFFERENTIAL DIAGNOSIS OF PULSATING TUMORS IN THE EPIGASTRIC REGION.

M. Frank related the history of a patient which he had seen with M. Boursier, an interne of the Hotel-Dieu in the service of M. Fauvel. The patient had a pulsating tumor in the epigastric region, and Mr. Frank was able to arrive at the nature of it by the aid of two signs, which are worth noticing.

1. There was an exaggerated retardation of the femoral pulse. This symptom is only observed in thoracic or abdominal aneurism. 2. Compression of the tumor produces a gradually increasing tension of the two femoral arteries, and if the compression is suddenly removed the arterial tension falls again. It is evident that if the tumor were solid and located in the aorta, compression and removal of compression would have produced opposite effects. These phenomena enabled MM. Frank and Boursier to diagnose the tumor in question as an aneurism of the aorta or cœliac axis.

DIFFERENTIATION AS REGARDS THE SEXES.

M. Gaetan Delaunay presented a communication on the differentiation of the sexes. The predominance of the male over the female, which is almost nothing in the inferior species, increases in proportion as we go from the inferior to the superior, and reaches its maximum in the human species. Man is better nourished, more vigorous, and more intelligent than woman.

But this predominance of man is only seen in the superior races. When the size, weight, cranial capacity, weight of brain, etc., are taken into consideration, the European man is more superior to the European woman than the negro is to the negress. According to Dr. Le Bon, the difference between the weight of the brain in man and woman increases in a constant ratio as we ascend the scale of civilization; so that as regards quantity of brain matter, and, consequently, intelligence, woman becomes separated more and more from man. In point of

age the predominance of man is greater in the adult than during youth or old age.

Let us take the weight of the brain for instance. The difference in favor of man which is represented by the number seven from twenty-one to thirty years, increases to eleven from thirty-one to forty years, and then falls to ten from forty-one to fifty, and to eight from fifty-one to sixty. (Broca.) This explains how in our upper classes of society the two sexes, after having joined in the same sports in childhood, become intellectually separated in adult age, and approach again in old age.

As regards constitution, the predominance of man over woman is greater in the large than in the small; in the inhabitants of the cities than in those of the country; and in the inhabitants of Paris than in those of the provinces. While the ordinary Frenchman has a cranial capacity of 150 cubic centimeters more than a Frenchwoman, the Parisian has 221 more than the Parisian woman. (Broca.) With peasants and workmen the man and wife having almost the same faculties have no reason to become separated thus.

It is not at all the same with the intelligent classes of the cities where the two sexes, in consequence of the great superiority of the man having neither the same thoughts, sentiments, nor tastes, can not longer comprehend each other, and become estranged. The predominance of the male over the female is greater in the apparatus of animal life than in that of vegetative life. Certain philosophers, partisans of the doctrine of equality of the two sexes, imagined that if they receive the same instruction it would have the effect of establishing the equality between them. Such is not the case. On the contrary, in the mixed schools where two sexes receive the same education up to fifteen years, it has been observed that after they are twelve years of age the girls can not keep up with the boys.

CONCLUSION.

The predominance of the male being greater in individuals and classes farthest advanced in evolution (superior species and races, adults, the robust, and the apparatus of animal life), is in direct ratio to evolution. Moreover, it is in direct ratio to nutrition, since it increases by functional activity. On the contrary, the equality of the two sexes is in inverse ratio to nutrition and evolution.

A Novel Pathology Advanced of Rabies, and a Novel Mode of Cure.

By R. R. Hopkins, M. D., Sidney, Ohio.

I desire to say a few words through the News in regard to hydrophobia (rabies). Lately, in conversation with a friend at Chetopah, Kansas, on the subject of canine madness, he claimed it could be cured. After the disease has become established, he says, an abscess will be found in the rectum just inside the sphincter. If this is ruptured, and the animal is immersed in cold water three to four times a day for three or four days in succession, and after each immersion well wrapped in warm blankets to bring about quick reaction, it will effect a cure. His manner of rupturing the abscess is to lay the animal on its back, and with assistance bring forward the hind legs. Then, with the thumbs covered well with rubber stalls, produce firm and steady pressure on the sides of the rectum. It will soon bring into view an abscess, sometimes two of them, one on each side of the rectum, which can be lanced with ease. Be careful of any abrasion on the hand or fingers that the matter does not come in contact with them, as it would be dangerous. Distemper of the dog is to be treated in same way, as it is also caused by an abscess in the rectum. Inoculation of any animal from one of these rectal abscesses of either a distempered or rabid dog will produce rabies in it, and can inoculate another animal, producing hydrophobia. My friend claims that *post-mortem* examinations of rabid animals always locate the disease in the rectum; also in the same place in distempered dogs, instead of in the medulla oblongata and in the air passages. He speaks of this as a sympathetic derangement; consequently it must be a poison of the blood with a specific influence on the rectum. Autopsies, and experiments can frequently be made on distempered dogs, as it has a close analogy to rabies, as the facts go to show. If the lesions of the disease are found in the rectum of the lower animals, it is probable they are also in man; and the treatment that cures in one case will probably do so also in the other. I would be much pleased to have the opinion, and also have the benefit of experiments of some of my professional brethren.

SELECTIONS.

Clinical Lecture Delivered at Bellevue Hospital, New York.

BY PROF. AUSTIN FLINT, SR.

Probable Aneurism of the Abdominal Aorta.—GENTLEMEN: The patient before you, whose name is Charles H., is forty-nine years of age. The family history is good, and he has never had syphilis, but has suffered from malarial trouble. He has been accustomed to hard work, and says that he has repeatedly strained himself in his labor. About ten months ago, while working as fireman in an engine room, he became greatly overheated, and then went out into the cool air; as a result of this he got a lame back. Since then he has never been well, and six months ago his sufferings became so great that he was obliged to give up his work. The principal difficulty was pain in the back, and he found that the more quiet he kept the less severe this was. He suffered most when stooping over. At length, as he did not seem to be getting any better, he concluded to come to the hospital, and was admitted here just two months since. Since his admission the pain has become considerably better, and he is now able to lie down, which before he could not do without the greatest discomfort. The pulse is eighty-four and the temperature normal, while the examination of the urine also gives a negative result. He has had some cough, which, however, is not significant, and complains of sharp pains at times in the groin in addition to that in the back. No cardiac murmur can be detected, but on making an examination of the abdomen we find that, while there is no tumor present, there is a pretty strong pulsation in the umbilical region, about seven and a half inches below the ensiform cartilage, and that this is accompanied by a systolic murmur. When I place the stethoscope over this point, most of you, I think, can distinguish the pulsation by the movement of the instrument, but such a phenomenon in this locality, I would have you understand, is by no means uncommon, and by itself is not at all significant.

It has been a question ever since this patient's admission whether he were suffering from aneurism of the

abdominal aorta, or not, and it would be a matter of satisfaction if we were now able to arrive at some definite conclusion in regard to the case. One of the principal points in favor of the diagnosis of aneurism is the locality and nature of the pain from which the patient has so long been suffering, and yet even this is not strictly characteristic of that condition. In a patient over forty-eight years of age the steady persistence of a localized pain in the back for a considerable period of time should always suggest the possibility, at least, of the presence of aortic aneurism, and especially if this pain is of a gnawing character. Here I learn that the pain was at first always in the same spot, which was quite circumscribed in area, but that more recently it has radiated more widely, and has also seemed to shift its position somewhat. In addition, we find that it is now considerably less severe than it was formerly, and on the whole, therefore, we are driven to acknowledge that we can not make much out of this pain that is diagnostic.

Of the other physical signs belonging to aneurism (but, as previously mentioned, by no means confined to that condition alone) we have a distinct epigastric pulsation, which is not only evident to the touch, but also visible. It is stated in the notes which have been taken of the case that, in addition, there is a thrill at the point of pulsation, but I must confess that, personally, I have not as yet been able to make this out. If there were a tumor in this locality, the diagnosis would probably lie between the following three things, aneurism, cancer, or enlarged left lobe of the liver; but in the present instance no tumor whatever can be detected. If there were a tumor present, there might be a strong pulsation, whether the condition were aneurism or cancer, and in order to make the differential diagnosis, therefore, something further would be necessary. If, then, on examination, we found that the pulsation was lateral as well as forward, it would point strongly to aneurism, since this is not the case with cancerous and other tumors. In certain cases of abdominal tumors, also, we are able to grasp the mass and raise it to some extent, when it will be found that the impulse before noted is lost on account of its separation from the aorta. This of course shows definitely that the tumor can not be an aneurism.

So much for the palpation of tumors in this region.

When we come to practice auscultation over them we not infrequently find that there is a loud systolic murmur in cases where, from other signs, we are able entirely to exclude aneurism. Still further, we sometimes actually get a *double* murmur in tumors lying in contact with the aorta, which are not aneurismal in character. This, I believe, is an original observation of my own, and the point has now been fully established by repeated observations. Formerly I used to suppose, in accordance with the teaching of all existing authorities, that the presence of a double murmur in such an abdominal tumor was absolutely diagnostic of aneurism, but on more than one occasion I have seen it demonstrated beyond question that this was not always the case. Still, it may be stated that, as a general rule, a double murmur is to be regarded as evidence of aneurism. Now, in the case at present under investigation, although no tumor can be detected, we find that there is a double murmur at the seat of the epigastric pulsation. When we listen carefully at this point we get a pretty loud systolic murmur, and, in addition, a somewhat less distinct diastolic one.

On sifting the evidence in favor of aneurism here, therefore, it is found that the only points really in favor of aneurism are two; first the pain present, and second, the double murmur. As to the epigastric impulse, it affords no evidence of this condition; and yet I am sometimes called in consultation to see cases where aneurism is supposed to exist simply because there is this abdominal pulsation. It is, indeed of very common occurrence, and especially among females. In abdominal aneurism the pain depends on pressure upon the spinal column and nerves, and in the present instance, as has been remarked, it is certainly not as significant as it might be. The double murmur, when it exists, is due, first, to the blood rushing into the aneurismal cavity (the systolic murmur), and, second, the recoil, which gives rise to the diastolic. The second sound is not produced until the sac has attained some size. If there were a tumor here I should not attach as great importance to the presence of a double murmur (for the reason, above stated, that double murmurs are occasionally found in tumors not aneurismal) as I now feel inclined to do; and I believe, therefore, that the diagnosis in this case must hinge to a considerable extent on the question whether it is possible to have a

double arterial murmur without aneurism, and also without the presence of a tumor. This question I am not prepared to answer definitely at present, since, while I do not remember ever to have met with a case of double murmur under such circumstances as those just mentioned, I do not feel justified in denying the possibility that it might occur. I think, then, that we must rest content to leave this case as yet *sub judice*, and in the mean while continue to treat the patient for aneurism, as has been done ever since his admission. He has been, and is at present, taking the iodide of potassium, which has now come to be recognized as *the* remedy for aneurism. As to how it acts in this condition we can only confess our ignorance, but the fact still remains that in certain instances of the affection the results produced by it have been most remarkable.

Heart Failure in a Case of Ascites and Pleuritic Effusion promptly relieved by the Intravenous Injection of Ammonia.—The next case that I have to show you is one that most of you will, no doubt, remember as having been before the class last week. I will not read the history over again, but will simply remind you that the patient had had hydroperitonæum, for which she had been tapped soon after her admission to the hospital (which occurred three days before), and that the pleural cavity of the right lung was still filled with liquid at the time you saw her. A week ago I dwelt upon the connection, as a general rule, of hydroperitonæum with cirrhosis of the liver, but stated that although in the majority of instances it was found that the latter stood in a causative relation to the former, there was no evidence to cause us to believe that this patient had been addicted to the use of alcohol. As this is the accepted cause of cirrhosis of the liver, we therefore concluded that the present was one of those comparatively rare cases in which hydroperitonæum existed without cirrhosis. A considerable amount of fluid had been removed by the tapping, and the patient, you will remember, was weak and quite nervous.

The subsequent history of the case has proved a most interesting one, and it is on that account that I have brought it to your attention again. On the day that you last saw her the patient began to suffer very greatly from nausea, without being able to vomit much, and the ineffectual efforts which she made towards emesis caused

her much distress. She was ordered a half ounce of whisky every three hours, but in spite of this did not seem to gain any strength, although she did not suffer much from dyspnœa. The following day she was still found to be very weak, but with no marked dyspnœa, and it was now noted that she was quite apathetic, so that she had to be persuaded to take her nourishment and stimulus. On the day after that the house physician was hastily summoned by the nurse, on account of the extreme exhaustion of the patient. When he reached the bedside he found her almost completely unconscious, that she would continually slide down in the bed, and that she could not be aroused to take notice of anything. The eyes had a vacant stare, the pupils were dilated, the tongue was dry and brown, and the jaw had fallen, so that there seemed to be no question that she was actually moribund. Under these circumstances paracentesis thoracis was promptly resolved upon, and ninety ounces of fluid was thus withdrawn from the pleural cavity. During the operation ten or twelve half drachms of whisky were administered hypodermically; but in spite of this the pulse, which had before been very weak, disappeared altogether at the wrist, while the cardiac impulse grew so feeble that it could scarcely be felt at all. It had been hoped that when the fluid had been removed, and the lung thus allowed to expand, so that respiration might be more satisfactorily performed and the blood more readily oxygenated, the evidently failing forces of the patient would rally, but this did not prove the case. The hypodermic injection of whisky having been found to be of no service in overcoming the extreme exhaustion present, half a drachm of liquor ammoniæ, diluted with an equal quantity of water, was injected directly into a vein of the arm, care being taken first to expose the vessel by dissecting up the skin over it, and that the needle of the syringe directly entered its lumen. The cutting of the skin did not make the slightest impression upon the patient, who was now apparently altogether unconscious, but in ten or twelve seconds after the liquor ammoniæ entered the circulation there was a marked increase in the strength of the pulsation of the heart. At the end of two minutes the pulse could again be felt at the wrist, and after two minutes more she gave a sigh, and began to rouse herself. She was soon able to take four ounces of egg-nog by the

mouth, and in half an hour from the time that the ammonia was administered she declared herself to be quite comfortable, and was breathing more naturally than she had done at any time since her admission. From this time on she took a considerable quantity of egg-nog, which was very well borne, and by evening was still further improved in every way. During the next two days she continued to grow better, and on the third, which was the day before yesterday, she felt well enough to sit up for a time.

I have been exceedingly interested in this case, and the various features of it have been so well brought out in the history that I have just read that it seems scarcely worth while to make any remarks upon it. Still, in order that the most important points may be the more strongly fixed in your minds, perhaps it will be well for me to make a few comments upon them. Here was a patient with a large accumulation in one of the pleural cavities (having previously had hydroperitonæum in addition), who continued to grow weaker day by day, in spite of the most persistent stimulation, until at length the house physician was called to her bedside to find her actually moribund, as indicated by her whole appearance and condition. Whatever was to be attempted for relief, therefore, must needs be done as promptly as possible. First of all it was resolved to romove the fluid from the chest, under the hope that by thus causing an expansion of the hitherto crippled lung an improvement might be brought about; but, notwithstanding the fact that all through the operation a large quantity of whisky was administered hypodermically, the patient still continued to sink, until her situation seemed as desperate as it could well be. Then it was that the measure was resorted to which I believe was undoubtedly the means of saving her life, namely, the injection of ammonia into the circulation, especial pains being taken in order that the point of the needle of the hypodermic syringe should actually pierce the coats of the vein, but not transfix the vessel. The effect was certainly remarkable. The idea in employing the ammonia in this way was to tide over the failing system of the patient in this crisis of exhaustion until the powers of nature could rally once more from the depression which had paralyzed them, and the attempt proved eminently successful.

I confess that this practice was something altogether new to me. I had heard of ammonia being used in this way for the neutralization of the poison of venomous serpents in persons who had been bitten by them, but I do not remember ever to have seen the record of a case in which it was employed for the same purpose, and was followed by the same admirable results, as in this instance. Here the special object of the injection was to bring the stimulating action of the ammonia to bear directly upon the failing heart, and his case certainly seems to establish beyond a doubt the utility of this remedy as a cardiac stimulant.

Since the day before yesterday, when the last note was taken, the patient has continued to improve steadily, until to-day we find her in such a condition that there seems to be scarcely any doubt of her complete restoration to health.—*Boston Med. and Surg. Journal.*

Therapeutics of Diarrhœa in Children.

By A. A. Smith, M. D., New York.

METHOD OF REDUCING TEMPERATURE.

There is one symptom common to almost all cases of diarrhœa, if severe, and in my opinion it is the most important, and that is the increase of temperature. The best means of reducing the temperature is by the external applications of cold. Since we have the Kibbe's cot, which you have seen here, the immersion of the child in a bath is practically done away with. The Kibbe's cot can be improvised easily; it is a pleasant and convenient way of giving the wet pack; is just as effectual as the bath, and has very few of its objections. Fold a small sheet, so that it will cover the child from the axillæ to the ankles, place the child on the bed, leaving the arms and feet uncovered. The axilla can be dried easily, and the temperature be taken while the child is in the pack, or the thermometer may be introduced into the rectum, the most accurate way of taking the temperature. Water of the desired temperature may be poured on from a pitcher. In cases of slight elevation of temperature, say to 102° F., or under, sponging off the body with water about the temperature of 80° F. will usually answer the purpose, and it may be done

often enough to reduce the temperature nearly to normal. But in all cases of an elevation of temperature above 102° F., resort to the Kibbe's cot, or its substitute. Always remain and make the first application yourself. The parents will be timid about it, the child will cry, and it will be necessary for you to show them, by the good effects produced, the wonderful power by this means of reducing temperature, of calming the restlessness and irritability of the child, and of inducing sleep. Afterward you can teach them the use of the thermometer, and the methods of application of the water. The temperature of the water may be at first 90° F., then, gradually, as the child becomes accustomed to it, it may be made cooler, until it is brought down to 80° F. in a few minutes. It may be necessary, where the temperature is very high, or where it rapidly rises after it has been reduced, to apply the water even colder than 80°. Reduce the temperature to 99°. It usually goes down still farther after the child is taken out. Remove the sheet, put the child in a thin blanket, cover it up and let it sleep. It may be left in the pack twenty or thirty minutes, longer or shorter, according as you find the temperature down to 99°. In very severe cases, where the temperature rises to 105° F., or higher, it may be necessary to apply the cold every hour or two. In such cases you need not remove the child from the Kibbe's cot, but let it remain there for even days, if necessary. The cot may be made comfortable by folding a woolen blanket and putting it under the child. I can not speak too emphatically of the importance of the reduction of temperature in the treatment of the diarrhœas of children, and of this means of accomplishing it. It is, however, only an aid to other means of treatment.

NURSING AS A CAUSE OF DIARRHŒA.

One of the most frequent causes of diarrhœa in young infants is too frequent nursing. The child, when a few days old, can be taught to nurse about every two hours during the day, and every three hours at night. My first question, when I am called to see an infant under six months suffering from diarrhœa, is, "How often does the child nurse?" and frequently find it has no regularity of nursing, sometimes nursing as often as every half hour. By establishing regularity of nursing, the diarrhœa is often cured. A child under four months, as the rule,

will have two, sometimes three evacuations in twenty-four hours. This number is within the range of health. You will see many cases of diarrhœa with very little constitutional disturbance, but frequently of movements and the appearance of the movements not particularly unhealthy. Bismuth. subnitrat., three grains every two or three hours, will cure such cases.

PRETERNATURAL ACIDITY.

Sometimes infants have a tendency to preternatural acidity in the digestive organs. The diarrhœa that occurs in such cases is accompanied with considerable pain, the passage of small, cheesy-looking masses with the stools, the odor sour, and sometimes even offensive, the reaction decidedly acid. Such children may be given, with good effect, a teaspoonful of lime-water three times a day. Give it in two teaspoonfuls of milk. Chalk may be given. The mist. cretæ of the Pharmacopœia is a good preparation to give. It contains, besides the chalk, gum-arabic, glycerine, and cinnamon, all of them good in this form of diarrhœa. Sometimes it is well to give a laxative, as some of these cheesy masses may have collected in the intestines and may be acting as an irritant. The indication is to remove them. I have found the following prescription a better one to give than the traditional castor-oil:

℞. Pulv. rhei rad., - - - - gr. xv.
Sodæ bicarb., - - - - - gr. xxv.
Aq. menth. pip., - - - - ʒ ij.

M. Sig. ʒ j. as laxative to a child from one to four months old.

In this prescription we get the laxative effects of rhubarb with its so-called secondary astringent effects, the alkali, and the sedative, and antiseptic effects of the peppermint.

In any case of diarrhœa, where there is reason to believe there is any irritant in the intestines, the treatment may be commenced by giving a laxative to remove it.

DENTITION AS A CAUSE OF DIARRHŒA.

Between the sixth and twenty-eighth month dentition plays a very important part in the production of diarrhœa. It might be called a nervous diarrhœa, for it is probably due to reflex nervous disturbances. If dentition is not

directly responsible for many of these diarrhœas, it is indirectly so by putting the system in a condition to be more susceptible to all those influences which do produce diarrhœa. In all cases where the gums are swollen, lance them. In any case where it is about time for the tooth to come through lance the gums over the tooth thoroughly and draw some blood. I believe the disturbance is often due to the pressure of the tooth deeply in, and before it shows much swelling on the surface. Lancing the gums never does harm. It is better to err on the side of lancing them when there may be no necessity, than to fail to lance when there might be necessity. I have often seen a child having from ten to twelve movements a day relieved entirely by lancing the gums, and with no other treatment. It is in these cases that the bromides prove so effectual. Give the following combination of a bromide with mucilage to a child between six months and a year; older children a larger dose:

℞. Sodii bromid., - - - - - ʒ ss.
Mucilag. acaciæ,
Aquæ puræ, āā q. s. ad., - - - - ʒ ij.
M. Sig. ʒ j. q. 3 h.

The bromide diminishes the reflex disturbance, and the mucilage is soothing to the irritated intestinal mucous membrane.

ERRORS IN DIET AS A CAUSE OF DIARRHŒA.

Another cause of diarrhœal troubles is the giving of all sorts of diet too early. There is a desire to make the child strong and grow more rapidly. Meat, vegetables, and farinaceous articles in abundance are given to children even eight or ten months old. A child under eight months ought to have no other diet than milk, and even up to two years milk should be its main diet. Human milk is the best during the first year, or until weaning; but often from necessity the child is brought up on the bottle. During the first eight months cow's milk diluted one-fourth with barley-water makes the best diet. The ground or crushed barley should be boiled with water of sufficient quantity, so that when cold it is about as thick as thin cream. The milk should be given about blood-warm and a little sweetened. What place should condensed milk be given in the feeding of children? I should give it a place on the shelf at the grocer's. I have tried the condensed milk with children thoroughly, and

have seen it tried in the practice of others, and must protest against its use. Children fed on condensed milk, although they may thrive well apparently, yet when they fall ill show very little resisting power, and, particularly when they fall ill of diarrhœa, they weaken very rapidly and the diarrhœa is apt to be obstinate. There are exceptional cases in which it may be used, and some cases in which it is desirable to use it for a short time. When bottle-fed children suffer from diarrhœa it is well to boil the milk and make the barley-water thinner and give more of it, say one-third barley-water to two-thirds boiled milk. I have found thoroughly cooked wheat-flour an admirable food for children with diarrhœa. Have it prepared in this way: Put about two pounds of flour in a muslin bag, tie a string around the top of it, and suspend it in a kettle of water and boil it for five hours; then let it get cold. Take off the bag, cut off the outside dough and grate it. Thicken boiled milk with this to about the consistency of a thin gruel, or about thick enough for it to pass through the rubber nipple of a nursing-bottle. All food for children should be thoroughly cooked. Still more is this to be observed when they are ill of diarrhœa. As a rule, feed children suffering with acute diarrhœa just as little food as will satisfy their hunger, and often a little cold water will relieve their thirst and lessen the desire for food. Avoid alcoholic stimulants, unless there is exhaustion. Champagne iced may be given in small quantities, if there is obstinate vomiting.

FLATULENT DIARRHŒA.

There is a flatulent diarrhœa which occurs in young children and gives much trouble. The movements are frequent but very small, and the flatulence is sufficient to keep the child awake nights.

I have found the following prescription an excellent one in such cases:

℞. Magnes. calcin., - - - - - - ʒ i.
Spts. amm. aromat., - - - - - ♏xl.
Tinct. assafœt., - - - - - - - ʒ i.
Anisette, - - - - - - - - ʒ vi.
Aq. Cinnamomi q. s. ad., - - - - ʒ iv.

M. Sig. ʒ i. every half-hour until relieved, to a child from three weeks to four months old. Two or three doses will usually relieve.—*Medical Record.*

The American Neurological Association.

PRESENTATION OF CASES.

Dr. A. D. Rockwell, of New York, presented cases, illustrating two important points in electro-therapeutics: 1. The necessity for and the good results which come from perseverance in the use of electricity in seemingly hopeless cases of infantile paralysis. 2. Differentiation in the use of galvanism and faradism for the relief of pain.

In the neuralgic case the faradic current was used after various forms of treatment have been adopted without benefit, and after four applications recovery was nearly complete, the disease having existed six months. It was a case of neuralgia in which *firm* pressure did not produce pain, while slight pressure produced great pain. In differentiating whether galvanism or faradism should be used for the relief of pain, the effects produced by pressure were most useful guides. While, however, true neuralgia and pain generally yielded more readily to the galvanic than to the faradic current, the latter was in some cases invaluable, and yielded good results when galvanism was useless. As a general rule, firm pressure well borne indicated the use of faradism.

With reference to the case of infantile paralysis, Dr. Miles asked if voluntary movements had returned to the muscles.

Dr. Rockwell replied that they had; that they were marked, and that they had returned after an absence of six months, after all normal recovery had taken place.

Dr. Miles remarked that he had succeeded in such cases in restoring galvano-muscular contractility, but not voluntary action.

WHICH POLE SHALL BE EMPLOYED?

Dr. L. C. Grey, of Brooklyn, asked which pole was used for the relief of pain.

Dr. Rockwell replied that he used the descending current.

Dr. Hammond remarked that he had reached the conclusion that it did not make any difference with regard to which pole was employed, and that the one was as good as the other.

Dr. Rockwell remarked that to reach correct conclusions upon this, as upon other interesting points, considerable

observation was necessary. He had seen cases in which, after obtaining very good results from the use of the descending current, he had, in order to hasten the improvement, used the ascending current, and all the pain returned.

Dr. Hammond remarked that he had seen such a result from the continuous use of one current, either the ascending or the descending.

Dr. Grey remarked that his experience had led him to the conclusion that it made but little difference which pole was employed, except about the eye or face. Upon the face he had found a difference in the effect produced by using different poles, and he had explained the difference by the fact that in physiological experiments and therapeutical uses of electricity the conditions were essentially different; in the one the nerve was laid bare, while in the other it was more or less deeply covered with tissues. When deeply covered, the electricity became so diffused that its direct action upon the nerve was questionable, while in regions in which the nerves were less deeply covered the conditions present in physiological experiments were more closely approximated. He then referred to a case in which so long as he used the descending current there was an amelioration of symptoms.

Dr. Beard remarked that the most interesting feature of Dr. Rockwell's case was the fact that the faradic current gave relief to the pain. It had been stated for such forms of disease we must use the galvanic current exclusively. In the cases of sciatica reported by Dr. Gibney, of New York, that idea was involved, and it was a popular opinion in Europe at the present time; but it was erroneous.

The suggestion made by Dr. Rockwell with reference to pressure as an indicator in differentiation as to the use of galvanism or faradism to relieve pain was, perhaps, a good general guide; but it was not applicable to all cases.

With reference to the direction of the current, theoretically, there should be a difference, but, practically, he was not able to make the differentiation.

Dr. E. C. Seguin thought we could be guided by the polar test, according to the instruction given by Erb, with reference to the current to be employed. With regard to relief of pain, his experience had been favorable

to the sedative effects of the anode, provided a mild current was used, and to the exciting effect of the cathode.

Dr. Beard remarked that, in a majority of cases, pain was relieved when a sufficiently mild current was used.

For the first four or five years of his practice he always knew what pole he employed, but of late years, in very many cases, he did *not* know, and he was not able to recognize any change in the results of his electrical treatment.

Dr. W. J. Morton, of New York, remarked he felt quite sure that, in neuralgia of the trigeminus the positive pole reduced pain in cases in which the negative pole produced no marked effect.

The polar difference could be distinctly seen when the poles were kept sufficiently long in contact with the tissues. Dr. Morton then referred to the fact that ulcers healed rapidly when the positive pole was applied to their surfaces, while they became deeper under the influence of the negative pole, and, besides, several small superficial ulcers might be produced by the negative plate.

Dr. Grey thought there could be no question but that there was a physiological difference between the poles, but he failed to see that there was convincing evidence to prove any therapeutical difference.

Dr. Hammond thought Dr. Grey would change his opinion when he witnessed the result of electrical treatment of ulcers.

Dr. Grey remarked that he had used electricity in the treatment of abscess, and that he had not seen any difference in the results obtained by the use of different poles.

Dr. Hammond remarked that he knew there was a therapeutical difference between the positive and the negative poles, and that fact he first established to his own satisfaction in a series of cases of ulcers treated by galvanism at the Baltimore Infirmary several years ago. He knew that a silver (*positive*) plate placed upon an indolent ulcer, with a zinc plate (negative) above, facilitated healing; whereas, applied in the opposite manner, the condition was invariably aggravated. The single pair of plates gave the least possible intensity.

Dr. Grey remarked that he did not question the difference in the results in the treatment of ulcers, but he should not, from that fact, argue with regard to the therapeutical value upon the unbroken skin.

Dr. Beard thought there was no chance for dispute with regard to the effects produced upon ulcers by different poles, the positive being the more efficacious for healing purposes. He believed there was one thing sure—namely, that in all countries where electricity was used, there was less and less tendency to insist upon polar use. The best writers took the view that the practical difference between the positive and negative pole was not so much as formerly supposed.

Dr. Grey remarked that he did not believe there was any difference with regard to the direction of the current; and that, if there was a difference, it was between the poles.

Dr. Miles remarked that he had seen unmistakable difference between the two poles in allaying pain. In the treatment of myalgia occurring in his own person, he had found that the positive pole gave him relief much sooner than the negative.

INFANTILE ENCEPHALITIS FOLLOWED BY ATHETOTIC SYMPTOMS.

Dr. E. C. Spitzka exhibited a patient who had athetotic symptoms, as he believed, the result of infantile encephalitis.

GLOSSO-LABIO-LARYNGEAL PARALYSIS.

Dr. Hammond presented a patient suffering from the above disease. The treatment was, phosphide of zinc, one-tenth of a grain, t. i. d., and extract of nux vomica, one-third of a grain, t. i. d. Electricity was also used; and, while the patient was certain that he was improving, Dr. Hammond thought his condition would never be substantially improved.

MYELITIS WITH THE FORMATION OF CAVITIES OR VACUOLES IN GANGLION CELLS IN THE ANTERIOR HORNS OF THE SPINAL CORD.

Dr. R. T. Edes, of Boston, read a paper in which was given the clinical history of a case that developed, orderly and symmetrically, symptoms referable to the spinal cord. There was symmetrical atrophy of the legs below the knees, and the arms below the elbows, and the left pupil was larger than the right. The case was of a little less than four months' duration, and on microscopical examination of the cord the white substance was found normal in every respect. In the gray matter the only change

consisted in the presence of large polygonal spaces or vacuoles in varying numbers in the anterior horns. The processes of the ganglion cells seemed slightly changed in places—shrunken and shortened. The lesion was found in the cervical enlargement, in the dorsal region, and in the lumbar enlargement. The specimens seemed to illustrate that parenchymatous changes might take place independent of blood-vessels or neuroglia.

Dr. Putnam remarked that he had seen a case closely resembling Dr. Edes' in clinical history, except that the fever was higher, the temperature rising as high as 104°–105° F. There was the same progressive paralysis, and, on microscopical examination, spots of softening were found in the lenticular ganglion upon the left side. In the cervical region there was an evident change in the ganglion cells consisting in large collections of fat. He thought that it was possible, if the case had lasted longer, the change might have gone on to the formation of vacuoles.

Dr. E. C. Seguin referred to specimens in his possession, of acute myelitis, in which the symptoms of transverse and total myelitis were developed within twenty-four hours. Death occurred at the end of the sixth or seventh week, and on examination he found extensive softening of the lower dorsal cord, which microscopically exhibited no special lesion, but in sections below, the first of moderate worth, there were found vacuoles, such as described by Dr. Edes.

He thought the clinical history of Dr. Edes' case belonged to polio-myelitis more nearly than anything else.

Dr. Schmidt, of New Orleans, thought the so-called vacuoles in the specimens were globules of fat. In some of the ganglion cells granular degeneration was present, which commonly preceded the formation of free fat-globules.

The Secretary read a communication from Dr. J. S. Jewell, of Chicago, expressing his regret at not being able to be present, because of serious sicknes in his family.

Dr. J. J. Mason exhibited micro-photographs illustrating

THE HISTOLOGY OF THE MEDULLA OF THE ALLIGATOR,

After which the Society adjourned, to meet at 8:30 P. M.

Second Day—Evening Session.

The Association was called to order by the President.

The proceedings began with remarks by Dr. Wm. A. Hammond, of New York, on

METALLO-THERAPY.

He referred to its history, spoke of his own work in connection with the subject, and expressed his great surprise that a man of such scientific training and experience as Charcot should have lent himself to so vile a humbug. Dr. Hammond showed disks of various metals which he had used in his experiments, and asserted that the one of tortoise-shell was the most efficacious, and was the one used most.

The subsequent discussion of the matter showed it to be the unanimous feeling of the Society that the claims of metallo-therapy were unfounded and absurd.

In view, however, of the fact that it was not yet universally condemned by physicians, and even had the support of some eminent men, it was voted that a committee be appointed to investigate the matter, both in its medical and psychological phases.

Dr. W. J. Morton, of New York, then read a paper upon the

TOXIC EFFECTS OF TEA.

The subject, he said, was the best studied by examining that class of men, such as tea-tasters, who habitually took tea in large amounts. It was, however, not easy to obtain extensive data concerning those men, for they feared if the facts become known it might injure their business. Five cases, however, had been collected, and those, together with experiments performed by the writer upon himself, formed the basis of the paper.

The bad effects of tea-tasting were known and recognized by the tea-tasters themselves, and few could carry on the business many years without breaking down. One tea-taster estimated that he got about half a pound of tea into his system during a day. It has been said that the symptoms from which tea-tasters suffered were due to alcohol or dyspepsia, but the facts collected showed the contrary.

The writer then gave the history of the cases referred to, and of the experiments upon himself.

The following is a resume: First, as to the immediate effects of moderate doses, there was in the cases observed, an elevation of pulse, increase of respiration, agreeable exhilaration of mind and body, a feeling of contentment and placidity, an increase of intellectual and physical vigor, with no noticeable reaction.

The immediate effects of an excessive dose were rapid elevation of pulse, marked increase of respiration to the extent of about one-third, increase of temperature, no period of exhilaration, but immediate and severe headache, dimness of vision, ringing in the ears, dullness and confusion of ideas. Following that was a severe reaction; exhaustion of mind and body, tremulousness and "nervousness," and dread of impending harm, that could not be relieved by taking more tea.

The effects of continued doses were a continuance of of the tremulousness, extreme susceptibility to outside impressions, constipation, diminution of urine, and marked influence on the metamorphosis of tissues as shown by the diminution in the amount of urea. Thus, in the week during which the writer was taking toxic doses of tea the amount of urine fell from f ℥ xl. to f ℥ xxxii. per day; and in the same time the urea fell from gr. 591 to gr. 422 per day. The sulphates, phosphates, and chlorides were increased.

The results as regarded the diminution of urea agreed with previous experiments, but showed the influence of the tea much more strikingly.

From the study of the drug's action, Dr. Morton arrived at the following conclusions:

1. That with it, as with any other potent drug, there was a proper and an improper use of it.
2. That in moderation it was a mild and pleasant stimulant, followed by no harmful reaction.
3. Its continued and moderate use led to a very serious group of symptoms, such as headache, vertigo, ringing in the ears, tremulousness, "nervousness," exhaustion of mind and body, with disinclination to mental and physical exertion, increased and irregular action of the heart, and dyspepsia.
4. The mental symptoms were not to be attributed to dyspepsia.
5. It diminished the amount of urine, and retarded the metamorphosis of tissue.

6. Many of the symptoms of immoderate tea-drinking were such as might occur without a suspicion of the real cause.

The paper being open for discussion, Dr. J. J. Putnam, of Boston, asked whether the symptoms of weakness, nervousness, etc., which followed the taking of large doses were those of reaction, or were the continued toxic effect of the drug.

Dr. Morton thought that they were the latter.

Dr. Hammond referred to a case of his where the patient suffered intensely from neuralgia brought on, he believed, by tea-drinking.

Dr. Miles asked if the tea-tasters were subject to any great mental strain or anxiety in their business.

Dr. Morton said that they were not. Referring to the influence of alcohol, he asserted positively his belief that it had nothing to do with the train of symptoms he had given. There was, to be sure, very often a craving for alcohol, but it was not uniformly felt, and the danger of drinking was appreciated by the tea-tasters.

The Association then adjourned to meet on Friday at 2:30 P. M.

THE DOSAGE OF ELECTRICITY.

Dr. Geo. M. Beard read a paper on the above subject, in which he stated that the dosage of electricity was a complex result of a number of different factors.

1. The strength of the current.
2. The length of the application.
3. The quality of the application; and
4. The method of the application.

1. The strength of the current.—It was difficult to estimate that, and to say that we had treated a patient with so many cells was saying but little. The size of the electrodes, the manner of their application, and the moisture of the skin, must all be taken into consideration. The resistance offered by the skin was also an important element; for it was variable, and besides, the quality and temperature of the water were important considerations in making an estimate.

The amount of electricity passing through the body was varied by—

a. The electro-motive force of the battery.

b. The internal resistance within the battery; and

c. The external resistance outside of the battery.

2. The length of the application could not be determined with minute precision. As a rule, European neurologists made shorter applications than did the American. There was no question but that long applications exhausted muscles, and an application of one or two minutes' duration to a paralyzed muscle was all that was beneficial. The beginning of electrical treatment should be with short applications and mild currents.

No absolute rules could be given regarding strength of current or length of application. Other things being equal, a stronger current required shorter applications. Other things being the same, the galvanic current was not so well borne for a long time as the faradic current of corresponding strength.

3. The quality of the application. The use of mild currents at first was wise. Experience compelled us to admit that stimulating as well as sedative effects could be obtained by negative as well as positive poles. Practically, the difference between the positive and the negative poles, and between the ascending and the descending currents, was one of degree rather than kind.

4. The method of application was largely included in what had been said. He had long ago recommended the terms, medium, mild and strong currents, as the best approximation possible to a fair description of the doses of electricity.

Again, the dosage of electricity was modified by the external position of the poles. The same strength of current with the negative pole was a stronger application of electricity than with the positive pole in the same locality.

Even the best constructed galvanometers interposed in the circuit could not be an accurate measure of the dosage of electricity, for the reason that the amount of electricity passing through the body of the patient would vary with the pressure on the sponge and with the position of the electrodes. Consequently there might, in different applications, be the same number of degrees indicated by the galvanometer, while the applications really were very different in their character and in their effects, because the electrodes were differently placed.

Temperament was another element to be taken into consideration in regulating the dosage of electricity.

Finally, what was true of familiar drugs and the conditions regulating their dose, was true of electricity.

Dr. Rockwell remarked that, in his opinion, the only rule that could be laid down with reference to the dose of electricity was that the faradic current should never be given of such strength as to make it unpleasant for the patient, except in treating paralysis; and the same held good with reference to the galvanic current. He had experienced advantage from the use of a long-coiled galvanometer, although the instrument had no practical value except to show the presence of a current and to determine the positive and the negative poles. He also spoke of the benefits of general faradization.

Dr. Grey spoke of the good effects of general faradization, and then followed a long discussion regarding the manner of its application, which was participated in by Drs. Rockwell, Grey, Hammond and Beard, and finally the discussion was postponed until the following evening.

PATHOLOGICAL LESIONS IN THE NERVOUS SYSTEM IN YELLOW FEVER.

Dr. H. D. Schmidt, of New Orleans, demonstrated microscopical specimens prepared from the brain and spinal cord of patients dying of yellow fever.

From his experience in that disease, he was satisfied that, in the great majority of cases, death occurred from congestion of the brain. If the case had sufficient duration, pathological changes occurred in the ganglionic bodies of the nervous system. Fatty degeneration and fatty infiltration were prominent characteristics of this disease, and the fatty change was developed within four or five days in some of the organs. His observation had not been sufficiently extensive to enable him to say whether the fatty changes were due to direct effects first upon the blood or first upon the nervous system, or whether there was a double action. He had made sixty autopsies in yellow fever cases, and in all instances in which he had made microscopical examinations he had found the brain congested, sometimes throughout, sometimes in certain portions, especially in the parietal lobe. In some cases he found the ventricles filled with serous fluid and sometimes purulent. During the last epidemic he examined the spinal marrow and the sympathetic system, especially the semi-lunar and the first thoracic

sympathetic ganglia. To his surprise he found in the semilunar ganglion, also in the thoracic, that the nuclei of the ganglion cells were entirely gone, and besides, that the ganglion cells had a true fatty luster. The ganglionic cells in the cortex cerebri had undergone fatty degeneration, and in almost all cases it was difficult to recognize the ganglionic cells. The object of exhibiting the specimen was simply to show that the congestion in yellow fever was throughout the entire brain in the great majority of cases; cerebrum, cerebellum, pons and medulla oblongata.

With regard to convulsions which had been described as uræmic, he did not believe they were of that character. He believed that suppression of urine occurred only in exceptional cases of yellow fever. In 1867, in the course of a large practice of yellow fever, he saw but two cases of real suppression of urine; almost uniformly such cases were cases of retention, and he had usually found urine in the bladder of persons dying with what had been supposed to be due to suppression of urine.

Dr. Schmidt did not accept the doctrine advanced by Dr. Richardson, of Philadelphia, that the tubules of the kidneys were filled with bacteria; they were blocked up with disintegrated epithelium, and he did not accept the opinion that the blood underwent decomposition.

A Few Notes upon the Actual Cautery.

The Actual Cautery is one of the most ancient of surgical resources. To have seen it in its widest range of application one must have lived centuries ago. Could we have attended the clinics of Abulcasin—or as he is more frequently, though improperly called Albucasis—in the latter part of the eleventh century, the rising smoke would have told us of its extended use in the hands of that eminent Arabian surgeon. Or again, if we turn over the pages of his *Al-Tasriff*, we find between fifty and sixty chapters devoted to a consideration of the Actual Cautery. In the sixteenth century Ambrose Pare, by introducing the ligature, as well as a more rational means of treating gun-shot and certain other wounds, limited, in a measure, its sway. To-day, notwithstanding the opposition by the

so-called Eclectic and Homœopathic elements, the Actual Cautery stands out as a surgical means of real value.

Though sentiment and public opinion cry out against it, the foremost men of the profession ever continue to assign it its place as an important curative agent.

As a counter-irritant in a deep-seated chronic inflammation it makes a more decisive and lasting impression than any other means in our employ. Besides its highly salutary effect, the application of the Actual Cautery is followed ordinarily by very little, if any pain. Were we to discard the Actual Cautery, what means would we have for arresting the course of those stealthy, yet destructive inflammations of the larger articulating surfaces of the body? Certainly none. Nor, except by this means, could we avert the truly frightful effects of coxalgia after it has reached its second stage? Consult the annals of surgical history upon this point, and then, in that light, tell us whether or not our treatment is *too heroic*. Is is beyond cavil *the one remedy* par excellence here. By the effectual use of the Actual Cautery, the absorbents will be stimulated and a totally new action set up in the deep tissues of the joint. Besides the intrinsic worth of the application, we have an excellent absorbing surface for the endermic use of morphia, so essential in quieting the violent pain and relieving the spasmodic twitching of the muscles. More than one case has come under the writer's observation where the patient, his friends, and even the physician, have lulled themselves into the fatal security of believing that *seemingly* milder and less active means fulfilled the requirements of the case. The permanent deformity and the crutches tell us of the terrible mistake. As a hemostatic the Actual Cautery acts rather by charring the ends of the vessels than by any constringent action, hence the danger of secondary hemorrhage following its use in this capacity. It is in our day but little employed for this purpose, except in osseous cavities otherwise inaccessible. Many writers, teachers and practitioners, generally, of the present era, detract as fully from the merits of the Actual Cautery as did the older surgeons overestimate them. The eleventh and the nineteenth centuries represent, in this particular, the extremes of the pendulum's range; and we can only trust that in the near future the place of the Actual Cautery in surgical therapeutics will be determined not by a rash and precipi-

tate antipathy, but more and more by its real worth as proven by practical results in the hands of skillful and scientific men.

J. W. HICKMAN. M. D.,
1945 N. Eleventh St., Philadelphia.

May 6, 1879.

Painless Method of Excising the Whole Tongue.

BY RICHARD BARWELL, F.R.C.S.,
Surgeon to and Lecturer on Surgery at Charing-Cross Hospital.

Gentlemen:—I would call your attention to this man, on whom I performed excision of the whole tongue nine days ago. You see that he is in excellent condition, and can already speak with considerable distinctness. He has taken walks outside the hospital, and wishes to go home, but I shall detain him till the proper dismissal day.

* * * * * * * *

The method itself is very simple. The instruments required are a small scalpel, one or two Liston's needles, and an ecraseur, or better, two ecraseurs. When the patient is well under the influence of the anæsthetic, place a gag between the jaws, draw the tongue a little forward, and pass through the raphe a string, with which the organ is to be simply controlled, not dragged out of the mouth, which must be avoided. An incision, about a quarter or a third of an inch long, is now made from the hyoid bone forward, and strictly in the middle line. Thus far you will see my operation resembles Nunneley's, except that my incision is farther back and shorter; but from this point the methods differ, for that surgeon passed by means of a seton-needle the loop of an ecraseur chain into the floor of the mouth through the frenum of the tongue, and then dragged the part to be removed forward through the loop; and, although he could remove considerable parts by these means, he could hardly get at the whole organ, and I think his opening into the mouth too short and direct, nor did he eliminate pain.

By my method, when the raphe of the mylo-hyoid has been divided, the knife is laid aside, the genio-hyoid and genio-hyoglossus muscles are separated from their fellows by the handle of the scalpel, or by the finger if the surgeon have a small finger-tip, and the root of the tongue is readily reached; but the mouth is not to be opened

here. An armed Liston's needle is now placed in the wound, and the forefinger of the other hand between the diseased side of the tongue and the jaw, as far back as it will go, viz: a little beyond the last molar tooth, and to this point the needle is guided, taking care to keep it rather nearer to the bone than to the side of the tongue; here it pierces the mucous membrane, enters the mouth, and the thread, being released, is withdrawn, a loop of cord being left behind. The same thing is then done for the other side, except that here a loop in the mouth is unnecessary. The ecraseur is now taken in hand; it must have one end of the wire detached and bent into a sort of hook at as sharp an angle as the material will bear. Tie an end of the last placed thread in the bend of this hook; then by traction on the other end, that in the mouth, draw the wire along the track of the needle. When the metal appears in the mouth just beyond the last molar tooth, pull the wire gently through till the nozzle of the ecraseur is close to the supra-hyoid wound; then detach the thread and pass the wire hook into the loop of twine that enters the mouth of the diseased side of the tongue, and by gentle traction draw the metal from thus far back in the mouth, out at the hyoid wound, and attach it to the body of the instrument. Before screwing the wire tight, pass a finger along the dorsum of the tongue and ascertain its exact position. I am not afraid of its lying too far forward—it might easily, without care, sit too far back, also it might slip away from the desired place as the screw is used; therefore, having fixed the exact line along which the tongue is to be severed, I place my finger where that line intersects the raphe on the dorsum of the tongue; to it I pass the Liston needle, letting its point project a line or two, and taking care that the wire lies behind it; by this means the ecraseur can be guided exactly along the required plane. When the base of the tongue has been cut through, and the wire has come out at the wound, the loop of the same or of another ecraseur is passed over the tip of the tongue into the line of incision, and the tissues, small in quantity but very vascular, which attach the tongue to the floor of the mouth, slowly cut through, when the whole organ is severed, and is removed from between the lips.

Now, to call your attention to the man himself. He lost during the operation not more than ten drops of

blood, and none since He has in front of the hyoid bone a very small scar of an already healed wound,* and no other external mutilation. He had lost the whole of the tongue, well clear of the disease, as you see by the specimen, and within a line or two of the epiglottis; yet he has no fever, his temperature is normal, and he takes tepid liquids without difficulty. Whenever I have asked him if he is in or has suffered any pain, he invariably answered in the negative. It seems strange, at first sight, that an organ so sensitive as the tongue can be removed without the production of a moment's pain, especially as a good deal of suffering follows the usual modes of excision; yet, when we have considered the matter together, you will see that this is a necessary result of my method of operation. By avoiding any dragging of the tongue forward, but, on the contrary, getting the ecraseur wire round it *in situ*, and by keeping that wire, just previous to its entrance into the mouth, rather near though not close to the ramus of the jaw, I divide the sensory nerve of the tongue—the lingual-gustatory—close to the bone; it then retracts into its groove, and the whole wound must of necessity be insensible to pain. Therefore the man could immediately after the operation take abundance of liquid nourishment, avoided fever, and the part has rapidly healed. I would suggest, though I have not yet had an opportunity of reducing the proposal to practice, that when a less portion of the tongue has to be removed, the lingual-gustatory nerve of one or both sides, according to the extent of amputation, might with advantage be divided on the ramus of the jaw.—*London Lancet.*

Removal of a Hair Pin from the Female Bladder; of a Shawl Pin from the Trachea.

BY EDWARD T. CASWELL, M. D., OF PROVIDENCE.

THE only apology I have to offer for grouping these two cases is that they both occurred in my practice within the space of a month, and were both in girls of the same age, namely, fourteen.

*The very oblique and valvular communication between this wound and the cavity of the mouth renders the passage of fluids along it almost impossible; thus obviating the production of a fistula.

CASE I.—I was called into the country January 11, 1879, to see M. N., who twenty-four hours previously had introduced a hair pin by its bent extremity into the urethra. It suddenly slipped from her fingers and was lost, she did not know where. She had suffered considerable pain, and the urine was tinged with blood. After etherizing her I made an examination, and readily detected the hair pin lying crosswise in the bladder. To facilitate its removal I dilated the urethra somewhat with instruments and with my little finger. After trying various forceps with no avail I determined to use a lithotrite, and as a preliminary to this I incized the meatus on either side. I hoped to be able to change the position of the pin, but in this I was disappointed. Therefore, seizing it in the middle of one side in the blades of the lithotrite, I bent it, and with considerable force succeeded in withdrawing one extremity, the rest of course easily following. No disturbance attended the operation. Her attending physician reported that for three days there was slight hæmaturia, but no incontinence, and little or no pain in micturition. She was about the house in three or four days, and in the course of the week he left her as well as usual. At no time was her pulse above 80, or her temperature above 100° F.

CASE II.—Mary F. was brought into the Rhode Island Hospital February 4, 1879, with the statement that three weeks before she had swallowed a shawl pin, and that "it was in her wind-pipe." She was standing with the head of the pin in her mouth, when she coughed, and the pin suddenly disappeared. She had suffered considerable pain, and was much alarmed. On ascultation, rough, coarse rales were heard over the trachea, more upon the left side than the right. On examining her with the laryngoscope I clearly saw and demonstrated to my assistants and others the shawl pin in the trachea, with its point imbedded in the lower surface of the left vocal cord. I could not, or rather did not, see the head of the pin. I at once performed tracheotomy under ether, and to my surprise on opening the trachea I could not find the pin. How it had been disloged and had fallen down the trachea, after being, as I still suppose, firmly fixed in one place for three weeks, I can not imagine. But such was the fact. While holding the tracheal wound open with both hands and inspecting the surface of the trachea, the

pin was suddenly ejected about an inch above the wound, and as suddenly fell back. It was so instantaneous that but one other person out of a dozen by-standers saw it, and I think it could hardly have been caught if one had been standing ready for that purpose. I examined the trachea thoroughly with forceps as far down as the bifurcation of the bronchi without detecting the pin. The girl was then held in an inverted position, and while the tracheal wound was held wide open I irritated the trachea slightly, and the pin was thrown out upon the floor. It was rusty, about two inches long, with a glass head. The girl recovered without the slightest drawback; she did not even cough, and in less than four weeks the wound was entirely healed, and she was discharged. The case proved most clearly the toleration of instrumental interference on the part of the trachea, but, what is still more surprising, it shows that the trachea tolerated the presence of a foreign body for three weeks without the slightest after-effects.—*Boston Med. and Surg. Journal.*

Changes in the Sympathetic in a Case of Progressive Pernicious Anæmia.

Dr. Brigidi reports a case of progressive pernicious anæmia, in which the autopsy revealed interesting changes in the cœliac plexus, but no fatty change or other lesion in the heart and other viscera. In the fresh state the plexus presented an excessive proliferation of nuclei, so that in many places the nerve-cells were destroyed; in other places these cells seemed pigmented, but were cleared up by the addition of reagents. The blood-vessels were empty. In ganglia, hardened in alcohol, the nerve-cells could only be found in isolated spots; in the greater part of the sections they were replaced by groups of small elements, which resembled nucleoli. From the microscopical appearances, Dr. Brigidi constructs the following chart of the pathological process: The endothelium lining the capsules of the ganglia began to proliferate abnormally, destroyed the nerve-cells by pressure, and formed granulations, some of which assumed a bronzed or brown color, while others underwent fatty degeneration. The further this fat development proceeded, the more the nerve substance disappeared.

until finally the proliferation of nuclei persisting, the entire nerve substance was destroyed, and its *debris* was found dispersed in the newly formed nuclear growth. The nerve fibers of the ganglia had likewise undergone fatty degeneration. The empty blood-vessels of the ganglia also presented an excessive proliferation and accumulation of the endothelium. Around the ganglia there were thick layers of connective tissue, which was but poorly supplied with nerves. — *Allg. Med. Cent.-Zeit.*, *No.* 98.

Microscopy.

Molecular Bees.

Among the numerous objects of scientific interest recently exhibited at the *soiree* of the Royal Institution (London, England), the delicate apparatus was conspicuous by which Mr. Crookes illustrated his last discourse before Easter. "Molecular Physics in High Vacua," is the title of an address which sounds as if it could only interest men who had devoted a lifetime to the study of physical science; but Mr. William Crookes on that occasion riveted the attention of a large and distinguished audience by the exceptional brilliancy of his experiments and the ability and clearness with which he described them. Nearly six years have elapsed since Mr. Crookes startled the scientific world by his researches on "repulsion resulting from radiation," which led to his discovery of the radiometer. Following up those early experiments, Mr. Crookes found that the movement of this instrument was due to the presence of residual gas, and is therefore explained by what is called the "kinetic theory of gases." During his radiometric experiments he observed phenomena which he could not account for, and which he therefore resolved to investigate. The results, as far as they go, were embodied in his lecture at the Royal Institution. Such high-sounding phrases as the "Kinetic theory of gases" and "the mean free path" were very ingeniously explained at the outset by reference to a box containing a swarm of bees. Imagine, said the lecturer, that the bees are moving about in every direction with different velocities, each independently of the other; they

will constantly come into collision with each other, and must consequently be perpetually rebounding. The velocities and directions are then altered, and pressure against the sides of the box is produced. If the bees are very numerous, the distance—or, in technical scientific language, the "mean free path"—they have to travel before coming into collision will be short. If they are few in number, the distance or "mean free path" will be long. This, then, is the state of things which occurs in any space filled with gaseous matter. Gases are composed of minute particles called "molecules," and these molecules, like the bees, are moving about in every direction with velocities which differ according to the temperature. By exhausting the gas contained in a closed tube the "mean free path" becomes lengthened. At a certain point the movement of the molecules produces the phenomena observed in the radiometer, and, by carrying the exhaustion to a higher point, Mr. Crookes observed the still more wonderful phenomena now under investigation. In fact, as Mr. Crookes himself remarks in one of his papers to the Royal Society, the phenomena reveal to physical science a new world—a world where matter exists in a fourth state, and they also show that under given conditions Newton's corpuscular theory of light still holds good. Mr. Crookes' first experiment was with his electrical radiometer. When the spark from an induction coil is passed through an ordinary vacuum tube a dark space appears round the negative pole. Mr. Crookes has experimented on this dark space with different kinds of poles, a varying intensity of spark, and different gases. On connecting his electrical radiometer, which has aluminium disks coated with mica, with an induction coil, a halo of a velvety-violet light formed on the metallic side of the vane, the mica side remaining dark. As the exhaustion was increased a dark space was seen to separate the violet halo from the metal. In a second experiment the lecturer exhibited this dark space in a sealed tube, and when the power was great the brilliancy of the unoccupied parts of the tube seemed to overpower the dark space, but, on closer examination, it was found to be unchanged. At very high exhaustions the dark space became so large that it filled the tube. The presence of the dark violet focus was, however, still visible, and as the rays diverging from the rays fell on the glass, a sharply defined spot of

greenish yellow light was seen; ultimately the tube became beautifully illuminated with this greenish yellow phosphorescent light. The color of this phosphorescent light differed according to the kind of glass used. With one tube the light was blue, and with another yellow. Among the most interesting experiments were those in which it was shown that this green light is spoilt by the addition of a little gas; and, unlike the light observed in the ordinary vacuum tubes, it obstinately refuses to turn a corner. It radiates from the negative pole in straight lines, casting a strong and sharply defined shadow from any object which happens to be in its path. The shadow of an aluminium star was projected on a phosphorescent screen. As long as the metal star was insulated the shadow remained sharp, but on uninsulating the star the shadow widened out and formed a second shadow outside the original one. By means of an electro magnet the shadow was twisted either to the right or to the left. Perhaps the most beautiful experiments were those in which the phosphorescence of the diamond and ruby were shown. Diamonds from South Africa phosphoresce with a blue light, other varieties gave bright blue, apricot, pale blue, red, yellowish green, orange, or pale green. Tubes were exhibited, containing masses of natural and artificial rubies; these both glowed with a rich, full red color. We must pass over numbers of the experiments, including those which show that the great heat evolved when the concentrated focus of rays, deflected by a magnet, is sufficient to heat and melt platinum, and also those which demonstrate the mechanical action of the projected molecules. These, like all the experiments, were most successfully arranged and carried out. With regard to the explanation of the phenomena the lecturer believes that the swiftly moving rebounding molecules spend their energy on the sides of the glass vessel, and the production of light accompanies this sudden arrest of velocity. The light proceeds from the glass, and is apparently caused by fluorescence or phosphorescence on its surface. The shadows are not optical but molecular, revealed only by an extraordinary illuminating effect. These discoveries are, of course, too new to have issued in any practical applications at present. Indeed, as Mr. Crookes remarked, it is seldom that a discoverer lives to see the utilization

of the discoveries he makes. We venture to predict, however, that, sooner or later, these philosophical researches must lead to results of great practical importance.

Notes and Memoranda.

From our London (England) Correspondent.

ANOTHER METHOD OF PRESERVING BACTERIA, ETC.—"T. C.," in *Science-Gossip*, says that he has experimented upon a method for obtaining permanent preparations of Bacteria, Vibriones, etc., and after some years of patient research has found the following excellent method: The requisites are a bottle of thin Canada balsam diluted with chloroform, a hot-water plate, and the fixing solution, which consists of 25 cc. of chromic oxidichloride acid to which is added 50 cc. of water with 50 cc. permanganate of potash. A ring of white wax, much larger than the cover-glass, is drawn on the slide, within which the organisms are placed with some water. When they have attached themselves to the slide, some of the solution is added, which will instantly fix the specimen. After three minutes the water may be poured out, and a few drops of chloroform added and poured off, the cover-glass placed carefully on, and a few drops of dilute Canada balsam added, so as to flow under the cover, and the preparations placed on the hot-water plate to dry. Thus prepared they retain all the features of the living animal.

PREPARATION AND PRESERVATION OF THE LOWER ORGANISMS.—M. Raphael Blanchard, of Paris, referring to the process employed by Koch to preserve and photograph Bacteria, says* that more than two years ago, he preserved Bacteria in lasting preparations by using, with excellent results, osmic acid instead of the process of desiccation employed by Koch, which he considers a very bad one.

In a few hours, or two days at the longest, the surface of water in which an organized substance (vegetable or animal tissue, etc.) has been macerated, becomes, as is well known, covered with a slight pellicle composed of a more or less compact mass of Bacteria, enveloped in a hyaline, transparent substance of slight consistence. This membrane is so fragile that the slightest movement

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or breath which ripples the surface of the water tears it. A tolerably large piece of this membrane can be obtained by carefully introducing into the liquid beneath it a glass slide, and raising it with precaution.

If we then add, with a pipette, one or two drops of a concentrated solution of osmic acid (or even a solution of 1 in 100) to the membrane on the slide, it immediately acquires a much greater consistency and can be covered without fear of tearing it. A drop of a solution of violet of methylaniline should be placed at the side of the cover-glass, drawing away the osmic acid by a cigarette paper on the opposite side. In about half an hour the Bacteria assume a fine violet tint, the fundamental substance remaining colorless; if the impregnation lasts longer the Bacteria assume a deeper hue, and the fundamental substance becomes tinted. We can then replace the violet of methylaniline by glycerine which does not render the preparation colorless, as Koch says, if we add a small quantity of the violet. A concentrated solution of sulphate of calcium can also be used with advantage to preserve the preparations. M. Blanchard's collection contains preparations made thus in 1876, which are as bright in color as at first.

The violet is not the only aniline color which can be used, but it seems to be more durable than others.

A solution of hæmatoxyline can also be used with advantage. When a "proliferous membrane" (F. A. Pouchet) has been treated with osmic acid, it is left for twenty-four hours under a damp bell-glass, in a watch-glass containing a few drops of hæmatoxyline. There is then formed an iridescence which spoils the clearness of the preparation, but which can be easily removed by repeated washings. The membrane is then mounted in glycerine (with or without the addition of hæmatoxyline), or in a solution of chloride of calcium, and preserves indefinitely a fine violet tint.

If the Bacteria are free in the liquid, the process of mounting them would be exactly the same.

To prepare Infusoria, or any of the lower organisms, osmic acid should be used, but in a strong or even concentrated solution which instantly kills the animalculæ. A group of Vorticella thus fixed will retain its natural form, some of them being completely extended and others more or less retracted. Amœbæ, Rhizopoda, etc., have

no time to retract their protoplasmic filaments, and die spread out on the glass in their living aspect.

Ciliated Infusoria do not lose their cilia, and except a slight blackish hue they are in no way modified by the reagent. Some Opalinæ found more than a year ago in the intestine of a Triton have preserved to this day the delicate cilia with which their body is covered.

The contact of the osmic acid must not be prolonged, or the objects will blacken with age. After the animaculæ are covered with the thin glass, a few drops of picro-carmine or hæmatoxyline can be added.

The picro-carmine does not sensibly color Bacteria, but it colors very clearly the nuclear formations contained in the bodies of the Infusoria. After the coloring glycerine can be added, and the preparation is complete.

In the study of the lower vegetable forms with naked protoplasm, Myxomycetes, for instance, osmic acid and picro-carmine and hæmatoxyline can be equally well used. By the action of osmic acid the currents in the protoplasm of the Myxomycetes are instantly suspended, and in a few instants the protoplasm is sufficiently hardened to make sections possible.

There are certain exceptional cases in which osmic acid has no direct action. A Nematode, for instance, *Anguillula aceti*, can live a long time in a liquid containing osmic acid. In the case of a female the eggs develop and hatch, and the embryos grow at the expense of the mother, until nothing remains of her body but the outer cuticle, which resists all attacks of the acid. When the young Anguillulæ have pierced the cuticle and are free, they swim apparently unharmed by the acid, though they generally die in a few days.

A similar example is furnished by the larvæ of the Diptera, *Chironomus plumosus* (Linn.), which lives in water strongly mixed with osmic acid, owing to its cuticle resisting the acid.

Royal Society.

The annual conversazione of the Royal Society was held on Wednesday evening, April 30, at the Rooms of the Society, Burlington House, when, in response to the invitation of the President and Council, there was a brilliant assemblage. As is usual on these occasions, many new inventions and works of art were exhibited. Mr. A. Hilger

showed a new quartz spectroscope for ultra violet rays made for the Scientific Society at Stettin. It gives the lines from A to T, with the *minimum* angle of deviation, and conserving the full pencil of light. His new spectroscope, "a direct vision spectroscope after Thollen's plan adapted for laboratory use, and capable of giving exact measurements," which was made for Professors Dewar and Liveing, and described by them in a paper at the last meeting of the Royal Society, was also shown. Among the other objects he exhibited were a new "universal variable power prism," by which, with a single prism placed in different positions different dispersions are obtained, and the new Thollen high-power dispersion bottle prisms. There was also an improved form of the Christie half-prism spectroscope shown last year. Mr. E. B. Bright exhibited models of his electric fire alarm. A printed description furnished to the visitors stated that the report of the New York Fire Patrol Committee showed that the prompt announcement of fires had reduced the losses to the extent of seventy-six per cent. in houses provided with indicators, as against those not so provided. He showed the plan of the works he was arranging in the west district for the London Fire Brigade. His electric plan can be applied either to communication from street stations to the central or district office, or by automatic action from small instruments placed in each room of a house, when the heat caused by a conflagration affecting the coiling of a metal spring gives electric contact. Among the art objects bearing on natural history were some interesting vases from Japan obtained by Mr. Gardner, F. G. S., from the Paris Exhibition. They are what are known as Satzuma ware, and illustrate the way in which the Japanese can faithfully represent fish, crabs and other "lower forms" of life, even if they are not so successful with higher animals and the human form. One seemed to express some fable of the migration of tortoises, admirably done, with some long-tailed chiefs or kings leading the migration, while another gave apparently truthful delineations of fish unknown to us. The most remarkable of the Japanese work, however, was a large slab stated to be the largest slab of real porcelain ever made, and level as possible, with a painting of fish in water remarkably well executed. Mr. Crookes, F. R. S., exhibited his exhausted tubes and other apparatus, illustrating various phenomena connected with molecular physics in high

vacua, on which he recently read a paper before the Society. Mr. Ladd showed the effects of examining sections of polarizing crystals under mono-chromatic light, the bands seen being far more numerous than with white light. Among the more popularly interesting of Mr. Browning's exhibits was a new automatic sunlight recorder and an automatic spectroscope designed by Professor Liveing. Professor F. Guthrie contributed a large series of specimens of broken glass in frames, illustrating the fracture of colloids. There were among the many other objects of interest, a collection of birds' eggs made by the naturalists of the Challenger, and photographs of the effects of the great earthquake in Cachar. Besides a large collection of objects of scientific interest, there were many works of art.

At another time we will state more in detail the articles that were exhibited and by whom, as reported to us for the NEWS by our London correspondent. There were five rooms filled with the articles on exhibition. In Room IV. there were exhibited the following:

Microscopes: Pleurosigma Angulatum, with $\frac{1}{8}$ "Oil Immersion" Lens.—*Exhibited by Messrs. Powell and Lealand.*

New $\frac{1}{18}$ Lens by Zeiss, of Jena; designed by Prof. Abbe on the homogeneous immersion system (used with oil of cedar wood), resolving *amphipleura pellucida* in balsam; illuminated with an immersion illuminator designed by J. Mayall, Jr., specially for use with Roos' Zeutmayer Stand, showing striat 100,000 to the inch.

New $\frac{1}{8}$ Oil Immersion Lens, by Powell and Lealand, resolving *frustulia saxonica* (dry); illuminated, etc., etc., showing striat 90,000 to the inch. Used with a dry object, the mirror being placed about 35° from the axis, the illuminating rays, after passing through the illuminator at this inclination, emerge and are incident upon the dry object at an inclination from 80° to 90°, exhibiting the striation with great facility.

Exhibited by Mr. J. Mayall, Jr., and F. Crisp, Sec., Roy. Micr. Soc.

New Microspectroscope, in which a rectangular quartz prism is substituted for the usual metallic slit.—*Designed and exhibited by F. H. Ward.*

Broken Glass, in frames, illustrating the Fracture of Colloids.—*Exhibited by Prof. F. Guthrie, F. R. S.*

A LOBSTER'S BLOOD.—Dr. Leon Fredericq, of the University of Gand, in March last, read a preliminary notice before the Royal Academy of Belgium on the peculiarities of the blood of the common lobster. Long ago Harless indicated the presence in the blood of the crustacea of copper, and it is well known that the nutritive fluid in this group, as well as that in the mollusca, changes its color when exposed to the air. In the crab this change of color is due to the rapid absorption of oxygen, on being mixed with which it assumes a fine blue color, and if the oxygen be taken from it, it resumes its rosy yellow tint. Jolyet and Regnard arrived (1877) at the following remarkable conclusion—that in the crab's blood there were two coloring matters—the one blue, the other red; the first occurs in connection with albumen, which, when coagulated by alcohol, presents a very pure blue color, while the red coloring matter remains in solution in the alcoholic filtrate. Dr. Fredericq arrives at just the same conclusions from his study of the blood of the lobster. The plasma of its blood presents in effect two coloring matters; the rose-colored one is not coagulable by boiling nor in alcohol; it contains no metallic body; it does not change its color either *in vacuo* or when exposed to oxygen. It has nothing to do with the change of the color of the blood. It is not even constant in this fluid, as some lobsters were found to have only the second coloring matter present in their blood. This second coloring matter (*hemocyanine*) is not soluble; both heat and alcohol coagulate it, forming blue clots. It is, therefore, an albumenoid, and it contains copper. When these clots are investigated with the microscope, it is evident that the points of departure for the formation of the blue material are the blood globules. The saline composition of the lobster's blood sensibly approaches that of the water in which it lives. The author suggests that in the invertebrates the two chief functions of the blood—respiration and the nutrition of the tissues—both, belong to its plasma, the globules having quite a

secondary importance; while in the blood of the vertebrates the respiratory function devolves on the globules, and the nutritive function on the plasma.

GLEANINGS.

MALTINE.—This preparation, only recently introduced to the Medical Profession in this country, appears to have earned considerable reputation among the faculty in Great Britain; so we judge from the remarks made regarding it in the European journals.

"At the late meeting of the British Medical Association at Bath in August last, among the exhibits of Pharmaceutical and Medical preparations, much interest was shown in one called *Maltine*, which may be described as a highly concentrated extract of *malted barley*, *wheat* and *oats*.

"Extracts of Malt (*i. e.*, malted barley) are pretty widely known, but this is the first example of a combination of the nutritious principles of these three cereals that we have seen, and the greater value of this combination is apparent, as wheat and oats are especially rich in muscular and fat-producing elements. This preparation is entirely free from the products of fermentation, such as alcohol and carbonic acid, and is very agreeable to the taste.

"Clinical experience enables us to recommend it as a nutritive and digestive agent, in virtue of its albuminoid contents, and its richness in phosphates and diastase, likely to prove an important remedy in pulmonary affections, debility, many forms of indigestion, imperfect nutrition, and deficient lactation. It will in many cases take the place of cod-liver oil and pancreatic emulsions, where these are not readily accepted by the stomach."—*British Med. Jour.*

IODOFORM SERPIGINOUS CHANCROID.—Dr. Watkins reports to the New Orleans *Medical and Surgical Journal* excellent results from the use of iodoform in that most intractable disease, serpiginous ulceration of the inguinal region, a sequel of chanchroid of the penis. He describes his plan as follows:

"The skin around the ulcer was thoroughly washed with castile soap and water, and afterward with a ten per cent. solution of carbolic acid; care was also taken to cleanse

the ulcerated surface of suppuration. The patient was then placed under the influence of chloroform, and stick caustic potash thoroughly applied, first to the edges of the ulceration, afterward to the entire extent of the diseased surface. The result was a black eschar which was detached from its location by carbolized flaxseed poultices. When the slough had become separated, a finely granulating, healthy looking ulcer remained. This was sprinkled twice a day with pure iodoform, and healing occurred with great rapidity. A piece of dry lint was placed over the iodoform, and at each renewal of the application the ulcer was carefully and gently washed with pure water.

"I would add that previous to the introduction of iodoform to the local treatment, the thorough destruction of the ulcer with caustic potash had been tried, but the healing process was uncertain."

Injections of Linseed Oil for the Cure of Chronic Cystitis.—A man, aged twenty-nine years, entered the hospital December 23, suffering from cystitis of six months' standing. Micturition occurred every hour both day and night. The urine contained a large amount of mucus and pus. The ordinary remedies were used without benefit, and finally Dr. Howe proposed to distend the bladder and keep it so as long as possible. The agent he used was linseed oil; eight ounces were used at each daily injection. After the treatment had been continued for a week, the cystitis improved. The pus and mucus disappeared. Micturition occurred only six times in twenty-four hours, and was unattended with pain.

Another patient, aged forty-nine years, was admitted with cystitis of three months' standing. Urine contained both pus and mucus. Micturition was painful, and occurred eighteen times a day. The injections of linseed oil were used as in the previous case. After eight days the pain abated, and he was able to hold his urine for two hours; but at that time he left the hospital and has not reported since.—*N. Y. Med. Journal.*

The Use of the Forceps in Labor.—Dr. Johnson made a report on this subject, lately, to the Obstetrical Society of Dublin. He said that he had for years been an advocate for the more frequent use of the forceps, having seen the injurious effects of long continued pressure on the soft parts. If nature seemed able to accomplish delivery

without detriment to mother or child, let her do so; but when nature seemed unable, the uterus feeble, and the patient exhausted by ineffectual pain, why should we leave a fellow-creature in prolonged agony, when we have at hand certain means of speedy relief? The forceps was perfectly safe, if used by a skilled hand, in suitable cases. The os uteri must be *dilatable*, though it need not of necessity be fully *dilated*. He considered the os fully dilated when the aperture had a diameter of four inches. The more frequent use of the forceps, in his opinion, tended to favor the life of the child and of the mother. He had administered chloroform in five hundred and thirteen cases of forceps operation, without any unpleasant consequences. He always removed the forceps as soon as the occiput was under the pubes and the head bulged the perineum. The forceps he now used was Barnes'. After delivery by the forceps, he always had the vagina syringed out with some antiseptic solution for two or three days.—*Phila. Med. and Surg. Reporter.*

Trommer Extract of Malt.—We have used the Extract of Malt manufactured by the Trommer Extract of Malt Co., of Fremont, Ohio, and have found it to be a preparation of very great value. The virtues of good Malt Extract in many ailments are rapidly becoming so well known that it scarcely needs a word of commendation from us, except to give our opinion of the properties of the preparation and its compounds, as now so extensively manufactured by the firm above referred to. It is indicated in all diseases accompanied or caused by impaired nutrition, simple or tuberculous, acute or chronic. In the convalescence of fevers, pneumonia, bronchitis, etc., the wasting diseases of children, joint affections, the emaciation accompaning uterine disorders, certain forms of dyspepsia, neuralgia—in fact, in cases where we would expect *food medicines* to be beneficial, the Malt Extract alone, or at times combined with iron, hypophosphites, pepsine, etc., will give most satisfactory results. One of the best tests of the value of an article is the quantity consumed; and we are informed that the company is sending out immense quantities, not only throughout Canada and the United States, but also to Europe, where their malt stands high in the estimation of those who are perhaps slower to adopt anything new or foreign than we are on this side of the Atlantic.—Editorial in *Canadian Journal of Medical Science.*

The Surgical Treatment of Anasarca.—Mr. H. Adolphus Wickers communicates the following (*Medical Times and Gazette*, January 4): The legs having been well oiled and a rubber sheet placed under them, about twenty or thirty punctures are rapidly made in their sides with a stout needle or hare-lip pin; some sponges which had been squeezed out in a saturated water of solution of salicylic acid are now placed against the punctures, so as to absorb the fluid as it transudes; these sponges, as they become filled, are squeezed out, and again passed through a solution of salicylic acid, before being again placed against the patient's skin. In this manner renewals may be required about every two or three hours; and four or five pints of fluid may be drained away during the first day, the whole process being possibly completed in four or five days, at the end of which time the punctures are usually healed. By the use of salicylic acid, decomposition of the dropsical fluid does not occur, the sponges are kept free from fetor, the skin is not irritated, and cutaneous inflammations of a low type are entirely prevented.—*Phil. Med. Times.*

Diarrhea in Children.—The indications for treatment of the majority of the cases of children's diarrhea are, to prevent and relieve indigestion, and to maintain the health and power of the nervous systems. These indications are met by hygienic measures, and a very moderate use of medicine. The sensitive stomach of the sick child is liable to revolt against large doses, strong odors, and unpleasant tastes.

A severe diarrhea in a nursing child will sometimes be relieved by *seeing to it* that the nurse has sufficient and varied food; is free from worry and disease; is cleanly, especially as to her nipples; has an abundance of fresh air; is not overheated; that she has no dyspepsia or constipation.

As an artificial food for babies, cow's milk is still the best, provided it is pure, fresh and can be easily digested.

In over one-half of the cases of diarrhea that have come under my care during the last few years, pepsine has been the only medicine necessary; has been given after each movement, in 3 to 5 gr. doses, in milk, or in a mixture of glycerine, dilute muriatic acid, cinnamon, or winter-green water, or combined with bicarb. sodæ, 2 grs., if there was

much acidity of the secretions. If an astringent is necessary it may be added to the pepsine mixture. Generally 5 or 10 drops of the fl. ext. of blackberry root, or of the geranium maculatum, is sufficient for a dose. These astringents have seemed to me to be preferable to kino, catechu, etc.

The medicinal *mist rhei. et sodæ* has been used in about one-fourth of the cases where an astringent and alkali were needed. Generally but a few doses were needed when pepsine could be used.

Malarial diarrhea is relieved by the inunction of 3 grs. of quinine twice or thrice a day till 12 gr. are used.

The hypodermic injection of 1–90 grs. of strychnia, p. r. n., in severe prostration, not otherwise amenable to treatment, is valuable.

One-drop doses of tr. or wine of ipecac., or a fraction of a drop of the fl. ext., or of ac. carbolic, given every hour, will ordinarily relieve the vomiting occurring with diarrhea.—*Dr. Jerome Walker, Brooklyn.*

Cremation.—The Municipal Council of Udine, in Northern Italy, has lately published a decree, in which it declares that, after having duly weighed and considered the advantages and drawbacks of cremation *versus* interment, it has come to the conclusion that the former is in every respect preferable, for the following reasons: 1. In a hygienic point of view, it is undoubtedly the best way of disposing of dead bodies. 2. It is a mark of progress, because, by making cremation optional, the individual is at liberty to choose between the two modes of burial. 3. Considered from a scientific, social, religious and sentimental point of view, no valid reasons can be brought forward against it, while many very good reasons might be quoted for it. 4. The expenses would not be heavier than those of an ordinary burial. Cremation has been long introduced, and is carried out, at Milan, as at Gotha. It is now also officially authorized in Paris. We shall be glad to welcome it in Philadelphia.

Treatment of Epididymitis.—Professor Zeissl, of Vienna, after a thorough trial of the method of Professor Hourod, of Lyons, states (*Allgemeine Med. Zeitung*, No. 46) that he prefers it to all the other methods he has employed. He treats all stages of the disease in the following manner: The scrotum is first enveloped in one or two thicknesses of wadding; over this is applied a square

piece of india-rubber sheeting, through a hole in which the penis is passed. A suspensory is then adapted so as to support the testicles as immovably as possible. The patient is able to go about and attend to his affairs without pain or inconvenience, and the apparatus may be allowed to remain for a week. The perspiration of the scrotum is not interfered with. This is regarded as very beneficial.—*Gazz. Med. Ital. Venete.*

Treatment of Chronic Cervical Metritis.—John M. Bennett, M. D., Liverpool, treats this disease by injecting the cervix with iodine by means of a long pointed hypodermic syringe. The solution is composed of

℞

Iodidi,	
Bromidi potas,	aa gr. xx;
Tr. iodini,	ʒ ss;
Aq.,	ʒ ii.

Three or more punctures are made, according to the amount of hyperplastic tissue to be absorbed. Three operations are generally sufficient. Has never known it to cause any disturbance, while it has effected many cures after other methods had failed.—*Dublin Journal of Medical Science.*

It is announced that a preliminary examination will be instituted next year by the University of Pennsylvania for admission into its medical department, which every candidate who has not previously received a collegiate degree must pass. "The applicant will be required, first, to write a brief essay, not exceeding a page of foolscap, which will serve as a test of his qualifications in orthography and grammar; secondly, to undergo an examination in the elementary principles of physics, as contained in Fowne's Chemistry; thirdly, to pass an examination in easy Latin prose translation (first book of Cæsar's Commentaries). In lieu of Latin any language other than English may be substituted. The new regulation is intended to go into effect in the fall of 1880.

Milk Fever.—Winckel, Hecker, Grunewaldt, Barker and D'Espine have entirely abolished milk fever, and see in the febrile disturbances which sometimes appear when the function of lactation is being developed only evidence that the system has absorbed a small dose of septic poison.

As far as my own experience goes, I have never seen a case of milk fever occur in a patient where I was satisfied that the uterus was completely and thoroughly emptied and firmly contracted; but I have frequently seen it where clots and coagula remained in the uterus, undergoing decomposition, and passing out with the lochia about the second or third day.—*Dr. Brown, in Maryland Medical Journal.*

A PECULIARLY unfortunate occurrence took place recently in this city. A lady, twenty-eight years of age, went out early in the evening to go to consult a physician. As she did not return as soon as she promised, her husband went after her, and found her lying apparently dead in the office, and the doctor and his niece engaged in trying to resuscitate her with the galvanic battery, but their efforts were unsuccessful. It is alleged that she was the victim of malpractice, but the report of the coroner's physician has not yet been communicated for publication.—*Boston Med. and Surg. Jour.*

A FATAL PRESCRIPTION.—A woman died recently in a small town of Thuringia, of an overdose of opium, which was administered on a physician's prescription. In prescribing laudanum he had neglected to put the sign "gtt." beside the figure "15," and the druggist's apprentice had put up 15 grammes (nearly half an ounce) instead of 15 drops. The physician, the druggist, and the apprentice were indicted for having caused the death of the woman by negligence, and the first was condemned to one month, the second to two months, and the third to three months imprisonment.

PARACENTESIS PERICARDII.—Several successful cases of paracentesis of the pericardium have been reported in Europe and America, so that the operation has come to be regarded as a perfectly legitimate and favorable one in certain cases. A small aspirator needle is generally used, and no difficulty has been experienced in the operation. The needle is introduced in the fifth intercostal space, nearly in the position of the normal apex-beat.

URTICARIA—BISULPHITE OF SODA.—Dr. Carter, Mt. Jackson Ind., states that the hypodermic injection of a saturated solution of bisulphite of soda in urticaria is the most prompt remedy in relieving this affection bhturoee lesom,

has yet tried. It appears to act upon the periphery of the cutaneous nerves as does belladonna, except that the latter has a heating and the former a cooling effect.—*Med. Brief.*

Elastic Adhesive Plaster is prepared by Dr. W. P. Morgan, of Baltimore, Md., by giving india-rubber tissue or sheeting a coating of plaster, made by mixing together lead plaster, 1 lb., and resin, 6 drachms. It is an excellent covering in cases of psoriasis, intertrigo, eczema, etc., and its elasticity makes it invaluable in securing the coaptation of incised wounds, and in the treatment of abscesses.

Tapeworm may be killed in an hour, says Dr. Betelheim, of Vienna. Make a very concentrated decoction of pomegranate root, and administer from 200 to 400 grammes by means of an æsophageal tube; patient having fasted for twenty-four hours. The worm is stupefied, and is expelled, head and all, in an hour or two. The drug causes no sickness and nausea. It is cheaper than kousso and kameela.

A Milk Test.—A German paper gives a test for watered milk, which is simplicity itself. A well-polished knitting needle is dipped into a deep vessel of milk, and immediately withdrawn in an upright position. If the sample is pure, some of the fluid will hang to the needle; but if water has been added to the milk, even in small proportions, the fluid will not adhere to the needle.

Treatment for Chilblains.—A good wash for the hands or feet affected with chilblains is:

Sulphurous acid, . . .	3 drachms.
Glycerine, ...	1 drachm.
Water, ...	1 drachm.

This acid is particularly useful in the irritating, tormenting stage of chilblains.—*Lancet.*

Salicylic Acid against Tænia.—After trying almost all other remedies in vain, Marynowski administered to a lady who had suffered with tænia solium for nine years, 0.5 salicylic acid four times at intervals of one hour and then gave a tablespoonful of castor oil. This treatment proved painless and perfectly successful.—*Apoth. Ztg.*

INHALING-FLUID FOR ASTHMA, CROUP, ETC.—

℞. Chloroform, ... 15 parts.
Ether, ... 30 parts.
Spirits of Turpentine, . 5 parts.

Mix. Pour a teaspoonful on a cloth and keep it about three or four inches from the mouth, until the attack is over.—*Medical Brief.*

CHLORICAL IN RETENTION OF URINE.—In a case of retention of the urine for twenty-four hours in a case of pregnancy, wherein catheterism had failed, Tidd gave two ten grain doses of chloral at a half hour's interval, with the effect of producing profound sleep and the spontaneous passage of an enormous quantity of urine.

CHLOROFORM POISONING AND TREATMENT.—Prof. J. A. Larabee successfully treated such a case with gr. $\frac{1}{10}$ digitaline, hypodermically, the dose repeated in one and a half hours, A little later gr. $\frac{1}{10}$ atropia was given hypodermically. Four hours from the time the doctor first saw the patient both pulse and respiration had recovered their tone.

SALICYLIC ACID AS AN ANTAPHRODISIAC.—Two cases are reported of loss of sexual power by the free use of salicylic acid in rheumatism. In one, recovery did not take, place for three months.—*Pacific Medical and Surgical Journal.*

BOOK NOTICES.

LONG LIFE, AND HOW TO REACH IT. By Joseph G. Richardson, M. D., Professor of Hygiene in the University of Pennsylvania, etc. 16mo. Pp. 160. Philadelphia: Lindsay & Blakiston. Cincinnati: R. Clarke & Co. Price, 50 cents.

This is the second of the series of *American Health Primers*, by American authors, in course of publication by Messrs. Lindsay & Blakiston, of Philadelphia, which we announced some months ago. We noticed the first one in a previous number of the NEWS.

After "Introductory Considerations," we have treated in this little work at length, and in a very entertaining and instructive manner, the "Causes of Disease, and How to Avoid Them;" Heat and Cold as Causes of Disease;"

"Contagion, and How to Escape It;" "Clothing, and How to Wear It;" "Pure Air, and How to Breathe It;" "Pure Water, and How to Obtain It;" "Baths, and How to Take Them;" "The House, and How to Build It;" "Food, and How to Digest It;" "Impurities in Food and Drink, and How to Detect Them;" "Exercise, and How to Take It;" "Sleep, and How to Secure It;" "Mental Power, and How to Retain It;" "Parasitic Enemies, and How to Escape Them;" "Old Age, and How to Meet It." No physician or "layman" can possibly invest fifty cents better than in the purchase of this work. It is very entertainingly written, and contains very much useful information, indeed—information of a kind the more it is wide-spread the better.

As we fear some of our subscribers are not as fully impressed with the importance of vaccination as they should be, we take the liberty to quote what the author has to say in regard to it on page 41:

"The method, then, to avoid the contagion of small-pox is to be vaccinated and revaccinated, at intervals of about seven years, or even oftener, if the disease happens to be unusually prevalent. Every child should be vaccinated at the age of from six weeks to three months (or sooner, if there is small-pox in the neighborhood), with fresh vaccine-matter direct from healthy calves, in order to avoid any possible contamination with the poison of human constitutional diseases. Such virus can now be procured in all of our large cities, and if obtained from responsible dealers is, I believe, quite reliable. The operation should be repeated until it 'takes' perfectly, and is an imperative duty which every parent or guardian owes to his child, as well as to the community at large, without a day's delay, beyond the time above indicated, as that suited for its performance. If each parent or guardian who reads these lines, whilst an unvaccinated infant lives beneath his roof, will but consider for a moment what a life-long sorrow it would be to see, day after day, that dear little innocent face scarred and disfigured by small-pox *always*, simply in consequence of carelessness or neglect to protect it from the destroyer in time, I believe we might soon hope to behold the last of this dreadful malady. Revaccination is necessary, because, although in a majority of instances, a single perfect vaccination protects through life, in a minority of cases this security becomes less and

less with advancing years; and, as yet, we have no means of distinguishing these unfortunate individuals of the latter class, except by reinserting the virus."

POCKET THERAPEUTICS AND DOSE BOOK: With Classifications and Explanations of the Actions of Medicines; Min. and Max. Doses in Troy Weights, with their Equivalents in the Metric Weights; Index and Definitions of Diseases, with Appropriate Remedies; Genitive Endings of all Medicines and Preparations given in Italics; Index of Common Pharmaceutical Names; Classification of Symptoms; Poisons and their Antidotes; Useful Hints to the Prescriber. By Morse Stewart, Jr., B. A., M. D. Second edition, revised and enlarged. 24mo. Pp. 263. Handsomely bound in cloth. Price, $1; in morocco, $1.30. Detroit: Geo. D. Stewart.

The long title of this little work, as we have copied from the title-page, presents very well its scope without any further description. It is one of those little books which is *multum in parvo*, and which the young practitioner, and older ones, too, sometimes, will often find convenient to consult. It has very much valuable information, which, without it, would have to be sought for through many different works.

EDITORIAL.

YELLOW FEVER.—This dread scourge has again this summer appeared in the city of Memphis in epidemic form. A death or so occurred the 9th of the present month, July, and the result was quite a panic among the inhabitants, so much so that many hundreds left the city for Northern places. But some five or six cases having occurred, one or more proving fatal, several days elapsed before any new ones made their appearance, and it began to be hoped that the cases which had occurred were but sporadic ones, and that no others would follow. The expectation, however, has been disappointed. New cases have sprung up, and at the present time, July 21, there are probably from fifty to seventy-five persons down with the disease. Next day there were reported five deaths and ten new cases. People are leaving the city in great

numbers. It is stated that every railroad train that goes out is crowded with passengers. The authorities are sending to the country very many of the poorer classes, and the Jewish Association is finding transportation for the poor of that religious denomination. The great exodus, by removing victims, will lessen a great deal the number of cases.

Up to the present time the disease has not exhibited the malignancy it did last year; but it has only commenced. It is very probable that in a few days it will show no diminution in malignancy from the past. In fact, we would not be surprised if, during this summer, it exhibited an increased malignancy.

We are glad to learn that the sanitary authorities keep on in the good work of cleaning the streets and alleys, taking care at the same time to disturb nothing that will act as food for the fever. Localities where the fever prevails are disinfected, and bedding, clothing, carpets, etc., used by patients before dying are destroyed.

Health Officer Minor, of this city, has established quarantine here. The following are his regulations:

1. Every Southern passenger train entering Cincinnati will be inspected by a medical officer of the Health Department, who shall examine the condition of passengers and baggage, and, if satisfied with the result of his inspection, shall give to the conductor of such train a certificate of health.

2. It shall be the duty of the conductor to give the medical examiner all the information he requires regarding the residence and destination of his passengers, and such other information as the said examiner may require. Passengers will also be obliged to answer any questions that the examiner may deem necessary.

3. All baggage shall be inspected by the medical examiner, and in case he has reason to believe that the aforesaid baggage has been exposed to infection from yellow fever, the conductor will see that such baggage is not allowed to enter the corporate limits of this city.

4. All sleeping coaches or cars from points south of Louisville are forbidden to enter the city of Cincinnati. Such coaches or cars must transfer their passengers and baggage three miles from the corporate limits.

5. All passengers or persons having suspicious symptoms are strictly forbidden to enter the city limits, and

no certificate shall be issued to the conductor of trains if such passengers are found.

6. No household goods or effects shall be carried by passenger or freight trains from points south of Louisville, or shipped thereto and reshipped.

7. No conductor of Southern trains shall allow his train to enter the corporate limits without the certificate of the medical examiner.

8. Non-compliance with these rules and regulations will be considered as a violation of the Ohio Quarantine Act, and the President and officers of all railroad corporations will be held to a strict account for the same.

EVOLUTION.—Dr. J. W. Draper, in his "Conflict," has the following to say in regard to "Evolution:" "If any one should object to or deride the doctrine of the evolution or successive development of the animated forms which constitute that unbroken organic chain reaching from the beginning of life on the globe to the present times, let him reflect that he has himself passed through modifications the counterpart of those he disputes. For nine months his type of life was aquatic, and during that time he assumed, in succession, many distinct but correlated forms. At birth his type of life became aerial; he began respiring the atmospheric air; new elements of food were supplied to him; the mode of his nutrition changed; but as yet he could see nothing, hear nothing, notice nothing. By degrees conscious existence was assumed; he became aware that there is an external world. In due time organs adapted to another change of food, the teeth, appeared, and a change of food ensued. He then passed through the stages of childhood and youth, his bodily form developing, and with it his intellectual powers. At about fifteen years, in consequence of the evolution which special parts of his system had attained, his moral character changed. New ideas, new passions, influenced him. And that that was the cause, and this the effect, is demonstrated when, by the skill of the surgeon, those parts have been interfered with. Nor does the development, the metamorphosis, end here; it requires many years for the body to reach its full perfection, many years for the mind. A culmination is at last reached, and then there is a decline. I need not picture its mournful incidents—the corporeal,

the intellectual enfeeblement. Perhaps there is little exaggeration in saying that in less than a century, every human being on the face of the globe, if not cut off in an untimely manner, has passed through all these changes."

Dr. Draper seems to be an admirer of the "horrid" doctrine of predestination of John Calvin, the great reformer of Geneva. Our readers are aware that no theological belief has been so greatly anathematized as that taught by Calvin in his "Institutes" as follows: "We were elected from eternity to eternal happiness before the foundation of the world, from no merit of our own, but according to the divine pleasure." Also, in 1595, the Lambeth Articles asserted that "God from eternity hath predestinated certain men unto life; certain he hath reprobated." The Episcopalian, or Church of England, in its seventeenth Article of Faith, adopted pretty much the same view, although we believe now it does not adhere to it very closely, and is regarded as Arminian.

Dr. Draper says that the general adoption of this doctrine of predestination that nearly all the early Protestant churches brought about, that, in all reformed Europe, miracles ceased. That shrine-cure and relic-cure ended, and with them the great pecuniary profits. It implied a protest, he says, against the doctrine of incessant divine intervention in human affairs, invoked by sacerdotal agency. It proclaimed *a government by-law,* instead of one without law and liable to constant change. It precluded all chance of change in the Divine will, and insured reliableness in the conduct of the world. Of course such a doctrine being true, there was no hope of purchasing eternal happiness by buying indulgences.

Such men as Draper, Buckle, Herbert Spencer, etc., express emphatically their belief that nothing in human affairs, even in regard to the smallest and least important matters, is left to chance; but that every occurrence is the effect of an adequate cause going before, which cause had been brought into existence by another, or others, preceding it. Says Buckle, in his "History of Civilization in England:" "In the ordinary march of society, an increasing perception of the regularity of Nature destroys the doctrine of chance and replaces it by that of 'necessary connection.'" In a subsequent paragraph he writes: "On the one hand we have the human mind obeying the laws of its own existence, and, when uncontrolled by ex-

ternal agents, developing itself according to the conditions of its organization; on the other hand we have what is called Nature, obeying likewise its laws, but incessantly coming in contact with the minds of men, exerting their passions, stimulating their intellect, and, therefore, giving to their actions a direction which they would not have taken without such disturbance. Thus we have man modifying Nature, and Nature modifying man; while out of this reciprocal modification all events must necessarily spring." He regards as a fallacy the testimony of consciousness that the individual acts according to his free will. The savage, for instance, supposes he leads the kind of life he does from choice, but all know that he is controlled by his environments. Dr. Maudsley, in his work on the "Physiology and Pathology of the Mind," in evidence of the fallacious testimony of consciousness, refers to the insane man whose consciousness testifies to him that he is a free agent, acting as he pleases, when all know that his whole conduct is the result of disease.

THE PLAGUE.—The following brief abstract of a lecture delivered by Professor Virchow, before the Medical Society of Berlin, contains the essence of the views held by that distinguished observer concerning the plague: He agrees with old observers regarding the swelling of the lymph-glands, the so-called buboes, as the most striking feature in the disease. It is still an open question, however, whether or not these buboes constitute an essential factor of the disease; whether the so-called fulminating forms may not run their course without glandular swellings. The glands accessible to palpation are not the only ones involved; the entire gland-chains appertaining to the individual regional affections are progressively attacked. The characters of the glandular swellings are analogous to those of the gland-swellings in typhoid fever; they consist of cellular hyperplasia, with more or less hyperæmia, and hemorrhagic effusions. The mode of ulceration, however, is perhaps different. In typhoid a small spot of central necrosis forms, and suppuration takes place around it, but within the limits of the gland; in the plague, on the contrary, according to the more trustworthy observers, the suppuration takes place around the gland. Professor Virchow is not disposed, however, to accept this state-

ment unqualifiedly, although he possesses no facts on which to base a contrary opinion. He believes that in the recent Russian outbreak the disease was the Oriental, and not the Indian plague; the last outbreak of the latter took place in 1838.

Next in point of interest to the buboes are the carbuncles. These occur in about one-fifth of the cases. They are located on the surface of the extremities and on the breast, and present the closest resemblance to the carbuncles of anthrax. They commence as small, red swellings, which grow very rapidly, and extend to the deeper structures; a vesicle forms on the top of each swelling, and bursts, and an ulcer then develops, which destroys the tissues deeply. Professor Virchow has not met with any description which would lead him to admit the occurrence of carbuncles in the internal organs. The petechiæ are often accompanied by larger ecchymoses. These are met with in the internal organ as well as on the surface of the body; and, in fact, the internal hemorrhages seem to be more constant than the external. In the clinical histories of the Oriental plague Professor Virchow has been struck by the great frequency of homorrhagic affections of the urinary organs; hemorrhages from the lungs are much less frequently recorded. The splenic tumor is a very constant and important symptom. Swellings of the liver and kidneys have also been reported; they are probably due to acute parenchymatous changes.

Professor Virchow believes that the epidemic which raged in Kurdistan and Mesopotamia, and was declared by the Turkish surgeons to be petechial typhus, was really the plague. He draws attention to the fact that specific local affections, and more especially glandular affections, are exceedingly rare in typhus, of which the exanthem, the splenic tumor, and the parenchymatous swelling of the liver and kidneys, and sometimes of the cardiac muscle, constitute, as a rule, the sole lesions. When told that an epidemic of petechial typhus, with "metastatis bubonica," rages in any place (as in Salonica), he is disposed to believe that the disease is really the plague. With regard to prophylaxis, he believes in the efficacy of a strict water quarantine, and of isolation, by means of successive cordons of soldiers, of small, affected districts; but thinks the attempt to quarantine the entire

Russo-German boundary impracticable. For the disinfection of garments, etc., he prefers dry heat, which he believes to be much more effective than sulphurous acid. He thinks that, of all diseases, anthrax presents the closest analogy to the plague.—*Berliner klin. Wochen.*, March 3.

PARKE, DAVIS & CO., MANUFACTURING CHEMISTS.—Among the establishments which have done much to spread the high reputation of Detroit manufacturers none are more widely known than the enterprising house of Parke, Davis & Co. Starting in 1867 from small beginnings, and having to contend with the disadvantages of a declining market, powerful competitions and the then existing prejudice against Western manufacturers, this house has in the short space of eleven years found place in the foremost rank of chemical industries, and in its peculiar specialties is unequaled by any American laboratory.

The attention of this firm is confined to the production of fluid and solid extracts, sugar-coated pills, and granules, concentrations, elixirs, wines, syrups, confections, cerates, spread and roll plasters, medicated lozenges, granular effervescing salts, pepsine, ammonia, chloroform and various other chemical and pharmaceutical products which are required by the dispensing chemists. In the drug trade their brand is known from Maine to California, while their exports are rapidly increasing.

Parke, Davis & Co. have given special attention for the past five years to the introduction of goods hitherto unknown to the medical profession. The expense attendant on their researches in the wilds of South America, the Sandwich Islands, and our own far Western States, has been great, but the resulting success has been gratifying to the firm. So far they have been fortunate enough to have introduced none but remedies of great medicinal value, among which are: *Eucalyptus Globulus*, the new Australian fever and antiseptic remedy; *Guarana*, the Brazilian sick headache remedy; Coto Bark, from Bolivia, for diarrhœa; *Grindelia Robusta*, from California, for asthma; *Grindelia Squarrosa*, for splenetic affections, also from California; *Fucus Vesiculosus*, to reduce fat; *Caseara Sagrado*, for constipation; *Berberis Aquifolium*, for scrofula; *Yerba Reuma*, for catarrh; *Yerba Santa*, for bron-

chitis; *Jaborandi*, to produce perspiration; Kava Kava, Cedron Seed, and many others.

Merchants like these—enterprising, sagacious, and powerful—build up a city and make its name a synonym for progress and power. The number of such firms in any one community must be few, but their influence is wide and the value of their example can not be overestimated.

THE AMERICAN MEDICAL ASSOCIATION.—The thirteenth annual meeting of the American Medical Association was held at Atlanta, Georgia, on the 6th ult. and three following days, under the presidency of Dr. Parvin. The meeting was not as largely attended as on some former occasions, but it lacked nothing in the interest generally manifested, the character of the papers read, or the outcome of the social element. The President delivered an eloquent annual address appropriate to the occasion. He spoke of Atlanta, Georgia, as being almost entirely exempt from malaria, tuberculosis, or yellow fever. He also alluded to the progress recently made in sanitary science, and the value of an enlightened and thorough system of internal sanitary regulation, and the properly regulated system of quarantine in preventing the occurrence of epidemics, such as the yellow fever scourge.

Dr. Seguin, of New York, presented the report on the metric system, which was adopted, and a resolution was carried declaring that the association shall adopt this system. Dr. T. F. Rochester, of Buffalo, chairman of the section on medicine, read an able and exhaustive paper on "Yellow Fever." It was one of the best, if not the best paper read at the meeting. A very able paper on "Sanitary Science," by Dr. J. S. Billings, was next read by Dr. Woodward, in the absence of the author from illness.

Dr. N. S. Davis, of Chicago, moved that the code of ethics be amended prohibiting any physician from teaching or encouraging any student of an irregular or exclusive system of medicine. This motion occasioned considerable discussion. Dr. Dunster, of Ann Arbor, made a most eloquent and able speech in opposition to the amendment. Several members also spoke to the resolution, which was finally tabled till next year. Dr. Chaille, of New Orleans, read an interesting paper on "State Medicine," in which he recommended among other things that the Central Board of Health should be centered in the American

Medical Association. Dr. Gunn, of Chicago, chairman of the section on surgery, read an able dissertation on "Pus" which was well received by the association. A considerable amount of interesting and valuable work was done in the various sections, and many excellent papers were read and discussed, which we have no space to particularize. Dr. H. Hutchins and Dr. W. Brodie were appointed delegates to the Canadian Medical Association.

Dr. Sayre was elected President for the ensuing year, and New York appointed as the place of next meeting, on the first Tuesday in June, 1880.—*Exchange.*

A CORRESPONDENT of the New York *Times* calls attention to the fact that "homeopathy," as a distinctive theory of medicine, is about being abandoned as irrational. Dr. Wyld, Vice-President of the British Homeopathic Society, has written Dr. Richardson, a distinguished member of the so-called "Regular School," that a large number of the homeopathists of Great Britain desire to drop their distinctive name, and to be incorporated into the ranks of the Allopathists. Dr. Wyld refers to the fact that many of the Regular School have renounced all the heresies of the past in the treatment of acute disease, while, on the side of his school, nearly all have abandoned the use of globules, and have substituted therefor doses in a tangible form. The following extra from Dr. Wyld's letter will give an idea of what experience has demonstrated to be irrational in homeopathy practice:

"To recapitulate. We admit:

"First—That the views expressed by Hahneman are often extravagant and incorrect.

"Second—That Hippocrates was right when he said: 'Some diseases are best treated by similars, and some by contraries,' and therefore it is unwise and incorrect to assume the title of homeopathist.

"Third—That although many believe that the action of the infinitesimal in nature can be demonstrated, its use in medicine is practically (by a large number in this country) all but abandoned."

Similia similibus curantur—rendered vulgarly, a little of the hair of the dog is good for his bite—is found to be a delusion, and more to be honored in the breach than in the observance, and the school based on it is to give up the ghost and pass away. We confess to a liking for it,

on account of children, to whom the nauseous doses of the old school were always so repulsive. They would cry for the medicine of the one, and gag at that of the other. What will the poor little things do now? The compensation, however, will be that doctors will no longer disagree, and we shall all go off *secundum artem*.

How to Postpone the Use of Spectacles. — Dr. W. Cheatham writes to the Louisville *Medical News*:

"Till lately I have advised the use of spectacles the instant their want is felt; but now we have in sulphate of eserine a remedy (and a safe one, I believe), by which the wearing of glasses can be put off for several years. In presbyopia we have loss of distinct near vision, caused partly by the loss of power in what is known as the ciliary muscle. Eserine is a stimulant to this muscle, producing contraction, and in that way assists in accommodation.

"From my results so far I believe that spectacles may be dispensed with for several years after their want is first felt. I usually order eserine sulphat. gr. j; aquæ dest., ℥ j; one drop to be put into each eye at bedtime. On account of the artificial myopia produced I order it to be put in at bedtime. It may be dropped in at any time, as the myosis soon passes away.

"Besides its employment in glaucoma and other inflammations of the eye, and in presbyopia, I have found it of great use in asthenopic (weak) eyes, depending upon oversightedness and weakness of accommodation, the latter the result of either overwork, general debility, diphtheria, etc.

"Spectacles in presbyopia (the loss of near vision from age) always gives ease; but there is a certain discomfort from the use of glasses, besides many other objections brought forward by patients, all of which, as a usual thing, can be referred to pride. This pride we should humor as much as possible. If by means of the eserine we can give them as great comfort and preserve their eyes as well as by means of spectacles, I think it proper that we should do so."

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ORIGINAL CONTRIBUTIONS.

Michigan State Board of Health.

Reported for the MEDICAL NEWS.

The quarterly meeting of the State Board of Health was held in the office of the Secretary, in the new Capitol, Lansing, Tuesday, July 8, 1879.

The following members were present: R. C. Kedzie, M. D., of Lansing, President; Homer O. Hitchcock, M. D., of Kalamazoo; Hon. Leroy Parker, of Flint; Rev. Daniel C. Jackson, D. D., of Pontiac; Henry F. Lyster, M. D., of Detroit; John H. Kellogg, M. D., of Battle Creek; and Henry B. Baker, Secretary.

PRESIDENT'S ADDRESS.

President Kedzie gave a brief history of the legislation relative to illuminating oils in this State, beginning with the law of 1869. This law provided for county inspection, but was not generally enforced. The Legislature of 1873, which passed the law for establishing the State Board of Health, also passed a law raising the flash-test for oil to 150° F. The State Board of Health began its work with this law in force. In 1875 the Legislature reduced the flash-test to 140° F., and increased the inspection fees. There were scarcely any casualties under this law, but the illuminating qualities of the oil were not always good. Dr. Kedzie, as a committee of the State Board of Health, devised the chill-test, which was recommended to, and adopted by, the Legislature of 1877, and secured a good and safe illuminating oil. The Legislature of 1879 abolished the chill-test, and reduced the flash-test to 120° F. Each time the law has been changed the

cost of inspection has been increased, and the last law will entail an annual expense of about $12,000 for inspection, above the expense incurred under the law of 1877.

INTERESTED FOREIGNERS.

The President presented a letter from Theodore H. Monk, of the meteorological office at Toronto, asking for a set of reports of this board, as they desire to inaugurate a system of health and weather observations similar to that of the Michigan board. Secretary Baker presented a communication from the Secretary of the Epidemiological Society, of London, expressing great interest in the work of the Michigan board, especially that for the registration of disease.

A letter was presented from Mr. Avery, of Baltimore, relative to

LEAD POISONING,

As set forth by Dr. Kedzie's articles on that subject, and claiming that he had demonstrated that electroplating the tin cans used in preserving fruit, and tin utensils of all kinds, with a thin coating of silver, would prevent any poisoning thereby.

CATTLE DISEASES.

A communication was presented from A. J. Murray, veterinary surgeon at Detroit, relative to "Cattle Diseases in Michigan," and their relation to public health; also a part of a letter from a member of the National Board of Health on a similar subject. These communications were referred to the new standing committee on "Diseases of Domestic Animals as Relates to Public Health."

THE SECRETARY'S REPORT.

Secretary Baker presented his report of the work in the office during the last three months. It included the distribution of a large number of the regular reports and other documents, and of the registration report of births, marriages, and deaths. These were sent to meteorological observers, regular correspondents, sanitary exchanges, and other persons interested in such subjects in Michigan. Names and addresses of health officers were received from seven hundred and sixty townships, one hundred and thirteen villages, and thirty-nine cities. Abstracts of the proceedings of the last meeting were pre-

pared and sent to nine sanitary journals, who desired the same for publication. These journals are exchanges of the board. Meteorological observations were regularly taken in the office of the board, and a condensed statement is each week published in the Lansing *Republican*. Weekly reports from over sixty observers of diseases have been received, examined, and filed. Work on the compilation of these reports, and of the meteorological reports, has been continuously going on. The correspondence of the office is continually increasing, six hundred and six pages of the letter-book being used in copying letters. Quite a number of meteorological instruments have been purchased and sent to observers, and some new stations have been established. A demand for weekly reports of diseases has been made on health officers of cities, as fast as the names have been furnished by the city recorders. The Secretary has spent considerable time in supervising vital statistics, particularly those for 1877, and is studying deaths from certain diseases in a series of years. Many persons have visited the office of the board during the past three months, and most of them express surprise at the magnitude of the work carried on by the board. Communications have been received and referred to the chairmen of appropriate committees, as follows: Dr. Kedzie, fourteen; Dr. Hitchcock, sixteen; Leroy Parker, four; Dr. Jacokes, one; Dr. Lyster, eight.

The board has in mind the

EXAMINATION OF CANDIDATES

In sanitary science; and the examination papers on this subject, used in the University of London and other foreign colleges, have been secured for study in this connection; and Dr. Lyster reported a plan for the examination of physicians in sanitary science.

THE STANDING COMMITTEES

Were reorganized, as follows:

Epidemic diseases, etc—Dr. H. O. Hitchcock.

Sewerage and drainage—Dr. H. F. Lyster.

Food, drinks, and water supply—Dr. R. C. Kedzie.

Ventilation, heating, etc—Dr. D. C. Jacokes.

Climate, etc., in relation to health—Dr. H. F. Lyster.

Disposal of decomposing organic matter—Dr. J. H. Kellogg.

Poisons, chemicals, accidents, etc—Dr. R. C. Kedzie.
Occupation, etc., in relation to health—Dr. J. H. Kellogg.
Relations of schools to health, etc—Dr. D. C. Jacokes.
Sanitary survey—Dr. Jacokes, Dr. H. B. Baker, and Leroy Parker.
Death-rate—Dr. Baker.
Legislation—Leroy Parker.
Finances of the board—Leroy Parker.
Mental hygiene—Dr. Hitchcock.
Diseases of animals—Dr. Baker.
Dr. Hitchcock made a report on

DEPOT PRIVIES,

Which includes letters from the late Dr. Beech, of Coldwater, and J. E. Curtis, Superintendent of the Michigan division of the L., S. & M. S. Railroad, and made specific recommendations for remedying the nuisances which now prevail. Depot privies should never have a vault, but should be water-closets connected with a sewer, or be supplied with dry earth or coal ashes; and it should be made the special duty of a station employe to see that the floors are scrubbed daily, the closets kept clean and in perfect operating order, and the whole closet thoroughly disinfected each day. In places where a sewer is not accessible, the closet in which the dry earth or coal ashes is used should be often cleaned and the refuse buried. For water-closets, he recommended "Rhoads' Porcelain-Seated Hopper Closet," supplied with "Meyer's No. 1 Waste-Preventing Cistern." This closet is arranged to flush when the door is opened, and is just the thing for public places, as the hopper is non-absorbent and the shape prevents persons using it from getting on it with their feet. For smaller stations, where a water-closet could not be used, he described and recommended an exceedingly simple dry-earth closet, but insisted upon the necessity of every-day attention to it by an employe of the station.

The committee on

SANITARY CONVENTIONS

Recommended that one be held in Detroit, in December or January, and the next at Grand Rapids. Efforts will be made to get as large an exhibition of sanitary appliances together as possible. Manufacturers and dealers in sanitary appliances are requested to forward cata-

logues, advertisements, etc., and to correspond with the Secretary relative to placing their wares on exhibition.

A SAMPLE OF RED FLANNEL,

From Dr. Nash, of Lapeer, reported to have caused sores, had been examined by Dr. Kedzie, and found to have been colored with aniline which contained arsenic and tin.

REPORTS OF COMMITTEES.

Leroy Parker made a report as to the proper method of bringing suit in cases of nuisance; also, relative to collecting the statistics for the next United States census, and relative to authority of boards of health to kill horses afflicted with the glanders.

Dr. Kedzie made a report relative to the proceedings of the Sanitary Council of the Mississippi Valley, held at Memphis, and in conjunction with the National Board of Health, at Atlanta. He gave an extended account of the discussions, notably of that on "Quarantine." He spoke of a conversation with Dr. Billings, of the National Board of Health, in which the following statements were made by Dr. Billings: "The quarantine to be established by the National Board of Health must be uniform for the whole country. It is therefore necessary to be very guarded in the action of the National Board, lest requirements which are essential for New Orleans and Mobile may destroy the commerce of New York and Boston. It is proposed to make such sanitary regulations as may and should be enforced in all places, and only such *national restrictions* by quarantine as will not disturb commerce seriously, and for any stringent quarantine in points especially threatened, to secure action by State and local quarantine."

A resolution was adopted favoring the organization of sanitary associations auxiliary to local boards of health.

The usual number of bills were audited, and ordinary business transacted. The next meeting of the board will be on October 14, 1879, at 9 o'clock A. M.

The Hand as a Curette in Post-Partum Hemorrhage.

BY HENRY P. C. WILSON, M. D., BALTIMORE, MD.

On the 21st of May, 1878, at 8.30 A. M., I was called to attend Mrs. J. in her fourth labor; the child was born at

10 A. M., and weighed ten pounds. The head had presented with the occiput to the left acetabulum. There was no necessity for interference in the delivery of the child, but, at her earnest solicitation, I gave a little chloroform from time to time, not enough, however, to destroy consciousness before the last two pains, when it was pushed to the point of destroying her consciousness of the birth of the child.

The head was received with my right hand as it passed comfortably and safely over the perineum, the uterus being grasped firmly with my left hand on the abdomen for the purpose of making it follow the child with the last pain, so as to secure expulsion of the placenta, and, by firm contraction, guard against hemorrhage. The cord was wrapped around the child's neck.

The nurse's hand was made to take the place of my hand, above the pubes, in holding the firmly contracted uterus, while I tied and severed the cord, and removed the child to another part of the bed.

My left hand then took the place of the nurse's hand on the abdomen, when I found that the uterus had enlarged again. The index finger of my right hand found the placenta in the vagina, and a little tightening of the cord brought it away in a perfect state.

Up to this point there had been no visible hemorrhage; but in a few seconds blood poured from her in a perfect avalanche, deluging the bed and running down upon the floor.

I called for ice, and at once passed my right hand into the cavity of the uterus, manipulating its surface, while I grasped its fundus firmly with my left hand. The uterus responded promptly, expelling my hand into the vagina, while I held it firmly contracted with my hand above the pubes. A drachm dose of Squibb's fluid extract of ergot was given, and I considered everything safe; but in a few minutes I felt the uterus enlarging, and another large gush of blood came from the vagina.

My right hand, containing a lump of ice, was a second time passed into the cavity of the uterus, the clotted blood turned out, and the hand and ice retained there until the uterus expelled them. The hand was withdrawn, but the ice left in the vagina. Drachm doses of Squibb's fluid extract of ergot were being given every five or ten

minutes, and two drachms were introduced hypodermically, but it brought no response from the uterus.

A second time I considered the case safe, so firm was the womb contracted under my hand, but I was doomed to disappointment.

In a few minutes the uterus expanded for the third time, and blood came gushing from the vagina. My hand, with a large lump of ice, was a third time carried into the cavity of the uterus with the same results as above.

Allowing the hand and ice to remain in the vagina against the os uteri, the os was found speedily to relax, and up they went for the fourth time into the uterus, to be expelled as before and with no better results.

I then threw half an ounce of Squibb's fluid extract of ergot into the rectum; and with this she had taken one and a half ounces of ergot, and still it had shown no perceptible effect in producing tonic contraction of the uterus. The patient had felt nothing like after-pains.

She was becoming nauseated. I could push the ergot no further. Her face was blanched, her sight dim, and her pulse very frequent and feeble. Instead of profuse hemorrhage at intervals, there was now constant and free bleeding, with an occasionally increased gush. The uterus under the hand, on the abdomen, was evidently much larger than it ought to be, and full of blood.

I began to be apprehensive of the result. The uterus showed not the slightest disposition to tonic contraction. It would contract and expand, contract and expand, as often as means were brought to bear upon its cavity, and withdrawn.

I speedily revolved in my mind cases of obstinate and profuse uterine hemorrhage, not following labor at term, and the means which I had used to arrest them. I thought of hemorrhage from fungous granulations in the cavity of the uterus, and its prompt arrest by the curette; I thought of hemorrhage following abortions, immediately or weeks after, and its prompt arrest by raking off the surface of placental attachment, with the curette or finger-nail. I thought of injections of hot water, Churchill's iodine, Monsell's solution of sub-sulphate of iron, the galvanic battery, compression of the abdominal aorta. The *pros* and *cons* of all these remedies were rapidly considered, and I determined to pass my hand for the fifth time into

the cavity of the uterus, and with my finger-nails, as a curette, rake thoroughly the placental surface.

This was done with the right hand, after all the clotted blood had been turned out, while the left hand, above the pubes, steadied the organ. As I raked, the uterus made efforts to expel my hand, but they were so feeble that with a little effort I was enabled to keep it in the cavity until I had accomplished my purpose pretty thoroughly, before it was expelled into the vagina. The hand remained there only a few seconds, before relaxation of the os allowed it to enter the uterus again, and I proceeded to give the placental surface a second thorough raking with my finger-nails, not being fully satisfied with the first manipulation of this kind.

Feeble were the efforts of the uterus that expelled my hand this time, and in a few minutes it expanded again; but notwithstanding this state of atony, my patient did not lose a teaspoonful of blood after the first raking of the placental surface.

The uterus remained enlarged and its mouth patulous for about forty-five minutes, when severe after-pains set in, producing firm contractions of the organ, and I had no further trouble in the case. The pains continued for several days, and were so severe that I was obliged to give morphia and camphor-water liberally. Her uterus and vagina were washed out daily with warm water, for eight or ten days. I never had a patient make a better recovery.

The frequent and successful use of the curette in my hands, in many cases of uterine hemorrhage where other means had failed, suggested the use of the hand as a curette in the above case; and it will be seen, from the history of this case, that, although the uterus remained relaxed and much enlarged for three-quarters of an hour after my last manipulation, there was no loss of blood from the moment I commenced the use of the manual curette.

In any future case of post-partum hemorrhage, where I can not produce prompt contractions of the uterus, or where the contractions are clonic and not tonic, I would not waste time with the usual manipulations in its cavity to excite contractions, or wait for ice or other styptic remedies. I would promptly use my hand as a curette

to the placental surface, confidently expecting prompt arrest of the hemorrhage.

The cause of clonic contractions of the uterus in this case, and the resulting hemorrhage, is not perfectly satisfactory to my mind. While the patient was in labor I never saw pains better, or more efficient. Each pain told most perceptibly on dilatation of the os, and then on expulsion of the child. There was no delay in its progress from beginning to end. The last pain shut the uterus up, and forced the complete placenta into the vagina, yet in a few minutes the uterus was greatly enlarged and pouring out torrents of blood.

Some, who are opposed to the use of chloroform in labor, may be inclined to contribute the post-partum atony of the uterus in this case to the anesthetic, yet it had no effect in diminishing the force of the pains, or retarding the progress of the labor, even to the point of expelling the placenta; and I may here add, that in a large obstetrical practice of twenty-eight years this is the second case in which I have had any troublesome post-partum hemorrhage, although the cases of labor are very rare in which I fail to give chloroform. My first and only case previous to this was in a primipara, to whom I gave no chloroform, because she and her friends were afraid of it.

The Radical Cure of Hernia.

BY HENRY O. MARCY, A. M., M. D.

[Read before the American Medical Association.]

OCTOBER 11, 1871, I read a paper before the Middlesex County Medical Society, which was afterward published in the Boston *Medical and Surgical Journal*, November 16, 1871, page 315, entitled "A New Use of Carbolized Catgut Ligatures." I there reported the two following cases, operated on for strangulated hernia.

CASE I. "On the 19th of last February I was called in consultation by Dr. A. P. Clarke, of Cambridge, to see Mrs. M., aged sixty, who had for years suffered from hernia. Five days previously she had been seized with severe pain in the inguinal region, accompanied with vomiting, and had been confined to her bed since that time.

"Long-continued and careful taxis had failed to reduce the hernia, and for twenty-four hours the vomiting had been stercoraceous, and the patient seemed *in extremis*. The hernial tumbor was of the size of an egg, protruding from the external inguinal ring. A careful dissection exposed the sac, which was closely adherent to the surrounding parts. The constriction was in the ring, bounded below by Poupart's ligament, and above by the transversalis fascia and conjoined tendon.

"The stricture was divided in the usual way, with the hernial knife carefully introduced upon the finger. This was accomplished with some difficulty, owing to the constriction of the ring. The sac, unopened, was then pushed up with its contents into the abdominal cavity, and two stitches of medium-sized catgut ligature were taken directly through the walls of the ring. The wound was dressed antiseptically, and from Dr. Clark's notes, taken at the time, I find that the patient complained of no pain, steadily progressed without accident, and was discharged, convalescent, March 12th, three weeks after the operation.

"The wound did not close entirely by first intention, but a careful daily examination showed no trace of the ligatures, and an abundant deposition of new tissue could be felt in the line of the opening about the walls of the ring. The result was a radical cure of the hernia, and a firm, hardened deposit may still be felt marking the closure. The ligatures were first suggested to my mind, because the patient suffered severely from an asthmatic cough, and it was at least desirable to secure a temporary strengthening of the weakened ring."

She died six years after the operation, and was troubled with the cough during the entire period, but had no return of the hernia.

Case II. "Mrs. L., aged forty-five, had been very much reduced by excessive menorrhagia, and upon March 10, 1871, my attention was called to an old, direct inguinal hernia of the left side, usually supported by a truss, which had come down the night previously and defied the patient's efforts to replace. After two attempts to reduce the hernia under ether had failed, assisted by W. W. Wellington, of Cambridge, I operated as in the first instance, dividing the constricting ring and replacing the sac and its contents unopened. Three carbolized liga-

tures were applied through the walls of the ring, and the wound was carefully dressed with carbolized lac plaster.

"As in the first case, there was complete absence of pain, the wound united without suppuration, there was an abundant deposit of new material about the ring, and when last examined in June, the cicatrix was linear, but a firm, hard deposit of new tissue could be felt marking the site of the sutures.

"On the 7th of April my attention was called to the wound by the patient, who felt a slight uneasiness, and I discovered a small swelling in the cicatrix about the size of a bean; this, upon being opened, discharged a drop or two of pale, serous looking fluid, which microscopic examination proved free from pus cells, but it contained a few shreds of connected tissue, which appeared to be minute portions of one of the ligatures. The cure is radical, and in neither case has the patient used a truss since the operation."

I then say, as far as my observation has extended, this is a new use of the carbolized catgut ligatures, and suggests a still wider field for application. No method of operation for radical cure of hernia appears more feasible, is probably attended with less danger, and at the same time affords a means of closing and strengthening the weakened ring, which is so desirable, and yet, with all the ingenious devices of surgery, is so difficult to obtain. As perhaps might have been expected, the article attracted very little attention, written by a young man fresh from his European studies and an ardent admirer of Professor Lister, whose views at the time, I believe, were not accepted by a single surgeon in the Boston district.

In these days of improved means for the reduction of hernia, by the use of ether, by aspiration, and by rest with the hips higher than the shoulders, with the ice-bag applied locally, the surgeon in private practice is called upon to operate for the relief of strangulated hernia much less frequently than formerly. As far as I remember, I have operated for strangulated hernia only four times since the publication of this paper, and these cases were treated substantially as those above given. The last case, inasmuch as it affords the opportunity of showing the result anatomically, merits a careful study, and causes me to bring the subject to your attention now.

Mrs. W., aged seventy, had been for many years an

invalid from double inguinal hernia, the right side being of such proportions that, after many endeavors to retain it by a truss, this appliance had been thrown aside as useless. On the left side was an irreducible omental hernia, at times complicated by the escape of a loop of the intestine through the ring. Nausea and vomiting had persisted for thirty-six hours before the operation.

As usual, antiseptic precautions were used, with carbolized spray and careful dressings. After slightly enlarging the ring, the intestine was easily reduced, but the omental portion, the size of a small orange, presented a number of bleeding points upon its being unraveled, and was adherent to the walls of the ring. Because of this, the whole mass was tied with catgut and removed, the ring was carefully closed with catgut sutures of a large size, No. 2, I think, five in number. The wound healed by first intention throughout. Temperature never exceeded 99° F.

The patient suffered no pain, and made a perfect recovery. She was allowed to get up in two weeks, and never wore a truss. She was so much pleased with her happy escape from danger and her complete cure that she besought the privilege of being operated upon for the radical cure of the right side. I tried again a series of trusses, but to no avail, and after careful reflection consented to perform the operation. This took place February 4, 1878. The abdominal wall was thin, the ring extremely large, and its pillars were attenuated. The sac was readily returned unopened, and sutures were used as upon the other side, perhaps eight in number. I included in my stitches as much tissue as possible, but at the close of the operation felt the less satisfactory because there was so little material to fill in and support the weakened ring.

The union was entirely by first intention, leaving, as before, a linear cicatrix which never suppurated. There was no elevation of temperature, and the patient made a rapid recovery. During the first week there was considerable swelling of the tissues about the ring; these parts were slightly tender upon pressure; and, what I believe to have been the thickened returned sac, could be felt through the attenuated relaxed abdominal walls. The patient was kept in bed three weeks; but upon being permitted to get up it could be easily seen the cure was not complete, for there was impulse on coughing and a

slight protrusion through the ring. She was fitted with a light truss, which easily retained the hernia, and was allowed to go about the house. She died suddenly, April 17, 1878, and the autopsy revealed an aneurism of the internal carotid of the right side, which had given rise to scarcely any symptom, except a gradual loss of vision of the right eye, but its existence had not been suspected.

The specimen here presented shows the walls of the ring much thicker than before the operation, and its caliber diminished perhaps two thirds. A light truss would probably have been sufficient easily to hold the parts in their proper relations.

The use of animal ligatures in surgery is by no means new. In all probability catgut, the form of animal thread or ligature which has been most frequently used in modern times, was employed as surgical sutures eight or nine hundred years ago. The celebrated Arabic writer, Rhezieus, who practiced in Bagdad about A. D. 900, speaks of stitching up wounds of the abdomen with a thread made of the string of a lute or harp; and another Arabic author, Albucasis, who lived a century or two later, alludes in the same class of injuries to stitching a wounded bowel with a fine thread made of the twisted intestine of an animal. The strings of the ancient Egyptian harp, and hence probably of the Arabic, were made of catgut. Homer, in the Odyssey, speaks of the strings of the old Greek harp as made of the twisted intestine of the sheep.

Catgut was suggested as a proper substance for sutures and ligatures by the learned Dr. Thomas Young, of Edinburgh. See his Introduction to Medical Literatures, 1813, p. 448, where he says, "I have often wished to try ligatures made of catgut which might be absorbed." In the Edinburgh *Medical and Surgical Journal* for 1818, Vol. XV. p. 155, he states that he had proposed catgut ligatures to several surgical friends ten years previously, or in 1808.

To Dr. Physick, of Philadelphia, is undoubtedly due the honor of having first introduced animal ligatures into surgical practice. His ligatures were made of chamois leather. Silk may be considered an animal product, but however used, even when carbolized and inclosed in a wound which readily heals by first intention, the softened fibers usually act as an irritant, and are later discharged by the processes of suppuration. Animal tissues made

but indifferent ligatures; and were practically long since abandoned. They were soft, slippery upon being immersed in water, and were by no means strong.

To Professor Joseph Lister we are indebted for a most important modification of the catgut ligature. In his enthusiastic devotion to his new ideas of the possible repair of tissue, he had observed that, under antiseptic dressings, clots of blood and large pieces of dead skin and other tissues had disappeared without suppuration; therefore he inferred that small pieces of animal texture, if applied antiseptically, would be similarly disposed of. To make catgut antiseptic, he immersed it, as prepared for the violin, into a strong watery solution of carbolic acid, and noticing the changes which followed in its texture, after considerable variety of experiments, he gave us the ligatures as at present used. They are prepared by immersion of the gut in a mixture of five parts of fixed oil, olive or linseed, to one part of the crystallized acid, liquefied by the addition of five per cent. of water. After a few weeks' suspension in this fluid, the catgut becomes translucent, firm, hard, but moderately pliable, makes a strong knot, and upon immersion in water, or the fluids of the body, it undergoes no immediate change, and for days together the knots retain a firm hold.

There is considerable difference in the catgut thus prepared. That which I have used I obtained eight years ago from Professor Lister's own manufacturer, and I think it improves by age. It is certainly quite different in appearance from that supplied by Codman & Shurtleff, of Boston. The latter is less firm, has a paler color, and is much more pliable. This may possibly explain one source of dissatisfaction on the part of some surgeons who have used the ligatures thus prepared. To show the importance of the proper preparation of the ligature, I quote from Professor Lister's original paper, published in the *Lancet,* April, 1869: "But for the sake of surgeons who may wish to prepare it for themselves, it is necessary to mention, in order to avoid disappointment, that the *essence* of the process is the *action* of an *emulsion* of *water and oil* upon the *animal tissue.* The same effect is produced upon the gut, though more slowly, by an emulsion formed by shaking up simple olive oil and water, as by one which contains carbolic acid.

"On the other hand, an oily solution of carbolic acid

without water has no effect upon the gut beyond making it antiseptic, and if water be added only in the small proportion which the acid enables the oil to dissolve, though the gut is rendered supple, and acquires a dark tint from the coloring matter of the oil, it will be found, even after steeping for months in such a solution, that when transferred to water it swells up and becomes soft, opaque and slippery, as if it had not been subjected to any preparation. How it is that an emulsion produces this remarkable change in the molecular constitution of the tissue I do not profess to understand. I was at first inclined to regard it as a closer aggregation of the particles, brought about by a kind of slow dying of the moistened gut in the oil, as the watery particles precipitate to the bottom of the vessel; but, not to mention other circumstances opposed to this view, the oil remains turbid for a very long time, the finer particles of water being extremely slow in precipitating, and if, after the lapse of weeks, a piece of dry, unprepared gut is suspended in it, the thread is soon rendered soft and opaque by the very liquid in which gut which has been longer immersed is growing constantly firmer and more transparent.

"It is necessary that the gut be kept suspended so as not to touch the bottom of the vessel, for any parts dipping into the layer of precipitated water would fail to undergo the change desired.

"The vessel containing the emulsion should be kept undisturbed, for if the water is shaken up with the oil the process is retarded. An elevated temperature, of about 100° F., seems for a while to promote the change, but ultimately leaves the gut in an unsatisfactory state compared with that obtained at an ordinary temperature; and conversely, some portions of gut which I have prepared in a room without a fire, in cold weather, at a temperature of about 46°, were in one week already in a trustworthy condition for surgical purposes. Hence, the gut should be prepared in as cool a place as possible. The longer it is kept in emulsion the better the gut becomes. I once feared that in time it might grow too rigid for convenience, and possibly brittle also; but experience shows that this is not the case.

"When removed from the emulsion it soon dries in the air, but retains a considerable portion of its carbolic acid for several hours, so that no apprehension need be enter-

tained of loss of its antiseptic property from exposure during the performance of an operation. In course of time it loses all the carbolic acid also, but retains permanently its altered molecular condition. If thus kept dry, as may prove the most convenient for the manufacturer on a large scale, it must be steeped thoroughly in some antiseptic lotion before its use. And for the surgeon the most convenient way will probably be to keep it always in the antiseptic emulsion, so as to be ready for use whenever it is required."

Dr. D. W. Cheever, of Boston, writes me under date of May 14, 1878: "I tried catgut for a radical cure of hernia, but it was speedily absorbed and failed." He is unable to give me particulars with regard to the use of the ligatures.

Dr. J. C. Warren wrote me a few days since: "I should fear that they would not hold long enough to keep the parts in apposition until union becomes firm. We have given up their use at the Massachusetts General Hospital for this reason: they do not hold longer than four days."

In the Toledo *Medical and Surgical Journal*, for May, 1878, I find an editorial review of an article published by Prof. E. W. Jenks, of Detroit, "Upon Sutures of the Uterus in the Cæsarean Operation," in which the reviewer states that he changed his opinion concerning catgut ligatures, and condemns their use. Theoretically, he says, catgut is the best material because of its innocuity and of its ready absorption, but practically he believes it the worst of any, as no one has yet devised a knot which the heat and moisture of the peritoneal cavity will not cause to relax, and it is then rendered useless. He has employed catgut to ligate intra-peritoneal vessels in an ovariotomy where post-mortem examination revealed not only that the knot was untied, but that it was less inocuous than silk used at the same time. He also quotes from the Transactions of the Obstetrical Society of London, in which Drs. Routh, Meadows, and others, give opinions unfavorable to the use of catgut for uterine sutures. Dr. Meadows mentions two cases of death after Cæsarean section, attributable solely to the use of catgut for closing the uterine rent. Among authoritative works on this subject, I am glad to be able to include this recent publication from such a careful, conscientious observer, for it accords in certain respects with studies of my own. I believe there are distinct limits to

the usefulness of the catgut ligature, and if our profession early learns to know what these limits are, not only may the lives of our patients be less endangered, but an aid to surgery which now promises much of good will be rescued from wholesale condemnation and oblivion. In plastic operations, especially of mucous tissues, I would never think of using catgut ligatures.

In wounds exposed to the air, or liable to suppuration, where the ligatures are soaked in fluid secretions, I am well aware the catgut knot is liable to become loose; but in the antiseptic ligation of vessels, or the closure of deep-seated tissues, it is far superior to any other. Here, when properly applied, it is open to few of the objections made. Owing to the firm character of the material, circulation of the inclosed part is more liable to be impeded than with silk ligatures, and hence care should be exercised; but within the limits here assigned, an experience of eight years justifies their use.

In the Boston *Medical and Surgical Journal* of May 8, 1879, in the report of surgical cases of Dr. George W. Gay, there is given at length the history of a case of popliteal aneurism relieved by ligation of the femoral arteries with catgut ligature. "The wound closed by first intention and the ligature was never seen after the operation." In commenting upon the case the writer states, "The happy result following the use of the catgut ligature is worthy of notice. It is hardly possible to get a wound with ligatures hanging from it, to unite by first intention. In many operations primary union would be obtained were it not for the silk with which the vessels are secured. Torsion in these cases is tedious and uncertain. But good catgut carefully tied by three square knots, and the ends cut short, allows the wound to be closed throughout its whole extent. This material has been in use over two years in the City Hospital, and thus far it has always been satisfactory."

I have repeatedly ligated arteries with catgut with like result. For a large gluteal aneurism, I placed a double catgut ligature upon the vessel not far from its origin. The patient was a muscular sailor, the wound large and deep; the pyriformis muscle was divided in order to bring the vessel into view. The treatment was antiseptic. The temperature remained normal and union was by first in-

tention throughout, and no trace of the ligature ever seen. The patient has resumed his vocation.

Judging from my own observation I am inclined to believe the ligature properly, that is antiseptically, used is not absorbed at all, but is changed particle by particle, being in this way not revitalized, but replaced by living tissue, thus producing a reinforced band of new connective tissue in place of the ligature itself.

The specimens here shown I think demonstrate this. The one last operated on, February 5, death taking place April 17, namely, sixty-eight days after the operation, shows unmistakable thickening of the connective tissue about the ring; and there are yet seen, although preserved in a bichromate potassa solution, hence less distinctly than at the autopsy, traces of the ligature. These are of a darker color than the surrounding parts, retain imperfectly the shape of the ligature, and are of considerably greater density and firmness. Under the microscope they show only wavy bundles of connective tissue. In the older specimen operated on December 2, after the lapse of four or five months, you can no longer trace constricting fibres in the shape of circumscribed bands, but you will find a firm reinforcement of the parts by connective tissue, which certainly includes the walls of the ring, and hence we infer it is developed about, or transformed from the ligatures themselves. This quite accords with Mr. Lister's experiments in the ligature of arteries.

From the article previously mentioned I quote as follows: "Thirty days after the operation, the animal, a calf, which had continued in perfect health, was killed, and the parts removed for examination. On dissection I was struck with the entire absence of inflammatory thickening in the vicinity of the vessels, the cellular tissue being of perfectly normal softness and laxity. On exposing the artery itself, however, I was at first much surprised to see the ligatures still there, to all appearance as large as ever. But from my other experiments, it might have been anticipated that the ligatures of peritoneum and catgut placed on the calf's carotid would, after the expiration of a month, be found transformed into bands of living tissue. Such was in truth the case, as was apparent on closer examination."

Mr. Fleming published, in 1876, in the *Lancet*, a series

of observations upon the "behavior of carbolized catgut inserted among the living tissues," and gives his results confirmatory of such change. "A softening takes place from without, in the catgut breaking down and becoming infiltrated with cells. The mass into which it has been converted begins to metamorphose and is soon permeated with blood channels, and ultimately may be described as a cast of the catgut in a kind of granulation tissue, freely supplied with blood-vessels, which in many of my sections are easily injected." These views should not seem exceptional, when we remember many well known facts, for example, that the revivifying of skin dead at least by separation for a considerable period, as in that from an amputated limb, goes on so uniformly that transplantation of it upon granulating surfaces, and these not best fitted for its growth, has now become a daily practice in surgery.

Even the epithelial cells removed by a considerable distance from the circulation, and already dead, thus live again, and multiply so rapidly as to be of practical use in the repair of large denuded surfaces. The periosteum, as Ollier and others have shown in their experiments, may be also transplanted, and not only live, but become an active factor in the reproduction of bone; and teeth have been removed, filled, and replaced, actually transplanted to other locations, and regained their lost relationship of nutrition.

The spurs of the cock, as observed by Baronius, when transplanted to the comb, not only live, but remarkably increase in size, and when ingrafted into the ears of oxen, as is practiced in Mexico, they attain a size truly wonderful.

Mantegazza described and figured one of these spurs, which in its dry state weighed nearly one pound (396 grammes), was twenty-four centimeters in height, and twenty centimeters in width.

If such wonderful activity of reproduction and growth are shown by these tissues, there would appear to be no reason why the cells of the fibrous tissues might not also undergo changes in nutrition equally remarkable, of which practical advantage may be taken. Dr. Hodgen, of St. Louis, in his valuable address on surgery, delivered before the International Medical Congress at Philadelphia, 1876, says that the late Prof. Paul F. Eve, of Nashville, Tenn., informed him that for forty years he had been in the habit

of using the sinews of the deer for ligating vessels. "I have never used carbolized spray. The tendons of the deer, dried and torn into shreds and rolled into ligatures, are what I employ. They are absorbed; I have accordingly used them as sutures." Prof. Lister, in his address on Antiseptic Surgery, Transactions International Medical Congress, 1876, page 538, says: "I have been making strenuous efforts to improve the catgut ligature, and believe that I have at last obtained the desired result. Old ligature is far preferable to new, and yet the knots will sometimes loosen. I have seen a case of Cæsarean section progress admirably until the stitches in the uterus gave way, and then death speedily followed. The old ligature is harder, and does not absorb as readily as the new, but I have found that gut which is reliable when tested with warm water will yet loosen under the action of the liquor sanguinis. The ligature must not be made too hard, or it will be too stiff for tying, and will even act as a foreign body as much as silk does, and yet it must be so hard that after soaking in serum for weeks it will still hold firmly. I have tried many substances; chromic acid will harden the gut, but when the latter is soaked in serum it is as unsatisfactory as before; glycerine gives a ligature which will knot well, but is still too hard. I have at last made a mixture of carbolic acid, glycerine, chromic acid, spirit of wine and water, which I think will prove the very thing required. The ligature which I show has been soaked a month in serum, and yet the knots are perfectly firm."

This is not the place, nor have we the time for a careful review of the history of the various devices suggested for the radical cure of hernia. For centuries this has been a prolific field for charlatans and for quacks of every description. Hernia-curers roamed over Europe a century ago, practicing castration and various reckless and dangerous devices, at the cost of many lives, and, it is needless to say, with the performance of few cures.

Within the present century many of the best surgeons have given this subject careful study, and some of the most ingenious of surgical devices have been brought into requisition. Nearly all of them have sought to accomplish a cure by one of two ways: either by producing adhesive inflammation and obliteration of the sac, or by producing closure of the ring. Monsieur Bennet inclosed the cord between pins fastened to rolls of linen. Gerdy

plugged the ring with invaginated skin held by stitches, and afterward, with the object of correcting the tendency of the invaginated skin to be withdrawn, cut it free, and ended with a plastic operation, by raising a flap from below. This method was often successful in his hands, but its complication and dangers prevented its general adoption.

Belmas invented an instrument, consisting of a canula with stylets. Through the passage in the canula threads of gelatine were to be introduced, and be ultimately absorbed, after having produced the requisite adhesive inflammation. Then he applied a truss.

The operations of Velpeau, Wutzer and Wood are better known. Mr. Wood operated about two hundred times, with the result of three deaths and about seventy-five per cent. of reported cures. Acupuncture, a revival of the punctum aureum of the ancients, as practiced by Dr. Pancoast, of Philadelphia, though unsuccessful as a means of cure, suggested to him, as well as to Dr. Young, of Tennessee, the use of subcutaneous injections of iodine or cantharides into the sac. A number of successful cases thus operated upon are reported.

This method was practiced for many years as a secret cure by Dr. Heaton, of Boston, with reported success. Recently he has published a monograph upon hernia, in which he gives a detailed account of his treatment and experience. He reports a large number of cures, and claims that his method is devoid of danger. It consists of a fluid extract of white oak bark injected with a hypodermic syringe into the sac. This method has been tried with moderately successful results at the Boston City Hospital. By means of it, a considerable amount of thickening and narrowing of the ring is certainly produced.

In 1858 Dr. Gross, in two cases, cut down upon the ring and brought together its walls with silver sutures. A cure followed in both cases. In 1871 Dr. Van Best reported three cases operated on for radical cure by a subcutaneous sewing of the ring with salmon gut. Two of these cases were successful.

Dr. G. Dowell, Professor of Surgery in Texas Medical College, published a treatise on hernia in 1877, and describes a new method for its radical cure. He there reports sixty-eight cases with sixty permanent cures, and at the date of publication, he informs me the number of his

operations exceeds one hundred. By a needle of peculiar construction he subcutaneously sews the pillars of the ring with silver wire. The testimony of such an indefatigable student, with his very large experience and remarkable results, is of the greatest value.

Mr. Charles Steele, of Bristol, reported in the *British Medical Journal*, November 7, 1874, a successful case of radical cure of hernia, which was operated on precisely as were my own cases. The patient was a boy of eight. The surgeon used two stitches of catgut antiseptically, and union followed by first intention. After six months the hernia returned, and the operation was repeated. A truss was applied for safety. A perfect cure was effected, in the judgment of the operator, a year later.

Nearly all the late writers on surgery, such as Bryant and Erichsen, deprecate any attempt to secure the radical cure of hernia, except in severe cases; and Mr. Bryant regards the supposed elongation of the mesentric ligament as a probable cause of the imperfect results obtained by various operators, but he supports his proposition neither by theory nor by fact. If the operation which I have proposed is done properly, with antiseptic care, I believe that to a great extent it is devoid of danger. In a series of papers upon strangulated hernia, based upon one hundred operations performed by himself, published in the *British Medical Journal*, for 1872, Sir James Paget, in advocating the replacing of the sac unopened if possible, says: "The structures divided externally to the sac are insignificant; and it might be difficult to name an operation less endangering either life or health than this would be. The peritoneum is not wounded; the intestine or omentum is not touched or exposed to the air; the wound may be small; any hemorrhage may be easily stayed and must be all external. Thus the wound is favorable to speedy healing, and erysipelas or any other mischief is not likely to extend to the peritoneum."

I would not appear over-sanguine in the suggestion of any new method for the radical cure of hernia. I am perfectly aware that this has ever been one of the most troublesome and unsatisfactory problems in surgery; and my experience has been too limited to prove little except possibilities.

However, I must claim a favorable consideration, on a legitimate field, for the use of the carbolized catgut liga-

ture, at least in all cases of strangulated hernia where the wound can be closed. This method does not add to the dangers of the operation, and is probably followed by a cure. In comparing the operation with that usually recommended, of subcutaneously stitching the ring with sutures of any material, it seems apparent that to cut down upon and expose the ring gives a much better opportunity of carefully closing it, refreshing its borders, and thus avoids injury to the spermatic cord, while it does not increase the danger of the patient.

If these views are unsound, let their publication provoke criticism, and lead to such investigation as shall expose their futility. But if they are correct the testimony of other observers will confirm them, and enable the divine art of healing to take one more step in the direction of progress.

Selections.

A Few Remarks on Animal Temperature.

A Report from the Suffolk District to the Massachusetts Medical Society for the Year 1879.

BY FREDERICK C. SHATTUCK, M. D., REPORTER.

Since 1851, when Wunderlich, inspired by Traube, began to make systematic observations with the thermometer in disease, less than thirty years have elapsed; and yet so rapid is the interchange of thought in these modern days, it can safely be said that there is no single instrument of precision designed to aid our imperfect senses which is to-day so indispensable to the physician as the clinical thermometer. The labor which has been expended on the field, is immense, as is the return which has been obtained in the shape of increased accuracy in diagnosis, prognosis, and treatment. Wunderlich spent sixteen long years in collecting careful observations before he ventured to publish his well-known work on medical thermometry, and many of his conclusions will, no doubt, stand the test of time. Yet so wonderfully complex are all biological problems that we must always be prepared to find what we have, perhaps for years, regarded as the goal itself turn out to be but a milestone on the road to truth. Let

me illustrate my meaning by bringing forward two points in human thermometry which we regarded as nearly fixed, but which recent observation and experiment show must be moved much further apart than was thought possible. I refer to the minimum and maximum animal temperature which, in mammals, is consistent with the continuance of life.

In the Sydenham Society's translation of Wunderlich (1871), temperatures below 92.3° Fahr. are said to indicate "deep, fatal algid collapse." In the third edition of Dalton's Physiology (1864), it is stated that "mammalians die if their blood be cooled down below 94° or 95° Fahr." In the sixth edition of the same work (1875), the thermometer falls thirty degrees, and we learn that "mammalians become insensible and soon die when cooled down to 64° to 68° Fahr." In 1870 and 1871 Horvath published the result of his experiments on rabbits and young dogs, which he cooled down by snow, while thermometric observations were taken in the rectum. He succeeded in cooling the dogs down to 40° Fahr., and subsequently restoring them perfectly, as far as could be seen, by the application of warm water. In 1869 Lortet made two ascensions of Mont Blanc, taking careful thermometric observations under the tongue. He found that his temperature during rest varied only a few tenths of a degree at any altitude, but that during exercises, and especially when some time had elapsed since taking food, his temperature decreased progressively as his altitude above the sea increased. On arrival at the summit the thermometer registered 89.6° and 89.24°, but after half an hour's rest it rose again to upward of 97°. Marcet also made observations on himself in ascending Swiss mountains, and arrived at the same general conclusions as Lortet, the accuracy of whose *observations* can not be doubted, though they do not agree with those of many others who made similar experiments. Of these latter I will select Clifford Allbutt who found that altitude had no effect, and exercise an elevating rather than depressing effect on his temperature, with only one or two exceptions. His observations covered a number of days, and though the weather did not permit him to reach the summit of Mont Blanc (15,780 feet), he once attained 12,000 feet, and 9,000 feet a number of times. Carpenter thinks that the different results of Lortet and Allbutt are due to the different physiques of the observers,

and if this view be correct it affords a new and striking example of the large allowance which must ofttimes be made for individual peculiarity, whether in health or disease. In 1874 I saw in Berlin, a man in Traube's ward, brought into hospital insensible after prolonged exposure to a temperature of about 32° Fahr. and the ingestion of an enormous quantity of alcoholic drink. His temperature on admission was 76°, but he recovered within a few days, and this is the lowest human temperature, with subsequent recovery, with which I am acquainted. In asthma and morbus cæruleus a temperature as low as 78° has been noted.

A few words now as to maximum temperatures. Wunderlich tells us that temperatures above 107.6° "indicate in all probability a fatal termination in every known disease except relapsing fever." In Dalton's sixth edition (1875), we read "Mammalians die when the blood is heated up to 45° (113° Fahr.), precisely the normal temperature of birds." In that same year the medical world was startled by a case of injury to the spine, reported by Mr. J. W. Teale, in which, during a period of seven weeks, the recorded temperature never once fell below 108°, during one week ranged between 114° and 118°, on one day reached the extraordinary height of 122°, and yet recovery took place. I am aware that this case has not obtained universal credence, but in view of the high character and thorough competence of the observers, the pains which were taken to eliminate sources of error, and the publication since then of a number of cases of recovery after temperatures which widely overstepped what, until within a very few years, was believed to be the "dead line," I do not hesitate to avow that the probabilities are, in my opinion, very strongly in favor of the accuracy of Mr. Teale's observations. The *a priori* arguments against it are obvious, but we in this neighborhood have had at least two striking examples of the fallibility of *a priori* reasoning in the triumph of anæsthesia, and the years which Phineas Gage lived after a crowbar had traversed his brain.

Cases are also reported of recovery in sunstroke after recorded temperature of 109.2° and 113°; in cerebral rheumatism, 110°; in convalescence after measles, 107°; in the commencement of typhoid 108.20; in convalescence after typhoid, two cases, 111°; and two cases in which no precise diagnosis could be made, 108° and 115.8°; and

my search of the literature of the last few years has been far from exhaustive.

There is one other point brought up by the consideration of some of these cases which is of fresh interest, and of which we shall, I suspect, hear more. In four of them the high temperatures were often very evanescent, the thermometer falling from a very high to nearly the normal point within half an hour, or even less. All four cases were women, and more or less hysterical—so, indeed, was Teale's case—putting us on our guard against deception. It is not my intention here to enter into a discussion as to whether deception was practiced or not. The point is ably discussed by Dr. Donkin, whose article is readily accessible; and I will simply state that the internal evidence and his reasoning convince me that the readings were not due to deception, and experiments on myself lead me to agree with him in disputing the statement of Sellerbeck, that it is easy to raise the mercury to 108° in three minutes by rapidly rotating the bulb between the bare skin of the arm and the thorax. I will also take this opportunity of putting on record a case of high evanescent temperature which has occurred in my own practice. A year ago I had under my charge a boy twelve years old with typhoid fever, in whom occasional flushes of heat were noted by the attendant, a man of far more than common trustworthiness. The flushes never occurred at the time of my visits, and my attention had not then been specially called to these transitory hyperpyrexias. The eleventh day after the boy took to his bed I recorded, myself, the morning and evening (ten P. M.) temperature as 103° and 102.2°, but about four o'clock in the afternoon the attendant noticed that the patient was in one of these flushes, and, taking the temperature, found it to be 109.6°. Thinking that he must have made a mistake, he tried again, but obtained the same result. He is quite sure that the flush did not last above half an hour, but the thermometer was unfortunately not used again till my visit in the evening. After this I had the temperature taken every two hours, but the flushes did not seem to recur, though three days later 107.24° was recorded at eight P. M., and two hours later 100.76°. The boy died at the end of the third week; the autopsy confirmed the diagnosis of typhoid, and I have no doubt whatever that the observations were correct. The boy was too dull and

typhoidal to allow me to entertain the idea of any deception on his part.

Briefly stating conclusions, I have endeavored to show, (1) that the range of animal temperature, which is not incompatible with human life, is much larger than has, until very lately, been supposed, extending in all probability, at least from 76° to 122°, or forty-six degrees; and (2) that very remarkable and sudden oscillations of temperature, covering many degrees, sometimes occur, which can not at present be satisfactorily explained.

Conclusions from the Study of One Hundred and Twenty-five Cases of Writer's Cramp and Allied Affections.

BY GEORGE M. BEARD, M. D., NEW YORK.

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DURING the past few years I have been specially investigating the disease known as *writer's cramp* and affections allied to it, as *telegrapher's cramp*, *musician's cramp*, and the *cramp of sewing women*, and others engaged in occupations that draw so severely and exclusively on certain muscles as to induce weakness of those muscles and of the nerves that supply them.

These investigations have been pursued in various ways —by the study of cases in my practice; by conversation and correspondence with physicians from all parts of the country and other countries; by consultation with physicians in regard to cases, and by circulars of inquiry that have been noticed in various journals and brought to the attention both of physicians and the sufferers of the disease. The inquiry has extended to England, Germany, and Australia.

The conclusions at which I have arrived, stated in the most condensed manner possible, are as follows. I present the results without argument or discussion, reserving the details for a subsequent occasion, and shall here confine myself to those facts that are more or less novel and unfamiliar, and of the greatest scientific and practical interest.

The main results can be stated in these eight propositions:

First.—What is called the cramp is but one of a large number of the symptoms of this disease, and no two cases are precisely alike.

There are at least fifteen or twenty other symptoms of this disease. The recognition of these symptoms, especially in the early and premonitory stage, is of the highest moment, for the reason that in the early stage the disease is curable.

The cramp in those cases, where it appears, is oftentimes one of the latter symptoms, and bears much the same relation to the disease that the symptoms of the ataxia gait bears to the disease locomotor ataxy. *In some cases there is no* cramp from *first to last*, and in all cases *the cramp is preceded or accompanied by* other *symptoms.*

The list of symptoms of writer's cramp is as follows: 1, *Fatigue, exhaustion;* 2, *dull, aching pain;* 3, *nervous, irritable feeling; general nervousness;* 4, *trembling, unsteadiness;* 5, *cramp, spasm, jumping, twitching, rigidity, contraction* of muscles (in some cases the pen is involuntarily hurled at a great distance, as across the room); 6, *stiffness and tightness;* 7, *powerlessness*, helplessness; 8, *numbness*, areas of anæsthesia; *tingling;* 9, *neuralgia;* 10, *burning*, stinging, dancing, prickly feeling; 11, *soreness;* 12, *throbbing* and *swelling* feeling; 13, *thrilling*, running, *electric* sensations; 14, *tightly-bound* feeling of wrist; 15, *coldness;* 16, *abnormal sensitiveness* to *touch* or *cold*, or *mental* influences; 17, disinclination to write; 18, *slowness* in writing; 19, *itching;* 20, *perspiration;* 21, temporary aphasia; 22, dryness of the joints; 23, swelling of the wrist and hand; 24, *actual paralysis;* 25, abnormal grasp of the fingers on the pen-holder or pencil—a very common symptom; tendency of the fingers, especially the middle one, to slip out of their places on the pen-holder, creating a desire by the sufferer to moisten them to prevent slipping; bearing down on the paper with unnatural or unusual pressure.

Many of the above symptoms are not confined to the hand, but extend to the forearm, arm, shoulder, neck, to the opposite arm, and over the whole body. It is clear, therefore, that the term writer's cramp is the worst possible misnomer, and that the disease has been most imperfectly understood in medical literature. It is wise, however, to retain the term both in scientific and popular circles, for in the prospective state of our knowledge no term

capable of including precisely and exhaustively all the phenomena of the disease can be suggested. When any disease is designated by a term that is at once short, familiar, and easily retained, it is not well, as a rule, to attempt to displace it. To name diseases from prominent and special symptoms, and real or suspected factors in their causation is, during certain stages of medical progress, both natural and inevitable, as is illustrated by hay-fever, epilepsy, hysteria, insanity, neuralgia; and to attempt to substitute terms based on imperfect and changing knowledge of pathology, is to heighten the confusion that we would remove.

Secondly.—Also in the other forms of professional cramp, as that of telegraphers, musicians (violinists, organists, pianists, harpists), *sewing-women, painters, artists, dancers, hammer-palsy, and so forth, the cramp is but one of a number of symptoms and by no means always the most important symptom; and, as in writer's cramp, there is frequently no cramp at all, from the beginning to the end of the disease.*

There is no *one* symptom of the disease that can be said to be diagnostic. It is by taking a survey of *all* these symptoms, and by studying them in their relation to each other and to the history of the case that we are able to make out the diagnosis of writer's cramp, or of any of these allied disorders. The rule applies to the entire nervous system; there is not a disease known to neurology that can always be diagnosticated by any single symptom; all the familiar disorders of the brain, of the spinal cord, or of the peripheral nerves are studied, not through isolated phenomena, but through groups of phenomena, acting and reacting on each other; pathognomonic symptoms belong to lecture-rooms and text-books, not to practical experience.* An analogous disease, that has not been described, is the *counting-money cramp*, from which a lady-clerk in the Treasury Department at Washington

* Ataxy, for example, was formerly diagnosticated by inability to stand with closed eyes, by the ataxic gait, and by the electric pains; and more recently an unsuccessful attempt has been made to prove that the absence of the tendon-reflex is a sure sign of that disease. There was no need of experiment to disprove this claim; the physiology and pathology of the nervous system are now in a condition, where we are able to prove deductively—without examination—that all such claims of pathognomonic symptoms, however reliable they may be as aids and accessories, are illogical and unscientific.

once suffered: it is caused by excessive and restricted use of the fingers in handling bills.

Thirdly.—This disease is primarily a peripheral and local disease of the nerves and muscles; secondarily and rarely it becomes central and general, or it may result from various central lesions; and it may affect any point between the extreme periphery and the center.

This view of the pathology is a compromise between the old view that it was central, and the theory of Poore, of London, that it is purely peripheral.

No two cases are precisely alike in their pathology, but there is no question that in some exceptional cases the disease extends to the centers. That it affects the left hand as well as the right is no proof that the disease is central; it simply develops to the left hand when that hand is used, for the same reason that it affects the right hand.

The theory that writer's cramp is a result of lesion or disturbance of special co-ordinating centers in the brain is not sustained by a single properly understood fact; on every point it fails to account for and harmonize the phenomena. So far, my own conclusions are in entire accord with those of Dr. Poore, of London, who has investigated this subject most intelligently and successfully.*

In truth, the detailed pathology of writer's cramp is not simple, but complex; in some cases there is neuritis which may affect a single nerve-branch or several nerve-branches, and may be restricted to the fingers and hand, or extend up the forearm and arm; then the muscles may be merely exhausted—chronically fatigued—or with a tendency to spasm and contracture. The worst phase of the disease that I ever saw was in 1874, with Dr. Brodie, of Detroit; in that case the arm was drawn over to the back, and held firmly there by the contracted muscles; the patient was unable to use his hand for any purpose, and also suffered great pain.

In some cases the disease, or rather the tendency to the disease, is hereditary—two and three cases having been known in a single family.

Fourthly.—This disease occurs mostly in those who are of strong, frequently of very strong, constitutions, and is quite rare in the nervous and delicate; and when it does

* Transactions of the London Medico-Chirurgical Society, vol. lxi.

occur in those who are nervous, is easier relieved and cured than when it occurs in the strong.

This fact is not peculiar to writer's cramp, but applies to other nervous diseases, as impotence, muscular atrophy, and ataxy. I see every day cases of nervous exhaustion (neurasthenia) in its various forms, and quite rarely do I see writer's cramp in them; and when they do have this disease, it is mild and curable. I have successfully treated a number of these cases.

Fifthly.—This disease is far less likely to occur in those who do original work, as authors, journalists, composers, than in those who do routine work, as clerks, book-keepers, copyists, agents and so forth.

The reason is clear. Original thinkers must take time for thinking as they write, and thus they rest the nerves and muscles of the hand; while routinists, having little or no thinking to do, write on constantly and uninterruptedly, oftentimes at the extreme of their speed.

In some cases an attack of writer's cramp has followed a *single* task of long copying. In one of my cases—an authoress—there had never been any sign of the disease until she performed a task of routine work. Of my cases eight were physicians, eight were lawyers, five were clergymen, and the remainder were clerks, book-keekers, agents, copyists, and merchants.

Men who write bad, scrawly, illegible hands never have writer's cramp; it is the penalty for writing plainly and carefully. Like prevents like, and those who always write as though they had writer's cramp never have it.

Sixthly.—This disease, like all nervous diseases in this country, diminishes in frequency as we go South.

In the Gulf States writer's cramp and maladies allied to it are very rare. The same is true of hay-fever, which is a type of nervous diseases; and, indeed, of the whole family of functional nervous maladies, such as sick-headache and neurasthenia, or nervous exhaustion in all its manifestations.

In investigating this subject I have corresponded and conferred with physicians all through the South. Dr. Bryce, Superintendent of the Alabama Insane Asylum, Tuscaloosa, whose opportunities for observation have been very large, has written me a very interesting letter on this question.

Seventhly.—Writer's cramp is no longer an incurable disease.

In the early and forming stage, especially, it responds to treatment quickly, and in many cases permanently. During the stage of exhaustion, fatigue, and pain, with the other symptoms of numbness, neuralgia, irritability, trembling, powerlessness, soreness, coldness, stiffnes, and so forth, this disease can be treated as satisfactorily as almost any other form of nervous disorder; and, even when cramp or spasms of the muscles have appeared, it may be entirely cured.

In the latter stages, after the symptoms have existed for years, the malady may become absolutely hopeless, even though the patient abandon his occupation. I have seen cases that have been afflicted for over a quarter of a century.

One striking case of this kind I had opportunity to see through to courtesy of Dr. W. C. Wey, of Elmira, N. Y. Both hands were affected, and the numbness and powerlessness were so marked that sometimes a newspaper that he was reading would drop to the floor. The whole body seemed, indeed, to have been disturbed, and he had been obliged to give up his position as cashier of a bank.

In all these cases, the prognosis is better in nervous and delicate patients than in those who are phlegmatic and strong.

Eighthly and lastly.—The treatment of writer's cramp and affections allied to it consists:

1. In the use of electricity locally implied. Both galvanic and faradic currents may be used—preferably the former. In some cases galvanization of the spine and neck, and what are called spinal-cord nerve-currents, are indicated. Strong galvanic currents, with metallic electrodes, I have used with advantage in some cases where mild currents seemed to do no good. The wire brush with the faradic current I often use, and in some cases electro-puncture.

The relief of pain and fatigue that follows these electrical applications is immediate and uniform, and most grateful to the sufferer; and this temporary effect can be obtained even in the worst cases. I have not yet been able to demonstrare any very marked advantage from the rhythmical movements of the muscles in connection with the electrical applications.

2. Hypodermic injections of atropine, strychnia, duboisia, Fowler's solution, and other tonics, narcotics, and sedatives. These remedies need often to be gradually pushed to their physiological effects. Electricity and hypodermic injections combined have made an epoch in the treatment of writer's cramp. The evil effects of hypodermic injection are guarded against by care in preparing the solutions, by dilution of irritating substances, by moderately deep puncture, and by substituting other treatment in those cases where, from any constitutional tendency, suppuration is easily excited.

3. The internal use of calabar-bean, ergotine, iodoform, and in some cases of nerve-food, as oil and fats. It is useless, in the majority of severe cases, to dally with mild remedies or ordinary tonics.

4. *Massage*, or systematized kneading and manipulation of the muscles, with friction, and pinching, and pounding of the skin, and passive movements of the joints, large and small.

Dr. Douglass Graham, of Boston, has used this method with very encouraging success. I now employ it in all my cases. The whole arm should be treated.

5. The use of dry heat and dry cold, by rubber bags containing hot water or ice. These may be used alternately.

6. The actual cautery and very small blisters to the upper portion of the spine, or along the course of the affected nerves and muscles.

Rest alone, even long abstinence for many months from writing, will not cure writer's cramp, as has been proved by the experience of many cases. The best results I have ever had have been made with cases that kept right along with their occupation—although avoiding excessive work—with the aid of mechanical appliances.

Among the hygienic devices for the relief and cure of writer's cramp are the following:

1. The device for holding the pen—a ring-pen-holder—so as to relieve the thumb and fingers. An excellent arrangement of this kind has been perfected by one of my patients. By this contrivance the thumb is allowed perfect rest, and the index-finger and second finger are united by rings so as to make practically one finger, which is attached to the pen-holder. The over-use of the muscles most liable to be involved in writer's cramp is thus

avoided. The gentleman who perfected this *ring-pen-holder* was himself substantially cured of a bad form of writer's cramp by its use in connection with electrical and other treatment, as above described. He is a book-keeper, and can now follow steadily his occupation, although troubled at times with symptoms of weariness. He kept right on with his occupation during treatment.

2. The type-writer. This instrument is destined to be of great practical service to writer's cramp sufferers, as well as to those who, though not having the cramp, are made generally nervous and locally tired by the mechanical labor of writing. During the past year I have made many experiments with this instrument, and studied carefully its relations to the nervous system, in order to determine these points. Unfortunately, book-keepers and those who write very short notes or messages and signatures can not profit by the type-writer; but for those who write continuously the instrument is an almost perfect relief. After some instruction a reasonable degree of skill in its practical use can be obtained during the play-hours of two or three months.

Thurber's kaligraph, now almost forgotten, was an ingenious contrivance for writer's cramp sufferers; but it is now superseded by the two inventions just noticed.

3. The use of large pen holders, so that the muscles may be less restricted; fastening a piece of sponge to the pen-holder, so as to relieve the pressure of the fingers. One of my correspondents writes to me that he used this device for a year.

4. Holding the pen between the different fingers, thus relieving the thumb and index-finger. One of my medical friends finds great relief by this device.

5. The use of quills and very flexible pens, and pens with very broad points, so as to run easily like quills. Some pens have been sent to me from Germany that are made with this special object in view. The use of the lead-pencil is also a great relief. The mica pen and the Esterbrook stub-pen are worthy of trial.

6. Frequently changing the pen and the pen-holder and style of pen, so as to change the mode of action of the muscle. Dipping the pen for ink is usually regarded as an evil, but it doubtless saves many of us from writer's cramp.

7. Changing the position in writing, as from sitting to

standing, or holding the paper in the lap. These methods of relief are to be commended, especially for those who are just beginning to have the symptoms of the disease, who are yet in the stage of exhaustion. It is a mistake to always try to point the pen toward the right shoulder. When utterly tired out, it is well to stop entirely.

8. The avoidance of faulty and painful methods of writing, and the study of easy, natural methods. A person who writes a cramped and stiff style, no matter though it be a legible one, is a fair subject for attack, especially if writing occupies most of the time. This factor is of great importance. An eminent author and journalist is accustomed to put his pen in the pen-holder at an angle of several degrees backward, and thus is able, as he tells me, to write consecutively over forty words a minute.

9. Writing with the left hand. Out of eighteen cases that tried this plan, three failed utterly, six were partially successful, and nine were completely successful. In the six partially successful cases the disease either appeared in the left hand, or after a time showed a tendency to appear there. At the beginning of the disease, educating the left hand may be of itself sufficient for a cure.

10. The uses of various gymnastic and athletic exercises, as rowing, paddling, and so forth. In some cases the sufferers are unable to do many other kinds of work; carrying bundles or turning door-knobs hurts them just as writing does; but such cases are exceptions.

Speed of Handwriting.—In the study of this subject, I have made many experiments with a view to determine the average speed of handwriting. I find that between twenty-five and fifty words are written in a minute by those who are accustomed to write, the average being perhaps about thirty words when no time is lost in thinking or dipping the pen.

The method of experimenting that I have adopted is, to have the subject experimented on write something with which he is quite familiar—words of all length—for one minute. Practically, no one writes steadily as fast as these experiments would indicate, for, after a few moments of writing at the very top of speed, there will come to the majority a weariness; then the delay of composition also interferes.

These experiments were made with lawyers, physicians, clerks, book-keepers, scientists, and men of letters. Mr.

T. A. Edison, the inventor, is also an expert in handwriting, and I have made with him a number of experiments in order to test the rate of speed of different varieties of penmanship. When he writes slowly and with care—from fifteen to twenty-five words a minute—Mr. Edison's handwriting is phenomenally clear and beautiful, resembling copperplate printing; not in flowing, but in cramped hand, the letters being often separated as in print. When he rises to forty words a minute, the writing is still more cramped and less beautiful, though yet legible; with forty-nine words a minute, his writing is quite illegible.

I find that journalists write with a lead-pencil—which, as a class, they generally use—from forty to fifty words a minute. Experts on the type-writer, according to my experiments, can print for a short time at dictation from seventy-five to one hundred words a minute; but in practice, very few of those who use the instrument put down on the average more than half that number.

A number of years ago a man attempted on a wager to make with a pen an enormous number of up and down strokes—a million, I believe, within a month or less time. Swelling of the hand and wrist, with severe pain, so annoyed the experimenter that it was necessary for some one to stand near him and pour on cold water and apply various lotions. In this cramped and continuous movement and tension of muscles is found the philosophy of all these forms of professional cramp. I have made some experiments with myself in order to ascertain just how many single disconnected up and down strokes I could make with a pen; and find that from 175 to 200 a minute is about the limit, and very soon the hand becomes wearied. A friend of mine, connected with the Surrogate's office in this city, tells me that the clerks in that department sometimes complain of swelling of the wrist from over-writing.

Mr. Edison, whose amazingly fertile mind is constantly making original suggestions even in departments quite remote from his own, showed me not long ago the following fundamental experiment. A small rod of steel or iron, or other hard substance, about one-third of an inch in diameter, is held very firmly between the thumb and forefinger of the left hand; very soon there comes a pain in the adductor of the thumb, which may be unbearable. This position is a familiar one to manufacturers of electri-

cal apparatus, since it represents their method of winding wire on bobbins.*

Telegrapher's and Musician's Cramp.—The above practical conclusions in regard to treatment apply to the other forms of professional cramp, as that of telegraphers and musicians—violinists, organists, pianists, and harpists; also to the cramp of artists, painters, engravers, and sewing women.

Telegraphic operators have two forms of cramp—the ordinary writer's cramp, from receiving and writing out messages; and true telegrapher's cramp, from striking the index-finger on the sending instrument. The malady is quite a common one among telegraphers; and an attempt has been made to reduce its frequency by the use of a rubber cap on the button on which the finger presses in sending. This device is, I understand, but partially successful.

Musicians, when afflicted with cramp, have the same symptoms as writers, and are likely to suffer in both hands, although one hand may be affected quite differently from the other. In one case that I saw through the courtesy of Dr. Webber, the right hand, on beginning to play, showed contraction of the muscles of the thumb and index-finger, with a tendency upward; while in the left hand, at the same time, the second and third fingers were firmly flexed into the hollow of the hand, so that they could be opened only with great difficulty. In a case now under my care, the right hand is affected in precisely the same way, while in the left hand the little finger only is disturbed. This form of trouble often comes from stretching the hand in playing octaves.

In another case the third finger of the right hand is raised involuntarily while playing; and in an organist now under my care there is simply stiffness and pain in the interossei between the third and little fingers, and anæsthesia of the back of the hand. In the case of a very eminent violinist the muscles of the left arm and forearm, and also the fingers, were so weak and exhausted from long holding the violin in position, that he had to abandon his profession.

I have succeeded in curing a long-standing case of

*Since this was written my attention has been called to two cases of *Barber's Cramp* from the excessive handling of the razor in the operation of shaving.

pianist's cramp, where the symptoms seemed to depend on a neuritis, excited originally by exposure to cold in bathing, and made worse by severe practice at the piano. In this case there had been great uneasiness, and even severe pain after playing, and he had abandoned his profession. He is now able to play several consecutive hours without fatigue.

Report of Cases from Eye-Clinic.

BY W. CHEATHAM, M. D.,
Associate Lecturer on Diseases of the Eye, Ear, and Throat, in University of Louisville.

MR. MAURY HEADY, the "Blind Bard of Kentucky," with whose misfortunes (being both nearly blind and nearly deaf) almost every man in the State is familiar, applied to me some time ago, stating that what little hearing he had, amounting to only enough to enable him to modulate his voice, was failing. While treating his hearing I examined his eyes. He said that years ago the left eye was blinded by a blow from a chip. Thirty-five years ago, a while after losing the left eye, the right received a blow from the heel of a negro with whom he was playing "leap-frog." Since then he has had only slight perception of light—being able to only locate a light, but seeing it in a very diffused manner. Right eye at time of examination showed opaque cornea (about two-thirds of normal size), with the exception of two very small portions, these partially clear spots separated by an opaque one. Behind these portions of the cornea was to be seen a thick membrane of capsule of lens and matted iris. This membrane was in contact with posterior surface of cornea.

Mr. Heady was very much surprised when I told him there were a few chances in favor of an operation on that eye resulting in some sight, as he had been to Boston and New York, where he was told there was no possible hope of any vision. He decided to let me try, as there was very little to be lost.

Placing him under the influence of chloroform, with the assistance of my father and Dr. Bodine, I entered a narrow cataract-knife at outer edge of the external spot of clear cornea, plunging it through the membrane into the

vitreous chamber. The wound was enlarged by making a gentle sawing motion with the knife. The vitreous was in a fluid condition, a great deal of it escaping. De Wecher's scissors were now introduced; one blade passed behind the membrane into the vitreous chamber, and the other before, between the membrane and cornea; the blades closed, and a considerable incision made through the membrane. A similar incision was made above, leaving a flap. At this point the remains of the crystalline lens presented itself. We had decided in consultation that there was no lens present. However, there it was, and great danger of its falling into the vitreous chamber. After six or seven attempts it was finally removed with a pair of forceps, and found to have undergone calcareous degeneration, being as hard as stone. An effort was now made to remove the flap of membrane by means of the forceps and hook. I was met with great resistance, it appearing as if choroid and retina would come with it. However, several small bits were removed, leaving a small hole behind almost opaque cornea.

The presence of remains of the lens having complicated the operation very much, we decided to not make any more attacks on the membrane at present, but to put it off for another operation in the future. The bandage was first applied. In the after-treatment rest was given, and application of first cold and then warm water and atropia used. For several days there appeared to be no perception of light. After that time the eye began to improve, and in three or four weeks after the operation he was able to distinguish the color of houses across the street and to see the stripes of a "barber-pole." The sight is still improving daily. Next fall I hope to be able to make a pupil behind clear cornea, and give him at least sight enough to move around alone. July 9th, is able to read coarse print.

SNELLEN'S TEST FOR BIN-OCULAR VISION.

I have lately seen two cases in which Dr. Snellen's test (of colored letters) for vision of both eyes proved a failure. We are called upon occasionally to decide whether or not vision exists in both eyes. While in New York I was often called upon in the hospital to decide such a question in men applying for pensions, saying that they had lost the sight of one eye. Examination revealing no

cause for blindness, it was necessary in such cases to put them to certain tests to see if they were not deceiving me. While I was in Utrecht, Holland, last summer Prof. Hermann Snellen showed me his test for such cases. It consists of letters such as are used in common tests for vision. They are first cut out as perfectly as possible and covered with red and green glass, alternating first one with red glass and the next with green. This would of course fail in all cases of red or green blindness. Such may exist in one eye only. To make the test, these letters, covered with the glass and framed, are hung so as to have light transmitted through the glass to give them the red and green color. The patient is placed off at the proper distance with a green piece of glass over the good eye (or a red piece may be placed there), and asked to call the letters in the frame. If he should call all, it shows that there is vision in both eyes, as the green glass over the good eye renders him unable to read the letters covered with the red glass. If the eye complained of is blind, the green letters only will be seen.

In the case of which I speak the test was a total failure. Other tests showed the eye was blind. Again I used it in a case where vision was perfect in both eyes, with failure. No one of our tests for bin-ocular vision are sure. All should be used.—*Louisville Medical News.*

On the Dangers of the Injudicious Use of Caustics in Diseases of the Throat.

BY M. F. COOMES, M. D.

Clinical Lectures on Diseases of the Eye, Ear, Throat, and Nose, in Louisville Medical College, Etc.

THE following cases may serve to illustrate the results of the injudicious use of caustics in diseases of the throat:

CASE I.—Jacob K., aged thirty-nine years, consulted me in February, 1875, in regard to the condition of his throat and ears. He complained of distressing tinnitus aurium, imperfect audition, and an inability to breathe through the nose. He stated that fifteen years previous to the time of his visit to me he suffered with an attack of acute pharyngitis, and that he had been subject to such attacks for many years; and that he usually sought the advice

of a physician and obtained relief in a reasonably short time, until on the occasion referred to in this report, when the doctor in attendance applied some caustic agent which produced great pain and made the disease much worse. He says that respiration was rendered very difficult, and that he came near losing his life. On examining his throat I found the uvula and arches of the soft palate adherent to the posterior and lateral walls of the pharynx, in such a manner as to completely close the passage between the nose and bucco-pharyngeal cavity. The voice was very materially changed, and he experienced great difficulty in keeping the nasal cavities clean. The disease of the ears (chronic non-suppurative catarrh of the drum cavities) was in all probability induced by the obstruction in the pharynx, preventing the secretions from passing off in the natural way, and thereby producing inflammation of the membrane lining the nose, which in time extended along the eustachian tubes to the drum cavities. I advised surgical interference for the relief of the obstruction. The patient declined on the grounds that such had been resorted to on a former occasion without benefit, and that he did not care to try the experiment again.

Case II.—Miss —, aged —, white, the subject of naso-pharyngeal catarrh. The attending physician in this case used the nitrate of silver, with the result of almost closing the space between the mouth and nose, the opening not being more than one line in diameter in any direction. The voice in this case was also very much changed. An operation for the purpose of enlarging the opening was attempted, with only partial success.

Case III.—Annie S., aged forty, consulted me in the spring of 1878 in regard to her voice. On examining the pharynx, the walls were found to be one mass of cicatricial tissue; the soft palate and uvula were almost destroyed. The laryngoscope revealed the fact that the larynx had not escaped the ravages of the caustic, for the greater portion of the epiglottis had been destroyed; only a small piece remained on the right side. The vocal cords also showed marked evidences of cauterization. The patient was unable to speak above a whisper. Deglutition was but little impaired, notwithstanding the loss of the greater portion of the epiglottis. The previous history of this case is that of a case of ordinary tonsilitis. She said that she had consulted as many as twelve doc-

tors in regard to her throat, and that all of them "burnt it with caustic."

The voice in each of the above cases was unimpaired previous to the application of caustics, and from the history of each it would seem that the diseases were not grave in character until after the caustic applications were made; and, knowing as we do that such is not the result of either of the above-mentioned diseases, if allowed to run their course, without caustic applications, it is then fair to presume that the injudicious use of caustics was the cause of the unfortunate results mentioned above.

Notwithstanding the fact that authors and writers upon diseases of the throat recommend the free use of caustics in most of the affections of that organ, it does seem that if there is any one practice which is abused it is this. The desire to apply caustics to the throat seems to be somewhat of an instinctive act on the part of a great majority of doctors, for they use those agents seemingly regardless of cause or consequence.

Before I proceed further I had best explain what I mean by caustics. I have reference to those agents that possess the power of destroying tissues when applied locally, such as caustic potassa, nitrate of silver in substance or strong solution, pure carbolic acid or solutions of the same, say forty grains or more to the ounce of water; in short, any application that produces an abrasion of the sound surface or has the power of coagulating the albumen of the epithelium. I do not believe that topical or stimulant applications ought to be discarded; in fact, they are indispensable, and are among the most beneficial agents that are used in affections of the throat. Most of the agents referred to above may be so modified as to be used with great benefit in many instances.

In those cases where there is no abrasion or open surface I can not believe that there is any benefit to be derived from caustic applications, nor do I think they are indicated in cases of syphilitic and phthisical laryngitis; for in either of the latter diseases the cause is constitutional, and no amount of local medication will effect a cure without constitutional treatment. Stimulant and soothing applications will be found most grateful and beneficial in such cases. In most all acute inflammatory affections of the throat soothing applications in the shape of spray or gargle will afford relief more promptly than

any caustic application. Warm medicated vapors frequently give great relief, especially in those cases where the larynx is involved. In cases of ordinary acute pharyngitis and laryngitis a gargle composed of half an ounce of the bromide of potassium, one half dram of carbolic acid, and one pint of water will be found very useful. If the larynx is inflamed, allow the patient to swallow a small quantity each time the gargle is used, which should be every hour or oftener.—*Louisville Medical News.*

The Comparative Merits of Salicin and Salicylic Acid in Acute Rheumatism.

It is a fact that salicylic acid and salicylate of soda not unfrequently give rise to considerable and even alarming depression. Such an untoward effect is not produced by salicin. From a therapeutic point of view this is one of the most important points of difference between the two remedies. In a disease such as acute rheumatism, in which the heart is apt to be involved, the absence of this tendency to cause depression points out salicin as a much safer remedy than salicylic acid. Its superiority in this respect is specially referred to by Senator, who, curiously, does not seem to see that the fact to which he directs attention is a strong argument against his view that salicin owes its therapeutic virtues to its being converted into salicylic acid in the system.

Of the depressing action of salicylic acid many instances are recorded. Several have come under my notice. The following is of value as the unbiased evidence of an intelligent, well informed medical man, founded on his own experience of the two drugs. My friend and then neighbor, Dr. Sinclair, of Dundee, now physician to the infirmary of that town, suffered from an attack of subacute rheumatism last December. Before I saw him he had been taking salicylate of soda in twenty-grain doses, with relief to the pain; but it so depressed him and made him feel so wretched that he said he could not go on with it. I recommended salicin instead. He took it in even larger doses than the salicylate, with speedy relief to his rheumatism and without any untoward effect. On the contrary, he seemed under its influence to regain strength and appetite, and was soon quite well.

The following is his own statement, given with his permission:

"Both drugs relieved the pain, tenderness, and swelling, when taken in full doses frequently repeated. But the salicylate, which I employed first, produced some very unpleasant effects. The taste I found to be disagreeably sweet and nauseous. After taking several twenty-grain doses a copious perspiration was produced; the strength of the pulse was very distinctly diminished, while its frequency was increased, and a feeling of most uncomfortable depression, with singing in the ears, ensued. Indeed, I hardly know whether the disease or the remedy was the preferable. Salicin, on the other hand, has a pleasantly bitter taste; it improved the tone of my pulse and digestion, and relieved the pains more rapidly. Neither drug gave any relief except when taken in twenty or thirty grain doses every hour for from six to twelve consecutive hours. It may be said that had I taken smaller or less frequently repeated doses of the salicylate I might have escaped all the disagreeable effects except the taste —itself no small a matter. But such doses produced no effect on my rheumatism. To my mind one of the great merits of salicin is the absolute safety with which large doses can be taken. In the course of one period of twenty-four hours I swallowed an ounce of it, with nothing but benefit."

I have seen salicylate of soda produce very alarming depression closely resembling that of the typhoid state. Not long ago I saw in consultation a case in which it was a question whether the fatal result was not due to the depressing action of the salicylate. By some this effect has been attributed to the presence of carbolic acid, consequent on faulty preparation. Such an explanation may have been applicable to some cases, but is not so to all. I have more than once seen marked depression produced by a solution of salicylate of soda in which no trace of such impurity could be found, and which was given to another patient in the same dose without causing any unpleasant effect. The worst effect that I have ever seen follow the administration of large doses of salicin are a sense of fullness in the head and singing in the ears—such symptoms as are commonly produced by large doses of quinine.

Further evidence against Senator's view of the mode of

action of salicin we have in the fact that salicin cures cases of chronic rheumatism and of neuralgia in which salicylic acid fails to produce any effect on the ailment.—*Dr. Maclagan, in London Lancet.*

Diabetes.

BY THOS. W. POOLE, M. D., M.C.P.S., LINDSAY, ONT.
Author of "Physiological Therapeutics."

From *Canadian Journal of Medical Science.*

SINCE Bernard's brilliant discovery, that mechanical injury of the floor of the fourth ventricle was followed by glycosuria, the influence of the nervous system in the causation of this disease has been fairly recongnized. Numerous facts further point to the vaso-motor system of nerves as specially implicated in the morbid change, on which the disease, at least in part, depends. Thus, there appears conclusive evidence that arterial dilatation is among the constant, if not the primary, phenomena of the process constituting diabetes; and as the caliber of the arteries is known to be under the control of the vaso-motor centers and nerves, the influence of this system is at once apparent. It is also of practical importance to inquire whether, in producing a dilated state of the arteries, the vaso-motor nerves are really paralyzed (as is generally assumed to be the case), or whether, on the contrary, arterial dilatation is the result of vaso-motor excitation, as we claim the facts invariably show to be the case. The treatment will naturally be modified as one or other of these views are adopted.

First, as to the proof that in diabetes important parts of the arterial system are unduly dilated. In connection with the experiment referred to, Bernard found the blood-vessels of the liver dilated, and "he attributed the appearance of the sugar to the increased circulation through that organ." (*Dr. L. Brunton's Hand-book for the Phys. Labor.* p. 513.) Dr. H. Bence Jones quotes M. Schiff for the observation that injury of the cervical nerves as they emerge from the cord also produces diabetes, and that the vessels of the liver are simultaneously dilated. (*Braith Retrospect*, July, 1875, p. 114.) In post-mortem examinations of diabetic subjects "most marked conges-

tion of the liver and kidney have always been found." (*Braith Retrospect*, July, 1875, p. 67.) More recently, Dr. W. H. Dickinson, an English Hospital Physician, reports that in five cases of this disease he found the earliest alteration recognized consisted in a dilatation of the blood-vessels, particularly of the arteries of the cerebro-spinal centers, with extravasation into the adjacent nervous matter, which had undergone secondary changes in consequence. These changes consisted in a degeneration and absorption of the peri-vascular nervous tissue, producing cavities or excavations, which were found in constant association with the arteries . . . in every part of the spinal cord and encephalon, attaining their greatest development in the medulla oblongata and pons varolii. The excavations were generally the most marked where the blood-vessels piercing the brain were the largest and most numerous." Dr. Dickinson refers these effects to the previously dilated condition of the vessels, the consequent thinning of the walls of which, no doubt, greatly facilitated the extravasation. He argues, very forcibly too, that these results are not chargeable to the state of the blood, inasmuch as "the veins and capillaries appeared to take no share in the morbid process," as they might be expected to do, if the extravasation were depending to any considerable extent on the condition of that fluid. Hence, he concludes, not only "that diabetes is primarily and essentially a nervous disease," but also that "a widening or distension of the arteries is the initial change in the pathological series." (*Med. Chir. Trans.*, 1870, p. 251; *Braith Retrospect*, July 1871, pp. 105–107.)

These references will suffice for this part of the subject; and as no fact in physiology is better established than that the caliber of the arteries is under the control of the vaso-motor nervous system, we pass at once to the inquiry, Are the vaso-motor nerves paralyzed, or excited, when they thus permit or produce arterial dilatation?

On the generally accepted vaso-motor theory, arterial dilatation is the result of vaso-motor paralysis, just as arterial contraction is held to depend upon vaso-motor excitation. We have had the boldness to challenge this theory; and in our recently published "Physiological Therapeutics," we have cited numerous examples of the failure of this theory to account for the facts with which we believe we are justified in stating it is under no cir-

cumstances in accord. We have further endeavored to show that the real function of the vaso-motor nerves is to dilate the arteries (as when excited, in flushing, blushing, etc.), and that the arteries owe their reduction of caliber to the inherent contractile power of their muscular tissue. Thus, in death, when nerve-force is extinct, the entire arterial system is contracted; whereas, if the accepted vaso-motor theory were true, they ought to be here dilated, since nerve-force no longer induces their contraction. We can not refer to the facts and arguments in support of our thesis, just referred to, in this place; but, taken in connection with some additional facts regarding diabetes, we think strong ground will appear for the conclusion that in the arterial dilitation of diabetes, as well as elsewhere, the vaso-motor nerves are excited, and not paralyzed, and that the treatment ought to be regulated accordingly.

These facts are:—It is favorable to the view that the vaso-motor nerves are not paralyzed; that in Dr. Dickinson's cases "such parts of the sympathetic system as were examined [microscopically], namely, the upper cervical and the semilunar ganglia, were appearently natural," and "the nerve-cells of the brain and cord [in which the vaso-motor nerves originate] generally perfect;" whereas, in paralysis, especially of the insane, there is often wasting of the nerve-cells.

If diabetes originated in paralysis of the vaso-motor centers in the medulla and cord, we ought to find evidence of contemporaneous paralysis of other portions of the nervous system, and as a consequence, that the onset of the disease would be characterized by weakness, exhaustion or debility. But the very opposite is the case, as a rule. Thus, M. Andral, of the French Academy, reports to that body, that of eighty-four cases of this disease, he has been able to trace the diabetes to defective nutrition in but very few cases, and he observes that "during the many years that I have attended persons of all classes of society, in and out of hospitals, I have met with a larger number of cases among the well-to-do than among the poor. . . . I have found more than once that persons before they became diabetic were remarkable on account of the strength of their constitution, some of them having much *embonpoint*. Whatever, then, may be the intimate disturbance which introduces—first, in the blood, and con-

secutively in the urine—an excess of sugar, it would seem, in more than one case at least, that this hyperglycæmia and this glycosuria, so far from representing a diminution of nutritive activity may manifest an exaggeration of this . . . . in most of the eighty-four cases, the diabetes manifested itself in the midst of good health." (*Braith Rétros.*, July, 1876, p. 66.)

M. Andral also records the arrest of the excess of sugar, on the occurrence of a prostrating disease; but it may be fairly regarded as doubtful how far this result was owing to a "modification of the nutritive action" or to "suspension of the alimentation" occasioned by the second disease. The writer has now under observation a diabetic patient, who assures us that when debilitated from a cold the sugar temporarily disappears from the urine.

These facts gain additional significance when considered in the light of "another remarkable fact, viz: the disappearance of the sugar from the urine in the last stage of the existence of diabetic persons," the truth of which M. Andral states he has been able to assure himself more than once. (*Ib.* p. 66.) Now, if diabetes depended on exhaustion or paralysis of any part of the nervous system, here is just the condition in which the glycosuria should appear in the greatest amount; for here nerve-force is failing, and if the current vaso-motor theory were true, the arteries would be proportionally dilated, thus aggravating the condition on which Dr. Dickinson believes the disease essentially depends. On the other hand, if the undue vascular dilatation has been maintained during comparative bodily vigor, owing to vaso-motor nerve *excitation,* as nerve-force fails "in the last stage of existence," its power of dilating the vascular tubes fails also, and the arteries begin to assume that state of contraction which is complete in death; their undue dilatation, on which diabetes essentially depends, is at an end, and the glycosuria ceases with it. How naturally this view of the case accounts for this remarkable fact!

Let us glance, as briefly as possible, at the causes which produce diabetes, in order to see how far they are consistent with the vaso-motor excitation or paralysis. And first, as to the puncture of the floor of the fourth ventricle, in Bernard's experiment. The chief vaso-motor center is located by physiologists in this part of the medulla oblongata (*Dr. Burdon-Sanderson, Handbook for the Phys.*

Lab. p. 245, etc.), and is certainly influenced by the operation, which is commonly referred to as producing "irritation," of the medulla. Drs. Todd and Bowman more than once refer to excitation of nerve function as the result of traumatic injury of nerve tissue. (*Path. Anat.* pp. 300, 304.) Dr. Ferrier found excitation of the sexual function in a monkey consequent on removal of the occipital lobes of the brain, although at the time the animal was much prostrated (*Functions of the Brain*, p. 198), and Dr. Burdon-Sanderson interprets as "excitation of the ganglion of the septum" of a frog's heart, the effect of ligaturing the inferior vena cava, or excising it, "preferably with a blunt scissors." (*Handbook*, etc., pp. 277–8.) These examples leave no room to doubt the propriety of regarding puncture of the fourth ventricle as producing an *excitation* of the implicated or contiguous vaso-motor center, and of accounting in this way for the vascular dilatation which follows. If any additional proof of this view be necessary, Prof. Kuss supplies it to us in his lectures on physiology. He states:—"The congestion of the liver and excitation of its glycogenetic which follow a puncture made in the fourth ventricle do not, however, appear to be produced simply by a (nervous) paralytic hyperæmia, arising from the abolition of the vaso-motor innervation; because the artificial diabetes thus produced is but temporary (lasting at the most twenty-four hours). This diabetes appears rather to arise from the *excitation* of certain nerves included in the net-work of the great sympathetic nerve, and which are to the liver what the chorda tympani is to the sub-maxillary gland. (*Trans. by Duval. Amory*, p. 273.)

Schiff found that section of the posterior (sensitive) roots of the cervical spinal nerves caused temporary diabetes, which he regarded as the effect of the "irritation" thus produced. (*Dr. W. Bence Jones, Braith. Retros.* July, 1865, p. 114.) That section of the roots of these centripetal nerves should excite the contiguous vaso-motor centers of the cord, and even of the medulla, is highly probable, and his explanation of the consequent dilatation of the arteries and the production of diabetes is quite in accord with the physiological interpretation of other operations on nerve tissue, and with the opinion of Professor Kuss, just quoted.

Each of the following operations is attended with the

appearance of sugar in the urine; and though it would be impossible to show that they occasion dilatation of the vessels of the liver directly, or through an excitation of the vaso-motor nerves, it is quite possible to show, on physiological grounds, that this dilatation is produced indirectly through the operation of collateral causes. The operations which thus produce diabetes are:—

Ligature of the inferior vena cava, below the liver, in the frog.

Faradization of the central end of the cut vagi, or of the medulla oblongata.

Section of the anterior roots of the cervical nerves.

Section of the sympathetic nerves connecting the spinal cord with the inferior cervical ganglion.

Extirpation of the inferior cervical or first dorsal ganglion.

These several operations, apparently so different, have this in common, that they all tend, in a special manner, to lessen the circulation of blood in the lungs, and to produce a marked hyperæmia and distension of the liver—the very condition so intimately associated with the production of diabetes.

Thus, tying the inferior vena cava, below the liver, causes the blood reaching the heart and lungs through that channel, to pass, by anastomoses existing in the frog, into the portal vein, and through the capillaries of the liver, where it is not only greatly retarded, but produces the hyperæmia, dilatation, and diabetes referred to. (See Prof. Kuss, Lec. p. 273.)

GLEANINGS.

TREATMENT OF INTERTRIGO IN INFANTS.—Intertrigo always begins as an erythema, a simple hyperemia of the skin, caused by some chemical or mechanical irritant, such as an abnormal character of the feces, decomposed urine, etc., or by the continued contact and rubbing of two cutaneous surfaces opposed to each other. When the intertrigo is situated in the neighborhood of the anus, attention is to be directed, primarily, to the cause of the stools. If they are thin and of acid smell, the following powder is to be used two or three times daily: Calcis precipitat. gr. iss. bismuth subnitrat. gr. i. sacchari alb. gr.

iij. M. In other cases where the discharges have a less serous character, and are characterized rather by abundant yellowish-white flakes of casein, minute doses of hydrochloric acid produce better results. Great care is to be taken to remove wet diapers, and to insure constantly dry underclothing, whilst the folds of skin should be washed with lukewarm soap and water. Powders should be used locally only when the epidermis is sound, an admixture of semen lycopodii with finely powdered sub-nitrate of bismuth, or oxide of zinc, being found most useful. Whenever the intertrigo is so advanced as to produce moist excoriations, the unguentum diachyli of Hebra is most satisfactory in fresh cases. In other cases it fails, and corrosive sublimate is be to employed in severe forms of the disease. This remedy is applied in solution, about one grain to four ounces of water, F. Pieces of lint are soaked in this solution, and laid upon the diseased surface. It often suffices to apply the solution in this manner three or four times a day for an hour at a time, and it is only rarely that the application need be continuous. The disease is frequently cured in this manner in from twenty-four to thirty-six hours. No injurious effects from the absorption of mercury have been observed. Whilst the recovery is progressing, the unguentum diachyli should be employed for a short time to prevent relapses. All doubts as to the existence of congenital syphilis must be excluded.—*Boston Medical and Surgical Journal.*

Foreign Bodies in the Esophagus.—In a lecture upon this subject Professor Verneuil (*Gaz. des Hop.*) directed particular attention to the frequency with which all the symptoms of the presence of a foreign body may persist, even in an alarming manner, and sometimes for a long time (in one case more than a month), after the foreign body has been removed or has descended into the stomach. This is due to the laceration of the walls of the esophagus produced by the body and the attempts at its removal, and is especially observed in hysterical and nervous subjects. As it is kept up by explorations of the esophagus, these should never be repeated after the diagnosis has been exactly made, and that notwithstanding the persuasions of friends and relatives, who, unaware of the reflex nature of these symptoms, urge the repetition of the explorations. In withdrawing the exploring instrument, either

with or without the foreign body, some difficulty may be found at the cricoid ring, where there is a notable projection into the interior of the esophagus, and which is increased by the contraction of the cricoidean muscle. This may be overcome by practicing a half-tuning movement, instead of making traction in a direct manner. Professor Verneuil added that for foreign bodies in general, although in certain cases counseling the utmost promptitude, there are others in which extreme reserve is the best practice. Thus, where the foreign body causes no disturbance of the function of the part in which it is buried, researches for it may do more harm than good; *e. g.*, when a needle gets buried in the hand.—*Medical Times and Gazette.*

Treatment of Eczema.—Piffard recommends in chronic erythematous eczema the ordinary astringents to reduce the congestion, as also a solution of bromide of potassium in glycerine, fld. ext. ergot in cold cream, and a similar preparation of arnica root. For the pruritus he greatly relies upon the hydrate of chloral and camphor mixture of Bulkley, in the proportion of ten to twenty grains to the ounce of ointment. He advises against the use of water in the exudation stage, and calls attention to the virtues of tincture of Hamamelis for the itching; this latter drug is of particular value in eczema complicated with varicose veins. In chronic eczema, Piffard has obtained good results from the hypodermic injection of arseniate of sodium into the affected regions.—*N. Y. Med. Record.*

Dangers of Chlorate of Potassa.—Chlorate of potassa is by no means an indifferent remedy. It can prove and has proven dangerous and fatal in a number of instances, producing one of the most dangerous diseases—acute nephritis. We are not very careful in regard to the doses of alkalies in general, but in regard to the chlorate we ought to be very particular, the more so as the drug, from its well-known either authentic or alleged effects, has risen or descended into the ranks of popular medicines. Chlorate of potassa or soda is used perhaps more than any other drug I am aware of. Its doses in domestic administration are not weighed, but estimated; it is not bought by the dram or ounce, but the ten or twenty cents' worth. It is given indiscriminately to young and old for days or even weeks, for the public are more given to *taking hold*

of a remedy than to *heed warnings*, and the profession are no better in many respects. Besides, it has appeared to me, acute nephritis is a much more frequent occurrence now than it was twenty years ago. Chronic nephritis is certainly met with much oftener than formerly, and I know that many a death-certificate ought to bear the inscription of nephritis instead of meningitis, convulsions, or acute pulmonary edema. Why is this: Partly, assuredly, because for twenty years past diphtheria has given rise to numerous cases of nephritis; partly, however, I am afraid, because of the recklessness with which chlorate of potassa has become a popular remedy.—*Dr. A. Jacobi, in Medical Record.*

Emollient Treatment of Gonorrhea.—Dr. Louis Bauer, in St. Louis *Clinical Record*, closes a second article on this subject with the following aphorisms:

1. Gonorrhea is indisputably a local disease.
2. The cause of gonorrhea is local also, and of ephemeral duration.
3. Gonorrhea is inflammatory in character, and, if not disturbed by stimulating treatment, limited to the anterior portion of the urethra.
4. Primarily gonorrhea affects the mucus membrane only.
5. Whatever may be the primary disintegration of the urethral lining by gonorrhea, the structures involved are endowed with the power of spontaneous repair; that is to say, the reproduction of epithelium.
6. The reason why the erythematous inflammation of the urethral canal deserves special consideration and treatment in its special function to serve as an aqueduct for a saline fluid (urine).
7. The only rational indications for the treatment of gonorrhea are (*a*) To protect the raw surface of the mucous membrane against contact with urine; (*b*) To dilute the urine by frequent bland beverages, warm (alkaline) baths, and the like; (*c*) To reduce the inflammation and the hyperesthesia of the nerve papillæ.

By what means these indications are realized is a matter of no consideration so long as they truly fulfill their respective objects.

Cremation.—The municipal council of Udine has lately published a decree in which it declares that, after having duly weighed and considered the advantages and draw-

backs of cremation *versus* interment, it has come to the conclusion that the former is in every respect preferable for the following reasons: 1. In a hygienic point of view it is undoubtedly the best way of disposing of dead bodies; 2. It is a mark of progress, because, by making cremation optional, the individual is at liberty to choose between the two modes of burial; 3. Considered from a scientific, social, religious and sentimental point of view, no valid reasons can be brought forward against it, while many very good reasons might be quoted for it; 4. The expenses would not be heavier than those of an ordinary burial. Cremation has been long introduced, and is carried out at Milan as at Gotha. It is now also officially authorized in Paris.—*Br. Medical Journal.*

OBSTINATE HICCOUGH CURED BY MURIATE OF PILOCARPINE.—Dr. Ortille reports a case of persistent singultus, due to cerebral embolism, which proved utterly rebellious to all the usual methods of treatment. As the singultus persisted even during the sleep produced by morphine injections, and the strength of the patient was becoming greatly reduced, a hypodermic injection of half a grain of pilocarpine was at last administered. This produced abundant perspiration and salivation, and the hiccough ceased at once.—*Alt. Med. Cent. Zeil.*

BOOK NOTICES.

SPERMATORRHEA: ITS CAUSES, SYMPTOMS, RESULTS, AND TREATMENT. By Roberts Bartholow, A. M., M. D., LL. D., Professor in Medical College of Ohio. Fourth edition, revised. 8mo. Pp. 127. New York: Wm. Wood & Co. Cincinnati: R. Clarke & Co. Price, $1.25.

This work has become very popular indeed, having reached in a brief period four editions. It is regarded the best authority extant upon the subject of which it treats. By successive additions of material and by rewriting, since the first edition, it has become quite a new work.

The author regards spermatorrhea a *neurosis*, and that the treatment, to be successful, must be founded on this pathological basis.

A MANUAL OF MIDWIFERY: FOR MIDWIVES AND MEDICAL STUDENTS. By Fancourt Barnes, M. D., Aberdeen, M. R. C. P., London, Physician to the General Lying-in Hospital, and to the British Lying in Hospital, etc. With illustrations. 12mo. Pp. 201. 1879. Philadelphia: Henry C. Lea. Cincinnati: R. Clarke & Co. Price, $1.25.

The author of this excellent little work states in the preface that he has written it more especially for midwives, who need more uniform instruction in the future than there has been in the past. He has therefore set forth in plain language so much of the principles and practice of midwifery as it is essential for the midwife to know. There has been added the examination questions which have been set for the diploma of the Obstetrical Society, of London. Besides to midwives, the book will be found most useful to those students who are attending their first cases of labor, and who, therefore, do not require the discussion of any of the obstetric operations.

The book is written in plain, and, as far as possible, untechnical language. Any intelligent midwife or medical student can easily comprehend the directions. It will undoubtedly fill a want, and will be popular with those for whom it has been prepared. The examining questions at the back will be found very useful.

HANDBOOK OF THE DIAGNOSIS AND TREATMENT OF THE DISEASES OF THE THROAT AND NASAL CAVITIES. By Carl Seiler, M. D., Lecturer on Laryngoscopy at the University of Pennsylvania, etc. With thirty-five illustrations. 12mo. Pp. 156. Philadelphia: H. C. Lee. Cincinnati: R. Clarke & Co. Price, $1.00.

This little volume, as the author states, is intended to serve as a guide to students of laryngoscopy in acquiring the skill requisite to the successful diagnosis and treatment of the diseases of the larynx and nosopharynx. All purely theoretical considerations have, therefore, been omitted, and only points of practical importance have been discussed as concisely as possible, so that the work may be used as a ready book of reference on the subjects of which it treats.

Very plain and detailed instructions are given in the use of instruments for examining and treating diseases of

the throat. Our readers are aware that within a few years very great improvements have been made as regards these. New ones have been invented, old ones improved, and others discarded. In the invention of the laryngoscope, a complete revolution has taken place in the treatment of throat affections. With this instrument, which enables an individual to *see around a corner*, the interior of the larynx and neighboring parts are brought into view, and their exact condition ascertained, facilitating very much the greatly improved treatment. Besides a description of the now most commonly used instruments for examining diseases of the throat, and for applying remedies, the author describes a number of the most ordinary throat affections, and how to manage them. We feel very sure that the work will be regarded a very valuable one, and we take pleasure in recommending it.

A Text-Book of Physiology. By J. Fulton, M. D., M. R. C. S., England, L. R. C. P., London, Professor of Physiology and Sanitary Science in Trinity Medical College, Toronto, etc. Second edition, revised and enlarged. With numerous illustrations. "*Labor omnia vincit.*" 8vo. Pp. 416. Philadelphia: Lindsay & Blakiston. Cincinnati: R. Clarke & Co. 1879. Price, $4.00

In noticing this valuable work we think we can not do better than to quote from the *Canada Lancet:*

"The former edition of this work having been exhausted, within a comparatively short space of time, and as there was a large and increasing demand for the book, it was deemed advisable to prepare at once a second edition. In doing so the author has been at great pains to bring out prominently all the recent advances in physiology, which have been sanctioned by the highest authorities. This has necessitated a large addition to the size of the former work, bringing it up to 416 pages, but the original plan of arrangement has been rigidly adhered to. Many of the chapters have been entirely re-written, and numerous illustrations introduced wherever they appeared necessary to the elucidation of the text. The subject of histology has also received great care and attention, so that the work forms an excellent text-book for students on both the subject of physiology and histology. The former edition of this work is well known to the profes-

sion in Canada, and nothing further is necessary to be said in regard to it, than that the second edition is not lacking in those qualities which rendered the former so deservedly popular."

As a work for students it will be found unexcelled. The descriptions, while sufficiently full to give a clear idea, are not overladen with details, being confined to essential points, and are therefore concise and easily remembered. The cuts representing minute and microscopical anatomy are good, and will assist the young microscopist very much in his studies. We cordially recommend it to physicians and medical students who desire a concise work on physiology fully abreast of present knowledge.

THE DISEASES OF THE STOMACH, THE VARIETIES OF DYSPEPSIA, THEIR DIAGNOSIS AND TREATMENT. By S. O. Habershon, M. D., London, F. R. C. P., Lecturer on the Principles and Practice of Medicine at Guy's Hospital, etc. Third edition. 12mo. Pp. 324. 1879. Philadelphia: Lindsay & Blakiston. Cincinnati: R. Clarke & Co. Price, $1.75.

The present volume contains the results of the many years of experience of the author in the hospital, as well as in private practice; and the experience of such a physician as Dr. Habershon, having the reputation he has in the treatment of affections of the stomach and the digestive organs generally, must be very great indeed, consulted, as he would be under such circumstances, by many thousands of sufferers.

The work contains twenty chapters, treating of all the various diseases of the stomach and the varieties of dyspepsia. The first chapters are devoted to the physiological principles involved in the processes of digestion, and explain the changes of digestion at different periods and conditions of life, and the general sympathy of the stomach with diseases of other organs. These chapters contain a great deal of valuable information; and without the knowledge they contain, a physician could not help but employ medicines in the treatment of stomachic and dyspeptic disorders at random. They lay the foundation for the scientific management of these affections. We quote from page 35: "There are some conditions of ordinary life which require notice; for the digestive process is in them strangely modified, and the whole system sympa-

thizes with the important processes that are being carried on—we refer to pregnancy and to lactation. The former state induces remarkable changes in the vaso-motor or sympathetic nerve of the abdomen. There is the closest union between the uterus and the stomach. A state of irritability is frequently induced, so that the stomach rejects its ordinary supply; and it does so especially in the morning, the period at which digestion is the most active. This irritability of the gastric surface is sometimes so severe that all food is rejected, quite independent of mere pressure on the viscus; the months of gestation are periods of wearisomeness and distress; the gastric disturbance, however, at once ceases on delivery. In some cases, the disturbance of the stomach has been referred to the secretion from the kidneys becoming disordered and changed, and this, in some instances, is doubtless an aggravation of the symptom. Again, direct pressure greatly increases the distress of this kind; but neither of these conditions suffices to explain the state we refer to; it would seem as if the large nerve ganglia supplying the abdominal viscera were disturbed by the greater energy of the uterine plexus. Again, there are those in whom conception at once removes all symptoms of indigestion; so that pain and flatulence, which for many months previously had induced indisposition, are no longer felt, and there is the enjoyment of health and strength not experienced at other times. Unfortunately, in some of these instances one trouble returns as soon as the other trouble is over, and before physical strength has been thoroughly regained, the digestive process is again impaired; the uterine activity of function seems to induce equable and healthy action of the stomach."

LESSONS IN GYNECOLOGY. By William Goodell, A. M., M. D., Professor of Clinical Gynecology in the University of Pennsylvania. 8vo. Pp. 377. Philadelphia: D. G. Brinton. Cincinnati: R. Clarke & Co. 1879. Price, $3.00.

This work, the author states, is not designed to be a treatise upon the diseases of women, but is mainly the outcome of clinical and of didactic lectures delivered to the advanced students of the Medical Department of the University of Pennsylvania. But whether it may be a treatise or an "outcome of clinical and didactic lectures"

—there is nothing in a name, it is said—it will make but little difference—it is just such a work as every practicing physician needs The various lessons into which it is divided contain brief, but clear and comprehensive descriptions of the various diseases to which women are liable, and the best modes of treating them, and that is precisely what is wanted. Its clinical character adds much to its interest, and tends to make it more practicable. A disease is described as it exists in a living subject, brought in and examined in the presence of the class. What constitute the diagnostic symptoms of any particular affection, what differentiates it, under the circumstances, from all others, is made plainly evident, and do not become lost, as it were, among a hundred others that are detailed, as is sometimes the case, in a large treatise in which the essential phenomena are related along with all others that may exhibit themselves.

In describing sarcomatous degeneration of the endometrium, our author says: "Irregular and profuse menstruation, and intermenstrual leucorrhea, gradually becoming more and more fetid, are the first symptoms; then pain, when the mass has grown large enough to arouse the resentment of the womb and awaken its contractions. The curette will cause considerable hemorrhage and bring away many fragments which present the appearance of medullary cancer; but a microscopic examination will infallibly determine their character. If the cervical canal be now dilated and the finger passed in, the uterine cavity will be found filled by an irregular, ragged and diffuse growth, without a capsule, which breaks down under the finger. Sometimes the womb, irritated by the growing mass into powerful contractions, will force a portion of it into the vagina. It will then assume the form of a polypus, the pedicle of which will be the part constricted by the os uteri. By this constriction the circulation of the protended portion becomes impeded. It therefore disintegrates, bleeds profusely, and gives off a very fetid smell. Its diffuse growth, absence of capsule, friability, placenta-like structure to the feel, and, later, its excessive fetor, stamp it with an almost unquestionable microscopic individuality." The prognosis is stated to be an extremely unfavorable one, but the fatal issue is greatly postponed by operative measures.

Under the head of "Causes of Uterine Disorders," our

author discusses faulty closet accommodations, and is disposed to blame them no little for the constipated bowels and torpid livers, etc., which act very largely as factors in producing uterine disorders. The very name of *privy*, he declares, is very often a misnomer. Both in country and city, not unfrequently, it is built of rough boards, rudely spiked together, with cracks wide enough to destroy all privacy, with a door without a bolt, and generally hanging by one hinge, with a crescent-shaped hole for a window, and with its sole article of furniture, a barrel of rasping corncobs. It is never sheltered from the rude blasts of winter, and is poisoned by noisome stenches, acrid vapors, and unclean flies. Oftentimes it is situated at a great distance from the house, at the back of the lot, and to reach it requires exposure to the road or street, or to the back windows of neighboring houses. "Imagine now," he says, "broad daylight with its busy traffic, a rainy or a dark night, the grass wet with dew, or the ground covered with snow, or the temperature, perchance, many degrees below zero. Under such circumstances, what woman can respond to the calls of nature without putting herself to great discomfort, to great risk, indeed, if she be menstruating, or without blunting the edge of her womanly sense of decorum? Nor is this last phase of the subject the least important. The shrinking from publicity in the performance of these functions is neither 'prudery' nor 'false modesty,' but a virtue of which our women may well be proud. Our forefathers, who scorned clothing and cleanliness, and who eased themselves, like their cattle, whenever the desire seized them, were in appetite little better than cannibals, in temper and morals lower than the brute. When they began to wash themselves, they began to clothe themselves; and after the culture of the body that of the mind followed as a matter of course." After still further disquisitions upon the subject, says our author, "Show me the nation that gives the most compact, the most privacy, the most solicitations, to the evacuations of the body, and you show me, in refinement, in education, and in morality, the foremost people on the face of the earth."

Instead of the common *privy* he thinks water-closets, properly situated and drained, and made secure against the escape of gases throughout the residence, should be constructed in the house. This is easily done in cities by

connecting them with the public sewers running beneath the streets—the pipes being fitted with closely fitting valves or traps. We will say that there should always be two of them. One for the servants, and the other for the family. But where water-closets can not conveniently be made in the house, the *privy* should be at a convenient distance, sheltered from the weather and view, free from disgusting smells and sights, and inviting rather than repelling to attend to the calls of nature. When the circumstances are not thus favorable, a delicate woman postpones attending to her wants until driven by sheer necessity, thus schooling herself into the habit of resisting the evacuation of her bowels, and bringing upon herself all the attendant evil consequences.

Diseases of the Throat and Nasal Passages. A Guide to the Diagnosis and Treatment of Affections of the Pharynx, Esophagus, Trachea, Larynx and Nases. Second edition, revised and amended. With 208 illustrations. By J. Solis Cohen, M. D., Lecturer on Laryngoscopy and Diseases of the Throat and Chest in Jefferson Medical College, etc., etc. 8vo. Pp. 742. New York: William Wood & Co. Cincinnati: R. Clarke & Co. 1879. Price, $5.50.

This is the largest and most complete work upon the class of diseases of which it treats in the English language, and we think we can assert with propriety that it is the best. As the author no doubt correctly states, in his preface, the preparation of it has been no holiday task with him. Preparing such a work so that it may embody all the recent knowledge of the complicated affections of the throat and nasal passages—the advancement made in the understanding of their pathology, and the improved methods of treatment—has been an undertakiug of no little labor.

In this, the second edition, considerable change has been made. Some material has been suppressed, some modified or augmented, and some added. Certain illustrations have been discarded, and others introduced. Anatomical considerations of special clinical significance have been introduced into the text, as before, at points deemed most useful, and have been still more closely confined to matters as yet unincorporated in the most accessible textbooks. Special manipulations, operations and therapeutic

measures are described, either when first alluded to, or in connection with the subject matter to which they are most applicable, instead of being consolidated in a separate chapter, as has been done by other writers.

Chapter first treats of diseases of the throat in general, in which the author discusses, at considerable length, a number of the most prominent causes of them. A frequent cause of irritation eventuating in inflammation of the throat of a subacute or chronic character, he mentions the inhalation of an atmosphere impregnated with the product of tobacco smoke. He says that tobacco making is in itself in many instances an exciting cause, but when not an initial cause of the disturbance very often it has a great deal to do with its persistence and chronicity. Exposure for hours at a time to the air of an apartment charged with the fumes of tobacco is a much more frequent source of disease in the throat than the mere smoking of tobacco in a private room.

He regards as another cause the promiscuous use of hot and cold food and drink at the same repast. Thus one, he says, partakes of hot soup, or drinks hot coffee or tea, and cools the mouth and throat by draughts of ice water taken at intervals during the meal. Or, after enjoying a warm dinner, one indulges in ice cream or ice water, and follows this by a draught of hot coffee. This alternate application of hot and cold to the delicate mucous membrane of the throat, if persisted in, can hardly fail to place it in a condition favorable for the inflammatory process.

Among the causes, also, our author classes the generally recognized excitants of overstraining the vocal cords in singing, screaming, public speaking, prolonged reading aloud, talking to the deaf, quarreling, and so on.

Every physician of any experience has noticed the exceeding liability of throat affections to recur after a first attack. Dr. Cohen speaks of this, and recommends to break up this acquired predisposition, the habitual use of the cold bath, or, at least, the matutinal sponging of the head, neck and chest with cold water. This practice induces a certain amount of tolerance and exposure to atmospheric changes, and diminishes the susceptibility of the parts to disease.

A patient subject to sore throat, he states, should never keep on at night the underclothing worn during the day, but should turn it inside out and hang it up to air. But

this advice we ourself give not only to persons subject to throat affections, but to all others. When in attendance upon our literary college, the venerable President, not a physician, at the beginning of every session, urged this change of clothing upon the students in his sanitary recommendations, and it struck us as sensible admonition, and we have followed it ever since. Frequent changes of underclothing are desirable, and woolen and silk fabrics, he says, of texture suited to the season (three varieties of weight at least, for summer, autumn and spring, and depth of winter), are usually preferable to cotton. But as regards the covering of the feet, our experience is that cotton is to be preferred to wool; for the latter often causes considerable perspiration, while the former does not, and, therefore, the feet are kept constantly wet, and the person made liable to take cold.

Chapter second is devoted to describing the modes of making examinations of the throat and nasal passages. This chapter alone, to the student, is worth the price of the book. With the very large majority of physicians, no further efforts are made at examining the throat than to place the patient in front of a window, and then, with a tongue depressor, which is usually nothing more than a spoon handle, to depress the tongue. Of course, with such an examination, only those parts are seen which can be made visible in this way, and these, usually, are the least important parts that are diseased. In fact, if the physician had a laryngoscope and other instruments for making a more extensive examination, they would be useless to him, for he would not know how to use them; and, with a physician who has been long in practice since many of these valuable instruments have been invented, it is impossible for him to go away from home to learn their use. But with a work like the one on our table, so detailed and plain on the descriptions of all the necessary manipulations, it will be an easy matter for any medical man, with ordinary ingenuity, to soon become expert in them.

But we have prolonged our notice of the work as far as our space will permit. We will only further say that it is a very valuable one, and supplies an undoubted want. It should be on the library shelves of every physician who sincerely wishes to be qualified to treat scientifically and to relieve the very numerous sufferers of a

class of diseases, which, if not oftentimes immediately dangerous to life, are frequently painful, distressing, inconvenient, and stand very much in the way of one's usefulness. In fact, very many persons, as singers, public speakers, etc., have their means of making their living destroyed by being sufferers of some one or more of the affections of which the work treats.

The publishers have gotten out the work in a most creditable manner. It is printed on excellent paper, in a good clear lively type. The illustrations are very superior.

CORRESPONDENCE.

DANVILLE, KY., *May* 15, 1879.

EDITOR MEDICAL NEWS:—The State Medical Society convened here on the afternoon of the 13th,* in the Broadway Methodist Church. Nothing of special interest occurred on the first day, but in the evening the new Second Presbyterian Church was well filled with members of the Society and citizens of the town to listen to the address of the President, Dr. Chas. H. Todd, of Owensboro. Dr. Todd discussed some points of vital interest to the profession. After some preliminary remarks he said: "There is, undoubtedly, an inseparable connection between State medicine and a higher medical education, the former embracing laws for the protection from disease by sanitary measures, for defining the essential qualifications of the general practitioner and pharmacist, and for securing vital statistics." He alluded to the inefficiency of the State Board of Health in protecting the citizens of Kentucky from disease during the last year, and remarked that "the success of a judiciously organized health system would be insured, if it could receive the earnest and harmonious support of the 2,500 physicians scattered over the 117 counties of the State." "The present advance in medicine looks to the prevention of certain diseases by sanitary regulations rather than their cure by remedial agents, and the solemn duty

*This letter got mislaid, or it would have appeared long ago. Although appearing late we believe that, nevertheless, it will prove interesting, and therefore publish it at the present time.—ED.

devolves upon the physician to educate society to a standard sufficiently high to appreciate this requirement, to guide them in the enactment of suitable laws, and urge the local authorities to their enforcement. This association is the mouthpiece of the medical profession of this State, and the physicians and society have a right to require that preventive medicine shall receive at its hands the consideration which the great advance in science demands." The Doctor spoke at length on the importance of higher medical education, and compared, very graphically, the positions held in a community by educated and uneducated physicians. As a whole, the address was an able argument in favor of medical legislation, the direction and extent of which not being accurately defined. As a presiding officer, the Doctor combined ability with grace, conducting the deliberations in an admirable manner.

On Wednesday morning, at 9 o'clock, the Society was again called to order. The first thing in the order of business was the election of officers for the ensuing year, and it resulted as follows: Dr. R. W. Dunlap, of Danville, President; Dr. J. W. Singleton, of Paducah, First Vice-President; Dr. O. D. Todd, of Eminence, Second Vice-President; Dr. A. Dixon, of Henderson, Corresponding Secretary; Dr. J. A. Larrabee, of Louisville, Treasurer; Dr. J. N. McCormick, of Bowling Green, Recording Secretary; Dr. J. C. Peyton, of Christian County, Librarian; and Doctors J. W. Holland, Coleman Rogers and P. B. Scott, of Louisville, Committee on Publication.

The following committees reported: Dr. W. Wathen on "Vesico-Vaginal Fistula with Laceration of the Cervix Uteri;" Dr. A. W. Johnstone, of Danville, on "Dermatology;" Dr. B. W. Stone, of Hopkinsville, on "Early Management of the Insane," read by the Secretary; Dr. F. C. Wilson, of Louisville, on "Mechanical Aids in the Treatment of Chest Diseases;" after which Dr. Larrabee, of Louisville, read a voluntary paper on "Rickets."

Afternoon Session. — Among the distinguished men present were Doctors S. D. Gross, of Philadelphia; L. A. Sayre, of New York; Kimball, of Lowell, Mass.; and C. B. Blackburn, the Democratic candidate for Governor of Kentucky, all of whom were called to seats on the platform.

Dr. Yandell, of Louisville, read a paper on "Epidemic

Convulsions." Dr. D. S. Reynolds, of Louisville, read a report on "Ophthalmology." Dr. J. M. Mathews, of Newcastle, read a report on "Diseases of the Rectum." Dr. McCormick, of Bowling Green, followed with a voluntary paper entitled "A Case of Obstruction of the Bowels." The subject of stricture of the rectum was discussed by Doctors Yandell, Cowling and Sayre.

Dr. J. W. Holland, of Louisville, read a paper on "The Urine in Yellow Fever," which brought out quite a discussion from Doctors Marvin and Blackburn. The latter gentleman summarized his views as follows: The cause of yellow fever is destroyed by low temperature. It proceeds from germs, and is capable of reproducing itself. There are some persons who possess an immunity from it, but why we do not understand. The causes of yellow fever and malarial fever are neither identical nor similar. He said, moreover, "there are two reasons why I believe the latter assertion: 1. Africans generally recover from yellow fever without treatment, but quinine must be administered to cure them of malarial fever. 2. Persons go away from home to escape the yellow fever, and return in the fall when it gets cool, and the fever has subsided. They contract the disease, nevertheless, from the confined air of the house, still warm, and die from it; but no one has ever heard of malaria remaining in a house in this way. Most people regard contagion and infection as synonomous terms, but such is not the case. As I view the matter, contagion denotes actual contact with the diseased matter; infection applies to breathing it."

Dr. T. D. Williams, of Beech Fork, read a report on "Puerperal Convulsions."

THURSDAY MORNING.

Along with other resolutions, read and adopted, there was one requiring all physicians within the domain of the State to register their diplomas with a registrar appointed by law, and a committee was named, consisting of Drs. McMurty, Meyer and Dunlap, Jr., of Danville, to push the matter before the Legislature. The object of this measure was to prevent quacks and unqualified physicians from practicing.

Standing and special committees and delegates to medical associations were then read out. Two delegates were sent to the British Medical Association.

Dr. McCormick, of Bowling Green, read a paper on "Cæsarean Section."

Dr. J. W. Singleton, of Paducah, made a verbal report on "Post-partum Hemorrhage," and the following were read: "Uterine Displacements," by Dr. George Cowan, of Danville; "Treatment of Scarlatina," by Dr.W. D. Bullock, of Lexington; "Excision," by Dr. I. S. Warner, of Danville.

The Society then adjourned, to meet at Lexington on the third Wednesday in May, 1880.

In commenting on the twenty-fourth meeting of the Kentucky State Medical Society, it may be said that the attendance was large, and made up principally from men of high professional rank. The reports were in general interesting, though some of them possessed the common fault, too great length. Among the papers especially mentionable, were "Mechanical Aids in the Diagnosis of Chest Diseases," by Dr.Wilson, and the report on "Ophthalmology" by Dr. Reynolds. Dr. Yandell, in his paper, discussed a novel subject in medicine, namely, that peculiar nervous condition arising from religious excitement, denominated "Jerks." If the Doctor had given the pathology of a single case, along with the recital of the thousands who "fell" in those "epidemic convulsions," the paper would have been greatly enhanced in value,

Dr. Holland's paper on "The Urine in Yellow Fever," was an exceedingly interesting one, and forms a valuable addition to the literature of this obscure and much dreaded disease. According to Dr. H., the urine of yellow fever contains unmistakable diagnostic features in the form of tube casts. The paper was beautifully illustrated with copper etchings, showing types of the third and fifth days of the disease, etc.

The dedication of the McDowell monument took place yesterday evening before a large and brilliant audience in the Second Presbyterian Church. Prof. S. D. Gross, of Philadelphia, was the orator of the occasion, and Drs. L. A. Sayre, C. B. Blackburn, Kimbal, Yandell, Governor McCreary, and other distinguished men occupied seats on the platform.

The address, as delivered by Dr. Gross, was, indeed, a fit offering at the tomb of the great father of ovariotomy. Venerable in appearance, though with a manly voice, the

great author and surgeon held the large audience almost spell-bound for an hour and a half, while the virtues of McDowell were recounted and his example praised. Being almost seventy-four years of age, Dr. Gross still possesses the vigor of manhood, and attends to his duties as professor in the Jefferson Medical College with unwearying zeal. Although tortured severely with callers here, he seeks to evade no one, but receives all with cordiality, and dismisses them with a warm shake of the hand, and the familiar "God bless you." In answer to a question as to whether he had accumulated much property, he said, "not very much; doctors do not get very rich by practicing medicine; but still I have enough, and if I come to want, I still have my hands."

To return to the address, the orator concluded by offering some encouraging advice to the younger members of the profession.

Dr. L. A. Sayre, President of the American Medical Association, was next introduced, and spoke touchingly of the "great Nestor of American surgery."

After this, Dr. Yandell read letters from Drs. Parvin, Richards, Gaillard Thomas, Oliver Wendel Holmes, of this country, and Mr. Thornton, Thomas Fry and Spencer Wells, of England.

Dr. Cowling, in a very impressive speech, returned thanks to Prof. Gross, and presented him with the knocker that hung from McDowell's door. Prof. Gross responded in appropriate terms.

After the close of the exercises at the church, the members of the Society and visitors repaired to the different receptions given in honor of the occasion. The names of those to whom all were so much indebted, were Dr. A. R. McKee and wife, Hon. M. J. Durham and wife, Dr. A. W. Johnstone and wife, and the Directors of the State Deaf and Dumb Asylum. The residences and asylum buildings were handsomely decorated with exotics and cut flowers, the grounds were brilliantly illuminated with Chinese lanterns, and refreshments were served by beautiful young ladies.

Among the pleasant features of this beautiful blue grass country, I must not fail to mention the good eating, the fine horses, the Lexington races, the beautiful women, and finally our costly but delightful Southern Railroad.

R. B. D.

EDITORIAL.

IRREGULAR GRADUATING.—We have learned that some individuals of the profession are disposed to cast blame upon Dr. Chas. A. L. Reed for the letters he has addressed to the Trustees of the Cincinnati College of Medicine and Surgery through the MEDICAL NEWS. Instead of considering that it is his wish to benefit the school by improving its faculty—drawing the attention of the Trustees to the gross ignorance that exists in its faculty, and its many irregular acts, which will soon destroy it as a regular school in good standing, and cause good students to avoid it—they seem disposed to think he has entered upon a crusade to overthrow it. There can be no supposition wider from the truth. There have left the school the following gentlemen: Professors M. L. Amick, C. A. L. Reed, R. C. S. Reed, J. A. Thacker. Any one who knows any thing about the college knows that these are the gentlemen by whose efforts mainly it has been built up; by whose labors it has obtained the position and success it has been enjoying for the last several years. Let any one inquire of any intelligent, disinterested Cincinnati physician, to whom the Cincinnati College of Medicine and Surgery is indebted for its being raised up from almost complete extinction to a high degree of prosperity and influence, and he will at once state that the obligation is due to those gentlemen whom we have mentioned. Again, ask him whose ignorance and pretensions it was that all along excited the disgust and ridicule of the profession of the city, and in spite of whom the school flourished—who they were, who were but heavy dead weights that had to be carried—and the reply will be that they were those who have now the management of its affairs.

Any amount of evidence could be furnished of the graduation of grossly ignorant individuals and of irregulars by the college, by the assistance of members of the faculty. Among others who received diplomas, who were not entitled to be admitted as candidates for graduation, was one Henry McGrew, who is now practicing medicine near Cincinnati. This person first graduated at the Eclectic Medical College of Cincinnati. Afterward he matriculated at the Pulte (Homeopathic) College and the *Cincinnati College of Medicine and Surgery*, concurrent sessions, divid-

ing his time in attending lectures between the two. A few days after he graduated at the former, he graduated at the latter. Professor R. C. S. Reed, who has since left the Cincinnati College in disgust, father of Professor C. A. L. Reed, learning the facts, denounced the Dean, Dr. Bramble, for his concealment of the fact of McGrew's ineligibility, according to the requirements of all respectable colleges, to be a candidate for graduation. On the Dean the faculty had imposed the duty of examining the credentials of all matriculants and candidates for graduation, and finding any irregularity in them, to report the same to the faculty. Professor Bramble, denying the truth of the statements made about Mr. McGrew, Professor Reed addressed a note to the authors of the following letter, which he received in reply, inquiring whether he had misrepresented Mr. McGrew. Our readers, on reading the letter can judge whether he did or not, and whether Mr. McGrew should have been admitted for graduation:

READING, OHIO, *June* 16, 1877.

Dr. R. C. S. Reed:

DEAR SIR:—In reply to your request concerning what we know of one Henry McGrew and his medical career, we will state that personally he is a *gentleman* of good standing among those with whom he associates; but medically he has been unfortunate enough to have obtained his preparatory medical education from a *very irregular* practitioner. So far as our knowledge extends, he has never associated or affiliated with regular physicians. Also, just one week after the announcement of obtaining his degree in the *Pulte* Medical College, he sallies forth from the Cincinnati College of Medicine and Surgery, with a full-fledged degree in regular *medicine*. Even after *all this*, he has returned to his former irregular medical associations. In conclusion, we must express our regrets that any regular Medical College should so far forget its obligations to the profession as to confer its diploma on one who seeks fellowship in such an *irregular manner*.

B. S. MECUM, M. D.
OTTO FULS, M. D.

WE append a letter of inquiry to a member of the faculty of the Cincinnati College, by a gentleman who afterward came on and attended the lectures and gradu-

ated. His examination in the Chair of Practice, which was a written one, was a complete failure—scarcely answering a single question correctly. When it came to vote on his competency to graduate, notwithstanding that the occupant of the Chair of Practice protested against his graduation, he nevertheless received the required number of votes, and had conferred upon him the degree of M. D. It was shown that in his written examination, he spelled "bowels," "bouls;" "heart," he spelled "hart," etc., etc. In the face of this exposure, both the chairs of surgery and gynecology asserted that he passed *elegant* examinations in their respective departments. No doubt it was *elegant*. But here is his letter of inquiry before coming up to attend the lectures. It is without date:

——— Ills.

Dear Sir

As i am makeing preparations to tend lectures this fall and Winter, i would like to See the terms of your School. i have not yet decided Whare i Shall tend. i Suppose your are a Ware that the law in this state Prevents any one Who has not a diploma from practiceing Medicine Now as i have had 4 or 5 years Study With some practice i wish to gow Whare i can get the Best ashurance of Graduating With one term of lecturse. as i have not got the money nor time to tend two terms. Would like to here What is the best you can doo.

yours Truly

YELLOW FEVER.—It may be interesting to some of our readers to know *why* there was such a fearful scourge of this fever in New Orleans. Recently, through a prominent official there, though having no connection with the board of health, the Editor received a copy of the *Annual Report of the Board of Health of Louisiana for* 1878, in which were found some of the ghastliest statements that any hygienic officer was ever compelled to pen. We will quote a few paragraphs from Dr. Joseph Holt's (Sanitary Inspector of the 4th District of New Orleans) report, that our readers may judge for themselves:

"EVIL No. 1.—THE PRIVY SYSTEM.—Standing at the very head of evils is our present system of privy vaults. It is not asserting too much to declare that our privies are the most dangerous enemies of our lives and happiness. There is hardly one in New Orleans but whose contents have free access to the soil to saturate the ground with ordure. Thousands of them are originally huge boxes or wooden tanks, but are now only common sinks or pits

in the ground, with hardly a vestige of the woodwork left. While in wet seasons these vaults are flooded, in dry weather they are largely emptied by their fluid contents soaking into the ground, thus saturating the soil upon which we live, with human excrement. In this respect it may be properly stated that the people have a huge privy in common, and that the inhabitants of New Orleans live upon a dung heap.

"EVIL NO 2 IS OUR GUTTER SYSTEM.—In many parts of the city the grading of the street gutters is so imperfect as to render them entirely unfit for drainage. In the topography of this district there are depressions involving the area of a square and in some places of several squares. The gutters of such areas are lower than their outlets, and hence become stagnant pools With a few exceptions, all the gutters of the district are badly constructed and exceedingly difficult to keep clean.

"EVIL NO. 4.—INSUFFICIENT WATER SUPPLY.—A year seldom passes without the prevalence of at least two protracted droughts. So desperate are the necessities of the poor at these times that they are compelled to resort to the street gutters to obtain the water which is to supply all their wants, to be used in cooking, drinking, washing, etc. In times past the authorities have allowed the fire plugs to run for awhile morning and evening, partly to wash out the filthy gutters, and partly to afford from the same gutters to our fellow-citizens, men, women, and children, their drinking water.

"EVIL NO. 6.—LOCUST GROVE CEMETERY, or Potter's Field, which is one square of ground in which are buried the pauper dead of the entire city. Having been used for many years, the same graves were made to receive the bodies of many dead.

"I, myself, making an inspection, witnessed the burial of a corpse. The grave was prepared by uncovering a coffin, opening it, raking the bones together and throwing them out, breaking up and prying out the old coffin, and depositing the new in the mold of the former. When laid in its uncertain resting place the lid of the box, like that of the one preceding, was two inches below the surface of the earth. To hide it, the earth formerly removed was piled upon the coffin in a mound about two feet high. In this covering I counted the skulls of three former occupants, besides observing other bones innumerable. So filled with bones was the earth as to make the use of the spade exceedingly difficult. Another coffin lid, warped by the sun, displayed in hideous reality the body of a poor wretch who had died a few months before; the stench was disgustingly perceptible. The whole surface of the ground was strewn with ribs and small bones, like pebbles upon the hills. Here and there huge thigh bones served as head and foot stones to the unknown dead. The neighbors assured me that hogs repeatedly made their way through the picketed fence, and even declared to me, that they had been known to root up the dead out of their graves, and to revel in their carcasses the live-long night, filling themselves with human flesh to fatten on it. Whether this statement be true or not, it is certain they were frequently in this graveyard, and the coffins, sometimes not below the level of the surface, were often made bare by the rains.

"Adding dangers to the disgusting features of this horrible picture, the boards of coffins broken up, as described, were in constant demand to be used as fire-wood for cooking and for the construction of yard fences, by certain degraded whites and negroes in the district.

"The Potter's Field is now a low marsh, wherein the sexton performs his heavy task faithfully and as best he can; sometimes floating to their graves the dead and weighting them into their homes, the whole graveyard being often a foot under water. The nature of his field renders it impossible for him to dig these graves deeper than has been his habit."

A LONG BEARD.—In the *Medical Advance*, a medical journal published at Detroit, Michigan, is an article containing a cut, and describing a gentleman, known to the editor, having a beard *seven and a half feet* long. He could stand on a chair and his beard would touch the floor. The hair of his head also exhibits a marked disposition to exuberance of growth, as every month he trims off a couple of inches from the ends. Usually, when the beard is of exceptional thickness or length, the head suffers and *vice versa*.

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ORIGINAL CONTRIBUTIONS.

Dislocations of the Hip-Joint and Fractures of Long Bones of the Lower Extremities.

BY W. C. DAY, M. D., GREENFIELD, ILL.

I SHALL present for the consideration of the Society, Dislocations of the Hip-joint and Fractures of the Long Bones of the Lower Extremities. You doubtless will be impressed with the thought, that either of the topics, dislocations or fractures well elucidated, would require more time than is allotted to us on occasions of this kind; this is nevertheless true, but my object is merely to call your attention to a few practical points in a surgical point of view. I have selected this subject from the fact, that the members of the profession are not entirely harmonious in their views in regard to the treatment, *especially* of these injuries. I shall therefore expect friendly criticism from this Society; certainly, the great value of our association consists in its suggestive element, consequently discussion is the readiest channel for the dissemination of useful and practical ideas. I have associated in my article, Dislocations of the Hip-joint with Fractures, in the same locality, in order that we may familiarize ourselves with the differential points of diagnosis in the injuries of the hip-joint.

Fractures and dislocations have often baffled the skill of our most eminent surgeons; hence, they have many times been a prolific source of perplexing lawsuits to the surgeon. It is said of the learned and gifted Brainard, that toward the close of his professional career, he

absolutely refused to treat fractures in his private practice, unless the patient or guardian would give a written guarantee accepting the result. This he did as a protection on account of some previous bad results which had brought about some troublesome litigations that terminated adversely to his interest.

If we peruse our works on medical jurisprudence, we find them teeming with illustrative cases of suits growing out of shortening and deformity from treatment of fractures. So hazardous have those cases been to surgeons, that our best authors on the subject concede as much as an inch or two shortening in oblique fractures of the long bones, especially of the lower extremities. This is an act of magnanimity on their part for which we feel truly grateful.

To be experts in this branch of surgery, we must be correct diagnosticians, and last, not least, render a fitting prognosis. It is certainly better to predict a result compatible with the nature of the case and its surroundings, than to promise a good result when reason and good judgment would insure the reverse.

It is taken for granted, that all are sufficiently familiar with the anatomy of the Coxo-femoral region, to comprehend the positions and conditions of those injuries without entering into a description of the parts anatomically.

The different forms of luxated hips have been accurately described by Sir Astley Cooper, and more neatly by Professor H. J. Bigelow. The are four principal varieties: 1. The head of the bone may be thrown upward and backward on the dorsum between the acetabulum and crista ilii; 2. It may be thrown backward into the sacro-sciatic notch resting on the pyroformis muscle; 3. It may be thrown downward into the thyroid foramen resting on the external obturator muscle; and, 4. The head of the femur may be thrown forward and upward on the horizontal branch of the pubic bone, under the psoas and iliacus muscles to the outer side of the femoral vessels. These four varieties (with three others not mentioned in this article) are denominated regular dislocations, in which the the Y or femoral ligament remains unbroken in one or both its branches. The head of the bone, however, may find lodgment in any direction intervening between these four varieties. These anomalous varieties are the irregular of Bigelow, and in which the ileo femoral ligament is

wholly severed, and whose characteristic signs are therefore uncertain. In point of frequency, according to Hamilton, the dorsum variety is first, the ischiatic next, the thyroid next, and pubic least frequent.

The symptoms of dislocation will be take: up in regular order, and the method of reduction by manipulation with each case.

Symptoms of displacement on the dorsum ilii: The limb is shorter by an inch or two than the other; the great toe rests on the opposite instep; the knee is a little advanced and turned inward; the limb can be bent slightly across the other, but can not be turned outward. The trochanter is less prominent than natural, and nearer the spine of the ileum, and if the patient is lean and no swelling, the head of the bone can be felt in its new situation. This dislocation may be distinguished from fracture by the circumstances that in fracture of the neck of the femur the limb is not so fixed; it can be moved upward and outward easily, although attended with pain. The foot is everted and the limb can be drawn to its proper length by moderate extension, when, as in dislocation, it requires great force to restore the limb to its proper length and shape; but when the head is replaced in the acetabulum, it remains there. Reduction: Bigelow says, that "flexion lies at the foundation of success in the reduction of femoral dislocation, and compared with *this* the rest of the manipulation is of secondary importance." Hence, bend the knee on the thigh and the thigh on the pelvis. The surgeon then grasps the ankle with one hand and the knee with the other, causes the thigh to perform a circular movement of abduction, finishing with a slight rotary movement with extension, when the head of the bone will usually glide into its place. Professor Bigelow describes the method in this laconic sentence, "*to lift up, bend out, roll out.*" The next dislocation backward into the sciatic notch according to Sir Astley Cooper, or dorsal below the tendon of the obturator internus muscle by Bigelow, is characterized by the following symptoms: the limb is shortened from half inch to an inch; the toes rest on the ball of the great toe of the other foot; the knee is advanced and turned inward, but not so much as the dorsal dislocation; the trochanter is behind its natural site and is not so prominent; the head of the bone can scarcely ever be felt. Treatment:

Surgeons have found a great deal of difficulty in reducing this dislocation in times past. Sir Astley Cooper says: "The reduction of this dislocation is, in general, very difficult." The researches of Bigelow have certainly shed a great deal of light on the subject. The obstacle, according to him, results from the interposition of the tendon of the obturator internus (a muscle very tendinous in its structure), and the subjacent portion of the capsules which are rendered tense by traction, and so prevent the head of the femur from becoming replaced. The best way of relieving this injury is certainly by manipulatory maneuver, and Bigelow's method is by circumduction of the flexed thigh inward, so as to unroll or unlock the head of the bone; then abducts and everts the limb with an upward jerk, when the bone usually slips into the socket. In dislocation downward with the head of the bone into the thyroid foramen on the obturator externus muscle, the symptoms are as follows: The limb is lengthened one or two inches; it is drawn away from the other and the toes point downward and directly forward; the body is bent forward because the psoas muscle is on the stretch. In the reduction of this dislocation, the indications are to draw the head of the bone outward and rather upward. This may be accomplished by placing some solid substance between the patient's thighs and near up to the perineum; then the foot may be carried inward across the median line, so that the solid substance between the patient's thighs will act as a fulcrum and throw the head of the bone outward and upward into its place. Severeal methods are given by Bigelow for this reduction, but his second method, that of traction, strikes me as an excellent maneuver in this displacement. He says: "Flex the limb toward the abdomen and draw the thigh outward by a towel passed around the upper part, or thrust it outward by applying the foot to the inside of the groin," then traction will bring it in place. The fourth and last position of the dislocated head of the femur, I shall notice, on this occasion, is the upward and forward or pubic dislocation; it is characterized by an inch shortening; it is very movable; the foot is drawn away from the other and considerably everted; the head of the bone may be plainly felt below Poupart's ligament, and from this circumstance this dislocation may be distinguished from fracture of the cervix femoris. Treatment: Flexion combined with ad-

duction and at the same time an assistant to raise the head of the bone with a napkin. The head of the femur will usually glide into its place. The anomalous or unusual dislocations I shall *not* notice on this occasion, neither shall I dwell on the method of reduction by mechanical force.

FRACTURES.

I shall not enter upon any general consideration of fractures, but proceed immediately to notice those specially about the pelvic extremity of the femur.

Our authors are very voluminous on the subject of fractures. Many pages are written on the different kinds of fractures, their description and peculiarities. A thorough knowledge of these points is a *sine qua non* to the doctor in embryo, but as I am reading to the *grown*-up, fully-developed, mature doctors of the profession, I shall pass over this part of the subject and enter upon that practical part of it, merely noticing a few diagnostic points of difference between dislocations of the hip and fractures of the neck of the femur.

The signs of fracture are alteration in the shape of the hip, crepitus (except in impaction of the bone), pain at the seat of the injury, and inability to move the limb, with shortening and almost invariable eversion, with increased mobility at the seat of injury. In dislocation its existence is rendered evident by the change in the shape of the joint, and in the relations of the trochanters to the spines of the ischium; by the articular end of the femur being often felt in its new situation; fixidity and immobility of the joint; invariable inversion of the dorsal and backward displacement. It is of some practical importance to us as surgeons to be able to diagnose between extra and intra capsular fracture of the neck of the femur. This importance is the more evident from the fact that intra-capsular fractures usually occur in those advanced in life, generally above fifty years, and in those cases it is not expected for a bony union ever to take place (except in the impacted variety), consequently the treatment is materially modified by this circumstance.

A positive diagnosis can not every time be made, but the table given by Erichsen will so refresh our memories that we can not often err. The diagnostic points are thus given:

INTRA-CAPSULAR.	EXTRA-CAPSULAR.
1st. Cause generally slight and indirect, such as catching the foot in the carpet or slipping off the curb-stone.	1st. Cause usually severe and direct violence, such as falling from a height or blow on the hip.
2d. Force usually applied longitudinally or obliquely.	2d. Force usually applied transversely.
3d. Age rarely below fifty; most commonly in aged feeble persons.	3d. Age usually below fifty; chiefly in vigorous adults.
4th. Pain and constitutional disturbance slight.	4th. Pain and constitutional disturbance usually considerable.
5th. No apparent injury to soft parts about the hip.	5th. Considerable extravasation, ecchymosis and signs of direct injury to the hip.
6th. Crepitus often obscure.	6th. Crepitus (when not impacted) very readily felt.
7th. Shortening usually at first not more than one inch.	7th. Shortening when not impacted at least two inches.

All the other fractures of the thigh and leg are sufficiently easy to diagnose so as to need no further notice from this paper.

The management and treatment of fractures is one of the commonest duties of the surgeon, and it would be fortunate indeed if, in the treatment of these injuries, we had some old and established plan; some invariable rule by which we might treat these injuries; some machine, splint, or implement that never would fail to produce a good result, but unfortunately there is none. This then is suggestive of one fact, that the surgeon who treats fractures successfully must be conversant with all those principles pertaining to his art, and know how to use that knowledge in each particular case to advantage. In the treatment of the fractures we have under consideration, the surgeon must not confine his attention strictly to the bone, and think its reparation is to be effected, as a carpenter would splice a broken beam. There are other structures equally as important as the bone, that need his attention and need to be preserved and kept in as normal condition as possible; such as the skin, cellular tissue, muscles; also the age, sex, temperament, and physical condition of the patient should be taken into consideration in the management of fractures. The surgeon should not confine himself too much to one special plan or splint—should not follow strictly in "the old ruts." A little survey of the field will disclose many ways more appropriate and perhaps better; for there is no department in surgery perhaps where a greater amount of inventive ingenuity

has been displayed in producing implements than in the treatment of fractures. Hence our resources are bountiful to select from. I have often been amused at some of our good-natured professional brethren for saying that Lister's long splint is good enough, time and usage have made it venerable, and it is conceded that we are to have two or three inches shortening any way in these fractures, and I will use it as I am acquainted with its action. It is needless to say that surgery has routinists as well as medicine. I certainly deprecate the plan of using ready-made splints, as are sold by the instrument makers. To be made useful you would have to hunt up the patient to fit the splint instead of having the splint to fit the patient. The materials that are needed in such cases are abundant everywhere in this blessed country of ours, and need cost but a trifle, or nothing—a small thin board—pasteboard, bundles of twigs, or straw, the inside bark of trees, tin, leather, iron rods, or wire, starch, plaster of paris, glue, sand-bags, cotton cloths, and batting, etc. So that out of such materials the surgeon must select, and be ingenious enough to extemporize such splints and appliances as will fit and suit his case, and if he can not do this, he is certainly not adapted to his calling, and if he continues without acquiring that adaptiveness requisite to the case, he will often be mortified in beholding his own horrible blunders.

TREATMEMT OF INTRA-CAPSULAR FRACTURE.

When this fracture occurs in persons advanced in life, feeble and debilitated, we may expect visceral disease to develop, that will terminate the patient's existence in a few weeks; but if complications of this kind should not occur, at best we are not to expect the fractural neck strictly inside the capsule to be united by ossific matter. Hence, reason would suggest that the patient be made as comfortable as possible in the recumbent position, until the pain and inflammation subside. This may be done to the best advantage by supporting the limb by means of pillows and sand-bags. The limb may be extended by weight and pulley, so as to steady it and prevent motion. After the pain and inflammatory symptoms have somewhat abated, if the patient's strength will permit, he can sit up in a chair, until he has sufficient strength to get around on crutches, for it is useless to sacrifice his health and

strength by long confinement, and run the risk of producing troublesome bed-sores, with no hope or object in view that can benefit this fracture in the way of bringing about a bony union. If the patient, however, is robust and healthy, and we are satisfied the fragments are held together by periosteum or impacted, we can then treat the patient on general principles, with the hope that the fractured neck may be cemented by ossific matter.

Simple transverse fractures of the shaft of the femur may be treated by the starch bandage, I think, to the best advantage. In this injury, if the fragments are properly replaced and well supported by a good pasteboard splint over the seat of the fracture, and then the starch bandage well and evenly applied over the pasteboard, then I think we need have no fears of deformity of limb, and have the great advantage of putting our patient out on crutches in a few days, and by this means the health is kept up to a good standard, and a speedy union is insured.

Simple or compound transverse or oblique fracture in the lower end of the femur near the condyles is best treated in the flexed condition. In this fracture the lower fragment is powerfully acted on by the gastrocnemius, plantarius, and popliteus muscles, thereby flexing the knee-joint, even when the leg is extended by the powerful contraction of these muscles. If this fracture were treated with the limb in perfect extension, it is not likely the fracture would ever unite. Hence, the limb should be treated on a double inclined plane, and in this position only can we anticipate a good result. Simple or compound *transverse* fractures of the fibula and tibia may be treated with the plaster-paris splint with an excellent result, and very agreeable to the patient. I would treat all oblique fractures, whether simple, compound, or comminuted, of the femur (except where it occurs near the condyles or inside the capsular ligament), also all simple, compound, or comminuted oblique fracture of the tibia and fibula (except very near the ankle joint), by *suspending* the limb, and *extending* it by means of the force of *gravitation.*

These kind of fractures, treated by the combination of these principles, will, I confidently believe, produce a better result, all things being equal, than any other contrivance that was ever brought to the notice of surgeons for the treatment of oblique complicated fractures of the

long bones of the lower extremities. Let us reason upon the case. It is an indisputable fact, that shortening in oblique fracture is caused by muscular contractility. And another fact, muscular contraction can not be readily overcome and made to yield by force suddenly applied in the living and unanæsthetized subject. A fact equally potent is, that contracted muscles can readily be made to yield by force *equally*, *evenly*, and *continuously* applied. Hence, extension by means of the force of gravitation is the positive and exact antagonist of muscular contraction. Whoever originated this idea of treating fractures, and has priority in introducing it to the profession, matters nothing to us as practitioners. What we want, and that which concerns us most, is that kind of *splint* for the treatment of those injuries that combines and utilizes the principles just enumerated to the fullest extent. Professor Hodgsen's "wire suspension splint" does this completely and without defect. You will bear with me and not consider me too enthusiastic when I assert, that for the treatment of the fractures just mentioned, this *splint* has no *superior*, and I doubt very much if it has ever been equaled. My assertions are founded on observation and experience. I used it, and witnessed its use, for nearly two years in the army during the late war, and in my own practice, since the war, I have treated these fractures exclusively with this splint, and with a result that I have never regretted in a single instance. No doubt but a great many of you have used it and are conversant with its mechanism, but to those who have not had their attention called to it, I will refer you for a description of it to the St. Louis *Med. and Surg. Journal*, No. 1, Vol. I. New sSries 1864. Pp. 19, 20.

I will quote a few paragraphs from the article by Professor Hodgsen to show the advantages claimed for it:

1st. "That the limb is entirely free from compressing bandages so that circulation and nutrition are uninterrupted, consequently repair goes on in its wonted course.

2d. "The limb may be examined without disturbing the dressings.

3d. "Any one of the supporting strips may be removed and replaced without displacing the fracture, consequently the external wound may be freely dressed and all offensive matter removed as often as may be required.

4th. "The absence of the perineal band, and the limb

being suspended on strips of muslin, there can be no perineal excoriations, no ulceration of the heel, while every part of the limb is kept cool in the hottest weather.

5th. "The freedom with which the limb moves in obedience to impulses received from the hip and upper part of the thigh allows the patient to sit up, to move to any part of the bed, or lift himself on a bed-pan, without disturbing the fracture or causing the least pain."

My experience with the use of this splint for nearly fifteen years confirms the above statement in every particular.

I verily believe that simple oblique fracture of the femur and tibia (and compound fracture also, if there is no loss of structure) can be treated by this method in the most instances *without*, or *scarcely* any *shortening*. I am sure I have treated a great many of those fractures with results in accordance with this statement.

Objective Snapping Noises in the Ear.

BY W. R. AMICK, M. D., CINCINNATI, OHIO.

Miss S., Æt. thirty, is a lady that enjoyed good health until she was about eighteen years old. Since that time she has been troubled with pains in the cardiac region. The pain is not constant, but at times is severe, and then it produced, or rather is followed by vertigo and nausea. The family physician told her that the trouble was caused by cardiac debility. After she had had one or two "fainting spells," she noticed a peculiar cracking or snapping noise in the ears. Previous to this there had never been any trouble connected with the organs of hearing. There is not, and has not been, to her knowledge, any aural trouble in the family. At present she is rather delicate and very nervous. Anything that excites her not only increases the action of the heart, but also increases both the force and frequency of the snapping sound in her ears. When somewhat excited, the sound can be heard at a distance of about four feet from either ear. It alternates without any regularity, being loudest first in one ear and then in the other. At a short distance it appears as a single sound, and resembles the noise produced by rubbing and snapping the thumb and finger nails. By

placing the ear very close or using a stethoscope, you hear a double sound. On examination there is seen a slight movement of the drum-head corresponding with the sound, producing a little change in the triangular spot of light. By inclining the head to one side, filling the external canal with water and adjusting a small lever, a slight movement could be seen when the sounds were loud, otherwise no motion could be ascertained.

The membranæ tympani appeared to be normal with the exception of some mucus or fluid in the cavity of the tympanum. There is a very marked movement of the soft palate, synchronous with the sound from the ears. The fauces, especially the posterior wall, were considerably congested. The condition of the posterior wall in addition to the congestion, was of a granular form.

The tone of the tuning-fork was changed during the occurrence of the sound. But this test was not quite satisfactory, as the patient was not positive as to the nature of the change produced. At first she thought that the change was due more to an apparently decrease of the sound from the tuning-fork by the sound in the ears. Afterward, when her attention had been called to it, she thought that there was an elevation of the sound of the fork when the noise was produced in the ear. The elevation took place with a quick gradual ascent, rather than with an interruption, and then returned in a similar manner to the original tone. I think that the latter statement is the correct one.

The position of the head had no influence in controlling or even modifying the sound, and a suspension of respiration produced no change whatever. By an act of the will she could control it for a short time, but stated that it made her weak and nervous to do so, which would be followed by a disagreeable feeling of nausea in the stomach, and a general depressed condition resembling nervous exhaustion. This condition is brought about by a forced concentration of mind upon the noise itself, without a cessation of respiration. The sound then gradually dies out, becoming weaker and weaker until it ceases entirely. Whether the depressed condition, alluded to above, is due to this concentration of thought is more than I know, as I did not make any inquiries in regard to it.

During the examination these objective sounds were heard fifty-four times per minute, while the pulse at the

same time was eighty. The sounds are very irregular, and the interval between them is much longer in some instances than others. There may be considerable regularity for a minute or more, then again this irregularity will be noticed immediately. They did not appear to be intermittent, but the interval was, apparently at least, lengthened a fourth, a third, a half, and sometimes even more. It is evident that the sound is not produced by the action of the head, as there could be traced no relation existing between the carotid pulse and the ear sound. There is scarcely, if any difference in intensity between the two ears. The sound can be heard very distinctly at either side of the nose, and is as audible at the mouth, when it is open, as it is at the auricles. Hearing does not appear to be impaired, and although this cracking and snapping has continued constantly for nine years, yet it has not, and does not produce any annoyance. Her statement is, "that it has continued so long that she has become accustomed to it," and therefore it causes no inconvenience. In answer to the question as to whether it annoys her at night, or was increased by the recumbent position, thus preventing sleep, she replied that it gave her no trouble, and did not have any tendency to prevent sleep. Nothing except excitement would augment the sounds, and nothing, that she knew of, except the concentration of thought upon the difficulty would prevent it. Quietude produced the minimum sounds. When asked to perform the Valsalvan method of inflation and continue for a time, it was found to prevent the sounds entirely so long as the air was kept forcibly in the tympanic cavities. As she did not present herself for treatment, but simply for examination, nothing can be said in that line.

I think, from the nature and location of the sounds, that it is due to muscular contraction, and that the chief factor is the separation of the patulous walls of the internal portions of the eustachian tubes that are covered with mucus.

Judging from appearances, I think that the action of the tensor tympani muscle is passive, and that the origin of the trouble is located elsewhere. If the tensor tympani was at fault we would have a more marked movement of the membranæ tympani. As it is, this movement is very slight, and can not be noticed unless the sound is produced with considerable force. Even then, this movement, although caused by the tensor tympani, yet, I think

that it is due to a drawing on, rather than a contraction of this muscle. The trouble in this case appears to be connected with the eustachian tubes, internal to the isthmus, or in the cartilaginous portions. It is also evident that a great portion of the force is expended on the levator palati, tensor tympani, and tensor veli palatini muscles, as is evidenced by its marked movement of the soft palate.

In a normal condition of the eutachian tube, the mucous membranes are in contact, but are easily separated. The act of swallowing not only separates them, but forces a small quantity of air into the cavity of the tympanum. In this manner we have that cavity ventilated. The mucous membrane of the tube, like a mucous membrane located elsewhere, secretes mucus. In a condition like the present one, we have a hypersecretion with more viscidity than normal. During a contraction of the muscles, the walls recede sufficiently to separate the mucous membrane and break the film of mucus intervening. This separation of the walls of the tube and breaking of viscid mucus, is, in my opinion, the origin of the sound in the case under consideration. The movement of the soft palate is also due to the contraction of the same muscles.

The causes, as given by Burnett, of the occurrence of involuntary objective noises in the ear, have been sought for in several ways, as in neuralgia of the superior maxillary branch of the fifth pair of nerves, with tic of the seventh and of the branch which the inferior maxillary sends to the tensor tympani by means of the otic ganglion (Leudet), or in a reflex spasm conveyed from the sensory nerves of the diseased mucous membrane to the corresponding motor nerves in cases connected with catarrh of the pharynx (Kilpper).

In the case under consideration, there is no direct history of neuralgia proper, but a tendency in that direction, and this, with the catarrhal trouble of the fauces, is probably the cause of the spasms. She did not complain of the throat, in fact did not suppose that there was anything abnormal there. But that supposition may be due, first, to the congestion being slight and causing no special difficulty; and second, to the fact that her mind has been engaged with the peculiar snapping noises in the ears, and if there was any unnatural feeling about the fauces,

it could easily be called a result of the latter, and thus not be noticed specially.

Dr. Girvin, of Philadelphia, reports a case occurring in a Japanese boy eighteen years old. In this case the sound emanated from the right ear, and was snapping in character. The young man did not have the ear treated, but was under observation for some time for difficulty in the left ear. After a while a perforation of the right drum had occurred, which rendered the noises very infrequent and almost inaudible, and finally ceased entirely. In about a week a slight mucous discharge was observed, which was probably due to exposure of the lining membrane of the tympanum. This was stopped, and the perforation in the membranæ tympani closed. The snapping noises did not return, and all the spasmodic movements that had previously existed were entirely relieved.

Dr. Holmes, of Chicago, reports the case of a seamstress, seventeen years of age, in which objective sounds were heard in both ears. They were audible eighteen inches from the left, and five or six inches from the right auricle. The souuds in this case were composed of two parts, the first being the louder. They occurred, as also the spasm of the palatal muscles, about forty times per minute. In this case, deglutition or holding the breath increased the distinctness of the sounds, while a "cold in the head" lessened it, but did not materially increase the deafness. The sounds in this case, although heard when she opened her mouth, yet they were indistinct and appeared to emanate from a distance. He considers that the following three factors are to be taken into consideration in discussing the cause of the sound: 1st. The separation of the walls of the eustachian tubes near their opening; 2d. The passage of air into the middle ear with each contraction of the pharyngeal muscles; and, 3d, possibly most important, a spasmodic contraction of the tensor tympani.

In the case that I have given, as I have already stated, I think that the action of the tensor tympani is passive, and the slight amount of movement produced by it is transmitted.

SELECTIONS.

Hospital of the University of Pennsylvania.

SERVICE OF PROF. LOUIS A. DUHRING, M. D.

Reported for the *Medical and Surgical Reporter.*

ERYTHEMA NODOSUM.

THE patient was a little girl, five years of age, whose legs, thighs, and arms were the seat of a number of flat nodules, from half an inch to an inch in diameter, slightly elevated above the level of the surrounding skin, having a smooth surface without scales, and a dark reddish or purplish color. There was no sensation of itching, nor of burning, but the child said that the lesions were painful. There was no eruption of any sort on other parts of the body. The affection had made its appearance about a week previously, showing itself originally upon the legs, the lesions being at first of a more vividly red color, but within a day or two becoming quite dark or livid. They came out one or two at a time, new ones appearing every day, and within a few days the thighs and also the arms became involved. At the time of her appearance in the clinic the disease appeared to be at its height. The patient's general health had not been very good, especially of late; her appetite was capricious; her bowels were constipated; she was subject to headache.

Dr. Duhring said that the history of the affection was quite characteristic. Erythema nodosum was an uncommon affection in this clinic. When cases came under observation, it was usually in the later stages of the disease. The lesions look very much like bruises; a slight circumscribed tumefaction of the skin occurs, which is first of a bright red color, but this soon grows darker, purplish, livid, and finally runs through the various shades of blue and yellow which mark the changes taking place in a bruise. This resemblance to a bruise has given rise to the name *dermatitis contusiformis*, formerly applied to the affection, a name which is now quite obsolete. It shows, however, how the appearances presented by this affection impressed those who first saw it. Many colored plates representing erythema nodosum represent the

lesions as much more prominent than in the present instance; the wax models in the University Museum show protuberances nearly the size of a half walnut. The present size, the lecturer said, was more usual. This affection, Dr. Duhring continued, was in reality a phase of *erythema multiforme*, of which another variety, erythema papulatum, was that at times observed on the backs of the hands. The treatment of erythema nodosum should be as simple as possible; often no treatment is demanded. Saline drinks may at times prove beneficial. In order to allay the mother's fears, general direction and advice should be given. Rest should be enjoined. Locally, if there is pain, cold compresses or a roller bandage may be employed. The affection ordinarily runs its course in a fortnight, and gets well spontaneously. The diagnosis is important. In the present instance it was easy, but in cases where only a single lesion shows itself at a time, it is sometimes difficult to distinguish its exact character, and it might easily be confounded with threatening abscesses or with erysipelas.

URTICARIA.

A laboring man, about thirty years of age, presented himself without any distinct lesions, but showing numerous scratch marks upon different parts of his body. He had been troubled, he said, for several weeks, with "hives."

Almost every one, Dr. Duhring said, knows the lesions of articaria, for they are striking, and the disease also is common and well known among all classes. But the lesions are fugitive, and it is often difficult to get an opportunity to inspect them. The patient states he has had "hives," but at present none of the characteristic wheals of uticaria are to be seen; we see, however, scratch marks scattered over various parts of the surface. Now scratch marks and excinations are not in themselves characteristic; they may be present as the only conspicuous lesions in phtheiriasis as well as in urticaria. We must take this into consideration, for phtheiriasis may occur in all walks of life, and in a case of eruption like the one before us we must not hesitate to examine our patient for pediculi, no matter how high his social position. Here we find the clothing quite free from lice or nits. If we come back to the scratch marks again and examine these, we see that they are not so numerous as they

would be if the disease were phtheiriasis. Lice multiply very rapidly, and if they had been present here for six weeks, which our patient tells us has been the duration of his disorder, the ravages which they would have committed by this time would have been much more marked in their effects. Let us now attempt to develop some wheals artificially. (Dr. Duhring here drew the edge of his finger several times across the surface of the skin, over the back, so as to produce a gridiron arrangement of lines.) This man's skin, you note, is in a very sensitive condition; you observe already there are white raised wheals beginning to form, arranged in cross lines just where my finger has been drawn. This indicates positively the nature of the disease. We have here urticaria, and the condition, whatever it may be, which has given rise to this susceptibility of the skin is still in operation.

Urticaria may be either acute or chronic, that is, it may consist of an attack lasting some hours or days, or it may recur indefinitely and last weeks, months, or years. The acute variety is most frequently brought about by the ingestion of certain kinds of food, strawberries, shell fish, etc. The chronic variety is usually dependent upon some, it may be obscure, functional disorder of the nerves, or digestive, or, in women, of the generative system. While the external treatment in urticaria is the same, whatever the variety or the cause, the internal treatment differs. On questioning our patient, we find he shows positive signs of indigestion. We shall therefore direct that he take a sufficient quantity of Rochelle salts, morning and evening, to produce several copious evacuations in the twenty-four hours. He shall be ordered four grains of quinine, to be taken three times a day. In addition, the patient's diet must be regulated. He must avoid pastry in every form; pickels, salt meat, cheese and crude vegetables, must also be eschewed. In ordering local treatment for a case like the present we should prefer lotions, as they are more apt to give quick relief to the intense burning and itching. The following is a useful formula:

℞. Acid carbolic, f. ℥ j ad iij
Glycerinæ f. ℥ ij
Aquæ ad Oj. M.

Another one, which is equally good and useful, is this:

℞. Alcoholis f. ℥ ij ad vj
Glycerinæ f. ℥ ij
Aquæ Oj. M.

Sometimes one of these lotions is the better, sometimes the other. They are both very convenient and useful. Alcohol, brandy, whisky or other liquor, pure, may also be used.

CORNU CUTANEUM.

Jane McC., seventy years of age, presented herself for the relief of a horny growth situated on the left cheek, over the malar eminence. This was about an eighth of inch in diameter, and about half an inch in length, rising abruptly from the skin and standing out at a right angle from the surface. It had first been observed about ten months previously, as a minute, hard scale upon the surface, which itched slightly, and when picked off rapidly grew again, and had increased steadily, although very slowly, in size, up to the time of the patient's presentation before the class. On the vertex of the scalp could also be observed a sebaceous cyst or wen, the size of half a walnut, quite without sensation, and of many years' duration.

Dr. Duhring called attention to the characteristic features presented by this cutaneous horn, which, though small, was quite typical in its appearance. It starts, he said, directly from the skin, without any raised base or areola. It may be freely handled without pain, and on examination we find the growth in no way different from that of an ordinary horn growing upon one of the lower animals, being hard, laminated, and grayish in color. We may meet such horns growing upon any portion of the body, especially where the sebaceous glands are active; the face, neck, shoulder, hands, and even the glans penis in the male, may be the seat of the growth. (Dr. Duhring here showed several pictures of cutaneous horns, one of which, about three inches in length, grew from the back of the hand of an elderly person.) Although firm to the touch, such small horns as this can be picked off without difficulty, leaving an excoriated or ulcerated base. The pathology of cornu cutaneum is simple: it springs from the deeper strata of the mucous layer of the epidermis, and consists in a hyperplastic growth of these cells.

Many cases of cutaneous horn have, from year to year, been reported in the journals, especially in former years. Of late they seem to be less frequently met with. As people become more enlightened they are disinclined to

allow such growths to remain, and they are removed before they grow large. In this case the patient shall be directed to poultice the horn for a day or two, in order to soften and macerate it thoroughly, when it will probably come off spontaneously. But if the base be not destroyed, it will grow again, and we shall therefore direct that it—the base—be cauterized with one of the stronger caustics, say with caustic potassa. This will effectually prevent its recurrence.

In connection with this case, Dr. Duhring recalled a similar one, which had applied at the clinic about a year previously. This occurred in an Irish laborer, some fifty-six years of age. He had first noticed it about four months before, when the lesion showed itself in the form of a pin-head-sized particle, on the left side of the face, just in front of the ear. This grew slowly at first, afterward more rapidly. At the end of two months it began to harden, the surface grew horny, and when the patient came under observation he showed a well marked horn, flattened like an elongated, thickened and pointed claw or toe-nail, more than half an inch in length and one-third of an inch in breadth at its attachment. It was quite movable upon its base, which was a raised fleshy tumor, the size of a small filbert, and presenting the appearance of a sebaceous tumor. The patient was seen again two months later, when the horn was found to have nearly doubled in length, preserving the same general shape, and lying flat against the skin, though only attached by its rather narrow crescentic base. At this time the horn was quite loose, and could easily have been picked off with the fingers.

The Treatment of Dyspepsia.

On this subject Dr. A. Leared says, in the *British Medical Journal:*

In the treatment of all forms of dyspepsia attention to diet claims a prominent place. Articles known to be slow of digestion must be avoided, and a lessened amount of food must be taken only at proper times. But, as a rule, absolute strictness in diet is more necessary in dyspepsia from defective secretion than in that from impaired motion; for, as already said, in the latter affection diges-

tion is sluggish rather than imperfect. One dietetic rule is, however, of the greatest importance in the present case. The principal meal should be taken early in the day, before the nervous system has been exhausted either by mental or by bodily exertion. In some instances the power of digestion seems to diminish in proportion as the day advances. A distinguished literary lady consulted me, who had, by incessant brain work, fallen into a state of great suffering from gastric oppression and flatulence after meals. At my suggestion she dined early instead of late in the day. This change was beneficial, but was not effectual in affording relief. I then advised that she should eat meat at breakfast only, and that no writing should be done before the meal. This plan succeeded perfectly.

From its well-known power in causing muscular contraction, strychnia suggests itself as the remedy for impaired gastric peristalsis. It affords the most powerful means we possess of restoring the gastric functions. I may, perhaps, take some credit for having helped to make known its value. So long ago as 1860, I wrote: "Speaking from extensive experience, I know no single medicine of more value. . . . . It acts by increasing the tone of the muscular coats of the stomach and intestines. When these coats are relaxed, gases are generated, mainly owing to retardation of the aliment in the cavities. No remedy has in my hands proved so permanently effective as strychnia against this inconvenience." (*Imperfect Digestion*, 1st ed. p. 186.) In 1864 the late Dr. Brinton, following Chomel, condemned the use of strychnia in stomach diseases as unnecessary and dangerous. (*Diseases of the Stomach*, p. 334.) But, notwithstanding the condemnation of these authorities, strychnia has held its place in these affections, because, although too often given without discrimination, it proves beneficial in many instances. The secret of its successful administration lies in the recognition of the cases. It is suited for cases characterized by the symptoms of impaired motion; namely, uneasiness, but not actual pain, after food, and flatulence. It is not suited for cases of impaired secretion, characterized by pain after food and little or no flatulency.

Some precautions are, of course, necessary, and more so because the patients are seldom under daily observa-

tion. A dose of one-twentieth of a grain should rarely be exceeded. It should never be given in pills, on account of the difficulty of exact subdivision in that form. The susceptibility of the alkaloid to precipitation by alkalies and some other substances must be kept in view. If so precipitated, the whole of the drug would, of course, be contained in the last dose in the bottle. For the rest, the pharmaceutist must be responsible. But, after having prescribed strychnia some thousand times, I never knew any harm to arise from its use.

It might be supposed that electricity would prove useful for lesions of peristalis; but after many trials of faradization and a few of the direct current, I am compelled to say that I do not regard it as a useful agent in this affection.

It is sometimes desirable to check flatulence by some agent which hinders fermentation. Formerly, I prescribed carbolic acid for this purpose; but its unpleasant taste is a great drawback. Of late, I have used thymol with, I think, better results; and the taste is far less objectionable.

Many cases are met with in which the stomach is unable to expel flatus in consequence of temporary paralysis from over-distension. Various drugs given to promote contraction of the organ—carminatives, as they are called—sometimes fail in their purpose. It is in such cases that charcoal proves useful. Charcoal possesses a remarkable power of absorbing gases; but this power, as I have elsewhere shown, is very much lessened by long keeping and by wetting. This led me to the plan of giving, in hermetically sealed gelatin capsules, charcoal prepared from vegetable ivory, which kind was proved by experiment to possess the best absorbing power. If, in cases of obstinate gastric distension, three or four such charcoal capsules be swallowed, a few cubic inches of carbonic acid gas will be speedily absorbed. Tension being now removed, the muscular coat of the stomach generally resumes its power, and flatus is freely expelled. In a few obstinate cases, however, chiefly when the stomach affection is secondary to diseases of the liver or kidneys, the muscular paralysis is so complete that, as happens in case of the over-distended *rumen* in cud-chewing animals, mechanical interference is the most effective mode of treatment. For this purpose, I have

had made a small india-rubber tube (tube shown) two feet in length, having one extremity closed, and perforated like a drainage tube to the distance of four inches from the end. Such a tube can be safely and easily introduced into the stomach, and will prove effectual in relieving the distended organ.

Treatment of Cholera Infantum.

The following treatment is recommended by Dr. W. Frank Hines, of Maryland, in the *Southern Clinic:*

Nothing is of more importance in this trouble than the diet. The practice of giving farinaceous substances—cracked wheat, tapioca, farina, etc.—is surely wrong and hurtful. The digestive organs of the child are very weak, and to put anything in them which they have not been in the habit of receiving is to overtax them; milk contains all the necessary ingredients for the support of the infant; but it does not contain any starch. If possible, the child should be fed on "mother's milk." If this is not practicable, cow's milk may be made to answer. Condensed milk I have seen act in a very satisfactory manner, where there is great prostration and weakness. Beef tea, with a little brandy in it, is very beneficial; say a teaspoonful of beef tea with half a teaspoonful of brandy, every three hours.

In regard to medication, I do not think a great deal is needed, except when there are frequent discharges. They must be stopped; if not, the child will die from weakness. In this connection the following treatment has been of great service:

℞.	Bismuth. sub. nit.,		ʒ ss
	Spts. ammon. arom.,		ʒ ij
	Tinct. opii camph.,		ʒ iss
	Syrup simplic.,		
	Aquæ fon.,	āā	ʒss. M.

Sig.—Teaspoonful every 2½ hours to child 1½ to 2 years old, according to condition.

In some cases, where the diarrhea is of a very persistent character, stronger measures will have to be resorted to; these are best determined by the circumstances of the particular case. The temperature should be kept down; there is nothing better for this purpose than quinia;

but as there is generally head trouble in these cases, I do not think it advisable to use it. Cold cloths applied to the head, sponging with cold water, and ice water cloths to the abdomen, will lower and keep down temperature very satisfactorily, besides often relieving the head trouble.

The Necessity of Providing Children with Water to Drink.

Dr. Murdoch, of Pittsburg, has written a very sensible health-paper on the Causes and Prevention of Cholera Infantum. The majority of cases is to be traced to the food, and the number is greatest among bottle-fed infants —on sour milk. This cause is well known, of course, to physicians, but we doubt if even the profession is at all times wholly alive to the sanitary necessity of providing water for children to drink. Dr. Murdoch says:

"Another cause of the great mortality among children is the neglect to provide them with cold water to drink. This, especially during the hot weather of summer, is the source of more deaths of young infants than all other causes combined. The explanation is simple. The little ones during the hot weather perspire freely. This would not be the case if they were entirely naked, but, as is too often the case, they are kept sweltering under clothing or blankets. The water which they lose by perspiration causes them to be very thirsty; they require water. If no water is offered, they will drink freely of any fluid which is offered to them. The fluid which is offered is usually milk, often milk which has become sour by the extreme heat. The child is thirsty, but not hungry; but not getting the water, which it does want, it drinks the milk, which it does not want. The consequence is, the child's stomach is overloaded with food which it has not the power to digest. This food, instead of nourishing, is a source of irritation to the child's stomach and bowels, and causes vomiting, purging, cholera infantum, and death.

"Children to whom no water is offered in hot weather are like men cast away at sea with no fresh water to drink to cool their parched tongues and quench their tormenting thirst. These men will drink of the salt sea-water, and it is said that they go mad with the distressing thirst

which they have thereby increased. The salt water which these poor shipwrecked men are tempted to drink is hardly more fatal to them than is the sour milk which is often the only fluid offered to the thirsty child.

"Water is the *sine qua non* in the management of children during the hot weather of summer. Even chil- at the mother's breast should often be offered water. But to children reared upon the bottle it is indispensable. It is their life. It quenches thirst, supplies the place of the water lost by perspiration, keeps up the perspiration which is necessary for maintaining the proper temperature of the body, and makes the little one comparatively comfortable. It will do all this, and will do no more; for if the child's thirst was always appeased, it would refuse food when not hungry, and would never drink milk when the milk was sour. The consequence would be that it would only take milk when the milk was sweet, and in quantities which it would be able to digest."

Effects of Long Engagements on the Health of Women.

The following very interesting and instructive extract is from Professor Goodell's Lessons in Gynecology—just published: Long engagements, by keeping up a wearing nervous erethism, are not only recognized, but even classified by alienists as one of the causes of insanity in women. Much more frequently the nervous exaltation is spent upon the reproductive organs; for there follows an awakening of sense, which is not, as in man, appeased by the distractions of business pursuits. Uterine trouble from this source any open-eyed physician will over and over again see. Now it is true that in love affairs the physician must be no meddler; match-making is certainly not his business, But as a tried and valued friend, as a brother beloved, he can speak out when others may not even hint. Or when consulted by the anxious mother about symptoms in her daughter, plainly referable to the reproductive organs, he can disclose the cause, and thus be the means of hastening on the cure.

If the caresses of lovers are prejudicial to good health, every like relation between the sexes must be exposed to like dangers. In too many rural districts and in the lower classes of citizens such license is tolerated in the social

intercourse between the youth of each sex as must be destructive both to good health and to good morals. But since it is not to my present purpose to appear as a social reformer, I shall confine my remarks to the hygienic aspect of the subject. The "old folks" are shelved too soon. Young people are left too much to themselves and thrown too much together. Their social gatherings are too rarely presided over by their mothers or their seniors. As a very natural consequence, their games become coarse, their forfeits immodest, and little by little this freedom from restraints is liable finally to degenerate into such gross familiarities as would be improper between even affianced lovers. An unnatural sexual excitement is thus kept up, which must do physical harm. Of the moral harm I say nothing. In this matter I am plainly at a loss to see how a physician can interfere in any other way than by setting a good example in the order and decorum of his own household. A nimbler wit than mine may work out some better way; if so, his be the credit; I do but throw out hints.

"Public Charities and Correction."

BY SAMUEL A. RABORG, M. D.

[The following paragraphs have been taken from a paper, entitled as above, read before the N. G. Medico-Legal Society, and published in the *Sanitarian*. After the quotations from Dr. Raborg's paper, we have inserted in full the remarks of R. R. McIlvaine in reply, as they appeared in the *Sanitarian*. Dr. R.'s remarks contain much information of interest.—*Ed.*]

OUTDOOR SLEEPERS.

An immense sensation was made in London some years ago, when some philanthropist discovered that at least one hundred persons, hungry, destitute, and almost naked, slept each night in the private parks fronting the elegant mansions of the rich. Still this can be seen every night in our city by any one who will pass through Madison or other squares after eleven o'clock. And these poor, desolate wretches have no place to resort to in this great city but to the station-houses.

Some two or three years ago I went down town after midnight and with a pass from the Police Department saw the true state of these night lodgers, and it is difficult to picture the reality of their condition. In one station-house I found the men so densely packed together on the

floor that they absolutely covered it—it could not be seen at all.

In another, a captain pointed me out a cell where he had allowed a poor woman and two children, who had been forced into the street by a drunken husband, to remain all night, as "he felt so sorry for her," and the cell was so much more comfortable than the lodgers' room. There is no question that a great many of these people are not deserving, that they are confirmed vagabonds, tramps and petty thieves; but all such should be arrested and placed in the workhouse and forced to make an honest living. But this is no reason why the truly poor and unfortunate should be neglected. From the Police Report of 1875, we find that there were during that year two hundred and seventeen thousand five hundred and five who sought this shelter. During the last winter some private efforts were made to supply this need; but we shall eventually have to do as they have done in London: by private philanthropic efforts erect night lodging-houses in certain districts where they are most needed, with appurtenances for cleanliness; where proper discrimination can be used; and where those who are really the children of misfortune may find a place to rest their weary bodies for a night in peace and comfort. Surely the familiarity with the station-houses brought about by the present system must have a most unfortunate influence not only on the truly deserving, but particularly on those who have only taken the first steps in the downward path of crime and dissipation.

THE POOR AND THE VICIOUS.

These pictures may seem exaggerated, but few persons in this great metropolis are aware of how intimately criminals are thrown with the poor in many of our public institutions. On Blackwell's Island, a young, innocent girl may occupy the next bed to a woman who represents the worst and most degraded class of her sex to be found in this city. Much of the menial work at Bellevue and Charity Hospitals is done by women and men committed to the workhouse for intoxication and other offenses.

Some of the nurses are or have been confined in the same institutions. And worst of all is the association of these buildings for reformatory and charitable purposes on Blackwell's Island felt by the honest poor. It is a fact well known to every physician in this city, that the ma-

jority in this class will starve on a bare crust of bread in a miserable tenement, rather than go to this much-dreaded island. When Dr. W. W. Sanger was appointed Resident Physician to the Charity Hospital, or, as it was then termed, the Penitentiary Hospital, he reported that "in the year 1854 there were 3,734 admissions. Of these, debauch and delirium tremens furnished 35 per cent. of the gross number, and 37 per cent. was due to syphilis. It will thus be observed that 72 per cent. of all cases under treatment were directly caused by the lowest and foulest kind of dissipation and vice." In a protest he made to the authorities, of this combination of the sick with criminals, we find the following: "Is it necessary, or must it be, that human beings laboring under the effects of drink, syphilis, ulcers and all forms of disease, while being medically treated, shall undergo a process of being made into thieves, to prey on the community when discharged?"

We all know that when a person is poor, friendless and an outcast, he must at times have feelings of antagonism against his more fortunate fellow-beings. When in this condition, desperate, despairing, and apparently God-forsaken, can anything be more pernicious than to place him in contact with and under the influence of criminals—those who are corrupt in nature, vicious in propensities, and deliberately defiant of all laws of God and man? Every instinct of humanity, every throb of the great heart of charity, every impulse of the noble men and women who devote themselves to the amelioration of the misfortunes of their fellow-beings, must be averse to this connection; the principle is wrong, and but begets criminals.

The true political economy, here, would surely be to elevate these people by showing them that there is nothing degrading in being unfortunate and poor; to stimulate them with a noble desire to work and do for themselves; to surround them with elevating and refining influences—in other words, to make them *producers instead of consumers.*

WHAT SHOULD BE THE POLICY OF A GREAT CITY TOWARD ITS POOR?

This is a question that has been agitated by the greatest humanitarians, philanthropists and politicians for centuries past in Europe. Let us then first glance at the systems now in vogue in the two most noted capitals in the world to-day, for humanity, civilization and culture—viz: London and Paris.

In the former city, London, for six centuries, different charitable institutions have from time to time been endowed by opulent citizens, under the English law of bequests.

There endowments are considered so sacred, that no person can disturb or alter them. Some of them have grown to enormous proportions, by the advance of real estate and the gradual accumulation of interest. As a rule, they have been placed under the control of Governors or Trustees of such character as the donor dictated in his bequest. London, at the accession of James the First, was said to contain little more than 150,000 inhabitants.

Before the Restoration of Charles II., in 1660, says Sir William Petty, "the people of Paris were more than those of London and Dublin put together; whereas now (1687) the people of London are more than those of Paris and Rome." In 1782 there were about 670,000 souls in London; in 1801, 864,845; and in 1841, 1,870,727. In 1843, according to the work by Charles Knight on London, there was at that period an annual income of £310,000 a year in London alone, from the bequests left by generous donors for tth various city charities, and, "altogether, there is a total of upward of £384,000 of the annual income arising from property in the Metropolitan County, which is devoted to purposes of charity and education." "When Lawrence Sheriff, grocer and citizen of London, left the third part of a field of twenty-four acres in the parish of Holborn, for the endowment of a grammar school at Rugby, it produced only £8 a year. This field was called the 'conduit close,' and was nearly half a mile from a house. It is now covered with buildings, and the rental exceeds £10,000 a year." The almshouses in England are intended as asylums for the aged and infirm. Mr. Knight says: "The almshouses in London are probably not far short of one hundred and fifty." These are chiefly maintained by endowments left in trust to the city companies. It must be remembered, however, in speaking of so large a number of these institutions, that they, as a rule, contain accommodations for very few persons, and were founded by trades or guilds for the use of their own brethren. The Drapers' Almshouses are among the earliest foundations of this kind, started in 1522.

In 1593 the merchant tailors erected seven almshouses for fourteen poor widows on Tower Hill. The result of

the promiscuous character of so many charitable societies in London is, however, keenly felt. A story is told of a widow who availed herself, by intrigue, of placing an entire family of children in the different orphan asylums, when she was more than amply able to provide for them herself. These are the London Orphan Asylum, the Female Orphan, the British Orphan, the Infant Orphan, the Orphan Working, the Sailors' Female Orphan, the Merchants' Sailors' Orphan, the Incorporated Clergy Orphan, and the Army Medical Officers' Orphan. There are five Royal Hospitals, commonly known as such, and designated, "'The Royal Hospitals of the City of London,' under the pious care of the Right Honorable the Lord Mayer, Aldermen, and Governors thereof." They are—St. Bartholomew's, Christ's Hospital, St. Thomas', Bridewell and Bethlehem. There are twelve general medical hospitals in London, including the above; the most of them have been endowed by rich and charitable persons. The total income of St. Bartholomew's Hospital, in 1850, was £32,000, while in 1544 it was dependent upon an income of only £371.* One of the most remarkable instances of generosity known to the world, was the establishment of Guy's Hospital, Southwark. It was founded in 1724 for sick and diseased poor persons; its accommodation is 580 beds. Some 50,000 persons receive here annually medical relief.

The Lunatic House is a department peculiar to this hospital. The usual number of patients is from twenty to thirty, as provided for by the founder. They have spacious grounds for their use behind the hospital. This establishment was founded at the sole cost and charges of Thomas Guy, Esq., a rich bookseller of Lombard Street, who spent upward of £18,000 on the buildings during his life-time, and endowed it with the sum of £210,429—the largest sum that has ever been left by an individual to charitable purposes. In 1829 Mr. Hurst, a gentleman residing at Petersham, left £200,000 to the same hospital, stipulating for a provision of additional accommodation for 100 patients. Mr. Low, in speaking of the London charities, says: "It only remains for us to premise, that institutions of a minor character, but kindred in design to the foregoing, are constantly making their appearance before the public, under slight variations of title and

* "Charities of London." Sampson Low & Co.

claims to support; proving often, however, to be attempts only of individuals either for the development of peculiar systems of treatment, or for the extension of fame and practice." According to the same author, in 1850 the population of London was 2,200,000 and from them the twelve general medical hospitals had an income derived from voluntary contributions of £31,265, and an income from funded property or otherwise secured of £111,641. There were fifty medical charities for special purposes, with voluntary contributions of £27,974, and from funded property, £68,690. There were thirty-five general dispensaries, with voluntary contributions of £11,470, and from funded property, £2,954.

The entire amount devoted to charity that year in London was, by voluntary contributions, £1,022,864, and from funded property, £741,869. This, of course, includes asylums for ophans, houses for the aged, school societies, Bible and missionary societies, etc. On the 31st of March, 1840, the House of Commons ordered a digest prepared of all the charities of the United Kingdom; this was published in parts by John W. Parker, of West Street, in 1843. In the report of the Commissioners who performed this labor we find: "In preparing this (third) part of the return, it has been presumed that the object of the order was to obtain a summary of those charities which are, or may be liable to be, distributed indiscriminately among the poor (the evil tendency of charities of this description having been frequently the topic of observation)." With this array of institutes, I desire to say a word about the prisons of London. They show the same miscellaneous character as the charities, and, from the same system of bequests, are so differently governed with regard to severity of discipline, that it is said it is difficult for the judges on circuit in England to know for how long a period to condemn a criminal to prison, as two weeks in one is frequently greater punishment than two months in another. For instance: Coldbath Fields' Prison or House of Correction, in the Parish of St. James, Clerkenwell, between the Church and Gray's Inn Road, is under the jurisdiction of fourteen magistrates, appointed at each quarter sessions, of whom four go out quarterly by rotation. It is for criminals from all parts of the County of Middlesex. The number confined here is in the neighborhood of 12,000 annually. The discipline enforced is that

called the "silent system," the prisoners working in bodies, and silence being preserved by great vigilance on the part of the officials. The convict is not allowed to receive a letter during the first six months of his incarceration, and after that only one letter a month. Some of the prisons in London, to the contrary, are very lax, allowing card-playing, idleness and beer-drinking. Some are under the charge of one or more Governors, and others directly controlled by the Lord Mayor and Aldermen. This depends greatly upon the character of the support of the institution; as, for instance, Bridewell, within the city of London, is under the jurisdiction of the Governor of Bridewell and Bethlehem Hospitals, and is supported out of the funds of these hospitals.

The nursing in the English hospitals is peculiar. Some few are in charge of religious orders, but the majority are cared for by hired help. An innovation of late years is to make a character of sisterhood in each establishment. When a woman first applies for the position of nurse, if she is of proper character and brings good references, she is made an assistant; this position she occupies with a stated salary for two years. At the expiration of that time, if she has served satisfactorily, she is made a full sister, with increased compensation, and two assistant nurses are placed under her control.

In transferring our attention to Paris, we find a very different condition in the public institutions.

In Knight's "Pictorial London," it is stated that in 1840 one-third of the deaths in Paris occurred in the hospitals (or 9,338 out of 28,294); but in London, the same year, the proportion was only one in nineteen (or 2,358 out of 46,281). Knight says: "The domestic feeling or prejudice, if we like to call it so, of the English people, is generally adverse to that public association which is inevitable in a hospital; but in reality there is a great deal in the fact that although the London hospitals are so numerous, their capacity is very limited, and on every 'taking-in day,' a large number of persons are unable to obtain admission."

The truth really is, that the hospitals of Paris are differently conducted. In the early days of that city, private parties endowed some institutions of the same character of those found in London, but the monster, Revolution, has so many times swept over the face of that most beautiful and attractive city of the world, and at such times en-

tirely disregarding law and the rights of property, that we find to-day a very wise concentration and arrangement of the institutions of charity; probably not akin with the intention of the original donors, but much more beneficial for the recipients of their bounty. By a decree of the French Convention, passed July 16th, 1793, part of the patients of the hospitals of Paris were transferred to convents, or other structures which had become national property. By subsequent decrees, the superintendence of hospitals was vested in sixteen members of the National Assembly. By a decree of January 10th, 1849, everything relating to public assistance has been placed under a special administration called *Administration Generale de l' Assistance a Paris.* It is under the control of the Minister of the Interior, and is managed by a Director and a *Conseil de Surveillance* of twenty members, presided over by the *Prefects of the Seine and of Police.* There are in France 1,333 hospitals, the revenues of which amount to 53,662,992 francs. For the year ending December 31st, 1854, in the general and special hospitals, there were admitted 68,863 medical and 25,952 surgical cases. There were 10,479 deaths in the medical wards, and 1,312 in the surgical wards. In 1854 the net receipts were 14,894,220 francs; expenditures, 16,047,037 francs; deficiency, 1,152,817 francs. Paris' annual contribution for that year was 267,397 francs.

It will be a surprise to many, to hear that so large a proportion of the deaths of Paris as one-third occur in the public hospitals, while in London only one of every nineteen takes place in these institutions. Two causes, however, account for this. In the first place, the people of these two capitals are very different in their tastes and inclinations as regards home life. The Parisians live largely in the streets; they are fond of congregating together, and of fun and pleasure.

The Londoners, on the contrary, care more for their own hearthstone. No matter how poor the artisan or mechanic, he tries to have a roof of his own. The difference in climate no doubt has much to do with these peculiarities of the two races; but more than this is the great difference in which these institutions are regarded in the two cities, and the vast dissimilarity in their management. The Parisian loves the hospital, be he rich or poor. If of the former, he gives freely of his means toward its sup-

port; if of the latter, he looks forward to it as a safe refuge when his days are to end by disease and suffering, when his every want will be ministered unto by the gentle hand of the patient sister of charity, and where his soul can leave its earthly tenement in peace with God and man. The Londoner, on the contrary, regards these institutions as a *dernier ressort* for the outcasts and unfortunates of society, and gives to them as a matter of necessity or duty.

In this connection it is well to say a word in approbation of the noble self-abnegation, the untiring devotion, the patience and gentle kindness of the noble women who band themselves under church organizations to devote their lives as nurses in these institutions.

Every one who has had any experience on this subject knows the infinite superiority of these ladies over hired nurses; and this is natural, as the first do their work without compensation, and for love of the Great Master, while the others are simply stimulated by the miserable stipend they receive monthly for their labor. In this country, so far, the sisterhoods under the Catholic Church have done noble work; at St. Luke's Hospital an Episcopal sisterhood has proven most effective; and the recent action of Mayor Wickham and others, in establishing the school for training nurses, can not be spoken of with too much commendation, as they have rendered a great service to the city and to humanity.

I have detailed the statistics of London and Paris to see what information we can gain from them, for the guidance of our future toward these unfortunate classes.

We are young as a city compared to either, and still our growth is apparently to be as rapid, and probably, from present indications, as gigantic, as either. From the points I have given you, it will be seen that in London in 1850, with a population of 2,200,000 souls, £1,764,733, or about $8,541,407.72, were spent for the support of all these classes; while by the Report of the Board of United Charities for 1877, we, with a population of something over one million, spent $5,588,000 for these same classes, and in this report the expenses of several institutions are not given, so that we might estimate that at least six millions of dollars were spent in this city last year for those purposes. This, then, is already very much in excess of the expenditures in proportion to London.

THAT THE CRIMINAL SHOULD BE SEPARATED FROM THE SIMPLY POOR,

Or, rather, that the prisoner young in crime should be separated from the confirmed criminal, is too patent a fact to require reiteration. I have, in one of my reports, alluded to the fact that both classes are kept in these institutions without employment, because it is impossible to employ them as they should be employed. They are merely kept there, so to speak, in order that they may not run away. The workhouse contains from 1,600 to 2,000 inmates, on an average, and it is very natural to consider that they can not all be occupied under one roof; first, because, when I was there, I found three classes of persons—the unfortunate lunatic, who has no business there, the criminal, and the poor. When we designate this classic institution by the term "workhouse," we make a grave mistake; those who resort thereto come nearer the truth—they call it by its proper term, the "house of rest;" and it is only to satisfy the people at large that the term "workhouse" is employed at all.

Out of these 1,600 or 1,800 paupers, 150 are detailed to do work among other institutions. I know of forty-six being sent to the inebriate asylum. The others are distributed to various other institutions. Instead of these persons earning their living, they are a double expense. These workhouse inmates are recruited from those who are arrested for minor offenses, and committed by police magistrates within forty-eight hours after their arrest. The old regulation, I believe, used to be within twenty-four hours, but it has been changed in recent years. When they arrive at the Island, they are presented with a new suit of clothes, their old ones being destroyed; otherwise, the number of inmates would increase, instead of decrease, to a very rapid degree; and in about ten to thirty days the unfortunate is relieved from "duress vile," and allowed to retire again into private life. Now the time of confinement is too brief, in my opinion, in comparison to the expense incurred by the city. But there are many things scarcely to be believed to exist in our civilized age, and much, very much, could be done in the way of healthful reform, provided the management were not hampered by political patronage. As the gentleman has stated, there may be very many worthy citizens who might be induced to accept the position of commissioner

without pay, but I think that at the end of about thirty days they would ask to be relieved. In some instances the plan of making a division of charities from corrections might work well, while in many instances it might not. If commissioners were clothed with proper discretionary powers to extend charity to the worthy, it might be the means of saving many a person who had but just entered into crime.

I could relate several instances where, if the two classes had been separated, many would ultimately have been reclaimed from their evil ways, and would not be likely to desire to enter again into such a life. I could name one party in particular which I happen to recall, to whom I had the pleasure of extending the kind of discretion spoken of during the course of my official life, who, had she been sent by the Commissioners of Charities and Corrections to associate with the vile, would certainly have been irretrievably ruined. She was a young girl who had been brought in with other females arrested by the police for the crime of "soliciting" customers; she was apparently about seventeen years of age, very beautiful in figure and face.

FOREIGN HOSPITALS.

Dr. R. R. McIlvaine remarked: It is true that with us there is a greater opportunity for a display of interference politically than there is elsewhere; but if our civil politics interferes with our system of charities here, religious politics in England certainly interferes in that country.

The first English hospital founded, as far as I know, was the St. Bartholomew. That was in the twelfth century, in the year 1123, at the instance of Rayhere, the minstrel of Henry I. After the Reformation, when Henry VIII. became successor to the Pope, on the 3d November, 1534, at the instance of the Mayor of London, there was more provision made for the poor and unfortunate than had been formerly.

Guy's Hospital is an important institution, which was the result of private enterprise by that excellent man who founded it at his own expense.

That hospital, however, is essentially under the control of church influences, as they all are, which is more baneful, as a matter of course—as much so as our political influences. Dr. Hodgkins was excluded from that institution

simply because he wore the simple garb of George Fox—he was a Quaker; and in the St. Thomas Hospital at the cry of the Church of Rome deprived a good man of his election.

These influences could not probably interfere across the channel to the same extent as they did in England. In Paris the Hotel Dieu bears date 653, and was found, as the act of incorporation reads, "For all nations and all religions." Why was it founded "for all nations and all religions?" Simply from the fact that in that day the nations surrounding were worshipers and adherents of their own religion, the Saxons not being converted to the Christian religion until some time before Charlemagne died, January 28th, 814.

Our friend speaks of the French people as being a pleasure-loving people, and that they live out-of-doors. Whether they are a pleasure-loving people or not, their city is the world's city, and they are always found engaged in some productive pursuit—they are people of industry, as their recent history demonstrates. They have made more provision for the poor and unfortunate than any other people with whose records we are familiar.

As to their climate, the mean temperature of Paris is 51.8°, while that of London is 50.36°; of course that shows some difference. But when the doctor states that they reside for the most part out-of-doors, he shows that he is not personally familiar with their manner of living. It is a city of strangers, who go there for the sole purpose of not only finding pleasure or the means of pleasure, but for instruction. There are halls of science, there are hospitals, there are facilities for improvement in Paris, which can be found nowhere else. Hence the stranger, or those who are superficial observers, who are themselves on the go, searching themselves for pleasure, assume that these French people are doing likewise, while the French people are in reality engaged in scientific research and literary pursuits (that is, part of them), while those who are producing wealth are engaged incessantly in that department of industry.

Their hospitals are conducted on such a plan, that all persons are admitted without question. Should any of us, Mr. President, be so unfortunate as to be taken sick in Paris without means, and we are able to go to the hospital, the question will be asked, *Voulez-vous entrer?* You are

not interrogated, By what authority? but you are asked in, and after you are there, your name is taken and your antecedents inquired into. What a contrast with what I heard a gentleman—a professor—state as his experience one day at St. Bartholomew. A patient presented himself for treatment. The professor in attendance asked him where he came from. He told him the county. Thereupon said the professor, "Why didn't you stay there; why do you come here?"

Another thing is to be taken into consideration with us, and that is as to the position of the doctors. The doctors are degraded by serving under such men as control our benevolent institutions in this city. These institutions, known as dispensaries, are under the control, as I understand, of gentlemen who are not physicians. Hence they are not proper judges of the qualifications of persons who are to occupy professional places in connection therewith; but, as I understand, the appointments are effected through influence, the same as at Guy's Hospital. Religion controls. Hence the young men who are struggling into professional existence are received without compensation. But whether they acquire honor for the future or a competence from these means is still an open question.

Now let us contrast these things with the French method. In France, 2,167 physicians and surgeons receive, for attendance upon the poor, the sum of 817,497 francs. That fact at once places the physician in a condition where his services are recognized. It is true, should they not be found adequate to the discharge of the duties to which they have been assigned, they can be discharged; but you will notice in this that there is a recognition of these gentlemen by compensation, and though it may be considered small, yet there is a principle connected with it which we in this country have not yet adopted.

The paper takes note of a large number of persons in France who die in public institutions—in hospitals. If we contrast this with the hospitals of London, we find that in 1856 there were 56,786 who died in that city. Nearly one person out of every five who died in that year closed his days under a roof provided by public law or private charity; and for these facts, I give as my authority the report of Dr. William Farr, dated January 20, 1857, and these figures speak for themselves; and it is a subject on which

it gives me great pleasure to dwell, because I am fortified with facts and data.

It is evident that our distinguished colleague (the author of the paper) has not been personally familiar with the working of these institutions either on the continent or in the neighboring island.

It was remarked by Mr. Rue, in his visit to England in 1816, that a great defect then was the want of a centralization of the charities. In France the whole system is under one superintendence, and it has been found to be an admirable improvement. The ameliorations in favor of the poor and unfortunate in France are the outgrowth in a great measure of that great development resulting from the old great Revolution in 1789. That must be considered the starting point for the ameliorations in the hospitals, for in the days of Louis XVI., the Hotel Dieu, according to references made when Franklin was there, shows great defects in provisions for the poor. But with the inauguration of the Republique, which produced so many great men, the condition of these institutions was ameliorated; and though it may be said that they had their defects, yet these defects were secondary, compared with the glorious results it produced.

Dr. Raborg said he appreciated the weight of Mr. Sterne's remarks. The authority of his statements can not be surpassed in this city, because, he presumed, very few men in this city have given the attention to matters of charity which he has, an attention to matters of philanthropy which has not been bound by political conditions of any kind; but he must say, and say it squarely and strongly, that Mr. Sterne, in his opinion, is wrong. This same theory, this same plea, which he urges with regard to the

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Who appear not one day, but every day, in every police court in the city of New York, and will continue to appear, not always from some in village Massachusetts, but from every State and every hamlet, and who gravitate to the large cities of the country for the purpose of losing themselves in the general crowd; and the police magistrate can as well show a little leniency and executive clemency as that shown by his most respected friend—he was going to say, but he did not have the honor of his acquaintance.

Mr. Sterne: It is not necessary that the connection of charities and corrections should be made. It is wrong in every sense. It degrades the poor, and it makes criminals out of those who are already weak.

Dr. McIlvaine: I understand, from the remarks of Mr. Sterne, that the trouble does exist to which Dr. Raborg has alluded—namely, that there is a commingling of the criminal classes with those less depraved on the Island, and more especially and to a great extent at Bellevue Hospital. I would like to ask Mr. Sterne whether he sees any special difficulty in separating them?

Mr. Sterne: I would beg to reply to Dr. McIlvaine very briefly.

The commingling arises from the cause which I have stated. We have from 1,600 to 2,000 persons committed to the workhouse. They are not the same class of persons as those sent to the penitentiary, who are committed there for thieving and robbery. They may at times have committed a great many small offenses. About one-half of them are transferred to other institutions, for purposes of performing necessary duties, such as those in Charity Hospital, the almshouse, the lunatic asylum, the nursery and child's Hospital on Randall's Island, for the reasons which I have given, that it is impossible to house them in the workhouse proper; and that is the way in which much of the commingling is effected, not only with the poor in the almshouse, but with the sick in the Charity Hospital and other institutions.

When you asked whether it can be remedied, I have said that it can by the enactment of proper laws whereby proper employment may be given them. But the law is deficient, and you can not contract their labor so as to make it productive. What they now produce they consume. Some are employed in the tailor shop making clothes, others in the shoe shop—but they produce nothing which yields a revenue to pay for the expenses of their support, and for this reason, as I have stated before, they are distributed to the various institutions. The influence exerted by them naturally is bad. But with a proper administration of a proper law, much of this can be remedied. They should be put to some employment where they can earn sufficient to pay for the expense of keeping them. Even in the almshouse they could be put to some useful and profitable employment which will not interfere

with honest labor in other States. For many of the shoes that are worn, sold in the city, we get from Massachusetts; and yet their own convicts there are employed. The best institution in this country is the Troy workhouse. It not only pays, but I believe it has made $101,000 over expenses in one year. Mr. Pillsbury, in Albany, makes the penitentiary pay at the rate of $25,000 over the expenses of the convicts. And affairs there are so well managed that it does not look like a prison. There is a system there. But he is free from political influence. He has no assistant there who is not competent to do his duty.

Concerning Malignant Growths.

We gave last week the outlines of a paper in which the extreme views of an ardent believer in the microscope were set forth, where bias was so marked as to show plainly the advocate and not the judge. It is rare indeed to find the clinician and microscopist so happily mixed as to make his joint work peculiarly valuable. Paget is such an one, Bilroth is such an one; and of course they come here and there, when they make no startling revelations beyond the fact that all we know is that there is much yet to be known concerning the exact detection of disease. Outside of this conservative class there are two extremes: one which relies upon what it is pleased to consider clinical facts alone; and the other to whom, if clinical facts and practical ends ever present themselves, they are made to conform to the revelations of the lens. And so it was that we were delighted, in turning over the pages of the last published "Transactions of the American Medical Association," to come across the paper of a man in whom the clinical and microscopical elements were so happily blended that you might look on his work and say here was a paper indeed. It is by Professor Theodore McGraw, the excellent surgeon of Detroit, and it is upon the Diagnosis and Treatment of Malignant Growths. We propose to follow it pretty closely, for it has a healthy expression upon an all-important subject and teaches a good lesson outside.

Professor McGraw commences by saying how the old idea of the constitutional origin of malignant growths has been supplanted with most pathologists by the doctrine

of the local origin of tumors; how this has led to more thoroughness in the execution of old methods; how, after all, ill success is still the rule, and that cancers will come back in spite of us; and he proceeds then to examine into the discrepancy which exists between the results of our practice and what we ought theoretically to obtain. It all lies in the fact that we are unable to determine the character of the growth in its early formation, before it has "become malignant by some kind of rapid cellular propagation," upon which history the modern theory of the local origin of malignant growths is based. In vain is the microscope of to-day in this pre-malignant field. If it could tell there what was going to happen—as the gentleman we quoted last week declared it could do in the only less malignant field of consumption—then might our triumphs be numbered by scores; but to say that a growth is malignant only when it has poisoned the springs of life, simply gives us the chance "to lead a forlorn hope against a successful foe." Clinically and microscopically, the early days of malignant growths are dark indeed. Says Dr. McGraw:

"The early history of cancer is involved in great confusion of opinion, and we are not even in unison as regards its definition, nor have the various theories been as yet very fruitful, as far as diagnosis is concerned, in practical results. The attempt of Lücke to utilize the germ theory of Thiersch and Waldeyer for this purpose can not be credited with those rich fruits to which he has laid claim. Aside from the prominence which he has given to the frequent occurrence of certain tumors in definite regions of the body, he has added nothing to our means of diagnosis. His determination of the nature of a tumor as regards malignancy is based upon precisely the same clinical phenomena which have for years been the common property of the profession. *At present we have to say of all malignant growths that we do not as yet possess any means of positively diagnosticating them in their early and curable stage. Indeed with certain forms the difficulty continues into their more mature life, and even the microscope will not always suffice to determine the doubt.*"

And then he quotes Virchow to show that while in the latter stage "the clinical and microscopical diagnosis will usually concur," it is not always so, as in the difficulty of distinguishing the benign indurations of some of the fibroids of the breast from carcinoma, and then he discusses the old cancer-juice which has pretty well leaked out of existence, and comes at length to tell us that

"'Thiersch has abandoned altogether the attempt to diagnosticate cancer by its histological characteristics, and insists upon the clinical event as the chief index of its nature,' but still leaving for that instrument to tell us 'with what growths the clinical course which we ascribe to cancer most commonly occurs.'"

We must leave Dr. McGraw here in this part of his paper, and not follow him in his discussion of the growths which alter their malignancy with their site, as we have had mazes enough, and come at once to his treatment. It is as logical as it is bloody. It takes no chances. It recognizes for once that with our present knowledge doubts will only be lifted by danger, and he "*insists upon it as a cardinal rule of surgery* that every tumor or induration which is not beyond all doubt of benign character should be promptly and completely destroyed." If it prove a benign growth, we have only, as a general rule, anticipated the day for an operation; if it be simply a chronic inflammatory swelling, such a one is not without its dangers; if it is going to be a cancer, we have saved a life.

But this is only one of the milder methods of attack, which none but the most abject temporizers might not sometimes follow. His thoroughness in later operations may not find so many imitators. In multiple primary tumors, occurring, for instance, in both mammæ, where "excision has been absolutely forbidden on the ground that this multiplicity was proof positive of constitutional infection," in the light of our present pathology may be regarded as examples of the "cancerous tendency" being "inherent only in the mammary glandular cells," and he advises prompt and simultaneous extirpation of both mammary glands.*

Dr. McGraw does not believe it is ever safe to leave skin enough to cover a cancerous wound. He would not trust to his fingers feeling through the skin to determine enlarged lymphatic glands, but would uncover them with his knife and explore. He would, in case the diseased axillary glands are matted with the blood-vessels, so as to prevent their extirpation, *amputate the arm at the shoulder with the breast*—in picked cases! Indeed, in a case of cancer in the thigh he amputated at the hip, and in later engagements with the recurrent disease cut away the flaps,

*A curious case in point has occurred in Louisville. Both mammary glands in a woman of forty-five, much enlarged and indurated by cancer, were excised by Dr. Cummins in 1875. They were again exercised for recurrent growths by Dr. Cowling in 1876. Again for similar reason by Dr. Roberts in 1877 and 1878. The growths have not reappeared in site, and the patient is still alive, though apparently affected with carcinoma in the bladder. After each operation there were several months of comfort, and the woman eagerly insisted upon the excisions.

tied the external iliac, and gouged away the acetabulum, and succeeded at length in getting his patient out on his leg.

These doctrines of Dr. McGraw are logical, we say; but the thought will force itself, is even human life worth so much?

And now we must stop. We had, in fact, only one object in view when we started out—to tell the present state of diagnosis in malignant disease as set forth by an able clinician and competent histologist. It is disheartening, to be sure, in one aspect; but it tells at least of one glorious field which may yet be won. It makes us the more satisfied with our surroundings. Here in Louisville clinical evidence, bad as it is in malignant disease, when evidence of its nature is most wanted, has so far outrun the evidence of the microscope that we began to doubt the efficacy of our experts, albeit they did not doubt themselves, wrote beautifully and etched confidently. We freely now forgive them the past and wish them a more determinate future. Meanwhile we turn not ourselves away from symptoms.—*Louisville Med. News.*

Water-Closet Conveniences.

BY B. K. JOHNSON, M. D.

It may be looked upon as one of the most peculiar marks of refined civilization, when people and families carefully prepare for themselves such comforts as are noticed in the title of this article. In most instances, the common misery and indecency that prevail in country places and homes can be avoided. It is only a question of will or inclination to make suitable provision for modest retirement. The expense need not be great; no parlor decorations are required; but a room, large, light, and with a window and a door that will close and keep out rain, snow, and rough winds, with deodorants to remove foul smells, is what is mainly required to satisfy the demands of necessity. If it can be assigned a room within doors, as it usually can, so much the better; but it may always be made, at least, an outside appendage to the dwelling, near to the back door, or a convenient private spot that will avoid exposure to weather and observation. This need not be

a nuisance about the house. It ought to be a luxury. It is worth far more than fine furniture in the parlor, and costs less.

There can be little question that the prevailing female complaints are often induced, and always intensified, by disorders of the digestive organs, and the oppression in the lower regions that neglect in this matter causes. Admitting the justness of this view, let us see what chance a woman living in the country has to escape the direst evils that delicate health has in store for its victims. The privy stands perhaps at the bottom of the garden, fifty yards from the house, approached by a walk bordered by long grass, which is always wet except during the sunny part of the day, overhung by shrubbery and vines, which are often dripping with wet, and exposed frequently to the public gaze. In winter, snow-drifts block the way; and during rain, there is no shelter from any side. The out-house itself is fearfully cold, if not drifted half full of snow or flooded with rain.

A woman who is comfortably housed during stormy weather will, if it is possible, postpone for days together the dreadful necessity for exposure that such circumstances require. If the walk is exposed to a neighboring work-shop window, the visit will probably be put off until dusk. In either case, no amount of reasoning will convince a woman that it is her duty, for the sake of preventing troubles of which she is yet ignorant, to expose herself to the danger, the discomfort, and the annoyance, that irregularity under such circumstances implies.

I pass now over the barbarous foulness and the stifling odor of the privy-vault. It is only as an unavoidable evil that these have been tolerated; but I can not too strongly urge attention to the point taken above, and insist on the fact that every consideration of humanity, and of the welfare, not only of our own families, but of the whole community, demands a speedy reform of this abuse.

In view of the foregoing facts, I make no apology for calling attention to this important matter, believing that all will concede that, however much of elegance and comfort may surround them in the appointments of their homes the mode of life of women is neither decent, civilized, nor safe, unless they are provided with the conveniences that the water-closet and earth-closet alone make possible.

To the above nothing need be added, unless it be to say

that the most perfect closets in this country still lack one great element of safety and comfort that is provided in most households, even of the poorer classes. A simple ring of some non-conducting substance, a plaited straw for instance, might hang above the seat. It may be used and again suspended, thus being kept dry, well-ventilated and clean. Its material may also be of carpeting, of flannel, etc., as may be preferred, the only requisite being that it prevent the chill of the cold and often damp wood, which has in many instances occasioned to feeble, and even to robust persons, the commencement of an illness that has resulted in death.—*Medical Summary.*

Salicilic Acid, Salicin, and Home-Made Electricity for Rheumatism—"New Discoveries."

BY G. Q. SMITH, M. D., CLOVERDALE, CAL.

It is a curious fact, and one often ignored, even by learned men, that many ideas of greater or less value, that have long been familiar to folk-lore, remain unknown to, or at least unappreciated by the scientific world, until some more or less distinguished *savant* evolves them from the profound depths of his vast erudition and stamps them with his own trade-mark and labels them "*new* discoveries." Now we do not wish to depreciate the labors of such *savans*, for such "discoveries" are often of inestimable value to the world, and may indispensably require a trade-mark from high acknowledged authority to bring them into respectable notice and insure them general adoption. But to our text. As much has been said and written recently about salicilic acid, salicin and electricity, in the treatment of rheumatism, I have thought the following gleanings and recollections might be of some interest.

The circumstances of my childhood made me familiar with much of the popular medicine, as it existed twenty or thirty years ago in the western part of middle Tennessee, along the lower Tennessee River. My paternal grandmother being a noted medicine-woman among the common people there in those days, often took me with her when she went forth gathering "roots and herbs," thus teaching me many valuable lessons in the healing art, that still linger among the pleasant memories of "auld lang syne."

Numerous well-filled reticules that hung around our ancient relative's cabin attested her Esculapian erudition, and the more or less frequent calls of her neighbor women —they didn't have any "ladies" in those days—showed the high esteem in which her knowledge and services were held. But pardon this digression.

From time immemorial, among these people, the bark and twigs of the water-willow, one of the numerous species of the genus *salix* that abounds along the banks of the Tennessee River and its tributaries, have been used as a remedy for rheumatism, intermittent fever and diarrhea. For the former disease, it is used internally in the form of a strong decoction, and externally in the form of a hot poultice to the painful parts. Many old boatmen and fishermen prefer the willow tea to quinine, believing the effects of the former to be better and more lasting, with less disagreeable sequelæ from its use; and I would add, there is some real foundation for the aforesaid belief. A tea made from the water-willow bark is one of the old and trusted remedies for diarrhea among these people. Please note that this is another recent "discovery," if one were to believe much said about it in periodical medical literature during the present years, viz: the use of salicin as a remedy for diarrhea.

Recently I noticed that a distinguished medical *savant* recommended the use of hot iron wrapped in cloths wet with vinegar, as a topical application for the relief of pain in rheumatism, giving his opinion of the *rationale* of the remedy, that heat caused the iron to become magnetic, and its contact with the acid caused the generation of galvanic electricity, the well-known action of which is to relieve spasm and pain. Now, a practical knowledge of this remedy and the same mode of using it were familiar household ideas among the common people referred to long before said "discovering" *savant* was born.

But, indeed, it really seems that the *commonplace* character of this and many other valuable ideas was a bar to a recognition of their intrinsic value and usefulness. This is an attractive subject, and one the investigation of which richly rewards the student at every step with the discovery of curious, interesting and valuable information. But I forbear further comment for the present.

Regulation of Prostitution by Law.

THERE appears to be a particular aversion among the American people to any form of legislation which licenses prostitution, whether avowedly directed against prostitution or the diseases propagated by that vice. Some years ago the experiment was tried in St. Louis, by the enactment of a local law similar to the "Contagious Acts" of England, by which houses of prostitution were licensed and placed under surveillance. According to the friends of the measure, the result was highly beneficial both physically and morally. And yet the opposition to it secured its repeal. Recently a modification of that plan was proposed and submitted to a popular vote. But the citizens, fearful of some sinister result or suspicious of its design, voted it down by a large majority. Perhaps the most prominent idea in opposition to such legislation is that all laws of the kind bear exclusively on woman, making her the object of personal examination and of restraint and punishment, whilst men may communicate infection with entire impunity. In other words, such laws protect men from women, and punish women, not for communicating disease, but because they have been made the victims of disease. The advocates of such legislation point to the results. This, in fact, is their only argument. To diminish or prevent syphilis is so desirable an object that it overshadows all scruples about the means used for accomplishing it. On the other hand the opponents of this species of legislation look only to the principle on which it is founded, and argue that no permanent good can follow from laws which violate moral principles and invade human rights. In other words, they do not believe that the end justifies the means. Both parties to the controversy are earnest and often intolerant, especially the law party, which deals largely in abuse, denouncing its antagonists as fanatics, pseudo-philanthropists, hypocrites, and all that.

It is worthy of note that whilst the law advocates urge the protection and benefit of the female sex as one result of their system, women are almost a unit against them. Both in England and America women distinguished for their moral and intellectual worth, have taken a leading part in the opposition. It has been asserted that females who become subject to the operation of law are in favor

of it. This may be true; but it is certainly true that respectable women take the opposite side. This may explain, in part at least, the want of success attending the attempt to transplant the European system to the United States. Women have more influence on public opinion in this country than any other, and next to this country, in England. And about in proportion to the deference and respect paid to woman and the influence exercised by her on society at large, is the hostility exhibited against all laws which give license to prostitution, directly or indirectly.

Since writing the above, we have noticed in the *Medical Press and Circular* a striking proof of our statement in regard to the intolerance exhibited in this controversy. The subject being under discussion in the Surgical Society of Ireland, Dr. McClintock spoke in opposition to the law, commencing as follows: "At a risk of being looked upon as a crazy enthusiast, and one of those remarkable mortals who are wrapped up in transcendental morality, I must express my own difficulty in accepting the moral basis of those Acts." When a prominent physician dare not, in a medical association, open his lips against the law without apologizing almost on his knees, the merits of the question at issue are apt to be lost sight of by the intervention of another question—the right of freedom of speech.—*Pa. Med. and Surg. Jour.*

GLEANINGS.

HEMORRHAGE CONTROLLED BY ACETATE OF LEAD IN LARGE DOSES.—Dr. Workman (St. Louis *Medical and Surgical Journal*) uses acetate of lead in large doses to arrest post-partum hemorrhage: "My usual dose in post-partum hemorrhage was one dram, dissolved in half a tumbler of water, of which I first gave half, and if this provoked speedy uterine contraction I gave no more; but if it did not I never hesitated to go farther. I took care only to use fresh samples, though even if some carbonate chanced to be present, this being insoluble, would soon fall to the bottom of the glass. I never conjointly, or in alternation, gave opium, because I believed that the more speedily the salt was voided from the body the less likelihood of

chemical change, and I often observed that large doses induced early alvine evacuations. The promptitude with which large doses excite uterine contraction has often surprised me; and this fact has been most noticeable when instant vomiting (which however is not a general occurrence) has been provoked. In profuse hemoptysis, I have, within twenty-four or forty-eight hours, administered four, six or even eight drams, without the slightest injury, and with signal hemostatic success. Finally I venture to say that pure acetate of lead, in *large* doses, is the surest and safest of all our medicinal incitants of post-partum uterine contraction."

Method of Reducing Temperature.—There is one symptom common to almost all cases of diarrhea, if severe, and in my opinion it is the most important, and that is, the increase of temperature. The best means of reducing the temperature is by the external applications of cold. Since we have the Kibbe's cot, which you have seen here, the immersion of a child in a bath is practically done away with. The Kibbe's cot can be improvised easily; it is a pleasant and convenient way of giving the wet pack, is just as effectual as the bath, and has very few of its objections. Fold a small sheet so that it will cover the child from the axillæ to the ankles; place the child on the bed, leaving the arms and feet uncovered. The axillæ can be dried easily, and the temperature be taken while the child is in the pack, or the thermometer may be introduced into the rectum, the most accurate way of taking the temperature. Water of the desired temperature may be poured on from a pitcher. In cases of slight elevation of temperature, say to 102° F. or under, sponging off the body with water about the temperature of 80° F. will usually answer the purpose, and it may be done often enough to reduce the temperature nearly to normal. But in all cases of an elevation of temperature above 102° F. resort to the Kibbe's cot or its substitute. Always remain and make the first application yourself. The parents will be timid about it. The child will cry, and it will be necessary for you to show them, by the good effects produced, the wonderful power by this means of reducing temperature, of calming the restlessness and irritability of the child and of inducing sleep. Afterward you can teach them the use of the thermometer and the methods of

application of the water. The temperature of the water may be at first 90° F.; then gradually, as the child becomes accustomed to it, it may be made cooler until it is brought down to 80° F. in a few minutes. It may be necessary, where the temperature is very high, or where it rapidly rises after it has been reduced, to apply the water even colder than 80°. Reduce the temperature to 99°. It usually goes down still farther after the child is taken out. Remove the sheet, put the child in a thin blanket, cover it up, and let it sleep. It may be left in the pack twenty or thirty minutes, longer or shorter according as you find the temperature down to 99°. In very severe cases where the temperature rises to 105° F. or higher it may be necessary to apply the cold every hour or two. In such cases you need not remove the child from the Kibbe's cot, but let it remain there for even days, if necessary. The cot may be made comfortable by folding a woolen blanket and putting it under the child. I can not speak too emphatically of the importance of the reduction of temperature in the treatment of the diarrheas of children, and of this means of accomplishing it. It is, however, only an aid to other means of treatment.

THERAPEUTICS OF DIARRHEA IN CHILDREN.—A. A. Smith, M. D., Lecturer on Materia Medica, etc., in Bellevue Hospital Medical College.

Whatever the cause, all children, whether infants or those older, ought to be kept quiet when suffering from diarrhea. They should be kept in a partially-darkened, quiet room, free from noise; and all talk in the room should be avoided, especially when the child is asleep. The nervous system in childhood is so impressible it is easily disturbed, and any disturbance of this character aggravates the diarrhea. Infants under one year ought to be kept lying down as much as possible. They should not be jolted up and down, as is the custom of most nurses and some mothers, in order to amuse them. If the child is under one year, let it be placed on a pillow, if the diarrhea is severe, as it can be kept quiet more easily in this way than when lying on the lap. Even in changing the napkin care should be taken to move the child as little as possible. Don't be afraid to keep the room well ventilated in which the child lies. Mothers usually are over-careful for fear the child may take cold, and on this

account are apt to keep the room too closely shut up. When the child is awake it can be carried carefully into open air, always in the shade. Salt-air is beneficial to almost all forms of diarrhea in children, and this is specially so in regard to city children. We in the city, therefore, urge a ride on the salt-water, or taking the child to the sea-shore, if possible. In all cases in children under a year, if the diarrhea is severe keep warm applications over the abdomen. Make a spice-bag. Take a half ounce each of cloves, allspice, cinnamon, and anise-seeds pounded, but not powdered, in a mortar; put these between two layers of coarse flannel about six inches square, and quilt them in. Soak this for a few minutes in hot spirits (brandy, or whisky, or alcohol) and water, equal parts, and apply it to the abdomen warm, renewing it when it gets cool. In this way we not only get the effects of a poultice, but we also get the sedative and antiseptic effects of the spices. Great heat, with influences that depress the nervous system, bad hygienic surroundings, improper diet, too early weaning, bottle-food, and dentition are among the causes that predispose to diarrhea. In all cases remove the cause, if possible.

DISINFECTANTS AND DEODORANTS RECOMMENDED BY THE SANITARY COUNCIL OF THE MISSISSIPPI VALLEY.—More than half of these agents are valueless in preventing disease, and dangerous as being productive of false security. Heat and pure air are the best of all disinfectants. Where other agents are necessary, the following list will be found useful;

Copperas can be used almost anywhere, cheap and efficient. Especially useful in privies, etc. Ten pounds in a pailful of water; a teacupful in bed-pans, chambers, etc., after being used. A quart a day for privies, urinals, etc., for ordinary purposes. In dangerous diseases add from a pint to a quart to each discharge. The contents of a privy six feet in diameter and twelve feet deep will require twenty pounds of copperas to disinfect it.

Quicklime and gypsum or land plaster are good absorbents and may be used advantageously in damp places, cellars, gutters, etc. They should not, however, be used in drains, catch-basins, sewers, soil-pipes, etc., nor where they are liable to be washed into such places, lest they, by decomposing soap-water, form lime-soap and obstruct the passages.

Charcoal is one of the best deodorants, absorbing large volumes of gases. May be used in powder, mixed with lime or gypsum, and sprinkled freely in malodorous localities. Suspended in a basket in cisterns, meat-safes, dairies, etc., it tends to keep the contents from absorbing foul odors. Charcoal should be frequently reheated to drive off the absorbed gases and renew its efficiency.

Carbolic acid and coal-tar disinfectants are only admissible for outdoor use, on account of their odor. Mixed with gypsum, they are valuable around stables, outbuildings, etc. A gill of carbolic acid in a pailful of water may be used to flush sewers, drains, etc., and in privy-vaults and catch-basins.

Chloride of lime is sufficiently well known not to need special mention here, except to say that its value is greatly overrated. The addition of strong vinegar or dilute sulphuric acid (oil of vitriol) materially increases its efficiency.

Chloride of zinc may be used instead of copperas, and has the advantage of neither bleaching nor staining white or colored fabrics with which it may come in contact. On this account it is especially useful in disinfecting clothing, bedding, etc.

Of the large number of proprietary preparations sold for disinfecting purposes it is not necessary to treat in this connection. If further information is needed, consult your sanitary officer or family physician.

In general: should disease, however, in spite of every reasonable care, break out in our midst, allay fear and prevent panic, which is always senseless, demoralizing the well and jeopardizing to an incalculable extent the lives of those who may fall sick. "In a sick-room there should be wise heads, willing hands, and loving hearts in the attendants, and thankful submission with common sense in the patient."

THE VARIOUS APPLICATIONS OF CALCIUM PHOSPHATE IN MEDICINE.—The words of M. Dusart have contributed largely to the spread of the use of phosphate of lime for therapeutic purposes. The importance of this substance is shown by the fact that phosphate of lime is in largest proportion in those animals whose activity is greatest, and whose temperature is highest. Phosphate of lime administered in an insoluble state passes along the alimentary

tract, and is for the most part ejected with the fæces without causing any marked change in the animal economy. An entirely different action takes place, however, when the phosphate is dissolved in lactic acid Under the form of lacto-phosphate, it stimulates the function of nutrition, whether in the adult or in the infant. In the latter, under the influence of this substance, the weight of the body undergoes a regular and progressive increase. Whilst exercising this general recouping influence, lacto-phosphate of lime exerts a special effect upon the osseous system, in which it causes an increase of hardness, or in cases of fracture, consolidation. This double action is the basis for the therapeutic applications of lacto-phosphate of lime. In rickets, M. Dusart finds that in every case in which the diet, though sufficient in quantity, was unsuited to the digestive organs, the addition of lacto-phosphate of lime caused rapid improvement. Very interesting observations upon this subject have been collected in the large hospitals of Paris. In wounds and fractures, as in the preceding case, lacto-phosphate of lime acts by its invigorating power and by its special action upon osseous tissue, to which it carries the calcareous salt or reparative material. Its employment is chiefly indicated, according to Dr. Paquet, in those cases in which there exist deeply-seated disturbances of the functions of nutrition. The result, which is all but constant, to be obtained from this method of treatment, is a marked diminution in the usual length of the period of consolidation. Easy pregnancy, constant appetite, a well-developed and vigorous child, a rich milk and abundant supply, are the results obtained by M. Dusart from the employment of lacto-phosphate of lime by the mother. Given to the child, it keeps up its appetite, favors nutrition, and thus preserves the infant from most of the ailments which are peculiar to the first period of life. In typhoid fever and its convalescent period, in albuminuria, phthisis, diphtheria, etc., the invigorating properties of lacto-phosphate of lime may be used with advantage.—*Gazette Medicale de Paris, March* 11, 1879.

The Time for Beginning the Constitutional Treatment of Syphilis.——(Wiener *Med. Wochenschrift*, No. 10, 1879; Berliner *Klin. Wochenschrift*, March 24, 1878; Cincinnati *Lancet and Clinic*, April 25, 1879.) It is von Sigmond's

opinion, the result of extensive experience, that the secondary period of the disease is the proper time to commence general medication; even at this stage he saw no necessity for haste, unless several systems or organs were affected, or the disease was of a very severe type, or in case the general physical condition of the patient appeared to suffer. When of the lighter grade and confined to single organs, ordinary local treatment will usually suffice, even in the secondary stage. Abundant experience has satisfied him that anti-syphilitic general treatment during the primary stage exerted no influence upon its course, except in some cases the debiliting course of treatment postponed a cure. Of those treated simply locally at the outset, a large proportion—almost forty per cent. of all infected—presented very slight secondary symptoms, sometimes scarcely noticeable by the patients themselves. In the milder class of these secondary manifestations, complete and permanent cure very often followed simple local means. On the other hand, experience has also shown that a general treatment, begun late in the secondary period, is followed by more rapid and permanent results than if undertaken at an earlier date. In his concluding remarks he insists upon the importance in each stage of the disease, of careful attention to the hygienic and dietetic conditions and of prompt treatment of all complicating constitutional diseases.

General Directions in Contagious or Infectious Sickness.—1. The sick person should be restricted to one room or a part of the house separated from the other inmates.

2. Secure proper ventilation of the sick-room without producing draughts. Smell is an excellent guide as to the state of the air; if air is sweet, there is but little dread to be felt.

3. The virulence of any poison which causes the spread of disease is greatly increased by concentration in close rooms, and decreased by dilution and free circulation of air.

4. The linen, clothing, bedding, utensils, and every object touched by or in contact with the sick should be isolated, and, such as will permit, should be thrown into boiling water, there to remain for at least half an hour.

5. The nurse should be restricted to the sick-room or otherwise isolated.

6. Remember that disease is communicated by both the poisoned air about the sick, by the clothes and other articles used or touched by them.

7. After the patient leaves the sick-room it should be purified and disinfected. Boil every thing that will admit of it; scald all utensils; scrub the floors; whitewash ceiling and walls. Empty the room entirely, and leave doors and windows open for at least a day or two.—*Sanitary Council of the Mississippi Valley.*

Preternatural Acidity.—Some infants have a tendency to preternatural acidity in the digestive organs. The diarrhea that occurs in such cases is accompanied with considerable pain, the passage of small, cheesy-looking masses with the stools, the odor sour and sometimes even offensive, the reaction decidedly acid. Such children may be given, with good effect, a teaspoonful of lime-water three times a day. Give it in two teaspoonfuls of milk. Chalk may be given. The mist. cretæ of the Pharmacopœia is a good preparation to give. It contains, besides the chalk, gum-arabic, glycerine, and cinnamon, all of them good in this form of diarrhea. Sometimes it is well to give a laxative, as some of these cheesy masses may have collected in the intestines and may be acting as an irritant. The indication is to remove them. I have found the following prescription a better one to give than the traditional castor-oil:

℞ Pulv. rhei rad. . . . gr. xv;
Sodæ bicarb. . . . gr. xxv;
Aq. menth. pip. . . . ʒ ij. M.

Sig. One dram as laxative to a child from one to four months old.

In this prescription we get the laxative effects of rhubarb with its so-called secondary astringent effects, the alkali, and the sedative, and antiseptic effects of the peppermint.

In any case of diarrhea, where there is reason to believe there is any irritant in the intestines, the treatment may be commenced by giving a laxative to remove it.

Salicin a Tonic, Salicylic Acid a Depressant.—Salicin and salicylic acid are two distinct substances. Being so, they not unlikely have different actions on the system. It is possible that they may be eliminated from the system in the same form. There is some evidence to show

that such is the case, and that both are eliminated as salicyluric acid. But it is to be specially noted that their therapeutic effects have been produced and their full action on the system exercised before they have reached the stage of elimination and before they have undergone the changes which immediately precede it. Observation and evidence show that their action on the system is different; that the action of salicin is tonic, while that of salicylic acid is depressing, sometimes alarmingly so. This difference, be it noted (and the point is an important one), is quite compatible with their exercising an identical action on the rheumatic poison, and evidence all tends to show that their action in this respect is the same. To get the full beneficial effects of either remedy it is necessary to give it in large and frequently-repeated doses—twenty to thirty grains, at first every hour, and then every two, three, or four hours, as the symptoms decline. Salicylic acid and salicylate of soda can not be given in such dose without some risk. Salicin may thus be given without fear.—*Dr. Maclagan, in London Lancet.*

Nursing as a Cause of Diarrhea.—One of the most frequent causes of diarrhea in young infants is too frequent nursing. The child, when a few days old, can be taught to nurse about every two hours during the day and every three hours at night. My first question when I am called to see an infant under six months suffering from diarrhea, is, "How often does the child nurse?" and frequently find it has no regularity of nursing, sometimes nursing as often as every half hour. By establishing regularity of nursing the diarrhea is often cured. A child under four months, as a rule, will have two, sometimes three evacuations in twenty-four hours. This number is within the range of health. You will see many cases of diarrhea with very little constitutional disturbance, but frequency of movements, and the appearance of the movements not particularly unhealthy. Bismuth subnitrat. three grains every two or three hours will cure such cases.

Nitrite of Amyl in Suspended Animation.—The nitrite of amyl being a powerful agent in quickening the heart-beat, a few drops of this drug have a powerful influence in restoring the functions of the heart in cases of drowning, hanging, or fainting. It is suggested, therefore, that it should always be used whenever attempts are being

made to restore to life an individual apparently dead, or when it is desirable to settle the question whether a person is really dead or not. The dreadful thought of being buried alive has haunted the human race since its earliest days, and the discovery of some means by which this risk could be, if not evaded, at least greatly diminished, would prove an ineffable boon to mankind. Dr. T. Lauder Brunton, to whom we have referred this suggestion, considers it to be a good one. He adds that in ascertaining death the nitrite of amyl might be used along with the cord-test, of tying a cord round the finger. If the circulation have entirely stopped, the part beyond the ligature never becomes any thicker; but if the circulation continue, however slowly, the finger-tip beyond the ligature will sooner or later begin to swell.—*British Medical Journal.*

Bismuth Ointment.—Dr. Sweet writes to the *Medical Summary:* I wish briefly to call the attention of my medical brethren to the value of the sub-nitrate of bismuth as an *external* application. Whenever Erasmus Wilson recommends the oxide of zinc ointmennt, I use the bismuth, and with much more satisfactory results. I do not know what has been the experience of others, but I have found the zinc ungt. too stimulating for any acute eruptions. But the bismuth fulfills the indications perfectly. Mixed with cosmoline or fresh lard, in almost any proportion, it is a sovereign remedy for eczema, herpes, intertrigo of infants, and anything where there is an abraded or irritated surface. A short time since I succeeded in healing an extensive ulcer of the leg, which had resisted other treatment. It is also an excellent application for piles, applied as an ungt. externally, or injected in the form of a solution—a teaspoonful to a few ounces of water or other fluid.

Treatment of Malarial Hemorrhage.—As the mineral astringents, with only a slight exception in favor of ferrous chloride and alumina sulphate, proved of no benefit, the main reliance was on opium administered according to indication, and on spirits of turpentine as soon as this could be retained by the stomach. The spirits of turpentine, given in doses varying from twenty to sixty minims, in connection with laudanum, had good effect in my hands, and as a styptic had no superior. Quinia was absolutely of no use during the continuance of the sanguineous emis-

sions, but afterward proved serviceable in combination with tincture of chloride of iron. With the exception of a laxative dose—usually of calomel—to obviate visceral obstruction, and nitrate of silver to relieve nausea and revulsives, these constituted the main treatment.—*A. G. Tebault, M. D., in Virginia Medical Monthly.*

The Cool Air and Water Treatment of Measles.—The Allgemeine *Med. and Central Zeitung*, No. 29, 1879, contains an abstract of a long article by Dr. Kaczorowski, of Posen, on the discovery(!) made by him that cool air and sponging with cool water have no such disastrous effect in measles as old writers taught, but, on the contrary, relieve the distress of the disease and hasten recovery. This may be news in Poland, but we hope it is not in this country. Various able writers, among whom we signalize, for his earnest statements, Dr. Hiram Corson, have for years advocated it in this journal and in the *Transactions* of the Medical Society of this State. The old treatment of close rooms and warm drinks ought forever to be banished. They cause a more intractible form of disease, retard convalescence, and render the sequelæ more serious.—*Med. and Surg. Reporter.*

Cirrhosis from Inebriety.—Dr. Fox, in the *British Medical Journal*, describes the case of a boy, eleven years of age, who died of cirrhosis which was evidently largely inherited. His mother was a hard drinker, and during pregnancy and lactition had used alcohol excessively. During the last year the boy had developed a strong craving for stimulants. The children of drunken mothers are often imbecile, insane, or epileptic, as a consequence of congestion or hemorrhage into the membrane or nervous substance. If alcohol carries into the composition of the fecundating material certain unknown modifications, why may not cirrhosis be one of its manifestations? In this case all other possible causes were excluded, leaving the strong inference that the cirrhosis was the local expression of the inherited diathesis to inebriety.—*Journal of Inebriety.*

Post-Partum Hemorrhage.—Dr. Pugliese, in *Lyon Medical*, gives the following treatment: It is simply *inversion of the body.* The patient is seized by the shoulders and turned a quadrant of a circle, the center of which is her pelvis, out of the bed, and her head declined until it

reaches the floor. The assistants are charged to support head and shoulders of the patient. The obstetrician proceeds to external and internal frictions of the womb. A subcutaneous injection of ergotine is made in the hypogastric region." A case is related where a patient, pulseless and unconscious, was held in this position for an hour and a half. Consciousness and ability to speak appeared before the radial pulse could be felt.

The return of the horizontal position must be made gradually.—*St. Louis Med. and Surg. Journal.*

Nervous Dyspepsia.—Dr. Myers writes to the *Virginia Medical Monthly:* I can not speak to highly of the following preparation which I have employed, with the happiest results, in those cases of nervous dyspepsia the result of cerebral hyperemia:

℞	Bromid. sodium . .	℥j
	Ext. ergot, fluid . . .	℥ij
	Pepsin (saccharated)	
	Pulv. carbo-lignis .	*aa.* ℥iij
	Aqua	℥ij

M. fiat mistura. S: A teaspoonful every three or four hours.

It contracts their cerebral vessels in their ordinary size, thereby relieving gastric derangement, etc. If constipation exists, I employ, as a purgative, the combination of ox gall and ext. aloes aa. grs. xv, podophyllin, grs. iii, made into five pills, of which one is given every night, or every other night, as the case may require.

The Duty on Quinine.—The fortune of the late Mr. Thomas H. Powers is estimated between five and ten million dollars. Very much of this was made on quinine, and the movement to repeal the duty of that drug is one which should meet the approval of all unbiased physicians. At present the sick are obliged to pay more than twice as much for this medicine as they would were the duty removed. This excess goes into the pockets of the already enormously rich manufacturers. It is a striking instance of the gross injustice of protective duties. In fact, it is encouraging a monoply of the most unfair description.—*Philadelphia Med. and Surg. Reporter.*

Can Life be Supported by Enemata?—M. Crequy related a case of an old woman who vomited incessantly, and whom he had kept alive some time by the use of nutrient

enemata. A discussion arose as to the efficacy of such treatment. Experiments on dogs had shown that an animal would die of inanition after bouillon enemata as soon as after the use of warm water. The general opinion seemed to be that the life of the patient in question was not prolonged by the enemata, though many members believed such a thing possible if the enemata could be properly prepared.—*Gazette Hebdomadaire.*

The Topical Application of Chloral Medicated With Camphor.—The mixture of chloral and camphor is transformed by heat into a thick, oily, transparent liquid, resulting from the solution of the camphor in the chloral-hydrate, which thus loses its proportion of water. This topical application does not act like chloral by revulsion, for it does not produce the slightest hyperemia of the skin. Its action appears, therefore, to be due to its absorption. Dr. Sune, who has made out these facts, has seen several cases of pain in the side and slight attacks of neuralgia cured by this new medicine.—*Independencia Medica.*

Refilling of Prescriptions.—If any physician practicing medicine in this State shall write, or cause to be printed upon any prescription, the words, "No duplicate," any druggist, apothecary, or vender of medicines who shall duplicate a prescription so written or printed upon, without the consent of the physician writing the prescription, shall, on conviction thereof, be subject of a fine of ten dollars ($10) for each and every offense, together with the costs of suit.—*Wisconsin Medical Act.*

Diphtheria.—It has been lately suggested that rotten potatoes and apples are causative of diphtheria, the fungi of these being identical with the fungi of the diphtheritic ulcer. An observer says that the disease invariably attacks families in which the Irish tuber is eaten, and that, during epidemics, families who abstained from the vegetable enjoyed immunity from the disease. Sweet potatoes are not supposed to be similarly injurious.—*Southern Medical Record.*

Paracotoin as a Remedy in Epidemic Cholera.—Professor Baelz, of Tokio, Japan, contributes to the *Centralblatt*, of July 6th, an account of his striking success with this remedy in cases of malignant cholera. He administered it in doses of 0.2 gramme by hypodermic injection, sus-

pended in equal parts of glycerine and water. The cure was prompt in five cases, all in which he used it, and the Japanese Government has taken measures to provide a supply of the drug, in the event of another outbreak.

Tobacco-Smoking as a Cause of Diseases of the Ear and Deafness.—Chewing is much less liable to cause these troubles than smoking, because the tobacco-smoke comes in contact with a much larger surface than the saliva impregnated with tobacco. Cigarette-smoking is most injurious, because the smoke is so often blown through the nose, and at the same time enters the eustachian tube. The tobacco-smoke is laden with fine particles, which gain access to the middle ear and irritate its lining membrane. While this does not admit of actual demonstration, it is rendered highly probable by the fact that disturbances of taste and smell are unquestionably produced in this manner, and are frequently observed in habitual smokers. The long continuance of such an irritation gives rise to a chronic inflammation of the middle ear. The characteristic want of sensibility in the mucous membrane of the throat and nose of smokers who suffer from chronic angina is due to the benumbing influence of tobacco.—*Annal. des Maladies de l' Oreille.*

Capsicum and Quinine.—Capsicum combined with quinine will diminish the size of the dose requisite, and the same may be said of ginger and other aromatics. A good dose of capsicum combined with twenty grains of quinine will act as well as thirty grains of quinine without the capsicum. Spices in general stimulate the portal circulation and promote the flow of bile, and hence their universal use in hot climates.—*Richmond and Louisville Medical Journal.*

Battey's Operation.—The Paris *Medical* says of Battey's operation: "It is not only rash, but it is to be condemned for its boldness. We can not approve the conduct of a surgeon who thus plays with the life of his patients, especially when we remember the gravity of deep lesions of the peritoneum. We are happy to state that no French surgeon has followed the footsteps of the American."—*Southern Med. Record.*

Treatment of Cracked Nipples.—Dr. Haussmann has found that lint, soaked in a two per cent. solution of car-

bolic acid, applied to the nipples, and wetted every two or three hours with the same gives immediate relief to the pain, and causes complete healing, (although the baby is still nursed from the nipples) in from two to three days. —*Medical Record.*

EPIDIDYMITIS TREATED BY ELASTIC BANDAGE.—Neumann suggests that, instead of using straps of adhesive plaster, a soft rubber bandage, an inch wide, be used to envelop the tumor, previously covered by cotton wadding. The bandage should not be applied very tightly, or it will become too painful. Cure takes place in from four to six days.

FRECKLES.—Take of finely-powdered sulphophenate of zinc, one part; oil of lemon, one part; pure alcohol, five parts; collodion, forty-five parts. Mix well together by triturition. This has been found efficacious as a local application against freckles and other slight skin-diseases.—*Pharmaceut. Zeitung fur Ruos.*

CORRESPONDENCE.

BUFFALO, *August* 25, 1879.

EDITOR MEDICAL NEWS:—The second annual meeting of the American Society of Microscopists was opened in the chapel of the central school building, on Tuesday morning, August 19, at 10 o'clock, by its President, Dr. R. H. Ward, of Troy. Addresses of welcome were then read by Dr. H. R. Hopkins, Chairman of the Local Committee; Judge Clinton, President of the Society of Natural Sciences, and Dr. T. F. Rochester, to which Dr. Ward replied.

Dr. Carl Seiler, of Philadelphia, was then elected Secretary *pro tem.*, and Mr. George E. Tell, of Buffalo, Treasurer *pro tem.*, and other business was transacted.

During the afternoon session Prof. D. S. Kellicott, of Buffalo, read an exceedingly interesting paper "On Certain Crustaceous Parasites on Fish," which was discussed by Prof. Tuttle and the author.

Prof. Tuttle, of Columbus, Ohio, then made a communication on the "Structure of the Spinal Cord in some of the Marripobranchi," illustrated by drawings on the blackboard, saying, as a reason for taking this subject, that he believed the best way to study the human brain was to

begin with the nervous centers of the lower classes of animals, and to work up. He then pointed out several peculiarities in the distribution of the gray and white matter in the spinal cord of the lamprey and other animals belonging to this species. His remarks were discussed at length by Dr. Seiler and Prof. J. Edwards Smith, during which discussion several interesting points, relating to the preparation of nerve tissues, were elicited. A communication from the Mayor of Buffalo, inviting the members to inspect the public buildings, was then read; as was also a communication from Mr. Chas. Tasoldt, of Albany, donating a slide of his fine ruling to the Society. A vote of thanks having been tendered to these gentlemen, the meeting adjourned till next day.

In the evening the President, Dr. R. H. Ward, delivered a very interesting address to a large audience assembled in St. James' Hall.

Wednesday, August 20.

The meeting was called to order at 10½ A. M., by the President, and, after some business had been transacted, a communication was read from E. H. Griffith, of Fairport, N. Y., stating that he would be glad to place in the hands of the President of the Society a silver medal, to be engraved as he shall designate. This medal, the donor says, shall be awarded a first prize at the next regular meeting of the Society, to the member who shall present at that time the best two slides to illustrate the adulteration of some common article of food—one of the slides to show the pure article, and the other the common adulteration of the same article. The adulterated article is to be procured from some dealer in groceries, and shall be such as is in common use. The adulteration and percentage of such must be given. The persons who prepare the slides are not to be known to the committee of award until after the decision. All the slides for competition are to become the property of the Society. This communication was accepted and referred to the Standing Committee, and a vote of thanks was tendered to Mr. Griffith for his offer.

Dr. Lucien Howe, of Buffalo, then read a paper on "The Development of the Eustachian Tube and Middle Ear," which, relating to a department of embryology, that has received as yet but very little attention from scientists, was very interesting and instructive to the members.

Dr. Seiler, of Philadelphia, then read a paper on "photography, as an aid to microscopical investigations," using the blackboard for illustrating his remarks. He pointed out that photo-micrography could be practiced by every microscopist, and that no other instruments were needed but those already in the hands of the student. This paper was discussed at length by Dr. Blackham, of Dunkirk; Dr. Howe, of Buffalo; Prof. Tuttle, of Columbus, Ohio, and the author. Prof. J. Edwards Smith then read a very learned paper, entitled "Remarks Concerning Modern Object Glasses."

After some business, concerning the publication of the transactions, had been disposed of, the meeting was adjourned till the afternoon session.

August 20, 2 *P. M.*

The meeting was called to order, and Dr. George E. Blackham read a paper on "The Systematic Examination of Objectives," which was received with much interest.

Mr. Merriman, of Rochester, then read a paper on "The Preparation of Double Stainings of Vegetable Tissues," which called forth a lively discussion between Prof. E. Smith, Dr. Seiler, Dr. Blackham, Dr. Crane, and Dr. T. W. Hyatt. The special points of discussion were the best method of removing the chlorofil from vegetable tissues, and the merits and demerits of glycerine, and balsam as a mounting material. After this discussion had closed, Prof. J. Edwards Smith, of Cleveland, made some remarks on "The Construction of a Universal Microscope," exhibiting at the same time a stand which he had caused to be made according to his directions, by a maker whose name the speaker declined to mention.

This stand, as far as your correspondent could see, presented nothing new, but was simply a compilation of different mechanical principles, peculiar to the instruments of as many different makers in this country and abroad.

The meeting was then adjourned till next morning.

In the evening private exhibitions of specimens, instruments, and accessories, were going on in the rooms of the members, in the different hotels and private houses.

Thursday, August 21.

The Society was called to order at 10¾ A. M., by the President, and Mr. Theodore Deeke, of Utica, mounted the platform to make some remarks on "Microscopical Exam-

ination of the Nervous Centers." He explained his method of hardening and cutting brain tissue, and gave a clear description of the apparatus designed by him for cutting thin sections of the entire brain, some of which, beautifully mounted, he passed around for examination. He also gave a description of his way of staining, and of the microscope which he used for examining three large sections. He then showed some large photographs made by him of sections of spinal cords, which were universally admired.

Prof. Kellicott then read his second paper, on "Certain Crustacea, Parasitic on Fish from the Great Lakes," illustrated by beautiful enlarged drawings.

After the reading of this paper important business was transacted, relating to the revision of the constitution and by-laws and to the place of meeting next year.

Dr. T. Curtis, of Washington, then presented a box of earth, rich in diatoms, to which the members were invited to help themselves. The meeting was then adjourned till afternoon.

Afternoon session was opened at 2 P. M., and Dr. T. Hyatt, of New York, Chairman of the National Committee on Micrometry, was called upon for a report. This report read as follows:

"This Committee, as a result of individual consideration of the subject, and correspondence with microscopical societies and students, would respectfully and unanimously tender a report of progress to the American Society, and respectfully request this Society to rescind its approval of the one hundredth millimeter as a unit for micrometry, and to refer that question, together with those of securing precision, and international uniformity, to the Committee for further action."

This report was accepted by the Society and the Committee continued.

Mr. Thomas Taylor, of Washington, then made some remarks on the parasites of agricultural plants.

Mr. C. N. Vorce, of Cleveland, then read a paper on "The Destructive Powers of Certain Insects." This paper showed considerable study, and was considered of great value.

An essay on "Microscopical Organisms found in Drinking-Water," by Prof. Lattimore, of Rochester, followed, and was one of the best papers of the meeting.

An invitation was received and accepted from the Local Committee, to attend an excursion to Niagara Falls. The meeting then adjourned.

In the evening a microscopical soiree was held at St. James' Hall, where an opportunity was given to the members to exhibit their instruments and preparations. This entertainment was largely attended, and proved successful in every respect.

Friday, August 22.

The meeting was opened at 10½ A. M., and was the chief business meeting; but, as two gentlemen wished to make some remarks on scientific matter, they were allowed to do so. The first was Dr. W. D. Resner, of Cleveland, who made some remarks on the illumination of fine rulings.

Then Dr. Seiler explained his method of preparing and mounting of animal tissues, and answered several questions put to him by Prof. J. E. Smith and Dr. Resner. The private business of the Society was then transacted, which included the election of officers for the ensuing year, with the following result:

President.—Prof. Hamilton Smith, of Geneva.

Vice-Presidents.—Dr. W. Webster Butterfield, of Indianapolis, and Mr. C. C. Meriman, of Rochester.

Secretary.—Prof. Albert H. Tuttle, of Columbus.

Treasurer.—Mr. Geo. E. Tell, of Buffalo.

Executive Committee.—Dr. W. B. Resner, of Cleveland; Dr. Carl Seiler, of Philadelphia, and Dr. W. C. Barrett, of Buffalo.

The President elect then made a few telling remarks after which the Society adjourned *sine die.*

In the afternoon most of the members made a most delightful excursion to Niagara Falls.

Taking it all together this second annual meeting of the Society of Microscopists was a most harmonious, intellectual and interesting gathering, and one which will be long remembered by all who participated in it.

It was the good fortune of your correspondent to spend a few hours in Rochester, after the close of the meeting, and to walk through the factory of Messrs. Bausch & Lomb, a large four-story brick building on the east side of the river. On the ground floor is the room where the lenses for eye-glasses are ground by machinery, which is both novel in construction and very effective. On the second floor the frames for the glasses are stamped out of sheets of hard rubber, then shaped and the springs riveted on;

while in the third floor the glasses are cut and fitted into the frames by grinding the edges. The finishing touches are also put on the frames in this department.

On the fourth floor, which is divided by board partitions, are the shops for the manufacture of microscopes, the putting together of the stands, the grinding of the lenses, the mounting of objectives, and everything that is necessary for the construction of a first-class instrument.

Yours, C. S.

Book Notices.

Clinical Medicine. A Systematic Treatise on the Diagnosis and Treatment of Diseases. Designed for the use of students and practitioners of medicine. By Austin Flint, M. D., Professor of Principles and Practice of Medicine, and of Clinical Medicine in the Bellevue Hospital Medical College, etc., etc. 8vo. Pp. 795. 1879. Philadelphia: Henry C. Lea. Cincinnati: R. Clarke & Co. Price, $4.50.

All of our readers are familiar with the writings of Professor Austin Flint, M. D., of Bellevue Hospital Medical College. His work upon the practice of medicine at the present time is more generally used by students and young practitioners than any other work of the kind. While his writings represent recent progress, yet they show that he is conservative in his views, carefully exchewing innovations, and admitting new principles and new theories only after careful examination and well-tried experience have established their truth.

The belief that a work devoted to the diagnosis and treatment of diseases would be of aid to the medical student in his clinical studies, and useful, as a book of reference to the practitioner, has led the author to the preparation of this volume. The plan of the work, and the arrangement of diseases have been made with special reference to clinical medicine. In the introduction are considered topics of importance as bearing on medical study and practice. Conforming to the nosological method now generally adopted, diseases are divided into general and local, and the latter are distributed into classes corresponding with the different physiological systems, viz: the respiratory, circulating, digestive

urinary and nervous. Each of the five sections is prefaced by preliminary observations, relating to symptomatology, and other topics of practical importance as bearing on the clinical study and treatment of the diseases considered in that section.

The author states that the work is intended to accompany, and not, in any measure, to supersede more comprehensive treatises embracing the morbid anatomy, the causation, and the pathology of diseases. It has seemed to him that a serviceable coadjutor to the larger text-books might be found in a volume which should be devoted exclusively to the two great practical objects of medical science, namely, diagnosis and treatment, viewed in the light of the latest observations and experience.

We have no doubt but that medical students and practitioners will find the work a most valuable one. Although the information contained in it is not different from what may be found in regular scientific works on the Principles and Practice of Medicine, yet the manner in which it is presented renders it more striking and more easily grasped, as it were, than in such. In addition, also, the mode of differentiating between diseases is made more easy. We cordially recommend the work to all of our medical friends as one that will be highly esteemed by them.

TRANSACTIONS OF THE PATHOLOGICAL SOCIETY OF PHILADELPHIA, VOL. VIII.—Containing the Reports of the Proceedings, from September, 1877, to July, 1878. Edited by G. Henry C. Simes, M. D., Lecturer on Histology in the University of Pennsylvania, etc. 8vo. Pp. 225. Philadelphia: J. B. Lippincott & Co. Cincinnati: R. Clarke & Co. 1879.

Our readers will find the work, whose title we have given, a very interesting one, indeed, as works of this kind generally are. The papers contained in it are of a practical character, describing cases as they occur in actual practice. No works are more useful than those containing reports of cases; in them the student sees applied those principles and theories which are taught him in his text-books.

In the work before us there are papers on the osseous system, with reports of cases involving diseases of the bones; papers on the digestive apparatus; on the vascular system; on the organs of respiration; on the genito-

urinary organs; on the nervous system; on the organs of special sense; on tumors not otherwise classifiable; on miscellaneous pathological conditions.

Our Philadelphia brethren are generally industrious cultivators of medicine; and, in the department of pathology, this little book affords them an excellent record. We have no doubt it will find a place in many libraries, as it certainly merits to.

EDITORIAL.

HAY FEVER—The *Medical Record* states that there are probably nearly 50,000 persons suffering from what is termed hay fever. It was formerly supposed that the affection depended upon the irritation produced by the pollen of certain flowers and grasses which floated in the air in the months of May, June, July, and August of each year. It was afterward observed that certain persons were peculiarly affected when brought in contact with certain animals, such as the cat, and by the vapor from certain animal substances, such as warm milk. According to the *Record*, Dr. Geo. M. Beard, of New York, has propounded a "nerve theory." According to this theory, the disease is subjective instead of objective; external irritants, which are exceedingly numerous, such as rag-weed, pollen, etc., are of a secondary and a tertiary character and powerless in themselves to produce the disease, and produce the disease only when acting on a nervous idiosyncrasy. This author has described a new form of disease, which he calls the July cold, or middle form, which links the early form, or June cold, with the later form, or autumnal catarrh. It seems to us that the nerve theory explains many of the cases which have heretofore been regarded as very obscure; for example, those in which the symptoms peculiar to hay fever have continued from May to November, or during the winter months, or all the year round. If the nerve theory be true—and it seems to be fairly sustained—it revolutionizes the treatment of the disease. It must be attacked from a new point of view; yet it can not be successfully claimed that all cases are to be treated alike, or that any specific can be found for it. The remedies to be employed are those which are not pain-

ful—not even disagreeable. Of course, removal from the exciting cause is the primary factor in obtaining prompt relief; but, when this can not be effected, the symptoms can be greatly relieved, and many cases cured, by such remedies as arsenic, nux vomica, carbolic acid, belladonna, tonics and sedatives, electricity, etc., and their combinations.

DISINFECTANTS.—The *Times*, of Cincinnati, in a recent issue, in reporting the progress of yellow fever in Memphis, contains the following telegram from that city: "It is a question whether disinfection is not a humbug and an imposition on the credulity of the people. Even those who are spreading disinfectants around premises have taken the fever like other people."

It certainly may be true that in a city in which yellow fever, or smallpox, or any other contagious disease is prevailing, individuals may be attacked who employ disinfectants thoroughly about their premises; yet it would by no means necessarily follow that those agents are not efficient in destroying morbid germs when they come in contact with them. The theory in regard to these poisons is that they are transmissible to considerable distances through the atmosphere, consequently, when a contagious disease prevails in a city, although no germs may be propagated in a certain neighborhood, or may be destroyed as rapidly as they are formed, yet persons there may become infected by germs brought from another locality. It will certainly require more evidence that so-called disinfectants are a "humbug, and an imposition on the credulity of the people," than merely the fact that "those who are spreading disinfectants around premises have taken the fever like other people." It must be demonstrated by some means, that when the chemical agent comes in contact with the morbid poison it fails to destroy it. We admit that the ability to destroy an odor is not proof of efficiency to destroy disease germs, yet, when a property of this kind is possessed, and a gaseous emanation, therefore, is to an extent changed, it is not unreasonable to suppose that its morbid qualities are made to cease to exist.

We think our Memphis friends have not yet had sufficient cause to abandon their confidence in disinfectants, and should continue to employ them.

American Academy of Medicine.

The Fourth Annual Meeting of the American Academy of Medicine will be held in the rooms of the New York Academy of Medicine, 12 West Thirty-first Street, New York, commencing Tuesday, September 16th, at three o'clock P. M.

The following programme has been determined upon:

Tuesday afternoon: Organization, Election of Members, Unfinished Business, General Business.

Tuesday evening, at 8 o'clock: Address by the President, Lewis H. Steiner, A. M., M. D., of Frederick, Maryland, on "The Preparatory Education most needed by the Medical Student."

Wednesday, 10 A. M.: General Business. Paper by Elisha Harris, A. M., M. D., of New York, on "Hygiene and the Higher Researches of Science."

Election of Officers.

Introduction of President elect.

SYNOPSIS OF DR. ELISHA HARRIS' PAPER.

I. The relations of progressive researches in Physiology, Pathology, and Chemistry to Sanitary Science and Public Hygiene.
   a. Present state of the problems of Sanitary Science.
   b. The essential questions and requirements of Public Hygiene.
   c. Sanitation as an Art based upon exact scientific knowledge.
   d. The old empirical basis of sanitary practice compared with the conclusions and practice of Protective Medicine as a Science and an Art.

II. Discussion of the problems that Protective Medicine or Public Hygiene demands shall be solved by the pathohistologist, the naturalist, and the chemist.

III. The demands of Public Hygiene upon engineering, architecture, and civil government to be enforced and made effectual by exact interpretations of science.

The Fellows of the Academy must be Alumni of respectable collegiate institutions, who have received therefrom:

1. The degree of Bachelor of Arts, after a systematic course of study, preparatory and collegiate.

2. The degree of Master of Arts in accordance with the usage of these institutions.

3. The degree of Doctor of Medicine, after a regular course of study, not less than three years, under the direction and instruction of preceptors and professors. They must have also had an experience of three years in the practice of medicine.

Candidates for fellowship must be recommended by at least one Fellow, and be approved by a majority of the Council, after which the consent, by ballot, of two-thirds of the Fellows present will secure their election.

The initiation fee is $5.00, to be paid before initiation and registration.

Blank forms of application for fellowship can be obtained from the Secretary.

The annual meeting for 1879 will be held September 16, in New York.

RICHARD J. DUNGLISON, M. D., *Secretary*,
P. O. Box 2386, Philadelphia.

MARRIED.—*Amick—Taylor.*—At the residence of the bride's parents, Gold Hill Farm, Kansas, on July 22d, 1879, by the Rev. Elijah Clark, Dr. M. L. Amick, of Cincinnati, to Miss Maggie Taylor, formerly of Cincinnati.

The numerous friends of Dr. Amick will be pleased to learn of his marriage. Having lived a bachelor's life for a long time, when every one thought he ought to have a wife to comfort and solace him, he will be welcomed as a benedict. As a newly married man he will be entitled to all the privileges and immunities accorded to such in the Old Testament Scriptures—being exempt a year from going to war, etc. We wish him a long, happy, and prosperous married life. So do all who know him.

MARRIED.—*Thacker—Reno.*—On August 26, by the Rev. Dr. P. Tinsley, Rector of the Church of the Advent, at the residence of the bride's brother, Capt. John C. Reno, of Walnut Hills, Dr. J. A. Thacker to Miss Rebecca C. Reno.

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ORIGINAL CONTRIBUTIONS.

A Few Observations on the Treatment of Exanthematous Diseases.

BY E. A. COBLEIGH, M. D., ATHENS, TENN.

[Read before the Hiwassee Medical Society, August 14th, 1879.]

EVERY physician, whether in city or country, meets, more or less, exanthematous disease, and, meeting it, he knows that many and various plans of treatment have been devised for the conduction of this large and important class of affections. Different practitioners entertain different views of the pathology of the exanthema; and the indications for therapeusis, as founded on these views, must, and do, vary widely. Indeed, some of the methods of treatment diametrically oppose each other. One physician bleeds and pursues an active antiphlogistic plan. A second resorts to stimulants in every case, believing the vital powers to be weakened. A third, on the zymotic theory of disease germs multiplying, fermenting and playing general havoc in the economy, relies almost exclusively on antiseptics. A fourth contents himself with expectancy, regarding nature as best fitted for the contest when uninterfered with, or else he treats complications and leaves the main pathological process to follow its own course to recovery or death from the very outset of the attack, according to the natural tendency of the affections, or the severity of the individual case. Each has his hobby, and each claims the greatest percentage of successful result. So, too, I ride my hobby, and

come here to-day to present it before you, leaving you to judge of its merit or demerit, according to your own common sense, and physiological and pathological opinions. If it be founded on sound doctrine, if it yield fair success, if it be *practical*, then surely it demands attention, and good may result, whether it prove new or not, and despite my frank avowal, right at the outset, that I can not claim originality for the ideas herein set forth.

A multiplicity of forms of treatment for any disease, or class of diseases, proves one of two things: either that the affection, or class, is readily "cured" by almost any treatment, or, in other words, has an intrinsic tendency to spontaneous recovery; or, secondly, it is of such a nature that our pathology and therapeutics are alike at fault, the diseased action baffling all our research and treatment, so that practitioners seize with avidity upon any new plan offering the slightest prospect of improvement on, and greater success than, the old and tried methods. Of the eruptive affections, both facts are true. Some are so mild as to demand no interference whatever; others, at times, manifest an uncontrollable malignancy. Such being the case, no apology is necessary for my venturing a few suggestions on the subject.

In all diseases, when cure is impossible, mitigation may be attainable, or pain, at least, may be more or less completely allayed. If this be so, we are justified in attempting to better the condition of our patient; and more, it is *imperatively* our *duty* to do so. Again, where there is *no* special tendency to DEATH, if we hold it in our power, either to abridge a disease, or lessen the agony of one which can not be cut short, it is only right for us to accomplish this. And I hold that the plan of procedure, herein advocated, will at least do so much, if, indeed, it does not save life, as I am personally convinced that it does.

Only a few years back in the history of medicine we find it a universal custom to "sweat" a fever by external and internal heat. To a certain extent we still find this usage obtaining. Text-books tell us to give diuretics, diaphoretics, salines, etc., for the purpose of unlocking the suppressed secretions. For a moment let us consider this subject. The first step of hyperæmia leads to increased nutrition from excess of plasma in the affected part; and, from this same cause—excess of stimulus—a

heightened secretion of neighboring glands occurs. Only a step further and secretion stops abruptly. Will you break the inflammation by forcing re-secretion? *Can* it be done? Not at all. Lessen the hyperæmia, lessen the intensity of diseased action, and secretion re-establishes *itself*. And it is only by such a process that diaphoretics —so-called—ever produce sudorific action in pathological conditions involving overaction of capillary and cell.

Well, time eradicated to a large extent the prevailing theories of disease, and overturned the heating methods of treatment. Physicians learned to coax, instead of driving, Dame Nature. The parched tongue of the fever-burned sufferer was allowed to taste what his whole soul craved—cool water. And fevers proved less fatal, and less distressing, under the new plan. Gradually the cooling treatment fought its way, inch by inch, into the wider application and more general adoption. Having learned that the inside could be cooled, in fever, with impunity; having found out that sweating did not *end a fever*, but that when the fever lessened, sweating occurred spontaneously; nor could it be forced to appear earlier; having ascertained that the intensity of the pyrexia was in direct ratio with the sufferings, complications and the fatality of fevers, practitioners soon recognized that the *latter* results depended upon the former for their causation, and dared to even fight the fever-fire with surface cold—cold without and cold within was the plan. Cold as intense and prolonged as necessary in each particular case, only limited by its effect, freely and fearlessly used as long as the thermometer indicated a single degree of temperature above the normal standard. We meet fire by water, heat by cold, the fire of tissue destruction evolving fever heat by the cold of water chilled to a requisite degree. Experiments unnumbered proved that no harm could result to the system from this course *so long as elevation of bodily heat persisted*, and further demonstrated, beyond cavil, that mortality rates materially improved under it.

But while this cold-water treatment of idiopathic fevers forced adoption, a long-rooted notion that a "breaking out" on the body ought not to be driven in, lest harm result, continued to cling to profession and people alike, and for a long time no one had the temerity to venture the use of this treatment in any of the exanthemata. Therefore the old plans were persisted in (inconsistent as

this may seem) in this class of diseases, and are so persisted in to the present day even by many practitioners who use the cold in other cases. There are those who would not hesitate to put a typhoid or pneumonia patient into a bath, or the wet pack, who *would* recoil from the mere suggestion of any cold application in rubeola, scarlatina, erythema, variola, etc. "O consistency, thou art a jewel." Why this fear? Why should the treatment not be equally good in precisely similar cases? Let us see.

What is an exanthematous disease, as the term is generally used? It is not my intention to go into the minutiæ of the different affections constituting this important group. I have neither time, inclination nor ability for such a task. But I will briefly sum up thus: To my mind, an eruptive fever is nothing more than an essential fever with a surface eruption added thereto. This definition, while I believe it correct, and soundly founded on true pathology, does not, and need not, involve the question of zymosis for present purposes. If, then, this be so, *that* therapeutical reasoning which is applicable to the essential fever is, so far as it goes, equally applicable to the other essential fever, plus the eruption, which constitutes the exanthema.

We know full well that the first danger of all fevers of high grade is the intensity of the disease itself—the intensity of the febrile action, the hyperpyrexia. If we surmount this we overturn the first and essential element of death. This it is now in our power accurately to estimate by the clinical thermometer. Heat means destructive metamorphosis of tissue. Excessive heat means rapid and death-tending destruction of cell elements, tissue change so fast occurring that repair can not keep pace therewith, so that, unless checked in a short time, local and general death is inevitable. It is the body consuming itself, nowhere more vividly exemplified than in those terrible cases of malignant malarial fever where reaction from the first chill—in which the thermometer shows a rapid and high rise of intense temperature, notwithstanding the sensations of cold to patient and bystander—never takes place. If, then, danger lies in hyperpyrexia at all, why any less in eruptive diseases than in others? I plant myself squarely here. This is the whole issue, and can be susceptible of but one answer. There *is* fatality lurking in excessive bodily heat, alike in typhus, typhoid,

yellow fever, scarlatina, malarial fevers, rubeola, small-pox, and every other fever of high grade, be it idiopathic, inflammatory or eruptive. And if the hyperpyrexia and danger can, *pari passu*, be overcome by cold, external and internal, in the way of drinks, the pack, sponging, ice, or baths, in one case, it ought to be in all.

But here I am met by the objection that there is a difference—a complication, if you please—in the different cases. I am admonished that this is all well enough in non-eruptive cases, but a new element of danger arises under such treatment in those attended by eruption. The eruption, driven in, will produce more fatal effects than the heat of the fever is likely to do if unarrested. Now I confess that I so regarded it once myself. But rather extensive acquaintance with rubeola, varicella, scarlatina, etc., to a lesser extent, variola has convinced me that it is difficult, if, indeed, it be not utterly *impossible*, to "drive in" an eruption so as to do any harm. And I never hesitated to hurry the cure of a "breaking out," be it of whatsoever kind it may, exanthematous fever, rash, papule, vesicle or pustule, just so rapidly as I can. Some may condemn me for this rule. I know full well that many practitioners give remedies to "keep the eruption out." I know, further, that not infrequently a disappearance of an eruption, and the manifestation of internal disturbances, occur almost simultaneously. This is attributed to the too sudden retrocession of the dermal disorder, both by a great many of the profession and by all the laity. Is this true? My observation and reasoning, based on results of practice, lead me to believe otherwise. In a majority of such cases occurring in my own hands, I have been able to demonstrate, to my personal satisfaction at least, that the retrocession was not the *cause* of the internal mischief, but the *consequence* thereof. Let any serious disorder arise within the body, when an eruption, however trivial, such as mild herpes or lichen, exists upon the surface, and nine times out of ten the superficial affection disappears, either wholly or in part, at once. Reasoning from this fact, I was led to regard the whole process as one of revulsion—a disease of greater intensity *within*, leading to a check upon, or the resolution of the *external* disorder, which may or may not return, and run its course after the subsidence of the other trouble.

And it is so in the exanthema. My observation is that you

can not cause disappearance, or striking in of the eruption, except it be by setting up a complication of greater intensity in the interior organs. This is so of scarlatina and rubeola, with which I have had most experience, and I have seen nothing to shake my belief in a similar condition of affairs in variola, varicella, and other eruptive affections. Authors say, and I have seen cases to verify the statement, that both diseases occur without any external manifestation whatever. In our recent epidemic of rubeola, I saw a number of cases with very little eruption, and two manifesting none at all. I have seen many such cases of scarlet fever during epidemics witnessed within the last few years. Further, not only are these cases not necessarily more severe than those where the eruption is free and extensive, but they are even usually more mild; and I have frequently known a sudden disappearance of the rash from the whole superficies of the body without the least unpleasant symptom following. In small-pox the heavier and more extensive the rash, the graver is the disease. Why not so often of other exanthems? It is. The dermal inflammation in scarlet fever and measles is frequently excessive, adding intensity to the pyrexia, and even causing delirium and convulsions through reflex action, or the torture of the skin symptoms.

Many cases need no treatment. But in most instances, though nothing but the patient's comfort is involved, it is worth while to resort to more or less active measures of therapeusis. What shall be done? I will now state my own plan of procedure, founded on the reasons deduced from what I have already stated herein. Regarding the eruptive fevers as only idiopathic fever with skin manifestations superadded, I pay no attention whatever to the eruption, care not whether it appears at all or not (if I am sure of my diagnosis), but give treatment according to the severity of each individual case, finding myself especially obliged to be vigilant in preventing mischievous interference on the part of over-anxious and egotistical friends or relatives. I allow cold water, ice or iced drinks, including lemonade or ice cream, sometimes iced lime water, freely and absolutely interdict warm drinks of every kind; sometimes this is enough. In more severe cases I order and enforce cool, cold or iced sponging, the wet pack, and even cold baths where fever is high, delirium active, or complications threatening from intensity

of febrile action. These are my sheet-anchors. If so desired, antiseptics, tonics or sedatives can also be given, along with the course, by those who have peculiar views of the pathology of these affections, and they will not interfere with the febrifuge action of the cold water. I frequently supplement the cold water treatment with quinia, or other arterial sedatives, in full doses. Salines, laxatives, opiates in some cases, all come in play at times, but *always in conjunction* with the cold water, except in those rare cases where great prostration indicates measures of stimulation from the outset and entirely contra-indicates sedation by cold.

Now, gentlemen, I have not time to give cases in detail, or I could cite many to prove the efficacy of the plan I advocate. Nor do I claim that harm may not be produced by the indiscriminate use of these measures. But I do claim, and have demonstrated to my own satisfaction at least, that, properly and scientifically used, these measures, cold in its different degrees, and sometimes quinia in *heavy* doses as an adjunct, and producing parallel effects in the same way—by sedation—with the thermometer at hand as a reliable guide to "when" and "how far" treatment is needed, or must be carried, may be accessible by all practitioners, can be useful in nearly every case, and will not only mitigate all severe fevers of exalted character, the exanthemata included, but will, in most instances, materially abbreviate them. And I further insist, that whether the eruption be present or absent, sparse or free, slight in extent or involving almost universal dermatitis, there is *absolutely no danger* of producing evil by retarding or "driving it in."

Then, let me implore you, when occasion presents, to not despise pure cold water, one of God's freest gifts to East Tennessee especially, and to most all of the inhabitable portions of our globe, but use it freely and see its good effects for yourselves. The cool or cold sponging can be practiced anywhere; the wet pack also may be improvised in a moment, and if no bath-tub is at hand when wanted, four long poles, a piece of buggy or table oil cloth, of sufficient size, and a few tacks, will readily enable you to make one. Tack or sew the four edges of the oil cloth to the four poles, and leaving a foot or so unattached at each end, lay two of the poles across two hairs, the other two poles resting by their ends upon

them; bring the chairs together to allow the oil cloth to sag down on to the floor. Now tack the unattached oil cloth to the poles; fill with water of the desired temperature, and you are ready to place your fever-parched patient in a bath, to his prompt relief. Because we lack the conveniences of a metropolis, there is no reason why we may not and should not give our patrons the benefits of the most recent and improved methods of treatment, at least in this particular. Again I say, try it. If used carefully and well, nothing but good and satisfaction can result, and I know there is a wide field for change in practice in this matter right here in our own territory, and even among our own members.

"Case of Puerperal Eclampsia, Following Delivery," with Remarks.

BY N. C. MORSE, A. B., M. D., ELDORA, IOWA.

THE patient, Mrs. J. H., was a primipara, æt. 23, of medium height, plethoric.

On my first visit, made about the middle of the ninth month, I noted the following symptoms: There was marked œdema of the lower extremities—the feet, legs, and vulva being swollen to an enormous size—but there was no dyspnœa, headache, or other premonitory symptom of eclampsia. There was no ascites, nor œdema of face or hands.

The urine was carefully examined, which yielded but a slight trace of albumen, and no casts (it may be well to remark that the urine, tested, was constantly alkaline, and the carbonate of ammonia, which is the product of decomposition of the urea, would necessarily have dissolved all casts should they have been presented). Her appetite and general health being tolerably good, I thought that, by proper management, she might be carried through her confinement without convulsions. Diaphoresis was established, also mild catharthis, and the patient's diet was made to consist largely of milk.

On August 5, 1879, she had labor-pains recurring at irregular intervals, but labor did not fully set in until the evening of the 6th inst.

I arrived about 1 o'clock, and the os being sufficiently

dilated, I ruptured the membranes. This was followed by violent and frequent bearing-down pain, and the head descended past the superior strait. For the next three or four hours there was very little if any progress. The pains being of a lancinating character, resort was had to the extract of ergot, with hot and cold applications to the spine, but without effect, the patient being considerably exhausted, pulse frequent, anxious, worried expression, and recurrent pain, with little if any expulsive power, and the head presenting in the left occip. ant. position. I concluded to deliver at once, which I did with forceps.

After adjusting the forceps, I made traction, gradually bringing down the head to the vulva, when the forceps were removed. Rupture of the perineum seeming to be inevitable, a lateral incision was made in each labia, and the labor soon terminated, though the incisions did not prevent a "*partial rupture*" of the perineum. The child was a boy, and weighed twelve pounds.

About an hour after delivery, she was suddenly seized with a most violent convulsion, which lasted five or ten minutes, after which she was comatose. Hemorrhage having been considerable during labor, venesection was not deemed necessary, but an enema of hydrate of chloral ʒI., in an ounce of starch water, was immediately given, together with the inhalation of amyl nitrate. After this, upon the suggestion of Dr. B. F. Kierulff, who was now called in consultation, bromide of potassium, grains, twenty, was given every two, four, or six hours as necessary, "pr. orem," in place of chloral hydrate. Upon examination, the urine was now found to contain a greater quantity of albumen than before, and on the morning of the second day it was found in abundance, the œdema disappeared rapidly, and, beyond frequent twitching of the limbs, there was no return of the convulsions. Perineal rupture was treated by tying the limbs together, and antiseptic washes were freely used. The patient made a good recovery.

A few words relative to the probable cause of these convulsions would appear to be appropriate. Sir J. Y. Simpson, upon this subject, says: "Usually a state of albuminuria leads to convulsions, which, however, is a transitory, morbid condition, from which the patient recovers in a few days *after delivery*, and the affection does

not depend upon, or result in any actual change of structure in the kidneys."

Frerichs, from his experiments, concludes that the active poison is the carbonate of ammonia produced by the decomposition of the urea, and he does not admit of the essential inflammatory nature of the disease, and in explanation of the formation of the hyaline tube casts, says that the inflammatory theory can only hold good in so far as the exudation of blood-plasma is connected with a paralytic dilatation of the capillaries.

Braun, however, broadly maintains, "that the disease is of an inflammatory origin, and that the nature of the morbid process is identical with that of Bright's disease."

When the uræmic theory was advanced, it was assumed that in a large proportion of cases, albuminuria, and the consequent succession of pathological changes were due to pressure on the renal veins. This, to a certain extent, is true; but it is not to be inferred that pressure on the renal veins can account for all cases. For, as in the case mentioned, the symptoms were developed *after* delivery, when such pressure as is implied is obviously impossible.

That aluminuria and puerperal eclampsia are mutually dependent upon each other, or at least of simultaneous occurrence in the vast majority of cases, is an assertion not likely to be controverted; but it is by no means agreed as to the albumen and the paroxysm, which is the cause and which the effect. Certainly in this case the albumen was the effect, as it was not detected until after the convulsion occurred

The conclusions to be deducted from the case are: That all convulsions of pregnant women are not uræmic—that there are several conditions possible—First, uræmia; Second, cerebro-spinal reflex irritation of uteri origin; Third, cerebro-spinal congestion; connected especially with the bearing down efforts of labor itself. (*Vide* Hartshorne, p. 310.)

And when we take into consideration the long, tedious labor, the instrumental delivery, the shock of, and subsequent to, the rupture of the perineum, and the absence of the abmumen prior to the convulsions, we must conclude that the cause of the convulsions in the case related was not uræmia, but the result of cerebro-spinal reflex irritation.

SELECTIONS.

The Medical Society of the County of New York.

Stated Meeting, May 26, 1879.—*Dr. A. E. M. Purdy, Vice-President, in the Chair.*

THE TREATMENT OF INFANTILE DIARRHEA.

DR. A. JACOBI read an important paper on the above subject, of which the following is an abstract:

Of all the deaths in the first year of life forty per cent. in round number were due to diseases of the digestive organs, and half as many to such of the respiratory organs. In the second year the main cause of death changed ompletely; for of all the forty-five per cent. of deaths taking place in that year, but nine were due to digestive, and thirty-six per cent. to respiratory disorders. Thus in the first year, stomach and intestines; in the second, bronchi and lungs, were the sources of high death-rates.

Mortality diminished with every day of advancing life. Every additional hour improved the baby's chances for preservation. Almost one-half of the infants dead before the end of the first year died before they were one month old. Thus the causes of disease were the more active the earlier they were brought to bear upon the young with their defective vitality.

Two grave conclusions were to be drawn from that fact. The first was, that the diminution of early mortality depended on avoiding diseases of the digestive organs by insisting upon normal alimentation. That was principally important in the first few months. While breast-milk had been shown to lower infant mortality through the whole first year, it did so more on the first few months. Thus, though an infant might not be fed on breast-milk through the whole normal period of nursing, a great gain, indeed, was accomplished by insisting on nursing, though for a limited time, perhaps two months only. There were but few mothers but were capable of nursing during that brief time, and none who ought to be spared the accusation of causing ill health or death to her baby if she refused to nurse it at least through the first dangerous months. The second conclusion, resulting from many figures, was that the dietetic problems and rules for the infant concerned

digestive organs mainly, so much so indeed, that infant dietetics and the dietetics of the infant digestive organs appeared nearly identical.

It was true that in this city we met with a high mortality, even in children of more than a year. In fact, public opinion looked for a higher mortality in the second than in the first summer. The fallacy of that assumption could be easily corrected by the statistical reports. The second summer was the period of danger in part only because of the heat of the season, but mainly of the errors in feeding. Conscientious and intelligent families in good circumstances were not apt to lose their infants in their second summer.

Nor was it necessary that he should insist upon the danger incurred by the belief that diarrhea—a pathological condition—was a normal attendant on and a relief of a physiological process such as dentition. It was certain, that very few, if any, popular beliefs had been more destructive than that an intestinal catarrh must be left alone, no matter from what source it originated.

Healthy infants had a normal tendency to loose, liquid, or semi-fluid evacuations from the bowels. The causes were partly in the condition of the intestinal tract, and partly in the nature of the normal food, viz: breast-milk. The peristaltic movements were very active; the young blood-vessels were very permeable; the transformations of surface cells very rapid; the peripheric nerves very superficial, more so than in the adult, whose mucous membrane and submucous tissue had undergone thickening by both normal development and morbid processes. In the young infant the peripheric ends of the nerves were larger in proportion than in the adult; the anterior horns of the nerve-centers were more developed than the posterior ones. Thus the greater reflex irritability of the young, particularly in regard to intestinal influences, was easily explained. Besides, the action of the sphincter ani was not quite powerful, the fæces were not retained in the colon and rectum, and no time was afforded for the reabsorption of the liquid or dissolved constituents of the fæces. Moreover, the frequency of acids, sometimes normal, in the small intestines gave rise to the formation of alkaline salts with purgative properties.

The nature of breast-milk, even when absolutely nor-

mal, was such as to facilitate frequent large, and fluid evacuations.

FAT.

First, as to its fat where no food was given but mother's milk, *a good deal of fat was eliminated* without any change.

What had been called detritus in the fæces was mostly fat, and very probably remnants of intestinal epithelium. Practically that *fact* was of the very greatest importance. The conclusion was, *we were almost certain to give too much fat; it was scarcely ever probable that there was too little.* Therefore the addition of cream was reprehensible, no matter in what shape. Thus in the most normal milk there was more fat than required.

In the first period of lactation the glandular transformation was not yet accomplished. It required days to exhibit casein. At the same time the percentage of butter and salts was very high indeed, both of which explained the *laxative* character of colostrum.

There was no stability in the nature of breast-milk, and very much less in the human than in the animal female, for obvious reasons. Its constituents and effects might even change from hour to hour, from day to day, sometimes it would be milk, sometimes milk with transuded serum.

SUGAR.

Again, as to sugar. It was abnormally plentiful in colostrum, and in some milks, at times, its percentage was lower than normal. In the former it was purgative, in the latter its absence one of the causes of constipation. Thus the addition of a piece of sugar—which need not be milk sugar—to breast-milk was apt to heal constipation in the infant. He dissolved it in the smallest possible quantity of water, say a teaspoonful, and let the baby take it before each nursing.

CASEIN.

Fourthly, as to casein. When present in an abnormally high percentage, it might either constipate or by remaining undigested, and, acting as a local irritant, produce a diarrhea. In those cases of diarrhea the stools were mixed with white flocculi, small or large, sometimes in astonishing quantities and for a long period. The treatment of such diarrhea was by no means very simple, un-

less the breast-milk was changed. When such a change could not take place, he added oatmeal gruel or barley-water in such a manner that a few teaspoonfuls of it were administered to the baby before each nursing.

Dr. Jacobi then passed to the examination of some of the articles of food mostly used for the young.

Goat's milk ought to be rejected because of its large percentage of fat.

Cow's milk contained more butter than human milk, and if the latter was not entirely digested, the former would certainly leave even more remnants to encumber the intestinal canal. The reaction of human milk was alkaline, that of cow's milk rarely to the same degree.

But the main difficulty was in the large percentage and in the nature of the casein of cow's milk. The casein of cow's milk and the casein of woman's milk were two different substances. The former had an acid reaction and was soluble in water in the proportion of 1–20. The latter was alkaline or neutral, and almost entirely soluble in water. There was less casein in woman's milk than in cow's milk. The fact was beyond doubt that pure cow's casein was very much less digestible than human casein.

At all events, no addition we knew of could render cow's casein more digestible than Nature made it, and the only thing which could be obtained by any sort of manipulation of the milk was to make it less injurious. Perhaps, however, the plan upon which Dr. J. Rudisch had acted might recommend itself to the attention of the practitioner. In order to make cow's milk more digestible, he had introduced into Dr. Jacobi's practice a mixture which promised to be of great value in all those cases in which coagulability of the milk was the prominent obstacle to its usefulness. The mixture suggested by him, and used by them up to that time mainly in diseases of adults, such as anæmia, gastric catarrh, ulcer of the stomach, slow convalescence, etc., was the following: to one pint of water add one-half teaspoonful of officinal dilute muriatic acid. To that mixture add one quart of raw cold milk; mix the two liquids thoroughly and then boil for ten or fifteen minutes. He had found that preparation to be very digestible, and well tolerated by very feeble digestive organs. Valuable as that preparation of cow's milk might prove in future, there was one method for making cow's milk more available, which was at once

simple and effective. No cow's milk ought to be administered without the addition of chloride of sodium. Not only cow's milk, but also—and even much more so—farinaceous admixtures to cow's milk required its presence in the food.

PREVENTIVE TREATMENT.

The preventive treatment of diarrhea, depending on defective alimentation, consisted in so changing and arranging the milk used for babies that the casein would not coagulate in large lumps, and thus become more digestible. That object could be obtained by adding such farinaceous food as did not contain much starch. It consists in diluting the boiled and skimmed milk with barley-water or oatmeal gruel. It must be boiled to check its tendency to become sour, to remove a portion, though small, of its casein and fat, and to expel the gas contained in the raw milk to the amount of three per cent.

Of the two, he preferred barley for general use. He recommended that the barleycorn which was employed for infant diet should be ground as thoroughly as possible in a coffee-mill, both in order to diminish the period necessary for cooking it, and also to retain the gluten. *It was even preferable, for very young infants, to cook the barley whole for hours*, thereby to burst the outer layers of cells, empty their contents, and then, by straining, to get rid of the larger part of the starch which was found toward the center. There was no danger to which little children were so liable as that which arose from their tendency to diarrhea. His advice, therefore, was to administer barley to children who manifested a tendency to diarrhea, and oatmeal to those having a tendency to constipation, and, whenever a change occurred in the intestinal functions, to give one or the other, according as constipation or diarrhea predominated.

He held that mixture to be the *conditio sine qua non* of the thorough digestion of the milk. It only would insure the proper nourishment of the infant. With that food alone he had seen children endure the heat of summer without any attack of illness whatever. He had occasion again and again to be convinced of the reliability of the mixture. It had the advantage, too, that it necessitated no dependence upon the honesty or competence of the apothecary or manufacturer, but could be prepared by any one, however poorly situated. Should a

slight diarrhea occur, or a little casein be vomited (a rare accident, to be sure), or casein occur in the stool, then all that was necessary was to diminish the proportion of milk. It might sometimes be necessary, though very seldom, to withdraw the milk entirely for a time, but only in cases of real illness. If the physician or attendants had properly apportioned the ingredients of the mixture, we might be rather sure that the child's digestion and assimilation would be regular and nornal. Infants that were partly nourished at the breast almost invariably thrived well with the addition of his mixture. Children from their fourth or fifth month and upward, might often be fed with it exclusively, and not unfrequently nothing else was given from the day of the birth.

The addition of barley or oatmeal for the purpose of rendering milk digestible was not, however, absolutely indispensable, though he had learned to prefer them. For, gum-arabic and gelatine were also very valuable ingredients, indeed, of infant foods. Dr. Jacobi then dwelt at some length upon the changes which gum-arabic and gelatine undergo when put into the stomach.

CURATIVE TREATMENT.

The amount of food should not be larger than we had reason to expect could be easily digested. At all events, either lengthen the intervals between the meals or reduce the quantity of food given at one time, or both. When diarrhea made its appearance in infants who had been weaned, it was desirable to return them to the breast. Those who never had breast-milk might be given the breast if they could be induced to take it, but only rarely would that be found possible. Whenever a child at the breast was taken with diarrhea, the passages from the bowels should be studied as to their contents. If a certain amount of curd was found in them, the least that was to be done was to mix the breast-milk with barley-water. That might be done in such a manner that, each time before nursing, one or two teaspoonfuls of barley-water was given the child, so that the farinaceous food and breast-milk mixed in the stomach. Or, it might be found advisable to alterate breast-milk and barley-water. In bad cases, particularly when the milk was found to be white and heavy, and contained a great deal of casein, it would be found necessary to deprive the child *altogether*

of its usual food. In such cases, the child would do better on barley-water alone (that to he continued for one or two days), than to expose it to the injury which would certainly follow the continuation of the casein food.

When diarrhea occurred in children who had been fed alone upon cow's milk, unmixed or mixed, it was necessary to reduce the quantity of cow's milk in the mixture. As a rule, we had to remember that cow's milk alone was apt to produce diarrhea, and it should be considered as a maxim that, whenever diarrhea made its appearance, the amount of cow's milk given to the child should be reduced. When a mere reduction of the quantity did not suffice, it was very much better to deprive the child of milk food altogether. Not infrequently the removal of milk from the bill of fare was the only thing which would restore the child to health. It was possible that a mixture, such as recommended by Dr. Rudisch, already mentioned, would be found digestible, even in such cases. In many cases, as a dietetic measure, it would be found advisable to add one or two tablespoonfuls of lime-water to each bottle of food with which the child was supplied.

In those cases in which barley-water did not seem to suffice as a nutriment, or where it would be dangerous to allow children to lose strength, a mixture which he had used to great advantage was the following: Mix the white of one egg with four or six ounces of barley-water, and add a small quantity of table salt and sugar, just sufficient to make the mixture palatable. The child could take this either in large or small quantities, according to the case.

In those cases in which the stomach was irritable and vomiting had occurred, it was now and then better to give a small quantity, even one or two teaspoonfuls, and repeat the dose every ten, fifteen, or twenty minutes, than to give larger quantities at longer intervals.

In those cases in which the strength of the child has suffered greatly, he recommended the addition of brandy to the mixture in such quantity that the child would take from one drachm to one ounce (grms. 4.0 to 30.0), more or less, in the course of twenty-four hours.

In those extreme cases in which the intestinal catarrh was complicated with gastric catarrh, where the passages were numerous and copious, and vomiting constant, where both medicines and food were rejected, there was fre-

quently but one way to save the patients, and that was to deprive them *absolutely* of everything in the form of either drink or food or medicine. It was true that such babies would suffer greatly from thirst for an hour or two, but it was a fact that, after two or three hours, those children would look better than before the abstemious treatment was commenced. Not infrequently four or five hours of total abstinence would suffice to quiet the stomach and diminish both the secretion and the peristaltic movement of the intestinal tract. In some cases *six* or *eight* hours of complete abstinence would be required; or such children might be starved for even *twelve* or *sixteen* hours, with final good results. The first meals afterward must be quite small, and they would be retained, and, as a rule, such children would subsequently do well.

Dr. Jacobi here enforced the necessity of supplying the patient with as much cool fresh air as possible. The worst out-door air was better than close in-door air. If possible, the children should be sent immediately to the country and into the mountain air.

The second indication consisted in the removal of undigested masses retained in the intestinal tract. Not only in cases in which the diarrhea had resulted from previous errors in diet of the child, but also in those cases dependent upon sudden changes of temperature and exposure, it was desirable to empty the intestinal tract. For that purpose castor-oil, calcined magnesia, or calomel might be used.

Third. Nothing should be given that contained salts in any sort of concentration. Thus, beaf-tea should be avoided. It must be remembered that that form of meat-extract contained a very large amount of salts, and that the direct effect of those upon the intestinal canal might be productive of very unpleasant consequences. If the people insisted upon giving it, and there was no special contra-indication to its use in a given case, it should be administered only in connection with some well-cooked farinaceous vehicle, and the best of all for that purpose was barley-water; or it might be mixed with beaten white of egg, but no more chloride sodium should be added. For the main danger in beef-tea was the concentrated form in which its salts were given.

Fourth. Everything should be avoided that increased peristaltic motion. Thus, carbonic acid and ice internally.

Fifth. Avoid whatever threatened to increase the amount of acid in the stomach and intestinal tract. There was so much acid in the normal, and still more in the abnormal stomach and intestinal tract, that it was absolutely necessary to *neutralize* it. For that purpose it was safer to resort to preparations of calcium than of sodium or magnesium. So far as lime-water was concerned, its administration, certainly, was correct chemically. But we should not place too much reliance upon that popular remedy. We should not forget that it contained about one part of lime to eight hundred of water, and that it was necessary to swallow at least *two* ounces of the fluid in order to obtain a single grain of lime.

A further indication was, *the necessity of destroying ferments.* For that purpose most metallic preparations would do fair service. One which had been extensively used, was *calomel*, and now in *small doses* frequently repeated—$\frac{1}{10}$, $\frac{1}{4}$, or $\frac{1}{2}$ a grain [0.1 0.15 0.03] every *two* or *three* hours. As to its effect as an anti-fermentative, there could be no doubt.

Nitrate of silver, when given for the same purpose, should be *largely diluted.* From $\frac{1}{40}$ to $\frac{1}{16}$ of a grain [0.0015 0.004], dissolved in a teaspoonful or tablespoonful of water, might be given every *two* or *three* hours, and not infrequently with fair result. That was especially important with regard to injections of nitrate of silver into the rectum, where it was apt to do as much harm as good. Whenever it was to be given in that way, the solution should be mild and largely diluted, or the anus and its neighborhood should be washed with salt water before the injection was administered.

Bismuth acted very favorably. Moderate cases of diarrhea would usually show its effect very soon. Doses of from $\frac{1}{2}$ to 2 or 3 grains [0.03 0.20], given every *two* or *three* hours, would act very favorably indeed. In those cases in which the diarrhea had lasted for a long time, the doses of bismuth should be large in order to be certain of immediate contact of the drug with the sore surface.

A final indication was the depression of the hyperæsthesia of the general system and of the intestinal tract in particular. There had been authors who condemned the use of opium altogether, which, certainly, was incorrect. The doses should be *small*, and they might be re-

peated frequently. Administered in that manner, opium could be used with perfect safety both internally and in an enema. One of the rules for giving opium was that the child should not be waked up for the purpose of taking the medicine. Whenever there was fear of collapse, it was safer to give $\frac{1}{200}$ of a grain (0.0003) every half hour or hour, than to administer $\frac{1}{50}$ of a grain (0.0012) every two hours.

Alcohol.—Small and frequent doses would certainly stimulate the nervous system, digestion, and circulation, and they also stimulated the skin and increased perspiration. Alcohol, given in that manner, certainly arrested fermentation. Moreover, it took the place of food, and acted favorably as food when no solid carbo-hydrates were tolerated by the intestinal tract. As it was absorbed in the stomach, so did it protect the intestinal tract.

Finally, it is necessary to reduce the amount of secretion taking place from the surface of the intestinal tract. For that purpose astringents might be used, such as alum, lead, tannic, acid, pernitrate of iron, and, what had already been spoken of, nitrate of silver. In all those cases in which the stomach participated in the process to any considerable extent, almost any astringent would prove ineffective. To fulfill several indications at the same time, it was often good practice to combine remedies.

The main indications were to neutralize acids, to reduce nervous irritability, to arrest secretion, and to change the condition of the surface of the catarrhal mucous membrane.

For that purpose, in the generality of cases, he combined bismuth, opium, and chalk, according to the following formula:

℞. Bismuth subnit . . . gr. i. (0.05)
Prepared chalk . . . grs. ij. (0.10–0.20)
Dover's powder . . . gr. $\frac{1}{3}$ (0.02)

That combination was suitable for a baby *ten* or *twelve* months of age, and the dose could be repeated every two hours. In all those cases in which acid was very abundant, it was necessary to increase the doses of antacids without necessarily giving large doses of opium.

Hot bathing was especially serviceable in those cases in which the surface was cool and the temperature of the body, measured in the rectum, was pretty high. To re-

lieve intestinal pain, plain warm fomentations; to relieve heat, cold applications were sufficient.

Camphor stimulated the heart, and reduced temperature, and might be used internally or subcutaneously according to the necessities in the case. For subcutaneous injection it might be dissolved in either oil or alcohol. The effect derived from camphor as a stimulant was not permanent, but very much more so than that produced by carbonate of ammonia. The dose might be from $\frac{1}{4}$ to $\frac{1}{2}$ a grain [0.015 0.03] every hour or two, when only a moderate stimulation was required. In urgent cases it might be given in doses of from *five* to *ten* grains in the course of an hour, and usually the effect would be favorable. It was, however, only in cases in which real collapse was present that doses of five or ten grains would be required.

There was no remedy that would act more favorably in conditions of great debility and collapse than *musk*. It might be given in doses of five or ten grains, and repeated every half hour or hour. More than two or three such doses would not be required to yield a result.

The paper being before the Society for discussion,

Dr. William H. Thomson remarked that, doubtless, each one of us had, by experience and reflection upon that experience, been led to the conclusion that in the course of years we became more or less a law to ourselves. He was very glad the opportunity had been afforded for some one to come in contact with his own ideas, and none more acceptably than the author of the paper, who was one of the most eminent authorities in his department in this county. In certain respects he disagreed with Dr. Jacobi, and was sure that he dreaded the beginning of dentition, as having a direct bearing upon the etiology of some of the more serious forms of summer diarrhea, which occasionally occurred with the suddenness and explosiveness of true cholera. The reflex effect from the irritation incident to dentition was to suspend the secretion of gastric juice, hence he had been led to administer bromide of potassium early in the treatment of infantile diarrhea, and, as he thought, with good results. He employed it as an agent that arrested reflex irritation. He had been led to believe there was a difference between the diarrhea due to local irritation, such as teething or fermentation of the contents of the intestines, and the diarrhea which

seemed to be due to sudden nervous paralysis. The one he would regard as a catarrhal diarrhea, and the other as a true choleraic diarrhea. It had appeared to him that there was a difference between the two classes of cases from the very beginning. The manner in which the choleraic diarrhea began—without any evidence of distress accompanying or preceding the discharges, but the existence of large watery passages and their sudden development of grave cerebral symptoms—had led him to regard its access as very often due to an infection of a kind not dissimilar to Asiatic cholera. It was in the choleraic class of cases in which the effect of camphor seemed to be beneficial, and to be indicated from the very commencement. He always ordered camphor or some remedy allied to camphor in any case of diarrhea in which there is much looseness of the bowels without pain, and he directed special attention to that point, to be noticed by the attendants upon children in warm weather. Camphor, unquestionably, was a substance which was not dissimilar to carbolic acid, and the whole array of spices, which were antiseptics when taken internally. He relied very much upon them. The action of spices was very similar to the action of camphor, and in some cases peppermint and allspice were combined with small doses of camphor, preferably in those cases in which there was great irritability of the stomach.

Lastly, as to the question of the use of hot water for the purpose of restoring the circulation in cases of threatened collapse, he fully agreed with Dr. Jacobi in the employment of the agent for that purpose, for he used it with great success to overcome sudden and exceedingly dangerous contraction of the peripheral arteries. He used large hot-water injections, and ordered them to be given as freely as possible. He thought the hot water acted in two ways: 1. It aroused the patient; and 2. It allayed the peristaltic action of the intestines. For dysentery he gave but little medicine, but constantly washed out the lower bowel with hot-water injections. Finding it was equally well borne in the dysentery of children as adults, and allayed the irritability of chronic dysentery, he tried it also in cholera infantum, and strongly recommended its use.

The Society then adjourned.—*Medical Record.*

Diagnostic Differences Between Chancre and Chancroid.

BY PROF. T. G. RICHARDSON, M. D., NEW ORLEANS, LA.

Read before the Orleans Parish Medical Society.

SUCH is the conservatism of all truly philosophic investigators in medicine, as well as in other departments of scientific research, that notwithstanding the great advance made within the past century in the diagnosis, pathology and treatment of nearly all diseases, the influence of great names in the perpetuation of error is still strongly felt by all who propose a new departure. The justly renowned John Hunter, the acknowledged English authority, not only in surgery, but also in general pathology during the last quarter of the last, and nearly the first half of the present century, pronounced all venereal diseases to be dependent upon one and the same exciting cause. He proved to his own satisfaction, and that of the rest of the world, that gonorrhœa, soft chancre (or, as we now call it, chancroid) and syphilis were essentially identical, and the apparent differences resulting from their introduction into the human system were due to their mode of contagion, the tissues involved, and the peculiar state of the constitution of the patient. Strange as it may seem to us of the present day, this opinion prevailed to a large extent throughout England and this country until comparatively modern times, and resulted, as may be readily conceived, in plans of treatment as often disastrous to the patient as to the disease.

Scarcely had gonorrhœa been detached from this alliance, and proved to be a local inflammation, having a definite history and amenable to non-specific remedies, that it was hinted by French pathologists, that by pressing the wedge of investigation still farther another rupture might possibly be effected; that what was termed soft or simple chancre, might be separated from its only remaining associate, and each made to stand upon its own individual foundation. I need scarcely say that what was only a suggestion thirty or thirty-five years ago is now an accomplished fact; that chancroid (soft chancre) and syphilis are now recognized by the great majority of surgeons and pathologists as totally distinct affections, having separate histories, productive of entirely different

effects upon the human system, and demanding for their relief modes of treatment almost diametrically opposed the one to the other. I do not mean to imply that this "dual doctrine," as it is sometimes called, though based upon rigid observation and experiment made in all the great centers of medical learning, has no opponents. On the contrary, the influence of the great men who are now passing away, and who have not abandoned the views which formerly prevailed, is still felt at the circumference of the profession, and will continue to exert itself until the text-books on medicine and surgery commonly recommended to medical students have been revised, or a new series introduced. Indeed, judging from what I almost daily hear from patients as to their previous treatment, I am warranted in the belief, that comparatively few general practitioners have had their attention particularly directed to the diseases in question, and are not therefore fully informed as to the true position which has been reached, and the great practical importance of the points which have been established. I would not have it thought that I am over-credulous of the stories which many patients indulge in with reference to their medical advisers (whom in nine cases out of ten, they have deserted without settling their just accounts); but when I ascertain, either by examination or questioning, that in a case of ulcer upon the genital organs, mercurial remedies have been employed steadily for a longer or shorter time with the view to ptyalism, I can not be mistaken as to the pathological ideas held by the prescriber, and am therefore entitled to draw my own private inference as to his acquirements and practical sense. As the matter now stands, I do not hesitate to declare that the physician who undertakes to treat these diseases without a clear understanding of their radical pathological and therapeutical differences is criminally responsible for the sad mistakes he is sure to make.

Asking your pardon for these prefatory remarks, I now proceed to the consideration of the special question selected for discussion this evening, which I understand to be the ethiological, clinical and pathological resemblances and differences between chancroid and the initiatory stage of syphilis known as chancre. For the purpose of bringing the subject clearly and concisely before the Society, I shall present it in the form of a series of dogmatic statements, with the hope that these may be freely criticised

by all whose observations and deductions differ in any manner from my own.

I. Points of Resemblance in Chancroid and Acquired Syphilis.

1. Both are infectious diseases, the result of local contagion, and present themselves primarily as sores which secrete a poison similar to that by which they have been produced.

2. The primary sores occur only at such points where the virus has been brought into contact with the subcuticular layer of the skin or mucous membrane.

3. Both are most commonly propagated by sexual intercourse; hence the greater frequency of the primary sores upon the genital organs. Any portion of the cutaneous or mucous surfaces may, however, become the seat of either of the two diseases when the conditions mentioned in the preceding proposition exist, as is sometimes witnessed in the case of dressers and surgeons who become accidentally inoculated in the performance of their duties by means of minute sores, abrasions, or wounds upon their fingers.

4. In both affections the primary ulcers are liable to assume different phases of action, such as the phagadenic, serpiginous and gangrenous.

In these four particulars the two diseases often present a very strong likeness, which, for the moment, may occasionally lead even a very skillful surgeon to reserve his diagnosis. The distinctions, however, a brief synopsis of which I will now present, are usually sufficiently well marked to justify an early if not an immediate decision.

II. Points of Distinction Between Chancroid and Acquired Syphilis.

1. *a.* In chancroid there is scarcely an appreciable period of incubation. When the virus has been brought into contact with a cutaneous or mucous surface from which the cuticle has been removed, within a very few hours thereafter a running sore is produced whose secretion possesses the same infectious quality as that from which the inoculated poison was derived. The rapidity of the effect is somewhat moderated when the virus has been inserted beneath the cuticle by means of a lancet or other sharp-pointed instrument, or has become impris-

oned in like manner by a slight rupture of the cuticle which closed immediately, as often occurs in coition. In such cases a small papule is developed within twenty-four or forty-eight hours, which soon becomes a pustule, terminating in a day or two in a defined suppurating sore.

b. Syphilitic, like vaccine virus, produces no apparent effect for several days after contact, and the primary sore (to which the name *chancre* should be strictly limited) does not ordinarily attain its full development in less than three and sometimes in less than four weeks. This fact has been conclusively proven, not only by clinical experience but by experimental inoculation.

2. *a.* Chancroid, in its formation and progress, is nearly always accompanied by heat, pain, redness, and swelling. It thus declares its presence unmistakably to the patient, and compels him to seek relief.

b. Chancre is seldom attended by any inflammatory symptoms, and sometimes reaches its maturity without having attracted the attention of its victim.

3. *a.* Chancroid is very commonly multiple, the sores numbering from two to as many as six or eight. The multiplicity may result from as many consentaneous inoculations, but more likely from rapid propagation from one or two original sores. In the latter case the abrasion of the cuticle necessary to effect the result is usually produced by the inflammation excited in the surrounding parts by constant contact with the irritating purulent secretion, and also not rarely by scratching and frictions on the part of the patient.

b. Chancre is nearly always single, and seldom or never duplicates itself by subsequent contamination of the adjacent surfaces. When double, as has been occasionally observed, inoculation of the two points must have occurred simultaneously, or within two or three days of each other.

4. *a.* The virus of chancroid, as may be inferred from what has been just stated, is auto-inoculable. The purulent secretion furnished by the sore during its active stage and up to within a very short time of its complete cicatrization is capable, either by accidental or experimental inoculation, of producing any number of similar sores in the same individual.

b. The secretion of chancre, when brought into contact with an abraded surface, or introduced beneath the cuticle of the individual in whom the primary sore exists,

produces either no effect or else a very greatly modified sore, possessing no power of infection so far as has been ascertained.

5. *a.* Chancroid varies in size from a line to an inch or more in diameter, has usually clearly defined edges, a surrounding inflammatory areola, and a slightly depressed angry-looking surface. Its secretion is abundant and purulent, varying in its consistency, but often presenting the physical qualities of laudable pus. It is essentially a *wet* sore, and the adjacent surface for a considerable distance is kept continually bathed in the foul discharge.

b. The ulcerated surface of chancre is not often larger than three or four lines in diameter, but is frequently smaller, has sloping edges, no inflammatory areola, and except when irritated by injury or other accidental cause, or by the application of stimulating substances, or unless phagadenic in its character, furnishes a very meager amount of sero-purulent secretion. It is, comparatively, a *dry* sore; but the secretion, slight as it is, is capable of doing an amount of damage that is truly appalling.

6. *a.* Chancroid is usually superficial, and unaccompanied by decided thickening or hardening of the surrounding or subjacent tissues. Hence it was formerly and is still called by some writers *soft chancre.* This characteristic is, however, frequently lost by the application of escharotics.

b. Chancre is generally distinguished by a remarkable thickening and induration of the tissues beneath and around the ulcerated surface. This may be easily determined by lightly grasping the parts between the finger and the thumb, when the sensation imparted will be like that of a disc of india-rubber beneath the skin or mucous membrane. At other times, however, the circumferential hardening is not well marked, although it is probably never altogether absent. This difference in degree should always be borne in mind in making a diagnosis, and the value of the system as a characteristic estimated accordingly.

7. *a.* Chancroid nearly always shows a tendency to spread, and sometimes attains to a very large size in a few days.

b. Chancre is indolent and frequently remains unchanged in dimension or otherwise for several weeks.

8. *a.* Chancroid is frequently productive of bubo, but this is not a necessary result, and should be looked upon

rather in the light of an accident. When present, it is ordinarily limited to the lymphatic gangliæ nearest the sore, but the inflammation may spread to other ganglia upon the route of the lymphatic vessels leading from the spot, and thus give rise to a poly-ganglionic swelling. The bubo of chancroid is commonly accompanied by acute inflammation, which results in the formation of a collection of puss possessing the same infectious quality as that of the original ulcer. In such cases the virus seems to be carried from the chancroid by the lymphatic vessels and lodged in the *rete* of ganglion, where it excites suppurative action. In other instances where suppuration does not take place, the probability is that the swelling is due to a simple extension of the inflammation along the lymphatic vessels, as is often observed in connection with non-specific ulcerations.

b. In chancre there is always enlargement of a number of the adjacent lymphatic ganglia, unaccompanied by pain or other marked symptoms of acute inflammation, and possessing little or no tendency to suppurate. When the primary sore is seated upon the genital organs all the ganglia of the upper inguinal group upon each side are usually affected. Suppuration occasionally occurs in consequence of external injury or of a depraved state of the system, but this is rare.

9. *a.* Chancroid is not succeeded by discolorations of and eruptions upon the skin and mucous membranes, ulcerations of the throat, falling of the hair, specific inflammations of the deeper tissues or other symptoms of constitutional infection.

b. Chancre when left to itself is invariably followed by cutaneous and mucous eruptions, ulcerations in different parts of the body, deep seated inflammation, morbid deposits in various tissues and organs, and numerous other effects which characterize it as one of the most penetrating and dreadful constitutional diseases to which the human body is liable. Superadded to the power of producing these dreadful consequences in its original victim, it possesses the quality of heredity in a marked degree, and thus the sins of the parent are visited upon the children throughout several generations.

10. *a.* As chancroid is not a constitutional disease it is in no degree protective. On the contrary it may repeat

itself an indefinite number of times in the same individual when the latter is exposed to the exciting cause.

b. Chancre is as strictly constitutional as the vaccine pustule, and like the latter so modifies the system that no new infection possessing the true characteristics like the original can be produced.

11. *a*. Chancroid is not arrested or moderated, but often powerfully aided in its destructive action by mercurialization or iodism.

b. Chancre is frequently cured and its secondary results prevented by the judicious administration of mercury. When the infection has reached the secondary and tertiary stages mercury and iodine *when properly employed* are truly antidotal.

Anatomical Evidences of Abortion.

BY MEDICAL EXAMINER C. C. TOWER, M. D.

At the autopsy of a woman supposed to have come to her death in consequence of a recent abortion, at a period from the third to the sixth month of pregnancy, an examination of the corpus luteum, if discovered, should be made in reference to the following anatomical and diagnostic signs: (1) location; (2) size; (3) texture; (4) glandular wall; (5) clot; (6) enucleation.

(1.) The location in the ovary should be superficial, as indicated by a prominence on the surface of that organ, and by the existence of a minute opening or cicatrix which marks the point of rupture of the Graafian follicle whence the corpus luteum originated. If the structure is deep seated, and unconnected with a depression or scar on the ovarian surface, it is not to be considered as an evidence of pregnancy, but should be regarded as the result of gelatinous fibrinous, or saccular degeneration of an unruptured Graafian follicle—a so-called "false corpus luteum."

(2.) Unless defective in development, on account of local or general deficiency of organization or vigor, or on account of retrograde changes which took place between the events of abortion or death, we should expect the corpus luteum at this middle period of pregnancy to measure in its length from ten to twenty-five millemeters, in

its weight from five hundred to fifteen hundred milligrammes, and in its volume from one-half to one cubic centimeter. Normally retrograde corpora lutea of menstruation usually fall short of these measurements.

(3.) The texture of the corpus luteum of pregnancy is usually quite firm, sometimes almost cartilaginous in consistency, especially the clot, while that of corpora lutea unconnected with pregnancy is soft or only moderately firm, and, after the first month, even friable.

(4.) The wall of the corpus luteum when followed by impregnation is a more distinctly bright orange-yellow color, thicker, and more deeply convoluted than when conception has not taken place. The yellow color which then obtains is often described as rosy yellow, light yellow, yellowish-white, an indefinite yellow hue, and the convolutions are less deep and thick according as the occurrence of menstruation has been recent.

(5.) The clot of the corpus luteum is one of its most distinctive features. During its development in pregnancy it becomes more and more discolored and firm in texture, and toward the end of the term puckered and scar-like. In about one-third of the cases it is found to contain a central cavity devoid of lining membrane. This characteristic may be regarded as almost certainly diagnostic of recent pregnancy. In the non-pregnant state, however, the color, which during the first month is red, changes to greenish, brownish or whitish, only when the retrograde process has become well established—when its size has begun to diminish and its consistence to soften.

(6.) Enucleation is one of the properties which pertain to corpora lutea. Not only in the well-developed structure can the clot be removed from its enveloping wall, but also the whole body can be readily separated from the stroma of the ovary by a sort of natural cleavage. This characteristic of the corpus luteum belongs alike to that of pregnancy and that of menstruation during the developmental periods. This difference, however, obtains: that when the latter has undergone an early stage of retrocession, or become obsolete, its separation of parts or its entire separation from the ovary is difficult, if not impossible, without rupture; whereas the corpus luteum of pregnancy can be at all times enucleated from its bed in the ovary, and, as a rule, the clot can be removed from its capsular integument.

In regard to the medico-legal value of a well-marked corpus luteum of pregnancy as an evidence of abortion, it seems to me there can be no doubt. As much weight should be attached to its existence as to that of any other single sign, unless, perhaps, the mark of the utero-placental union. It sometimes, however, happens, as in the case already referred to, of Dr. Chenoweth, that on account of instrumental violence at the hands of an abortionist, followed by inflammatory softening of the uterine wall at the seat of injury, complete obliteration of the placental site occurs, thus destroying any evidence to be derived from this source. In this case when the uterus "was first held up there appeared to be three ragged rents on the front part close together, looking like a torn carpet, with the shreds reaching across the rents." "After having been slightly touched with a sponge the rents in the uterus disappeared, leaving a large excavation." "I do not doubt," he says, "that the placenta occupied the site of the rents." In other instances, as when due to the lapse of a considerable interval of time between the abortion and death, all traces of the seat of this organ have been removed by absorption or exfoliation.

Although some writers on medical jurisprudence are inclined to attach small importance to the existence of a corpus luteum as a proof of recent abortion, yet I think I may say the latest and best informed on this subject generally regard it as of very considerable value. Evidently the weight given to this sign depends very much upon the care with which the examining physician conducts his examination, and upon his ability to interpret correctly the appearances which he discovers. There is reason to believe that most of the reported cases of so-called "true corpora lutea" in virgins, and their absence in women after delivery, are attributable either to a want of discrimination between the yellow body when dependent upon ovulation alone and that dependent upon ovulation followed by conception, or to an inability to recognize that structure when imperfectly developed from any cause, or when deteriorated by changes which have taken place in it after abortion occurred. Attention to the points detailed above, it is believed, will seldom mislead the careful observer. It is to be hoped that medical examiners will give this subject careful attention, and report their results to the society, in order that a more

thorough knowledge of all the important phases and appearances of this organism may be more thoroughly understood.

The following conclusions arrived at by Ogston tally well with what I have derived from other sources:

(1.) "That a small, imperfectly developed corpus luteum affords no proof of impregnation having taken place.

(2.) "That in proportion as the corpus luteum approaches its full size and development, so does the proof of impregnation followed by a somewhat advanced pregnancy approach to anything like certainty.

(3.) "That the absence of a corpus luteum from the ovary would not be sufficient to negative the possibility, at least, of impregnation having taken place.

(4.) "That the differences in which the distinction between spurious and true corpora lutea is based do not refer to separate bodies so much as to different states of the same body."

The following case, copied from Professor Dalton's report, already borrowed from, illustrates so well many points which have been described that I make no apology for its introduction here:

"Case XXIII. A colored woman, twenty-five years of age, rather below the medium height, but strong and well developed, died in New York, April 7, 1877. She had had an abortion, without medical attendance, nine days before, and attempted to conceal the fact until she became ill, several days afterward, and was seen by a physician. She reported to him that she had been not more than two months advanced in pregnancy. From her appearance, as observed by her friends, the pregnancy might have been as early as this, but could not be as late as six months. From the condition of the uterus, as seen at the autopsy, it should probably be reckoned at three months. Death resulted from general peritonitis.

"The uterus was enlarged to more than five times its natural size; weighing, when stripped of all accessory parts, two hundred and seventy-four grammes, its walls being thickened in proportion. The mucous membrane of the cervix remained entire. That of the body was wanting throughout; and at the upper part of the posterior uterine wall, the former attachment of the placenta was indicated by a ragged, brownish prominence, forty to fifty

millimeters in diameter and three to five millimetres in thickness.

"The situation of the corpus luteum, in the right ovary, was distinguishable externally by a roundish, superficial cicatrix-like spot surrounded by an indistinct yellowish zone. The corpus luteum, immediately beneath, was fifteen millimeters wide, ten millimeters deep, and five millimeters thick. Its outer wall was of a clear, orange-yellow color, quite thin in its superficial portions, one millimeter thick elsewhere, but often increased by its foldings to a thickness of two millimeters. The central clot was of firm consistency, uniformily decolorized, and white for the greater part of its extent. Immediately beneath the superficial cicatrix it presented some dark bloody discoloration, apparently due to the inflammatory congestion of the ovarian integument, which was strongly marked. In the center of the fibrinous coagulum was an oval excavation of flattened form, without any separate lining membrane. The whole corpus luteum was easily enucleated. Its volume was 0.9 cubic centimeter, and its weight 1,015 milligrammes.

"The left ovary, which was smaller than the right, contained nothing unusual. In each organ there were a number of Graafian follicles, from one to three millimetres in diameter, beneath the albuginea. There were none of larger size, and none prominent on the surface."

Although it would be in all fatal cases extremely desirable, and in most of such cases quite possible, to decide upon the occurrence of recent abortion by strictly post-mortem appearances, yet, fortunately, medical examiners are seldom compelled to rely entirely upon such proof. They are required by law to make "personal inquiry into the cause and manner of the death." It rarely happens that circumstantial evidence, or that obtained from a history of the case as given by trustworthy parties acquainted with the woman when living, or that derived from the general reputation of the woman, is not available for medico-legal purposes. It is obvious that in case of death following abortion, an opinion based upon medical examination should not be dependent upon any single sign, but rather upon the co-existence of several of them. While a distinct placental mark existing in a uterus considerably enlarged might in itself be sufficient indication to satisfy the examiner of the fact of recent delivery, yet

if to this testimony could be superadded that arising from the existence of a well-developed corpus luteum, no further proof, it seems to me, should be required to satisfy any legal tribunal.

It only remains to allude to the evidences of abortion at a remote period. This can seldom be diagnosticated by physical signs alone. After delivery at the full time the normal process of involution is completed in about one month. Although, as we have seen, the uterus under these circumstances does not wholly return to its original condition, and can be recognized as having been pregnant, yet after an abortion in the early or middle periods the differences in this respect would be hardly perceptible. If death followed criminal abortion after a month's time or more, in consequence of inflammation which was thereby set up, this "inflammation might or might not be attributed to this source."* When peritonitis is the result of violence it is, according to the authority of Woodman and Tidy, "generally more localized than when it is spontaneous in puerperal cases." The forms of inflammation which are most likely to ensue are metritis, phlebitis, pelvic peritonitis, and pelvic cellulitis. The original lesion is generally endometritis, which probably results in many cases from some injury inflicted upon the womb by the abortionist, or from want of proper care after the abortion occurred. "We have reason for believing," says Fordyce Barker, "that puerperal metritis is frequently the primary lesion in many cases of general or local peritonitis, and in many of the suppurative inflammations of the other pelvic tissues."

The following case, which came under my observation ten years since, is an instance in point: E B., aged twenty, unmarried, underwent two "operations" at the hands of an abortionist. No pain attended the first attempt, which was a failure. At the second, about a week after the first, "she was "hurt dreadfully," as she subsequently stated. Immediately before and after each operation she walked a distance of two or three miles. Expulsion shortly followed the second manipulation. No physician was in attendance. She was said to have suffered severely, but apparently made a good recovery. At the end of a month she was removed to the residence of a near

* Ogston.

relative, some three miles distant, being conveyed in a carriage. From this time up to that of her death she underwent two transportations from place to place during cold winter weather, and is further believed to have suffered many hardships from neglect and abuse. It is known that for more than two months before the fatal event occurred there was a purulent discharge from the rectum, with emaciation, hectic, and general prostration. Death occurred four months after the abortion.

At the autopsy there was found in Douglas's pouch a purulent cavity four or five centimeters in diameter, with rigid walls formed by adhesions of the pelvic peritoneal tissues, and connected with the rectum by a fistulous opening some seven millimeters in diameter. The uterus was healthy to appearance, and being submitted to Professor J. B. S. Jackson, he could detect no positive trace of primary lesion, although there was an appearance which might have been the result of a puncture. No evidence of disease was found in other organs.

Before death the young woman made a dying statement, which was duly sworn to. The abortionist, who was a woman, was prosecuted, tried, convicted, and sentenced to eighteen months' imprisonment in the house of correction. After serving seven months and twenty-four days of her sentence she was pardoned by the Governor.

Some (so-called) Hysterical Cases.

By B. F. Buckley, B. A., M. D., San Francisco.

In reading over several of the standard works on practical medicine and surgery, as well as the numerous special treatises and periodicals, it seems like a waste of energy on the part of the writer and an infliction to the reader to add anything to the extensive literature of "Hysteria." Yet, as some cases of exceedingly great interest have occurred in my own practice, it may not, I trust, be out of place to record a few.

Case 1.—In the spring of 1873 I was called in consultation by a then prominent member of the board of health, to see a young lady of German parentage, living on Fourth street, near Brannan. On the occasion of my visit, about 9 P. M., the patient, a young, robust looking girl of about

twenty, was lying at full length upon her back, breathing very quickly, with a pulse of 110 on to 120, left side of the face pretty well contracted, and the general appearance of apoplectic coma. I learned that she was a person of generally grave and sedate habits; that her menstrual secretion was normal; that her health was generally good; that she never had a fit or spasm of any kind up to the present; and furthermore, *that she had not spoken or tasted any form of nourishment in three days.*

I observed that the temperature of the body was normal and the skin moist: that the pupils were normal and responded equally to the influence of light; in moving the limbs, both seemed more rigid than natural, but this rigidity did not appear to be uniform on repeated examiations. On trying to induce her to take a little water from a spoon, I noticed that the repelling of it was not of that tremulous, unconscious character so marked in grave organic or toxemic brain disturbances, but was accompanied by a rather distinct and decided closure of the lips, indicating to my mind a conscious effort of volition.

Regarding the quickened respiration as voluntary also, and the increased pulse rate as a consequence of protracted effort in this direction, I indicated to my confrere my views of the case, viz: that it was of a hysterical character, in which he readily acquiesced. He accordingly asked me to do what I thought proper in the matter; and having agreed to try the effects of some strong coffee, it was ordered. When this was ready, I took a position near the patient's head, and in a very peremptory manner ordered her to sit up and take some. This command appeared to be quite unheeded, until a large wet towel was freely, and by no means mildly, dashed on the face; when she, who had neither spoken nor moved for three full days, sat up in bed, looked around, recognized my confrere, called him by name, took her coffee, held a brief conversation with more than one of her family, and continued well thereafter.

Case 2.—In the following June, yielding to several pressing errands and entreaties during my office-hours, I called hastily to see a woman reported to be dying, on Jessie street, near Fourth. The patient appeared about the age of forty-five, of a stout, plethoric habit, and lay in bed in the prostrate condition of one in the advanced stages of typhoid. Hitherto her health had been invariably good until the outset of the present attack, some ten days ago,

which at first seemed a mere dullness and want of energy, but for the past two days assumed a more serious aspect, inasmuch as during this time she had not recognized any of her children or friends, merely muttered a little occasionally, and took no nourishment or drink whatever save a little water a few times. Learning that the gentleman previously in attendance had last night expressed a most unfavorable opinion regarding the case, that he had not visited her to-day, and had left town for the day, I thought it my duty to investigate the matter. I observed that some *heroic* treatment had evidently been resorted to, for it is no exaggeration to say that all the anterior half of her body, from the pubis to the clavicles, had been either cupped, or blistered, or both, which sorely embarrassed me as to the indications for such a treatment, and the object to be attained.

Having carefully examined all the conditions dwelt on in Case 1, and having directed further attention to the condition of the kidneys lest some uremia might possibly escape notice, I finally decided to test the efficacy of valerian and ammonia in mixture, without being at all satisfied as to the exact nature of the malady. The mixture, like everything else offered, was utterly rejected until the occasion of a second visit, some three hours later. At this time I informed the many sympathizing friends around, without any apparent doubt in my mind (though by no means as sanguine as I seemed), that "this woman could sit up and take any nourishment she wanted just as well as I could." At this remark of mine I thought I observed a hasty flash of displeasure pass over her hitherto impassive features. Feeling more confident in the correctness of my views from this circumstance, I accordingly presented to her quite a full dose of the compound previously ordered, proclaiming at the same time, with much apparent anger and determination, that "it must be taken." Scarcely less to my own astonishment than to that of the numerous friends around, the lady, without further ado, raised herself to a sitting posture, took the glass out of my hand, swallowed its contents, and laid down again laughing immoderately, to all appearance at the deception she had been practicing. Shortly after she took a substantial amount of nutriment, and continued quite free from relapses into her singular condition.

Case 3.—A young lady, Miss C., came under my notice

in August, 1877. She was reduced to a mere skeleton from persistent vomiting. Complained of sharp pain constant in the epigastrium, and an intolerable pain in the right side of head, extending over half the cranium. She had not been out of bed for three months, and, according to the family, had been pronounced hopelessly ill with cancer of the stomach by several physicians. Menstrual function had been for about a year quite irregular. On my first visit she lay "doubled up" in bed, with the face resting on her knees, and so supported by pillows. The pupils were widely dilated, and the intellect, from her answers, seemed to be quite dormant. After due examination I concluded there was no cancer or other organic disease of the stomach, but fully believed that some organic disease of the brain (most probably tumor) was present. To this I attributed the persistent vomiting, which certainly was the most singular form of emesis I ever witnessed, for even a little water, taken no matter how frequently, seemed to have scarcely reached the stomach before it returned with violence, almost with the appearance of pure bile. I was assured this was the case with everything she had taken for the greater part of the time she had been confined to bed, but this I regarded as a sort of "poetic license," as something must have been retained to sustain vitality. Owing to this one symptom I ordered the patient to be fed exclusively by nourishing enemata; I also ordered suppositories of quin. bromid. gr. vi, and sulph. morphiæ, gr. ½ to be used night and morning. After three days of this treatment, I had the satisfaction of learning from the patient herself that her head was much better. Observing that her intellect seemed more active than I could account for by any of the measures adopted in that short time, I asked her if she could sit upon a lounge for a little while. She answered in the affirmative, and in trying to do so staggered around the floor. This I saw was due to sheer weakness, and encouraged her to try again, at the same time assuring her that a little sherry and water would help her to gain strength to do just as she pleased. Accordingly she took a little, while I engaged her attention at some object in the room. I so remained talking with her for about half an hour, and to my great pleasure did not see the sherry reappear in the form of bile. I then ordered a pill of monobromate of camphor, 3 grs., to be taken at bed-time. This,

as I learned next morning, was also retained, and a refreshing sleep ensued. Some time was again spent on the lounge to-day also, and a fair quantity of nourishing diet was taken without any rejection. The next day, feeling now convinced I had to deal merely with a morbid will-power, I recommended early rising and the occupation of brushing around and general domestic industry. This had the desired effect completely, for after three weeks of it the patient called at my office and had grown so stout I failed to recognize her.

Note to Case 3.—It seems to be a prevalent opinion among writers on this malady, that even with persistent vomiting the patient continues to keep in the ordinary condition of flesh; and even so experienced and able a writer as Dr. Wilks, of Guy's Hospital, in his recent work published in 1878 under the heading, "*Anorexia* (*Hysterical*)," commences: "It is a remarkable circumstance that in hysterical vomiting the patient does not grow thin, showing that the small portion of food which is retained is assimilated by the healthy organs." This is certainly diametrically opposed to my individual observation, for of many subjects in whom vomiting was a leading symptom of the disease, I have not yet seen one whose appearance did not show a degree of emaciation more or less corresponding with the persistence of this symptom.

Case 4.—A child of ten years lies in bed with the right leg drawn up; says she has pain in knee and hip-joints; seems a healthy, well developed child; and, according to parents, had been very fond of play until ten days ago (March 20, 1879), when she complained of the leg, and they belived that she had in some way hurt herself. Hip disease had been suspected by the gentlemen who had first seen the child, and hence the parents desired me to treat it. I found the temperature of knee and hip-joints of the affected leg the same as the other. In striving to move the leg a little, the hip-joint showed no motion; on the contrary, the spinal column moves with the motion of the leg. The flexion of the leg, however, was not that generally accompanying hip disease, for the heel was drawn up almost to the nates. The child spoke little, looked quite grave, and seemed to suffer little or no constitutional distress. I informed the parents that there was no disease of the hip-joint, but a serious trouble of the spine, believing the case to be one of "progressive in-

fantile paralysis," more especially as the child had a severe attack of diphtheria within a year, and I treated it accordingly, using bromides more particularly. On my visit next day, twenty-first, I learned also that the child had also lost her speech, not having spoken for twelve hours, and this while it might seem of itself to confirm my original opinion, had the very opposite effect, for the reason that there was no paralytic affection of the left leg, none of the right arm, none of the muscles of deglutition, the appetite remaining unaltered, and no grave constitutional distress.

Not wishing to be precipitate in my judgment, I ordered the child's spine to be well rubbed with a mixture of camphor and chloroform liniment every three hours, while awake. The following afternoon I find that she had recovered the power of speech, but the leg is nowise altered. Then with a view of testing a strong suspicion, I pulled down the bed-clothes and in a very positive tone told the child to "straighten out that leg." She looked at me quite vacantly, but took no heed of my injunction. After this I opened a pocket bistouri and told her if she did not straighten her leg I should have to cut off part of it. Still not the slightest effort at moving, until with the fine point of the bistouri closely held, I gave her one or two pricks of it in quick succession, when she jumped out of bed and ran around to her brother for protection, very much to the stupefaction of both parents who witnessed the performance. After this there was no more lameness, and the well-being continues to the time of this writing.

Case 5.—Mrs. H., a lady of forty-seven, whose menstruation has been of late irregular (due, no doubt, to "change of life"), and has suffered great mental depression for the past year through the death of a son of twenty years old, to whom she was deeply attached. She consults her physician, Dr. Maxwell, in the early part of April of this year, relative to some uterine difficulty, and he finds it necessary to remove a small superficial tumor, not bigger than a pea, from the external os uteri. This operation is accompanied by severe hemorrhage, necessitating much time and effort to control it. A few days pass over, and all difficulty from this source is apparently ended. Again, on the fifteenth, ten days after this trivial operation, Dr. Maxwell is sent for, and finds her complaining of pain under the angles of both jaws. Says she has diffi-

culty in swallowing, but without any apparent distress of any kind. Nutrition and sedatives are plied abundantly, more especially the former, and no material change is apparent until the twentieth, when she becomes less manageable in taking nourishment, and Dr. Maxwell calls me to aid him. The nature of the disease, having regard to the operative interference previously, was discussed, and the idea of tetanus was dismissed for the following reasons: There was no progressiveness; there was no pain in the muscles round the neck; there was *none* of the profuse perspiration so common in tetanus; there was occasional ability to take nourishment, more particularly when fewer people were around, and evidently no desire to be understood, no painful effort at utterance. Sleep was irregular but sufficient. Accordingly we made the experiment of suggestion, a very beneficial one in diagnosing hysteria.

We talked over her malady in her presence, and suggested that she should have some pain in the left iliac region. Next day she complained of a severe pain in this part. We then thought (aloud) she may have a pain in the left knee, and next day so she had. Thus she went on for ten days, persistently refusing nourishment in our presence, but occasionally taking a little when we were absent. On the twenty-first, Dr. Lane was called to see her, and gave his opinion as tetanus, which, I believe was modified at subsequent visits on learning that she had taken small quantities of nourishment on the sly, and got out of bed for the purpose. As the treatment agreed on by all was mainly an enforcement of her taking nourishment in sufficient quantity, as well as sedatives to induce rest, I was called on the night of the twenty-fourth (2 A.M.) to carry out our injunctions, as she had declined to do anything for the nurse or relatives.

In order to execute our desires, I brought a stomach pump, and as she refused to do my bidding I proceeded to use the gag and screw, when she commenced to relent, begged me to leave her alone, and she would take what I wished. She accordingly took a cup of chicken soup slowly, and afterward a full dose of chloral, as agreed upon. Next morning, twenty-fifth, Dr. Lane was not present. Dr. Maxwell, on learning my experience during the night, readily assented to our repeating the same proceeding this morning, as she now seemed more than ever determined to resist our wishes. After all our persuasive

efforts and those of her friends proved unavailing, and fully alive to the idea that she could not endure many days longer with the gradually decreasing amount of aliment taken, we placed her in an arm-chair—she sat up at intervals during the entire illness—and again tried to induce her to take nourishment, but to no purpose. We then determined to use the pump, and with the aid of the nurse and her brother screwed her mouth open sufficiently to apply the gag; after this was in place, and before we could get the stomach tube back to the fauces, Dr. Maxwell, who was observing her pulse cautiously, told me to desist; that the poor lady was dead. How to account for the sudden death may admit of a variety of hypotheses, but to our minds then and there it seemed to be due to the effort of a powerfully morbid will completely suspending respiration in the desire to resist what was not agreeable to the diseased imagination, which, of course, would be aided by the dreadful exhaustions into which the patient had by this time lapsed.

Philadelphia County Medical Society.

At a conversational meeting held at the hall of the College of Physicians, Philadelphia, April 23, 1879, Dr. Henry H. Smith, President of the Society, in the chair, Dr. Albert H. Smith read a paper on "The Hot Douche in Parturition," more particularly in controlling hemorrhage and producing uterine contractions.

The President, Dr. Henry H. Smith, in introducing the subject, spoke of its interest, and quoted two cases in his own practice, one of abortion at the end of the third month, and the other, one of ordinary menorrhagia, where the obstinate bleeding was checked by hot-water injections. He suggested that the rationale of its operation was largely that of constringing the tissues, as in the familiar illustration of the washerwoman's finger. He believed that it would also be useful in ordinary capillary oozing after surgical operations; and in conversation with Prof. Da Costa, he had considered its use as a gargle in hæmoptysis, where it would doubtless act as well as common salt, having the same effect on the terminations of the pneumogastric nerve, and tend to check respiration and allow time for the blood to coagulate.

Dr. O'Hara had used the hot water successfully in a case of menorrhagia after ordinary styptics had failed. He had also used it in bleeding piles, injected as hot as could be borne into the rectum twice daily, and had been surprised at the relief it afforded.

Dr. R. J. Levis said that if heat and not moisture was the active agent in checking the hemorrhage, he would ask the lecturer whether dry heat, such as hot bottle, or something of this kind, introduced into the uterus, would be equally effective.

Dr. Charles B. Nancrede, in regard to the use of hot water as a hæmostatic in general oozing, stated that Dr. Charles T. Hunter had recently employed it after amputation to check capillary oozing, with marked success. He had also used it as a gargle for hoarseness after singing, with decided relief.

Dr. John B. Roberts said that hot water had been in use for some time in London, by Mr. Bryant, for the purpose of arresting hemorrhage after operations, and with good results.

Dr. S. D. Risley called attention to the use of hot water in painful affections of the ear, such as furuncle or abscess, where hot injections afford marked relief; dry heat being much less effective.

Dr. W. T. Taylor has always considered hot water as a relaxing agent to the tissues. Nurses used to be in the habit of giving the parturient woman a hot foot-bath and steam-bath, to relax the uterus in tedious labor. He had always relied upon cold applications and the use of the hand to produce contractions of the uterine fibers, which had thus far proved successful.

Dr. J. C. Wilson said that, in considering the rationale of the action of the hot water, there had been mentioned in the discussion three points that seemed to bear directly upon its explanation: first, the use of the hot douche as quite effectually controlling uterine hemorrhage, and leading to muscular contraction; secondly, the fact that when a surface is deeply contused and purple with congestion, the hot water will revivify and redden the part, as in the instance of the perineum given by the lecturer; and, thirdly, the shriveling of the washerwoman's fingers. These seem to suggest that the rationale of the difference between the effects of hot water and that simply warm is, that the former is a decided stimulant, which

the latter is not. Looking upon it as a stimulant we can understand its revivifying effect upon the tissues, and upon the capillaries, the shriveling of the finger being caused by the contraction of the pulp beneath. The advantage of hot water over cold applications is, that the depressing effects of the latter are avoided. It would seem in the discussion that some of the gentlemen had confused the results of the hot douche with those of simply warm injections.

Dr. Riseley, in reply to a question, stated that the proper temperature for injection in a case of ear-ache would be about 115°, and believed that under 100° would rather aggravate the trouble.

Dr. Levis observed that from actual experiment, made some time since, he had found that the face could be immersed in water of the temperature of 118°. The test was made in consequence of a statement of Von Graefe's, that the retina might be depleted by dipping the face in hot water for a few moments. He believed that the face could bear a higher degree of heat than the hands, and probably the vagina and uterus still higher.

Dr. W. R. D. Blackwood referred to two cases of uterine hemorrhage—one post-partum aud the other menorrhagic—which had yielded promptly to hot-water injections. He had very poor results from ice, and believed that Dr. Taylor's success should be attributed to the manipulation rather than to the cold applications. In one of his cases, after the ice had failed he had used the hot douche, and never saw anything act more charmingly and more promptly than these injections; the uterus contracted at once and remained so; there was almost no discharge afterward. In regard to Dr. Nancrede's statement as to the use of hot water for hoarseness, it was a common expedient among actors, and he knew of its use at the Academy of Music for the last eighteen years.

Dr. Taylor called the speaker's attention to the fact that he had spoken of cold, but did not speak of ice. He inquired, if the pressure caused the effect rather than the cold, whether, in a parallel case, it might not be the manipulation rather than the hot douche that brought about contraction.

Dr. Blackwood said that in one case he had used nearly half a bushel of ice, packing the uterus time after time, without checking the bleeding. In his last experience

with the hot water the uterus had contracted immediately.

Dr. R. Burns, of Frankford, has had some six or seven thousand cases of obstetrics, and has seen a great deal of uterine hemorrhage, and never used one pound of ice nor one pint of water, but always relied on manipulation, with one hand in the uterus and the other on the abdominal surface. After the high terms in which the article has been spoken of, he felt interested, and would use it if necessary, but saw no reason as yet for adopting any other expedient than the one he had thus far found efficient and always convenient for application.

Prof. R. Beverly Cole, of San Francisco, present by invitation, at the request of the President, gave his views as follows: "I have been not a little interested in the use of hot water in parturition, and in the conclusions of the lecturer, which agree with my own observation and others of equal experience, that hot water is an invaluable agent as a hæmostatic; but my experience also confirms what has been said during the discussion concerning the obtaining of the same effects from cold. The great difficulty seems to be in arriving at an intelligent explanation how hot water acts in producing this effect. It is well that there are a number of surgical gentlemen in the room, who may be able to decide why it is that we obtain the same result from hot and cold applications to wounds. But here is a salient point that may be discussed in connection with the subject of the paper; hot water acts directly upon the nervous elements in the womb, and also upon the middle muscular and elastic coat of the vessels. We know very well that the middle coat has great contractile power, and anything which stimulates this investment of the vessels would cause their contraction and retraction and check hemorrhage. This explains the blanching of the surface that has been referred to. It also allows of plugging of the orifices of the vessels, so that the bleeding ceases, and produces contraction of the uterus from stimulation of its unstriped muscular fibers.

"I think, however, that the lecturer goes too far when he says that it is the most convenient agent for the purpose, or that it is the most effective in the puerperal chamber. The application of the hand, externally and internally, to stimulate the uterus to contraction is certainly more convenient, and is often as efficient. In urgent cases, the suggestion of Michel, of South Carolina,

to compress the aorta just above the origin of the uterine vessels, is very valuable; I have tried it again and again, and found it effective in every instance, and easy of application.

"The loss of time in sending for the hot water and in getting the appliances ready must interfere with its use, and in cases of emergency, where the bleeding is profuse, would seriously affect the chances of the patient's recovery. I believe that the pressure of the uterus and molding with the hand, with compression of the aorta, will generally prove sufficient. During the last twenty years I have not lost a patient from post-partum hemorrhage, and feel perfectly satisfied with the results of manipulation and compression, and think that they will accomplish all that can be obtained by the hot water in producing contraction and checking hemorrhage after parturition, with less disturbance of the patient, and greater convenience to the accoucheur."

Dr. Ulrich, of Chester, by invitation of the Chair, said that this treatment of post-partum hemorrhage was a new one to him, but he believed it to be a valuable one on the statement of Dr. Smith, and in a case of emergency he would be inclined to adopt it. He had not been successful with cold applications, and for many years had relied exclusively upon stimulation of the uterus by the hand; contraction soon takes place, and the hand is forced out, and the hemorrhage ceases. He was unable to understand the rationale of the operation of an agent that relieves a painful affection of the ear and also a relaxed condition of the uterus—two apparently contrary conditions. In regard to the corrugation of the finger, it is caused by cold as well as by hot water.

Dr. O'Hara thought that the more stimulating effect of hot than warm water might be explained by reflex action, the hot water irritating the nerves of the uterus more than the warm.

Dr. Albert H. Smith, in referring to the suggestion of the chairman as to the use of hot water in surgery, said that he used it constantly in plastic operations, with the effect of checking oozing blood. The warm douche relaxes the tissues and favors the pouring out of discharges; the hot application produces contraction and checks the flow of blood.

The use of dry heat, as suggested by Dr. Levis, might

be efficient in surgery, but would not be so applicable in the present cases on account of the impossibility of bringing it in contact with the entire bleeding surface, and, moreover, it has not the advantage of washing away the clots and discharges from the vagina.

The compression of the aorta is a useful auxiliary in desperate cases, but is only temporary in it effects, for the bleeding may recur as soon as the pressure is relieved. The hot douche, on the contrary, produces permanent contraction.

Ice, when introduced into the uterus in pieces the size of a man's fist, is a valuable agent in treating uterine hemorrhage, but it is liable to produce a depressing effect subsequently.

It has been objected that the length of time required to obtain the hot water and necessary appliances is a drawback to the introduction of the hot douche. On the contrary it should be looked upon as a necessary part of the armamentarium of the lying-in chamber, and, as such, always provided ready for use. Just as when ergot was used, an obstetrician was considered as neglecting his duty if he attended a case of labor without his ergot, or as where a physician goes a distance from home to attend a case without taking his forceps, so he should be provided with all that is necessary; and the speaker considered that hot water should be kept in readiness on such an occasion, and recommended its use in all cases of labor. The attendant fails in his duty as an obstetrician if he fails to see that everything is prepared; he is bound to be provided against emergencies, and what can be more readily supplied than hot water?

In answer to Dr. Ulrich, as to the use of hot water in inflammation, he stated that its first application in gynæcology was that suggested some years ago, by Dr. Emmett, where he recommended it in the treatment of cervical congestion, for which it is now a standard remedy; used by injection once or twice daily.

The introduction of the hand, to stimulate the uterus and break up the clots, is a useful and necessary expedient, but an agent that will also wash out the cavity and bring away the clots is much better. Dr. S. had seen the uterus contract under the hot douche with rapidity, safety, and certainty, and better than by any other agent with which he was acquainted. He had also seen its revivify-

ing effects in lacerations of the cervix that he had referred to, and its power over hemorrhage. He thought that it might also be used in checking uterine hemorrhage in cases of malignant disease, or bleeding from any other source in the uterine cavity. If it can check a hemorrhage from laceration of the cervix and its circular artery, it will stop bleeding in malignant disease.

PARACENTESIS PERICARDII.

Dr. John B. Roberts read a paper entitled "Is Paracentesis of the Pericardium Justifiable?"

Dr. William Pepper said that this operation is one of a group which he had always been inclined to claim for medical men rather than surgeons, as the operation itself is a comparatively trifling one, while the questions of the time for the operations and its conditions are of the greatest interest and importance. He agreed with Dr. Roberts in his reply to the caption of the paper, and thought that the recorded results were sufficient to authorize an affirmative answer to the question.

From observation of post-mortem examinations in which unsuspected pericardial effusions are sometimes found, he had concluded that such large effusions are not infrequent, but that they may be, and doubtless often are, entirely overlookod during life. And yet the physical diagnosis is, as a rule, very simple and easy, the only possible difficulty being in the case of a dilated heart, where there is a feeble, asystolic action of the ventricles, accompanied by extended area of dullness. That this difficulty exists must be admitted, since cases have been reported in which paracentesis of a dilated heart has been performed under the impression that there was fluid in the pericardial sac, and this in the hand of men whose position is evidence that they were competent to decide. Of course, the case is different where the physician has watched the patient from the beginning, as in a case of acute rheumatism, where frequent examination of the heart is required. In such cases he would detect the early friction in the pericardium before the effusions of fluid in sufficient quantity to separate its layers. The difficulty in diagnosis would only occur where you are called in to see a case that is fully developed; but even then there are points that would generally prevent a mistake: these are the altered intensity of the sounds, the relation of the cardiac

impulse to the intercostal spaces, and the outline of the percussion dullness; and it would seem that with due attention to these points no mistake can occur. There are complicated cases, however, where some doubt must remain. In a patient operated upon recently, there was a large pleuritic effusion accompanying one in the pericardium. In such a case he would recommend that the pleural effusion should be removed by the aspirator, and, if necessary, the pericardium can be subsequently tapped. This course was adopted in the case referred to; and it was found that after removal of the fluid from the pleural cavity, the effusion in the pericardium was absorbed without further interference, under medical treatment.

In regard to the point selected for introducing the needle, he would prefer one that is a little farther from the sternum than Dr. Roberts has recommended, and in the fifth interspace, as being less likely to injure the ventricle; at a site about on a line with the nipple, a little to the outside of the position of the normal apex beat.

In performing the operation, a moderately-large aspirating needle is preferable to a small one, since inflammatory effusion in the pericardium is apt to contain shreds of lymph which would clog a small needle. It is difficult to introduce a plunger to clean a small tube, and they are also less easily reintroduced if it becomes necessary to remove them to clean them. For this particular operation he had devised an instrument which can be used without danger of scratching the heart, but which he had only tried on the cadaver.

In regard to the operation, it has simplicity in its favor. As the results are always brilliant in the marked relief and improvement it affords, and as it frequently prolongs life so as to give time for the action of other remedies, it will compare favorably with any other procedure in the field of legitimate surgical operations.

Dr. Roberts stated that he had not intended to recommend a very small aspirating needle, but one of moderate size. He would not use a large one, on account of the injury to the pericardium, and the probability of subsequent leakage into the pleural cavity, and possible pleurisy. As regards the shape of the trocar, he believed that Fitch's dome-shaped trocar was less likely to injure the heart.

In regard to the diagnosis, too much stress is laid upon the pyramidal shape of the dullness; the statement in the

books is that it is a *rude* triangle, and it might happen that because it was not more perfect some doubt might exist as to the diagnosis.

MICROSCOPY.

Hæckel vs. Virchow.

BY WALTER C. HUBBARD.

To the microscope, as an instument of research, we are indebted for many of the remarkable advances in biology, which the morphological studies of Hæckel have given to modern science.

Considering the attention given to Hæckel's theories, fostered by the recent publication of his work on the development of man, a reference to his "Free Science and Free Teaching," lately published with a preface by Prof. Huxley, may be of interest. This is a reply to Prof. Virchow's address before the German Association at Munich, in 1877, in which the author states clearly, and with much vigor, the reasons for his dissent from Virchow's position, and enunciates, with the distinctness characteristic of Hæckel, the advanced views he advocates. In this controversy, Virchow's opinion is the more conservative, while Hæckel, sure of his position, permits no doubt or question to weaken his convictions. Truth will ultimately evolve from the conflict of warring theories. An implicit acquiescence in modern views, or stagnation of thought concerning the great questions which science is presenting for solution, is manifestly unwise. Hence, the value of such antagonism; for each advocate, in endeavoring to pierce the logic of facts of which his opponent makes an armor, adds, perhaps unwittingly, to the sum total of human knowledge—casts a stone upon the burial-heap of ignorance and idle conjecture.

Briefly, Virchow took exception to Hæckel's positive assertion of the truth of Darwinism, or natural selection, holding it to be as yet an "unproved hypothesis," and questioning the propriety of teaching anything the certainty of which is not absolutely demonstrated—anything subjective in its character as opposed to the external or objective; the latter to be the only mental diet of learners

in the schools. Naturally, this stimulated Hæckel to reply; and he does it with cogent reasoning, grim humor, and caustic irony. We will attempt to outline his argument.

The progress of the evolution theory, says Hæckel, has been greatly advanced by the fact that there are but two alternatives from which to choose—either that of natural development, or of supernatural creation. He defines the universal theory of evolution, Monism; the theory of descent, Transformism, explaining the origin of organic species by transformation; the theory of selection, Darwinism, at present the most important, but by no means the only one. These several theories, according to Hæckel, are continually and unwittingly confused with each other. Doubtless many imperfectly known causes have been of importance in effecting the origin of species, and the judgment of naturalists will differ as to the value of each; but this does not affect the validity of the general doctrine of descent, the only rational one. The proofs of this doctrine, Hæckel considers, are sufficient, and will never be stronger; they are valuable because deduced from the totality of biological phenomena, not from this or that single observation.

The evidence, upon which the theory of descent rests, shows that the observed phenomena can only be explained by this theory, and reduced to mechanical causes; the guarantee of truth lying in the fact that these ultimate causes are the same for all the complicated processes of nature. He asks, where else can the facts be found than among those of physiology and morphology, paleontology and distribution, and the biological sciences in general. We have also the evidence of actual experiments. Hæckel refers to the sponges as yielding the most positive indication that the term "species" has only relative value. He alludes to the great progress of morphology, and finds in it justification for his conclusions. He shows the importance of craniology, and expresses the fear that Virchow and others have forgotten what they wanted to prove by their measurements.

That man has descended from the ape is nowhere assumed, but from the order of apes—from one or more species now long extinct. The theory does assert that the species in the long series of man's immediate ancestors were ape-like animals. Hæckel states that the relative certainty of this hypothesis can not be com-

pared, however, with the absolute certainty of the general theory of descent. He considers all such hypotheses dependent upon the knowledge existing at the time in which they are made. In the chapter on "Cell Soul and Cellular Psychology," Hæckel expresses his opinion "that we must ascribe an independent soul-life to each organic cell." He defines soul according to the two theories—realistic and spiritualistic—adhering to the former, and adds that Ehrenberg maintained that all Infusoria had nerves, muscles, and organs of mind and sense. Hæckel concludes that, in the lowest condition of the human ovum, the mental attributes of man begin their course of development, and he finds in this a proof of his realistic theory.

Concerning methods of teaching, Hæckel inquires where the distinction can be made between subjective and objective knowledge. He holds that all human knowledge is subjective, believing an objective science without theories inconceivable. He reviews the several sciences, and finds that even in mathematics the fundamental principles can not be proved. The modern discussion as to a fourth dimension of space is cited as an example of the development of thought in the least expected direction. In physics, what is known of the essence of matter, or of force? Gravitation is but a hypothesis. Electricity and magnetism, what are they? The idea of an ether filling space, however probable, rests upon conjecture. Even atoms are not objective. Geology requires a theory of its records. In fact, Hæckel shows the impossibility of teaching science at all, if Virchow's position is tenable.

Prof. Virchow renders himself liable to severe criticism by his assertion, that the attempt to depose church dogmas, and place in their stead the religion of descent, must fail. Hæckel is not slow to avail himself of this opportunity to reply, and takes issue with his opponent in no measured terms. With this assertion, at least, he has no patience. He asks, pertinently, which idea of religion is to be adopted, and leaves his opponent to define upon what scientific basis the chosen one shall rest. A discussion follows upon the connection between socialism and the doctrine of descent, in which any logical contact of the two is disclaimed. The theory of descent, it is asserted, is aristocratic in the fullest sense; and warning is given against the misapplication of scientific theories.

The views of Prof. Virchow have naturally been received with delight by the clerical party in Germany, and have also been applauded, owing to the odium brought upon the theory of descent by falsely coupling it with the political vagaries of the socialists. The alarm about these malcontents extends to any philosophical views which appear to be in dissonance with the established social condition. The high standing of Virchow has lent an additional weight to his argument; opposed to him stands Hæckle, the uncompromising advocate of free thought.

Owing to these tides of opinion, which ebb and flow in the ocean of human thought, it is well at times to have a restatement of the positions of the leaders—reports from the outlying posts of the tendencies of intellectual progress. Theories should stand the test of criticism, hostile and appreciative; and, as they approximate the truth, their value is proportionately increased. What seem to be certainties are, after all, only probabilities; science only can show what is the most likely to recur under similar conditions, and to it are we indebted for all positive advancement.

Hæckel, in basing his conclusions upon observation and experiment, seems to approach nearer the truth than any who advocate views from mere conjecture.

In raising the "odium theologicum" against purely scientific opinions, prejudices which are not easily allayed are excited. Differences in the interpretation of facts are to be expected and hoped for; final conclusions should be determined by their reasonableness and their fitness to the phenomena they explain.

Dentition as a Cause of Diarrhea.—Between the sixth and twenty-eighth month dentition plays a very important part in the production of diarrhea. It might be called a nervous diarrhea, for it is probably due to reflex nervous disturbances. If dentition is not directly responsible for many of these diarrheas, it is indirectly so by putting the system in a condition to be more susceptible to all those influences which do produce diarrhea. In all cases where the gums are swollen, lance them. In any case where it is about time for the tooth to come through, lance the gums over the tooth thoroughly and draw some blood. I

believe the disturbance is often due to pressure of the tooth deeply in, and before it shows much swelling on the surface. Lancing the gums never does harm. It is better to err on the side of lancing them when there may be no necessity, than to fail to lance them when there might be necessity. I have often seen a child having from ten to twelve movements a day relieved entirely by lancing the gums, and with no other treatment. It is in these cases that the bromides prove so effectual. Give the following combination of a bromide with mucilage to a child between six months and a year; older children a larger dose:

℞ Sodii bromid . . . . ʒ ss.
Mucilag. acaciæ . . . . } aa ʒij. M.
Aquæ puræ, q. s. ad . . }
Sig. One dram q. three hours.

The bromide diminishes the reflex disturbance, and the mucilage is soothing the irritated intestinal mucous membrane.

Medical College of Ohio.

Opening of the Session of 1879–80.

INTRODUCTORY LECTURE OF JAMES T. WHITTAKER, M. D.*

Just one hundred years ago, in 1779, Anton Mesmer was in Paris, in the zenith of his fame. He had made, he thought, and the world thought, a marvelous discovery, to the effect that a fluid emanated from the body, a fluid like electricity, which, passing to the bodies of others, cured them of disease.

Mesmer came honestly enough by his discovery. He had spent years in the study of magnetism and mystics. He had chosen as the subject of his inaugural dissertation the influence of the planets upon the human body. In his personal magnetism he discovered the key to all the mysteries. He would be able to unroll the secret scheme of the universe. Sickness should no longer exist. He had but to lay his hands upon disease and straightway it should cease to be. Such wonderful cures he had worked

*This interesting Introductory Lecture should have received place in the first part of the News, but that part was set up and closed before the lecture was received.—Ed.

with it in Vienna as to lift him from the sphere of an humble practitioner of medicine into wide notoriety. But just as he was about to reap some practical benefit from his work, a cruel Government Commission pronounced it a fraud, and he was obliged to leave the city.

Forthwith he betook himself to Paris—Paris which remains to this day the seat of the most critical skepticism, and, at the same time, of the blindest superstition. Mesmer took the city by storm. His beauty of person, elegance of manner, his enthusiasm, charmed the town. His *salons* were soon crowded with women. Perfume and soft music were in the air. The poor, hysterical victims were quickly asleep—asleep, after the tremor, the delirium, the ecstasy, which so profoundly exhausts the nerves.

Soon such crowds assembled as to render impossible personal contact with every case. So Mesmer devised a staff which carried the magnetic fluid just as well. One patient after another was touched to sleep. Such a picture I have seen in Rome, when a Cardinal, in flowing robes, seats himself upon a throne, and with a long staff touches and anoints—or does he absolve?—the semicircle of penitents.

After a while the crowd became too great for even the staff. So Mesmer magnetized, by his touch, a bucket of water, to which was attached a number of iron rods, and the patients, holding the rods, soon fell asleep.

D'Elson, physician to the Count d'Ortois, fell in with Mesmer as a satellite—no delusion was ever yet practiced without distinguished followers—and in his zeal for his master o'erleaped himself and fell, and felled everything with him.

D'Elson was so imprudent as to challenge the investigation of the Paris Academy of Medicine. The Academy appointed five of its best men to study the new craze of the town. The Committee unanimously pronounced Mesmerism a fraud, and the great charlatan had to leave Paris for Germany, in a little village of which he died in total poverty and obscurity.

They do things differently abroad. With us the adverse verdict of a body of scientifically educated men is the most profitable advertisement for the quack. We take Mesmer, for a moment, in the full blaze of his fame, when

his *salons* were filled with the fashion, and his name was on every lip.

"Doctor," said, one day, a skeptical visitor, "Why do you always use river water in your bucket, rather than that from cisterns and wells?" "Because," was the ready reply, "river water is exposed to the rays of the sun, and is therefore magnetized. I, myself, magnetized the sun some twenty years ago!"

Sublimity of self-conceit! We read with a smile the orders given to the sea by tyrannical commanders to stay within prescribed bounds. We remember the lashing it received for disobedience at the hands of imperious Cambyses. We recall the expedient of Alexander, of having a man stand by him and constantly remind him that he was a man, and not a god. Yet, so little do we profit by the teachings of history in all time that the least of us clothed in a little brief authority finds it hard to abstain from fantastic tricks. In fact, as the ghost said to Hamlet, "conceit is weakest bodies' strongest works."

Our nineteenth century is a pæan of boasting and conceit. Do not the mightiest forces of nature stand at our control? We chain the lightning, toy with electricity, overcome gravitation, annihilate distance. We have machinery that can convert any one kind of force into another, and make them all minister to the wants of man. We can substitute sunlight with electricity, we can lift a mountain from off the face of the earth, or a mighty rock from under its waters. We can correspond instantaneously around the globe. Nay, we can speak together from far beyond hearing distance. We may have our speech spoken again with our own tone of voice a thousand years after we are dead. We have invention to comfort us, and art to amuse us, such as was never dreamed of by the wildest visionaries of ancient days. Power and dominion are in the hands of man. No wonder he carries his face to the stars!

What bubbles are the triumphs of man! The ship in full sail, his proud creation, that glides in majesty over the face of the deep, is in one short hour a drifting wreck upon its waters. The accumulations of a life-time, or of generations, dissolve in a night. The scintillations of genius are, by a lesion which is ultra-microscopic, smothered in the babblings of lunacy. Prosperity smiles upon a vast section of country, the face of it is covered with

the products of industry, and the faces of men are happy with prospective gain. A vessel lands upon a distant coast and brings over a single case of fever. A blight passes over the land, and leaves of fertile valleys deserts, and tombstones of happy homes. A little trembling of the earth buries, in the twinkling of an eye, a whole city, with all its people. A little rising of the waters, and everything is washed away. A few hundred years alone sufficed to leave no trace. How fittingly do ruins symbolize the wishes and the fate of man, the weakness of his works, the fleetingness of his existence! "Who can visit Thebes," says Alger, "in whose crowded crypts, as he enters, a flight of bats chokes him with the dust of disintegrating priests and kings, without thinking of these things? * * * Tyre was situate of old at the entry of the sea. The tiara of commerce was on her brow. Haughty in her purple garments, she was mistress of the earth. The little dust of her foundations has long since blown to the winds, and where Tyre was is now but a blistered rock, whereon the solitary fisher spreads his net. A few tattered huts stand among shapeless masses of masonry, that once was the architecture of the glorious city of Carthage; and where voluptuous Corinth lifted in splendid array her marble palaces and golden towers, are now the simple homes of a handful of farmers. Many a nation, proud and populous in the elder days of history, like Elephanta and Memphis, is now merely a tomb and a shadowy name. Pompeii and Herculaneum are empty sepulchers. Poppies bloom in the streets that re-echoed the sounds of chariots. Tigers forage in the palace yards of Persepolis; camels browse in Babylon on the site of Belshazzar's throne, and lizards crawl unheeded at Baalbec over the sacred altars of the Temple of the Sun."

But we do not need to go so far away in space or time for evidence of the impotence or insignificance of man. Even in the midst of the most distracting scenes, in a living commercial metropolis, throbbing with trade and pulsating high in art, we have but to step anywhere behind the walls to witness the ravages of time and death. * * * * * *

And the revelations of modern science—what comfort do they disclose? What, now, of the scheme of the universe, and the place and the prospects of man? The time was when man could at least affect to look upon himself

with pride. He was made perfect in the image of his Creator, and all other created things were made for him. He lived upon an earth which was the center of the universe. About it the sun revolved to give him light, and all the stars were fixed above it to vary his firmament with delightful pictures. He was king of living things upon an orb which was queen of the universe. Alas! how much, indeed, has he fallen from this high estate! The physiologist has shown him that the matter of his body is his only for the hour. It is not the same yesterday as to-day, to-day as to-morrow. His blood, which used to be looked upon as his life, changes every minute,

> "Nor are, although the river keep the name,
> Yesterday's waters and to-day's the same."

His blood and his brain, his muscles and his nerves, are all only machines for the liberation or transformation of forces locked up in his food and drink.

The chemist has made it no less plain that all the matter of his body must be resolved back to its mineral constituents, to be reconstructed time and again into other living forms. To the construction of millions of similar bodies the elements of his composition may have already served, and when the identity of the individual is lost they may serve for millions more yet to be born. Although the mineral wealth of our earth is absolutely limited in quantity and quality, the forms of living things made out of them, things which are to live and feel and suffer, are limitless. Such herds and crowds of living things of every kind and degree there are, as to necessitate feeding upon each other and still to starve each other out. Wherever was absence of other animals as food, men had to eat each other. The anatomist shows him that in his construction man differs in no way from the rest. He has the same bones and muscles and nerves, in the same order, in the same arrangement, in the same connection. All in common differ only in the degree of their development.

The physicist now calls his attention to the fact that his existence upon earth is by no means a necessity to the existence of the earth. Millions upon millions of years elapsed before man in his lowest forms put in any appearance at all. The conditions permitting his existence must necessarily cease in a few more millions of years, and entirely different forms of life may develop, or our earth may swing about in space many millions of

years, void of all life, a burnt-out cinder, like our moon.

Last of all, the astronomer lifts from his eyes whatever scales of conceit may be left, with the information that the earth upon which he lives plays an entirely insignificant and subordinate role in the economy of nature. From some of its sister planets it is reduced to a speck of light, and from all the stars of heaven it can not be seen at all.

So, instead of being king of creation upon an orb which is queen of the universe, man becomes reduced to an accident, resulting from conditions existent at his birth, and the earth upon which he lives is but an atom, for the most part an invisible atom, in the limitless expanse of space. Why, then, should only a prophet say: "What is man, that thou art mindful of him, or the son of man, that thou visitest him?"

What, then, is left for man? Shall he wring his hands in the lunacy of impotent submission to powers beyond his control? Shall he wander solitary in the desert, to moan uninterrupted over his fellow's frailty? Shall he sit upon the earth and tell sad stories of his fellow's death? Shall he seize with murder and rapine; seize with the cunning of the charlatan, or the craft of trade; seize for the enjoyment of the hour, and leave the deluge for posterity?

Let him read, first, the lesson from the page of human history. Whatever he has that lifts him above the brute from which he sprung, whatever he has and is, he worked it out alone. The house that gives him shelter, the clothes that give him warmth, the food that he eats, the law which protects him, the skill which cures him of disease—he worked it all out alone. The transition from the clumsy tools of stone to the ingenious implements of steel covers a period of thousands of years of sweat and toil. Against the most frightful odds has every advance been worked. Against hunger and cold, against every calamity and casualty that could be inflicted, against earthquake and avalanche, flood, fire and volcano, against climate, pestilence, against every kind of disaster, man has had to strive. But the bitterest strife is against his fellow-man. Against all these odds, in the midst of all these dangers, has been a perpetual strife and struggle; and yet the race has survived and improved the conditions of its existence. New crops cover the soil parched of its last

year's products. New cities cover the plains stripped of the old ones by plague and war.

And what have been the means of all this renewal? Not supine surrender to fate; not lamentation; not an idiotic interpretation of curses into blessings, and Asiatic satisfaction with permission to simply live. None of these. The renewal and the progress came all of persistent struggle and work imposed as an absolute necessity of existence. Continued growth and reproduction are the primal law of nature—a ratio of increase so high as to lead to a struggle for life, and, as a consequence, to natural selection and the slow but certain improvement of form. It is from this view of life alone that we observe any real grandeur. It is in regarding man as on the road to, rather than as having already obtained, perfection, or as having attained it and lost it by a puerile or frivolous act, that a rational mind may look upon his life with approbation. He must work or waste. Let him then work without a whimper. Acquisition, admiration, ovation, are his rewards in that exercise of faculty which develops and perfects. He is, then, the true philanthropist who is engaged in helping along his fellow-man, who is removing obstructions in his path, or who is strengthening his body for better work; who is, in short, living for others rather than for himself.

Here is the field for the physician. The improvement of his surroundings is the task for the physicist; of man himself is the task for the physician.

As we know man, his frame is very far from perfection. Not an organ in his body is perfect. Snares and death-traps are universal in it. His teeth are so imperfectly covered with enamel as to suffer caries and destruction. His lungs stick up in the root of his neck to catch the effete products of expiration, and cause consumption. His intestines have relics of structure from lower animal life, sacs leading off from the main tube to catch foreign bodies and cause death by inflammation. His nervous system shows the highest capacity of suffering pain as the only means of warning him of danger. His special senses have all become drilled to some degree of acuteness through pain. The finest minds are stamped with melancholy. The finest eyes wear a look of resignation. A weakness which he may not have acquired by any imprudence, folly, or even accident, he has the privilege to

have inherited from generations back. To discover, and, if possible, eradicate the disease, physical or mental, as the metaphysicians say (as if there was any difference), or the tendency to disease, is the business of the physician. The individual thus relieved is again fitted for the struggle. It would seem to be very true that several thousand or million of these our fellow human beings might as well never have been born, or being born might as well die, so far as concerns any effect upon the end to be accomplished; but these are questions for future political economists. As we find the existing state of things, we live with a capacity of suffering and enjoying infinitely keener than any fellow-creatures lower in the scale. Some of each is born with us, some we achieve, but most of our suffering and enjoyment is thrust upon us. To relieve suffering, and thus add to the enjoyment of life, is the natural impulse of every properly constituted human being. But the sum of the suffering is so much greater than the pleasure that a special set of men come to be set apart to devote their lives to its relief. This is the sphere of life which you, gentlemen, enter upon to-night. You may be congratulated somewhat, but commiserated more. You select an avocation which, pursued aright, will bring you gratitude, the approbation of man, and the approval of your own conscience. Much money and its comforts it can never bring, for the income of most of your clients is stopped by the disease which calls your service. The few who succeed in what the world calls success will live in slavery which is none the less in galling because the bars of your prison may be gilded. The Englishman's conception of luxury, seclusion, you will never know. Of that happiness that falls to the lot of the poor as well as the rich, of that quintessent happiness which the king may know in relief of the cares of state, or the cotter may know on Saturday night, domestic happiness, domestic, from *domus*, a home, you will know less and less as you succeed more and more. Of holidays, of Sundays, you will know nothing.

But in compensation for all this loss you will experience the keenest pleasure in the exercise and development of the faculties of the mind. You will live surrounded with the works of the strongest minds of all ages. You may feast upon the finest productions of genius. You may yourselves wring from reluctant nature some new discov-

ery which will surround your name with a halo forever. We have already had, and we shall have continually, to observe that most of the great men in medicine were originally, like Laennec, country students. * * * *

The places you would fill are already filled by the strong men—men who realize that conservatism is as hard as creation—and the new generation to fill up the ranks must be stronger than its predecessors. It is not, however, that you must succeed at another's expense. Fighting men have attained pre-eminent success, but they have succeeded not on account of the possession of such qualities, but in spite of them. "The glory of arms raises itself upon ruins; its consecration is a baptism of tears. It is but the triumph of force, which passes from one flag to another. The victories of science have nothing to fear from the reverses of fortune; alike profitable to victors and vanquished, their beneficent works constitute the most solid glory." * * * * * * *

The role of the real physician was never better described than by one who lived true to his ideal of it. "There occur now and then in history," said one of his compatriots and colleagues, in his eulogy of his friend, "venerable and venerated figures, uniting at once peace of soul, elevation of character, purity of life, amenity of manners, and that indescribable penetrating charm which inspires affection as much as respect. Such was our confrere, Dr. Jumeau, the most noble representative of all medical virtue and professional honor." I give you now his ideal of a medical man:

"If we pass now," he wrote, "to the qualities of the heart, we must put in the front rank that sympathy which makes us feel for our kind. This quality may not be acquired. It is the most precious gift of nature, and woe to that physician who does not possess it. It is this feeling which inspires our patients with confidence, and ourselves with desires for their relief. And it is this feeling which gives us courage in the times of public calamity to brave every danger for the succor of the sick.

"The physician must, then, be entirely disinterested, attend the poor just as the rich, go to the garret with the same haste as to the most brilliant *salon*. He must be gentle to those beneath him, simple to those around him, and proud to those above him. Human passion shall have no access to heart. The love of his fellow should be

his only passion; to be useful to them his sole ambition. The physician who acquits himself of his duties with probity and honor proves the exclamation of Hippocrates: 'Medicus philosophus deo similis habetur!' The gratitude of his patient and the general approbation should be his sweetest recompense; but he must be able to rise above all such considerations, and when the injustice of man refuses them, he may still find in the approval of his own conscience every happiness and peace."

Such was the ideal physician of the old school.

Over his doorway is inscribed in letters of gold: "Nihil humanum alienum a me," "Nothing human is foreign to me." The history of the medical profession is it not a long story of sacrifice of self for others? The charred skeleton of the Roman soldier at the gates of Pompeii, who staid there and died because he had no permission to leave his post, thrills us when we see it. Yet every day we read of the slaugher of medical men by infectious disease, contracted in the line of duty, without the least emotion. The bold charge of the six hundred at Balaklava, the poet laureate deems worthy to immortalize in verse; but no one thinks it worthy of mention in the plainest prose that when the cholera fell upon us, slaying more than the fiercest battle, when every one fled who could, and those that were left had nothing to pay for the service, every physician stood at his post.

The danger signal flies at the mast-head all the time about the life of the daily practitioner. * * *

"Nihil humanum alienum a me," Nothing human is foreign to me. Come over and help us, they cried in Macedonia, and the response of the missionaries made an incident to be recorded in Holy Writ. Going and helping, is that not the daily and nightly round of the medical man? Day and night, in rain and snow and sleet, from the hours of rest and pleasure and food, think again, O student of medicine, before you continue your work. Think, again, what temptations are put in your way!

In the practice of your profession you will have put into your hands trusts like those in no other. These are not secrets of state, upon the divulgence of which the fate of nations may hang, nor funds, the wreck of which may bankrupt a community. Your trusts are the lives of individuals, and, what is more precious still, their reputations. I may not make of this opportunity a commence-

ment address, still less a sermon, but I may take this occasion to say, right upon the threshold of your work, that the trust of life is safe only in the hands of him who has made use of his opportunities in student life. The diligent student is the conscientious practitioner of our art. The lesson of the inviolate sanctity of human life is a lesson not taught in the streets in the daily struggle for existence and success. It is taught on the benches of the college, and at the bedside in the hospital amphitheater, in the efforts at rescue made on behalf of human beings, lowest, as well as highest in the social scale.

Human nature is unvailed in the presence of the physician; "but your tongue shall never reveal what your eyes have seen or your ears have heard," said, more than two thousand years ago, the father of our art. Four centuries later, in ancient Argolis, on the front of the temple raised by Thrasymedes to the god of medicine, might have been read these words: "No one may enter here who is not pure in soul," and the statue of ivory, mute to vulgar ears, revealed its oracles to them alone. * * * *

Mephistopheles tells the student of medicine, if he would succeed in its practice, a great secret when he whispers, "Besonders lernt die Weiber fuhren"—be especially pleasing unto women. Perhaps you may remember that the god of medicine was Apollo, the deity who presided also over the muses and the fine arts. But the student must take care to read Mephistopheles' suggestions aright. Between fuhren and verfuhren—between leading and misleading—is a gulf as broad and deep as the line of demarkation between healthy tissue and a slough. That costly and most precious fabric which concerns the well-being of man, the especial pride of civilization, and the foundation of society, the honor of womanhood, is sometimes intrusted to you. You will have put in your hands a vase, the perfection of whose design has required ages of the highest civilization to construct; a vase of such wondrous workmanship as may make you forget, in your admiration of it, the purpose of its trust. You will not close your hands upon it! Woe is unto him who will crush that delicate and fragile vase, for it is not a dead albatross, it is a millstone which will be hung about his neck!

Who rather handles with reverence and respect may realize upon this earth a paradise. "In thine eyes," said the dying Bunsen to his wife, bending over him with a

face lit up with the light of supernal affection, "In thine eyes have I seen the Eternal!"

I translate you now, in conclusion, the last words of a salutatory by a sturdy old Swiss physician—Sonderegger: "There is, after all, on earth, nothing greater or finer than man. He is, in thought and deed, the last and highest creation. His living, and loving, and suffering, everything that he is and does, is touching. Bright eyes and fine ears you must bring to your ministration to him; a great talent for observation, patience, endless patience for endless learning, a clear, critical head, with an iron will, which is strengthened in the hour of need; yet a warm heart, easily moved, that can understand and feel for every kind of pain; a rigid propriety, a stern morality in matters of fame, and fee; a decent exterior. Moreover grace in movement, skill in touch, health in body and soul; all these you must have to be a good and successful physician.

"You must carry with you the overladen, uncomplaining camel's burden of knowledge, and you must carry it with the freshness and the brightness of a poet. You must know all the arts of charlatanry, while you still remain an honorable man.

"At the shrine of medicine only may you worship; medicine shall be thy religion, and thy politics, come weal or woe!

"Therefore advise no one to study medicine. Plead with him who will study to refrain. But if he still persist, lift above thine arms; give him thy blessing for what it is worth; perhaps he will remember it in the sore hour of his need."

Book Notices.

Introduction to the History of Iron Making and Coal Mining in Pennsylvania. Contributed to the Final Report of the Pennsylvania Board of Central Managers. By James M. Swank, Secretary of the American Iron and Steel Association. 8vo. Pp. 125. Philadelphia: Published by the Author.

Directory to the Iron and Steel Works of the United States, embracing the Blast Furnaces, Rolling Mills, Steel Works, Catalan Forges, and Bloomaries in every State and Territory. Prepared and published

by the American Steel Association. Corrected to September 1, 1878. 8vo. Pp. 156. Philadelphia: 265 South Fourth Street. 1878.

PROCEEDINGS OF THE CONVENTION OF THE IRON AND STEEL MANUFACTURERS AND IRON ORE PRODUCERS, at Pittsburg, Tuesday, May 6, 1879. 8vo. Pp. 45. Pamphlet. Philadelphia: American Iron and Steel Association.

STATISTICS OF THE AMERICAN IRON TRADE. Annual Report of the Secretary of the American Iron and Steel Association, containing Statistics of the American Iron Trade for 1878, and Preceding Years. By JAMES M. SWANK, Secretary. Pamphlet. 8vo. Pp. 48. Philadelphia: American Iron and Steel Association.

Two of the four works whose titles we have given have the name of Mr. James M. Swank on their title pages as the author. It is probable that the other two were also written by him.

Although a knowledge of the manufacture of iron and steel and coal mining is not essential to the practice of medicine, yet, as all the natural sciences, especially chemistry, geology, mineralogy, etc., are collateral to medical science, they are subjects of interest to every intelligent physician; and he is pleased to acquire all the information in regard to them that falls in his way.

The chapters of the first work, whose title we have given, the author states, were written during the summer of 1877, at the request of the Pennsylvania Board of Centennial Managers, to accompany their final report to the Pennsylvania Legislature. The object is to record, in chronological order, and without violence to geographical requirements, the first steps that were taken in Pennsylvania to make iron, and to show the extent of the iron interest of the State at the close of the century of our national existence. The industry which the author exhibits in collecting facts is highly creditable to him. In his research, he has seemed to search through the whole literature of the subject; and, from the titles of the works he quotes, we are surprised at the extent of the literature. But observation and experience have taught us that there is no subject in regard to which not only much intelligence may be manifested, but even profound learning displayed. Our citizen, Mr. M. D. Mansfield, has

written extensively on the mineralogy of the different States of our country, and is famous for his statistical knowledge. But, as his articles have been published only in newspapers, and not in the form of a bound work, we do not find him quoted by Mr. Swank.

We learn, from Mr. Swank, that Pennsylvania was one of the last colonies to begin the development of its iron resources. In 1692, he says, iron was first made in the furnace. The first account is by a metrical composition, entitled "A Short Description of Pennsylvania; or, a Relation of What Things are Known, Enjoyed, and Likely to be Discovered in the Province." Issued as a token of good-will, ———, of England, by Richard Frame, printed and sold by Wm. Bradford, in Philadelphia, 1692. This iron was probably made in a common smith's fire.

Two years before the death of Penn, in 1718, the first iron works were established in Pennsylvania by one Thos. Rupper. In Day's "Historical Collections" it is stated that Samuel Nutt, of Chester County, built a forge called "Coventry," which went into operation about the year 1720. After the establishment of these works, other works followed, which Mr. Swank describes, but, of course, we have not space to detail them.

We feel very sure that intelligent persons generally will be interested in the information contained in the works the titles of which we have given. They are replete with information, and we regret we can not notice them at greater length.

THE NATIONAL DISPENSATORY. Containing the Natural History, Chemistry, Pharmacy, Actions and Uses of Medicines; including those recognized in the Parmacopœias of the United States, Great Britain and Germany, with numerous references to the French Codex. By Alfred Stille, M. D., LL. D., Professor of the Theory and Practice of Medicine, and of Clinical Medicine in the University of Pennsylvania, and John M. Maisch, Phar. D., Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. Second edition. Thoroughly revised with numerous additions. With two hundred and thirty-nine illustrations. 8vo. pp. 1680. 1879. Philadelphia: Henry C. Lea. Cincinnati: Robert Clarke & Co.

The second edition of this work, following so closely

after the first, speaks in the highest terms of its value in the medical profession. When we noticed the first edition, we gave a very full description of it, but on account of the merit of the work, we will again describe some of its features. In this work the treatment of the separate articles, detailed botanical descriptions, have generally been omitted as being of no practical value, but plants yielding drugs have been briefly characterized as to their general aspect and habitat, while fuller descriptions have been given to those which are native or naturalized, or which seemed to require it from the nature of their product. The treatment which the drugs undergo before they reach the hands of the pharmacist also receives attention, because the physical appearance and chemical composition are sometimes influenced thereby. Especial care has been bestowed upon both the external and structural characteristics of drugs, so that they may be readily identified and distinguished from those which resemble them, and, in aid of this object, a limited number of illustrations has been introduced representing their outward forms as well as their histological appearances revealed by the microscope.

In treating of therapeutics, the most trusworthy results of clinical experience are concisely set forth, without discussing the grounds on which they rest. The object of this is to spare the reader the labor of a personal investigation, which could only be made with facilities which few possess. Another feature, novel in a dispensatory, is the therapeutical index. Such an index becomes to some extent a therapeutical classification of medicines, and enhances the working value of the book to the practitioner. In the second edition the page has been enlarged, and the illustrations have been revised. A number have been added, and others substituted for such as were deemed less satisfactory. Another change to be noted is the introduction of several drugs under separate headings, and a large number of drugs, chemicals and pharmaceutical preparations classified as allied drugs and preparations under the heading of more important or better known articles. The classes are expressed in the terms both of troy weight and of the decimal system, thus paving the way for the introduction of the latter method. We would suggest to any person in need of a dispensatory, to consult their own interests and purchase this one by Stille and Maisch.

YELLOW FEVER. A Nautical Disease. Its Origin and Prevention. By John Gamgee. 8vo. pp. 207. 1879. New York: D. Appleton & Co. Cincinnati: Robert Clarke & Co. Price, $1.50.

It is scarcely necessary for me to say, that the majority of the physicians of this country are more or less interested in any reliable treatise on yellow fever. The wide-spread epidemics of the last two years, and the great mortality, are sufficient to cause the medical profession to search for more knowledge on the subject. A work of the kind before us will be found very valuable. The physician, searching for information on this subject, will become deeply interested by perusing its pages. On page 118 there is given a very complete differential diagnosis between bilious remittent fever and yellow fever. The author gives the method of destroying the germs or spores on ship-board. We will say, in conclusion, that any person desiring information on the subject of yellow fever can not do better than to purchase this work.

EDITORIAL.

SICKNESS OF THE EDITOR.—The Editor of the MEDICAL NEWS has been confined, for over four weeks, to his bed and room. He is happy to say now that, through the skill and active attention of Dr. C. G. Comegys, he is convalescing, and hopes soon to be able to resume his numerous duties.

Thanks are due to W. R. Amick, M. D., 193 West Seventh Street, Specialist in Diseases of the Eye and Ear, for valuable aid in getting out the present number. Much in it he is responsible for.

LAID OVER.—We are under the necessity of laying over, until next issue, which will rapidly follow upon the present one, a lengthy but very excellent article by T. L Wright, M. D., of Bellefontaine, Ohio, on "Responsibility Restricted by Insane Delusion." It will be found alike interesting to the physician and the legal man.

Indecency in a Medical College.

We clip the following, which appeared in the Cincinnati *Commercial* of a late date.—Ed.

"A rumor was pretty reliably traced yesterday that developed a curious performance at the College of Medicine and Surgery on George Street, on Wednesday last. It appears that a charity or dispensary patient—a young woman about twenty-three years of age—went to the college in the afternoon of that day for treatment, and that she submitted to an operation before the class. Then it appears that a student named Charles Weber heard a rumor that a fellow-student named Myer told as a joke that yet another student, named Jo. McKenzie had debauched the patient. Then that McKenzie admitted in a joking manner having done so, but pretty soon the matter became serious, and he denied the whole story *in toto*.

"The story was serious enough to spread very rapidly among the hundreds of medical students attending the various medical colleges in the city, and also beyond their circle far enough, at all events, to become pretty public. In this state of affairs *Commercial* reporters were dispatched to trace the story. Dr. Bramble was found, but said he was absent from the city last week, and knew nothing about the affair only what he heard from Dr. Aub.

"Dr. Aub states that on Wednesday last, in the afternoon, he operated on a young woman after administering ether, which was not given in full quantity owing to a difficulty in the patient's breathing. The operation was performed before the class, but he remained with the patient until she fully recovered from the effects of the anæsthetic and walked out of the amphitheater into one of the clinic rooms. Here, he says, he saw the girl take a seat, and then asked her if she had any one with her. She replied that her sister was coming for her. Subsequently he learned that the sister did not come, and that the girl walked away alone from the college.

"He also states that on Friday two students came to him and told him that they heard that the young woman was debauched in the college, and they wanted the parties who did it expelled. He promised to investigate the matter, and did so. The patient returned to the college, and Dr. Aub took her aside and questioned her in regard to the matter charged. He says that she hesitated at first

to make any reply, but he insisted upon having the facts, and that the girl finally acknowledged that, with and by her own consent, one of the students had connection with her while two or three others stood in the door of the room. She also admitted that such conduct on her part was common with her."

Obituary.

M. B. Wright, M. D.—It will be with feelings of the deepest regret for the readers of the News to hear of the death of this distinguished obstetrician and lecturer. A large number of physicians assembled in the amphitheater of the Cincinnati Hospital, on Sunday afternoon, August 17th, for action on his death. Dr. B. S. Lawson was called to preside, and took the chair.

The Committee on Resolutions reported the following through Dr. Kemper, Chairman of the Committee:

The medical profession of Cincinnati, with whom he has labored for nearly half a century, in common with his many patrons who were attached to him by strong personal affection, and his numerous students throughout the West who esteemed and venerated him, feel deeply the loss of Dr. Marmaduke Burr Wright.

The sick has lost a wise counselor, the poor a genuine friend, the city a distinguished citizen, science a faithful and honored devotee, and the medical profession a member whose long and valuable life's work entitled him to our highest esteem.

Resolved, That the noble example and attainments of our deceased brother, his ready response to all calls of suffering humanity, his strict adherence to the most approved proprieties of professional intercourse, and his industrious devotion to the science and practice of medicine, are worthy of emulation.

Resolved, That the medical profession tender to the family and friends of the deceased their hearty condolence.

Resolved, That we attend the funeral of Dr. Wright in a body.

And. C. Kemper, J. J. Quinn,
C. F. Thomas, C. D. Palmer,
D. D. Bramble, *Committee.*

JAMES GRAHAM, M. D.—This learned and distinguished physician and lecturer died of uræmia, on Monday, October 6th.

As a lecturer, Dr. Graham stood without a superior, and but very few equals in this country. He, like Dr. Wright, had attained the high position of Emeritus Professor.

At a general meeting of the medical profession, the Committee on Resolutions reported the following:

Dr. James Graham is dead. Some of us here to-day can well remember him as a young man coming to the city thirty years ago to seek fame and fortune; others can remember him as their teacher, while all, until the last few years, preserve strong recollections of him as an able practitioner. Dr. Graham was in many respects an extraordinary man. Gifted with a commanding presence and magnetism of manner, he possessed a logical mind and perceptive power in an unusual degree.

Quick to observe, clear in his reasoning abilities, his conclusions were rapid and correct. As a physician, he, in many respects, was a model. He took little for granted; he was governed still less by authority, relying almost wholly on his own accurate observation for facts. As a man, he had many lovable traits of character. Independent in thought, he was always rather a leader than a follower in the profession. He had a cordial dislike for sham and pretense of all kinds. Like all good physicians, he was generous to the poor, and considerate to his professional brethren.

In the death of Dr. Graham, the medical profession of the city is called upon to lament the loss of one of its oldest and most distinguished members. For over a quarter of a century Dr. Graham has been continually engaged in the regular practice of medicine, and upheld the true dignity of the profession in the broadest sense of the term. He enjoyed in a singular degree the confidence and affection of his patients, and the respect and esteem of his associates. He was a keen diagnostician, a skillful practitioner, and a reliable consultant.

JOHN H. MURPHY,
W. W. SEELY,
B. STANTON,
J. C. MACKENZIE,
JOHN LUDLOW,
Committee.

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ORIGINAL CONTRIBUTIONS.

Responsibility Restricted by Insane Delusion.

BY T. L. WRIGHT, M. D., BELLEFONTAINE, OHIO.

INSANE delusion: "When the hallucination or illusion is believed to have a positive existence, and this belief is not removed either by reflection or an appeal to the other senses, then the person is insane."—*Taylor, Med. Jurisp.*

Monomania is an affection of mind: "With false ideas on certain subjects out of which they can not be reasoned."—*Ibid.*

"When the partial derangement of the intellect is organized and systematized, it presents a desperate degree of tenacity. It is in vain to argue with the monomaniac, vain to endeavor to convince him of his errors. He resists, and shelters himself behind his convictions with unshaken confidence in their truth."—*M. Marce.*

"The consciousness of the patient becomes entirely changed. He never has any doubt of the reality of his erroneous opinions."—*M. Dagonet.*

"His delusions had become a fixed part of his mental being. As well attempt to change the course of the sun as to convince him of the errors of his convictions."—*Hammond.*

"The subjects of delusion have resolved their individuality into their madness; it is in their eyes an absolute truth; all demonstration and argument in oppositions to it are idle."—*Wharton and Stelle, Med. Jurisp.* 1873.

In an another place* some general outlines of partial

*Cincinnati *Lancet and Clinic*, July 5-12, 1879.

insanity have been drawn, chiefly from a metaphysical standpoint.

It was claimed that the considerations there advanced warranted the conclusions—1st. That the partially insane should rightly be held responsible for their conduct; but 2d. That such responsibility should be always less in degree than that of minds not tainted with insanity.

It is believed that these conclusions are not generally entertained, if they are admitted at all. Yet they appear to have so much basis of experience, of philosophy and of expediency, that it seems right to pursue somewhat further the inquiry respecting the partial responsibility of the insane.

For this purpose the subject of INSANE DELUSION will receive attention; because those cases of the partially insane which have received the most attention in a legal aspect, as touching responsibility, were the acknowledged victims of insane delusion. Of such were the cases of Arnold, Bellingham, Hadfield, and McNaughton, together with other similar ones; and because, moreover, insane delusion is the form of madness, which is the basis of what is known as monomania, or partial insanity.

An attempt will be made to ascertain, not only the nature, but the power of insane delusion; also, to obtain an idea of the nature of its agency in determining conduct; and from this, to form some notion of the phases of motive and classifications of conduct which may be presumed to originate in, and flow from, that *mental content*, known as insane delusion.

The whole structure and character of the inquiry rest upon the notion that is held respecting the meaning of the term *insane delusion;* for in general it may be said, the soul and light of partial insanity *is*, insane delusion. In speaking of delusion, we have nothing to do with its common or vulgar meaning. The ordinary application of the term to eccentric or false beliefs, or chemical theories, does not concern us, and the reason will speedily appear.

Insane delusions may grow and fade away, and they may change from one subject to another, but they are always matters of irrevocable belief and of certainty. Neither appeals to reason nor the feelings, to right or expediency; in fact, no efforts of exterior minds can destroy or abridge, or change such delusions. By no means, whatever, except by means of the diseased condition of the

brain itself can any impression be made upon insane delusion. But by the changing force of disease, one delusion may be supplemented, with more or less swiftness, by some other one equally imperious and equally defiant of all mental efforts directed upon it from without. This is in general terms the character or description of *insane delusion.*

If possible, let us be more exact still. What shall we say is insane delusion?

In answering, let us first adopt the plan of exclusion.

Whatever is called an opinion, or belief, or sentiment, or judgment, or conviction, whether true or false, can not be a delusion in the sense of which we speak of it in connection with insanity.

It is not uncommon to define delusion in a court of law to be a false belief. This is erroneous. It is the common error of comparing an insane state of mind with a state of the healthy mind. It is wrongly using a condition of sanity to illustrate insanity.

It is not possible to talk of insane belief, or think of it rightly, on the same basis from which we contemplate belief in general. We can not classify insane delusions with the false notions of the ignorant and prejudiced to which the term delusion is ordinarily applied.

A little consideration will make this clear.

Every form of *rational* belief, or opinion, or judgment, or conviction, true or false, is merely the result or consequent of a preponderance of proof. As such, it is always open to new arguments and new lights, derived from reason or experience; and, consequently, is the subject of abrogation or modification. But the delusion of the insane is the subject of no vicissitudes of proof. It can not be changed or modified by reason. It is amenable only to the caprice of disease. It is independent of mental laws, and is entirely exterior to the limits of mental authority.

Every proposition then, or conclusion that can operate on the sound mind, must have its basis in some form of evidence or proof, either as touching its probability or value, or applicability.

It is desirable that this point, concerning the tenure by which ideas possess the minds, should be expressed clearly and with authority. These ideas are the springs of motive; and the varying degree of freedom and re-

straint, which they permit to mental activity, measures the degree of responsibility attaching to mental acts.

The highest and latest authority upon this subject will be invoked, and as the subject is *proof*, *evidence*, *demonstration*, the proper source of information will be the principles laid down in legal authorities. Attention will therefore be directed to a recent synopsis of the most advanced legal doctrines pertaining to the point in discussion. This will be found in an essay, by Francis Wharton, LL. D., entitled *Recent Changes in Jurisprudence and Apologetics*, in the *Princeton Review*, of July, 1878.

What, then, is the nature of this proof, this evidence, which lies at the basis of rational motive? Wherein does it differ from the principles that lie at the bases of insane delusion, whence spring insane or irrational motives?

"All evidence," says Wharton, "is circumstantial, and proof increases in weight in proportion to the cumulation of probabilities."

"A probable conclusion is reached by a cumulation of proofs, no one of which by itself is sufficient to carry the case."

"There is no evidence which is not dependent upon circumstances, and which is not therefore more or less circumstantial."

"There can be no demonstration of facts; and the highest proof of facts is only a strong probability."

"Facts are not the subject of demonstration, but are to be believed by us on proof of greater or less probability, *never arising to certainty*."

"Perfect knowledge," says Jevons, "alone can give certainty; and in nature perfect knowledge would be infinite knowledge, which is clearly beyond our capacity. We therefore have to content ourselves with partial knowledge—knowledge mingled with ignorance, producing doubt."

So inexorable are these laws respecting the uncertainty of proof when applied to rational belief, that even physical science, capable as it is in many instances of absolute demonstration, loses its unalterable nature when applied to the conduct of men.

Prof. Wharton says: "The moment that physical sciences penetrate the atmosphere that encompasses *moral action*,

they are enveloped in the hazes of that atmosphere, and move tremulously, and occasionally with mistaken step. They can therefore only reach the results which, however probable, are open to doubt and contradiction."

Thus it is said: "A straight line is the shortest distance between the points it connects. The railroad between Baltimore and Washington is a straight line; therefore, it is the shortest distance between the points it connects."

This is all well as long as the dealing is with imaginary properties; "but the moment we assume the *fact* that the road between any two places is straight, then our conclusion can be only approximately correct."

In the same way the same author says: "Physical science, when it enters the atmosphere of moral action, finds itself subjected to the conditions of that atmosphere. It can not demonstrate; it will do well if it can prove."

Again Prof. Wharton remarks: "When even the most exact of physical sciences undertakes to enter into practical life, it is beset with the same incertitude that beset whatever appeals to our moral judgment. It can demonstrate things *that do not affect our action.* As to things that affect our action, the best it can do is to establish a preponderance of proof."

As an illustration of the impossibility of "demonstrating" any fact, even mathematically, the case of exact uniformity in the lines composing three signatures of the same person, was submitted to Prof. Pierce, of Cambridge. He decided that probabilities in *favor* of the authenticity of the three signatures were, as a unit, to two thousand six hundred and sixty-six millions of millions of millions of times against such a probability." To overthrow the force of this really correct *mathematical* demonstration of the impossibility of a fact, "certain signatures of John Quincy Adams and several others were exhibited, in which, even when greatly enlarged by photographs, there were many cases of coincidence far more exact than those to which Prof. Pierce assigned, through exact science, so high a degree of improbability." It is therefore impossible to demonstrate whether or not a series of lines coincide.

"The conclusion then is, that even by physical science, *facts as facts*, while capable of proof, are incapable of demonstration."

And finally we are told that, "we rise by induction to the general rule, that proof, not demonstration, is the condition of belief."

The truth of all this will more clearly appear from a right definition of the terms "demonstration" and "proof." What is demonstration? What is proof? or rather wherein do they differ?

"Demonstration is distinguished from proof in this, that of a demonstrated conclusion, the contradictory is inconceivable and impossible, while of a proved conclusion, the contradictory is always conceivable and possible."

We see a radical distinction between the healthy mind and the mind subject to delusion in this, that the healthy mind is swayed in its opinions, sentiments, and convictions, whether false or true, by reason, guided by evidence, and proof, and circumstance; while the partially insane are controlled, in opinion and conviction, by delusion, founded upon disease, and entirely disconnected with evidence, or proof, or circumstance.

It is worth while to note this fundamental difference, that is found between the basis of insanity and the basis of right reason, a little more in detail.

The delusions of the insane possess all the characteristics and powers of demonstration, because the holder of the delusion is incapable of conceivng that anything can be true which is contradictory to his delusion. On the other hand, the sound mind is incapable of entertaining any proposition or *principle of conduct* which possesses the quality of demonstration. It can not conceive of any motive of conduct which is not beset with doubts and uncertainties.

This principle of implacable opposition to all ideas of change or modification in sentiment, which is found in delusion, no matter what the mental or moral appliances may be which are put in opposition, is universal, and without exception. While the uncertainties of doubt, and possibilities of change in the principles which actuate the sound in mind, under the influence of testimony and proof, are also universal, and without exception.

We are met here with the fact that the partially insane habitually employ for the ruling force of their minds, in the performance of moral acts, principles which possess, to them, the nature and power of actual demonstration, while such a basis of conduct is impossible and incon-

ceivable to the sound mind. This consideration places the insane motive quite beyond the reach of the healthy understanding, and beyond the critical judgment of any one, however "expert" he may be, respecting the question of insanity in the simple aspect of physical disease.

We find a wide distinction, then, between the *power* of the moving moral and mental force; between the power of the *motive* in the sane and insane. In the former it is dominant, aggressive, unyielding; in the latter, soft and pliant and uncertain.

The strength and tenacity of purpose of one laboring under insane delusion, concerning the truth of which it is impossible for him to conceive the slightest doubt, must be greater than those resulting from the operation of principles always subject to change and uncertainty. The sane mind is capable of reviewing the grounds of its convictions; the insane mind is not. The motive for insane conduct is in its nature not only unchangeable, but irresistible. The object sought in insane manifestation is suggested and supplied by the delusion itself; it *is* the delusion; it is furnished by the disease in advance; it is never the subject of reason, and it can not be changed by proof. No alternatives in motive or conduct are possible. There is, therefore, *no power of choice*, and, consequently, no complete responsibility.

Thus it is plain that conduct springing from the driving force of delusion should be judged in a manner very different from conduct arising from the exercise of reason and evidence.

Is there anything unreasonable in the demand that the responsibility of the partially insane should always be abridged?

But it is claimed that delusion does not fill the whole mind, and that many acts of the partially insane have no connection with the delusion.

When we consider that these acts of the so-called sound faculties of the partially insane, for which certain writers claim that complete responsibility should be imposed, are really in their nature, some homicide or other atrocious breaches of law and morals, it would seem very probable that there is no such thing, at least amenable to proof, as a clear and sound understanding at any time in any person at all infected with lunacy.

In general terms, and *prima facie*, this looks very likely indeed.

But it will be proper to examine this doctrine, and inquire into its probable correctness. How does delusion take possession of a mind? Is it by consent of the lunatic? Can he help it?

The delusion of insanity arises in the mind by reason of some disease of the brain. Springing thus into existence unbidden and by the unconscious operation of disease, the mind is not responsible for its presence or its character. The sane mind has had nothing to do in molding its form, or determining its nature. In fact, the mind in which it finds lodgment is as innocent, and is as irresponsible for it as the mind of an entirely different person. Insane delusion is merely a symptom of brain disease. While the delusion thus implanted is weak and faint, the mind may wrestle with it, and reason against it. But in vain. While the brain disease lasts the delusion is beyond the power of reason.

It is difficult, if not impossible, for a sound understanding to clearly comprehend this state of facts. Delusion is too often thought of in the light of simple false belief. Under the influence of such a conception, the ordinary mind is apt to apply to the mental state of the lunatic such tests as it knows and feels, concerning merely false and obstinate belief in general. The fallacy and injustice of this must appear on a little consideration.

Belief in the sound mind does not come unbidden and unquestioned into the understanding. Its origin is distinctly known; its vicissitudes and uncertainties have been considered; and the methods of change and avenues of complete escape from such belief are within the knowledge and power of the mind.

Not so with that kind of belief, or rather conclusion, called insane delusion. Its origin is unknown. It is found an unwelcome intruder. Often it is referred to superhuman agency, for the agency of right reason had no part in its production. It is the product of disease; it is pathological not physiological.

When we consider that the acts of the partially insane have their origin in a pathological state, and the acts of the sound mind flow, not from affliction and woe, but arise in harmony with reason, free and untrammeled, the most precious gift of Heaven, does it not seem right that some

abatement in the requirements of responsibility should be accorded to the partially insane?

When it is considered, also, that a brain suffering from disease may become the seat of so strong and unnatural a mental state as delusion, is it not probable that such a brain is not a trustworthy basis for the performance of any mental act, even though apparently not related to the prevailing delusion? Does not the presence of delusion thus controlling the mind, in consequence of disease, raise a doubt as to the average perfection of the mental functions associated with such a brain under all circumstances? Should there not be required of the partially insane a diminished or dubious responsibility in all cases?

Whatever may be the real motive which actuates a partial lunatic in the performance of an act, the possibility of clearly ascertaining and proving that motive can not be reached. There is no such thing as an "expert" respecting insane, or partially insane motive. The application of the tests of logic, and even of professional experience, in a dogmatic manner, to the unraveling of insane ideas, and comparing these ideas with the relations which right reason bears to conduct, is simply presumption, and a proof of ignorance. It is often done, however, to the disaster of the helpless lunatic, and the reproach of civilization.

In illustration of the difficulty that a mere observer will experience in perceiving an insane motive, and the impossibillty of giving reliable testimony respecting such motive, attention will be directed to the *dual existence* of the partially insane.

Muller remarks, speaking of phantasms in general, "images from internal causes mingle themselves with those of real objects; it may happen that the images of external objects are seen through the phantasms as through a veil."

This will serve as a key to open to view one of the mental conditions of the partially insane. Take it for granted that upon certain topics the lunatic is clear and responsible in mind; dismiss for the moment the idea that it is absurd to suppose a partial lunatic can be perfectly sane and without any hidden weakness under favored circumstances, and even then the double life of the monomaniac must give rise to such a condition of mind as will be beyond the reach of credible evidence and proof.

The strongest conclusion of the monomaniac is, of course, his delusion. But if the delusion is weak, although it is still the leading idea in the mind, the life of ordinary relation and routine, constantly appealing to the senses, keeps the mind apparently in the ruts of common life and common sense. But if the insane idea is very strong, these appeals to the senses become unheeded, and the lunatic gives himself up to the dominion of his delusion.

It thus becomes apparent how the monomaniac is endowed with a double life, and even a double mind; a mind, actuated at one time by the force of demonstration, and again, at another time, by the incentives of proof and evidence. But these two lives are not held in equal esteem by the madman. One life, that of delusion, is to him real, important, decisive, and the other is endured with irksome courtesy, and under protest, as partaking only of the common nature of the world at large, with its rules and customs and requirements.

It is not always possible to tell with certainty where the insane mind stands with regard to these two worlds of existence. The lunatic frequently conceals his delusion for a time, and when it bursts forth, that is the first evidence of the existence of what was really present, it may be, long before.

How can a witness tell whether such an outburst is insanity or mere rage?

At another time the monomaniac may conceal his delusion, with an object in view that is related to the delusion. He may craftily do so, in order that he may secure some coveted opportunity to gratify his insane proclivity; to wreak his violence upon some victim beguiled into security.

How can a witness distinguish between this insane craft and right reason? This is the very midnight of insanity, and yet how can any one, merely from seeing for a short time a lunatic in such a state, distinguish it from the noonday of reason?

This kind of cunning is really very common; it is not exceptional. To "*conceal a delusion*" is one of the commonest expressions; but to *control* a delusion implies something more.

"Can a monomaniac," says Dr. Hammond, "control the paroxysm of delirium to which he is subject?"

To this interrogation I unhesitatingly answer in the affirmative.

"They have sometimes such a high degree of control over their minds that they will affect to renounce their opinions when they have any particular purpose to carry out, with which their opinions appear to be inconsistent. They dissemble their resentment until a favorable opportunity occurs of gratifying their revenge. This is so common that those around them have a phrase for it, calling it '*stifling their disorder.*'" So says Haslam.

Detailed examples of such suppression of insane delusion for a purpose are numerous. For example:

"An Essex farmer dissembled his madness for over a month, managing himself upon the whole with admirable address. His object was to obtain a decision from a specialist in lunacy that he was of sound mind. At length an opinion adverse to his wishes was made known to him, when he suddenly poured forth a torrent of abuse, and he continued in a state of unceasing fury for over fifteen months."

"The power of concealing delusions," says Winslow, "which confessed and even dangerous lunatics have been known to possess, have often astonished persons not fully acquainted with the subtile phenomena of insanity."

Another case in point from the same author will suffice for the present purpose. A young gentleman wished to obtain his discharge from an asylum. He had attempted to murder his sister under the delusion that she had interfered in his matrimonial designs. To effect his release, he professed to perceive that he had labored under a delusion, but that it had altogether departed. He said he wished to see his dear sister to ask her pardon. He seemed to be restored to his right mind, except in some very trifling particulars. To more fully study his case, the physician placed himself in a position where he could observe the patient without his own presence being known. He was reading; presently he approached a looking-glass. He gazed fixedly at himself a few moments, and then began a series of malignant grins. Then, clenching his fists, he walked about in an agitated manner, exclaiming, "The miscreant! the viper! the snake in the grass! I'll do for her on the first opportunity!" Shortly afterward, perceiving that he could not effect his purpose, he abandoned his disguise, and his insanity was apparent to every one.

The greater power controls the less. When delusion so dominates reason as to enlist it in the furtherance of its own insane tendency, such exhibition of the reflective powers is not evidence of even temporary sanity. The end of such reason is found in the delusion moving it. It is not free; it does not consider alternatives; it is incapable of choice, for the insane desire stands for a choice already provided.

No witness can truthfully testify respecting the state of mind or motive of a monomaniac. It may look like a sound understanding, but it may really be a sadly shattered one. The voice may be the voice of Jacob, but the hands are often the hands of Esau.

Again, as a stumbling-block to testimony as to motive, comes the old doctrine of lucid intervals. While there are many causes producing *remission* in the activity of insane delusion, it is universally admitted now that a true lucid intent in the insane mind never takes place. The disease upon which monomania depends, obeys the laws of periodicity, which not only distinguish all diseases, but in fact belong to the constitution of the healthy frame itself. While some of the insane remissions are dependent upon local causes, as exhaustion from the violence of the disease itself, it is also true that in monomania there is often observed a certain regularity of the exacerbations of the mental trouble, especially at intervals of twenty to thirty days. The interposition of such an interval has caused lunacy to be attributed to influences derived from the moon.

That certain periodical physical conditions are consequent upon disturbances in the equilibrium of the magnetic medium, caused by astronomical changes, is believed by many to be true. It is not, perhaps, venturing too much to suggest that the apparent monthly exacerbations in lunacy so frequently observed, are connected with changes in the magnetic state, induced by the rotation of the *sun* on his own axis about every twenty-five or twenty-six days. That the face of the sun is not homogeneous is well known. As he presents different aspects of his surface to us, modifications corresponding therewith, may be effected in the magnetic state which seriously impress the irresistible condition of a diseased brain.

At any rate, these various states of quiescence and exacerbation in the condition of lunacy; sound states under

the temporary or apparent control of the madman; others entirely beyond his knowledge or power combine to render the opinion of even an expert on *insane disease*, of little, or, at best, doubtful weight, respecting the state of the mind and motive of a monomaniac at any specified point of time. Such facts appear to justify the claim that in righteousness and mercy the responsibility of the partially insane should never rise to an equality with that of the sound mind.

In regard to the question of responsibility of the insane, Lord Justice Bromwell says: "If you can find out what man's mind is accessible to the influence of fear, you can find out the man you should punish."

Here is again exhibited the fallacy of estimating the motives, the guiding principles of men laboring under insane delusion, by the tests that are commonly applied to sound minds. So far as this *dictum* shows upon its face, it would seem that his lordship considered that every man that is susceptible to fear to be in his right mind. But his own conduct upon the bench shows that, in his opinion, persons partially insane should be subjected to the same responsibilities that attach to sanity, if they are susceptible to the impression of fear.

A monomaniac may be restrained by fear, or some motive simulating fear, as has been before pointed out, so that he may have opportunity to accomplish the promptings of delusion.

Take for an illustration of the influence of fear on conduct, a state of mind as nearly related to delusion, as we can conceive a sound mind to approach toward unsoundness. Consider the conduct of a mind imbued with a blind, but conscientious faith. We can conceive of such a person giving way for a time to the demands of violence and unreason, sustained by the conscious rectitude of his principles and conduct; but he can not be supposed to do this without a burning indignation, mingled, no doubt, with self-reproach; for he is alive to the wickedness and indignity to which he is subjected. Nor can it be imagined that such a man, imbued with a conscientious belief, should always submit to such indignities. The time will come when he will resist, will rebel, will die rather than submit to further wrong and humiliation.

So it must be in delusion. The knowledge of the unanimity of sane acts may for a time calm the activity of the

delusion. The behests of custom, the threats of power, and the requirements of authority, may and often do deter from the consummation of insane desires. But they can not always do so. The superior and incontrollable motive will at length assert itself over all opposition, and the "sacrifice," or the "offering" will at last be made in violence and horror.

In such cases it does not follow that because restraint may be effected at certain times, it can always be effected. It is not true that because a mind oppressed by delusion has been restrained by fear at one time it can always be so restrained, and certainly there is no ground for the doctrine that in case of failure to so restrain the unsound mind, it should incur the reponsibility of an unquestioned understanding.

This doctrine of the distinguished English lawyer is not true. Evidence can not possibly exist which will decide whether at some particular time a ruined suffering from delusion could or could not be actuated by the emotion of fear.

Such facts tend to show that instead of seizing upon some of the isolated symptoms and consequences of delusion, and drawing from them separate and different conclusions respecting the probable character of motive, and, therefore, different conclusions regarding the responsibility attending insane acts, it is better to compare the acts of delusion with the intrinsic nature of the state of mind characterized by delusion, and especially not with some ideal conditions of sound motive. It will then be apparent that there exists an intimate family relationship between the various and seemingly independent products of insane delusion. It will be perceived, also, that such insane acts bear such constant relationship to each other in their origins and methods that they are intimately connected together in the vital quality of responsibility; that is, the diverse results of delusion are closely affiliated one with another in the quality of a common origin.

Perhaps an illustration or two, based upon this plan of associating insane conduct with the nature of delusion, of comparing effect with cause, of viewing offspring, through parentage, may be of interest.

"It is the setting and keeping the mind in motion toward an object plainly conceived that constitutes the mental part of an act."

This proposition of Baron Bromwell, on the Dove trial, and taken from Dr. Bucknill's Lumleian Lectures, is supposed to cover a vast field of insane motive. The sanity of motive and the character of responsibility, it is inferred, may be tested by the more or less direct mental effort displayed in accomplishing a purpose. If the conclusion is the evident result of a series of persistent mental efforts, uniformly tending to such conclusion, the responsibility of that mind is presumed to be complete.

Dr. Bucknill himself declares that "an uncontrollable propensity, which accidental circumstances, or the fear of detection constantly controls, is an inconceivable state of mind."

It so happens that insane delusion is an "inconceivable state of mind," but, like a good many other inconceivable conditions in the universe, it is not necessarily an impossible state of mind.

It is difficult to add anything to the doctrines already advanced in this paper, adverse to these assertions, and the influences drawn from them.

Bellingham believed his private grievances were national wrongs. As he could not get an investigation in any other way, he killed a government official, in order to compel an inquiry into his case. He was successful. No man of humanity and learning would contend that this person's responsibility was unimpaired, yet his mind acted with a purpose, and in a direct manner also.

Hadfield shot at the king, not intending to kill, but with the object of securing his own execution as a "sacrifice" for mankind. His act was such as showed a direct mental effort intended to secure a desired result, and adequate, in ordinary circumstances, to gain his object.

While it is claimed that the reasoning was *connected* in these and other similar instances, it is not true that the reasoning was sound. Insane reasoning is like the parade and ostentation of a drunken man, who desires to conceal his condition. His elaboration betrays him.

Munk was tired of his "sad life," and, wishing to get rid of it, contemplated the killing of the Governor General of Finland. According to his own account, he knew that the man who had tried to assassinate the King of Prussia was executed. He was not capable of independent action. Instead of killing the first inoffensive person he met, his mind was tied to the plan of another, and his only

thought was that, as Hœdel had attempted the life of a potentate and perished, his right plan was also to attempt the life of a similar personage to achieve for himself the fate that overtook Hœdel.

It is not necessary to add anything further on this point. A continuous and successful chain of mental efforts directed to the achievement of any act does not imply of necessity that a mind is sound.

There is one quality about delusion which is probably an essential element in its nature, and, in part, accounts for that nature. The partially insane person, who remarked that he could not trust himself, because he found that he often had taken things or conclusions for granted, which, in fact, had not any existence, and had not been consummated, and he had, therefore, often been led into erroneous conduct, has a bearing upon the idea now coming under consideration.

It is a mental state that has been called *incomprehension*. It is the state of mind exhibited by the person who rolled a lot of beer-kegs to his own premises, under the delusion that they, and the brewery to which they belonged, were his own property.

A man who died in the Dayton, Ohio, Asylum, dreadfully insane, having torn and eaten portions of his arm with his own teeth, was first detected in delusion through taking and claiming as his own a rifled gun which pleased his fancy.

Such persons know right from wrong in the abstract, and may have an honest abhorrence of theft, but by reason of incapacity to really observe anything disconnected with simple sensation, making no note of the legitimate surroundings and boundaries of their acts, they imagine that whatever pleases the mind is the property of the mind. This mental state seems to be the effect of the want of power to fix the attention upon conduct. But it also implies defects in other mental faculties. When the gun was observed, instantly, without reasoning, without the ordinary process of comparison and judgment, the mind under stress of delusion, alone and irrational, appropriated the ownership.

There seems to be, even in a condition of mental healthfulness, a slovenly habit of half using the faculties; or, possibly, it might be called of using *half faculties*.

The ordinary speech used in conversation, if written down with exactness, would, with difficulty, be recognized as English. In a way analogous, the faculties of the mind are often used in a manner very different from the full and correct style in which their operations are understood in metaphysical science. And in this matter of delusion, particularly as it is exhibited in the symptoms called *incomprehension*, there is perceived to be a defective use of some of the more obtrusive faculties, while a similar failure may be inferred respecting the whole mind, "There is no such thing," says Reynolds, "as a sound and unsound mind co-existing in the same individual."

In the mental state above described, *will* becomes *desire*, and the mental conclusion is in accordance with desire, not will. The gun is perceived. But will, which directs attention, not only to objects, but to every separate process and step in reasoning; choosing certain data for comparison and judgment, and rejecting other data, performs none of these functions in a proper manner. The judgment is not interrogated, and, without any attempt or power of choice, the mind concludes upon the ownership of the gun. The determination of the question of ownership is here made without any process of choosing between alternatives. Alternatives have not been presented to the will, because reason has not been employed in forming conclusions.

"Desire is a blind and fatal tendency to act," says Sir Wm. Hamilton. It is blind, because it is not associated with intelligence; and fatal, because its determination can be but one thing, and is, therefore, not free.

When the will is diseased, as it is called in insanity, there is not will at all, but a *pseudo* faculty—a counterfeit of will—and something entirely different from will, and inferior to it. There is at the same time a corresponding debasement of the intrinsic qualities of all the mental faculties.

Of course there should be here immunity from responsibility; and yet, if the attention of the lunatic is sharply directed to the subject, the knowledge of right and wrong will be found in perfection, and the expression of that knowledge will be in clear terms.

Here is exhibited, to some extent, the manner in which

*Legal Tests of Insanity. Page 51.

delusions are implanted in the mind. Being established in a pathological condition of the brain, by a process not in accordance with reason, it is impossible to impress or change them by the appliances of reason.

It appears, therefore, that there are anomalies and contradictions in our practical jurisprudence respecting the responsibilty of the partially insane. The principles of such responsibilty, as laid down by authority are not satisfactory. One authority claims that a knowledge of right from wrong, either in general or in reference to some particular act, is the true test of responsibility in the monomaniac. Another places the test in the capacity or strength of will to refrain from an unlawful act. "Could he help it?" is the Shibboleth. Another makes the criterion of insane responsibilty to lie in the fact, or otherwise, of the impressibilty of the lunatic by the emotion of fear. And still another is certain that if the mind can exert its faculties in an unbroken chain of sequences toward the consummation of a criminal act, that mind is responsible. And these tests multiply, and must continue to do so, not because they may not be good tests of responsibility, but because they are utterly inapplicable by rational methods to irrational motives.

It is worthy of remark that this question of responsibility for crime, as touching the insane, is not confined to any idea of partial or abridged responsibility. The partially insane are supposed to be absolutely responsible, or not responsible in any degree whatever. The decision sought is often whether the lunatic shall die by the hand of the public executioner, or shall go practically free. And this decision usually does not rest upon a question of fact, for generally the facts are admitted; but it rests upon a preponderance of proof offered in evidence, from the mouths of witnesses who have no way of telling the motives; and the cranky, crazy, imbecile springs of the motives which led to the conduct under investigation; the whole being a mere theoretical, contradictory, and mischievous attempt to fathom the profound abyss of metaphysics as it relates to insanity. The decision is not, as before intimated, a question of fact or of guilt, but of hallucination, of delusion, and of the double life of the monomaniac. This double life, in itself, is impenetrable to reason. It is wholly unnatural and unlike anything that can be experienced by the same

mind, a commingling of delusions and rational ideas, in a manner that is beyond the ken of reason or of testimony.

When a question so momentous as the responsibility of the monomaniac is considered in a manner that must end in a verdict of complete vindication or entire guilt, and that, too, by minds which can not apply the methods of *proof* to the methods of *demonstration* (which really sway the lunatic), there is a liability that some terrible mistake will be made. Such mistakes have been repeatedly made. "I am satisfied," says Rev. Sydney Godolphin Osborne, "that we have hanged many insane people, and that we have let off on the ground of insanity very many who never were anything but sane." And Dr. Bucknill, by no means lenient with the partially insane, says, "Many criminal lunatics have been acquitted whose delusions have not been discovered until after their trial, and I fear some have been condemned whose delusions have never been discovered at all." It is the province of the expert to testify whether the patient is insane; not what his delusions are; not necessarily that he has delusions; certainly not what his motives were at any particular time. Upon that testimony, elicited by direct examination of the excused, and not by hypothetical questions, the court and jury, upon a general survey of the logic of the attending circumstances, can find something like an approximation to a just conclusion. It is greatly to be wished that the public could see in its true light the crime of executing a lunatic for any cause. It is murder, under the authority of law, to fittingly characterize which is beyond the power of execution.

Hitherto, while insisting upon the partial responsibility of the monomaniac, the drift of thought has been mainly toward the antagonism of the principles which demand the penalties of a sound mind in a large number of the criminally insane. While it has been insisted that the partially insane are partially responsible, the greater part of the argument has been directed against the doctrine of entire responsibility in the partially insane.

As an illustration of the unsteady and dubious manner in which the subject of insane responsibility is treated in actual practice by the very highest authorities that can be found, the case of one Treadway may be cited. This man killed a person named Collins. He was an epileptic. He was supposed to have committed the homicide under

the influence of disappointment and rage. He was convicted and sentenced to be executed. For some reason his case was reviewed by a commission of lunacy; one of this committee was the president of the Royal College of Physicians in London, another was Dr. Chrichton Brown. This commission decided that the verdict was *right*. They decided that, as the prisoner had a *fit* in the dock, he might have another on the scaffold, "an occurrence which might produce a mischievous impression on the mind of the public," it would be *inexpedient* to carry out the sentence. They decided in effect also, that it was wrong to carry out the sentence because "the responsibility of an epileptic might be diminished."

This disposition of the case is indorsed by Dr. Bucknill "as wise and merciful." Their final decision was right, but the reasons for it read very queerly. So much for medical experts.

Let us now see how the legal luminaries, on the subject of insane motive, dissipate the darkness supposed to surround that question. Take the case of Wm. Dove who murdered his wife. The evidence on trial is not at hand, and it has nothing to do with the present purpose. It is only necessary to quote the language of the judge, to find the principles which decided upon the life or death of the insane criminal. This judge was the eminent Baron Bramwell, who found out that the man you could scare so bad that he would refrain from wrong-doing, was the man you should punish.

"It is impossible to resist the conclusion," says the Baron, "that Dove was not a sane man. He was from infancy predisposed to madness. Symptoms of madness displayed themselves at intervals through his whole life. His language and conduct at times could not be accounted for on any common principles of action. But," says the Judge, "did he know he was doing wrong? Could he help it?" They asked a question that nobody could answer, and decided it in the affirmative. They hung their man.

But while the lunatic has rights which should be recognized, yet the rights of all, sane and insane, and the safety of society, are in this question, and should be secured.

There is no doubt that the partially insane are amenable to discipline, and that they can "*stifle their disorder*,"

at least in the immediate and sensible presence of a strong incentive to do so. It is true this can not be done with the average ease and comfort of the sound mind. And true, therefore, that the penalties of the sound mind should not be exacted when an offense is committed by an insane criminal. The partially insane then can restrain their conduct in some degree. Experience proves this fact. The partially insane has partial intelligence. We do not speak of his power "to use his intelligence." This is a phrase invented to bolster the doctrine that the responsibility of partial insanity depends, not upon knowledge, but upon power. "Intelligence and will reign together or retreat in company," says Prof. Calderwood, LL. D., of Edinburgh, in his essay on the "Will Problem." When there is no intelligence, there is no will; simply desire, impulse, appetite, or whatever that motive may be called, which is "blind and fatal," admitting no alternatives or power of choice. Therefore the hackneyed phrase, "power to use intelligence," is inadmissible, and will be rejected. Having some intelligence, the partially insane are partially responsible. No one can tell to what precise extent; but while it is a reality, it is never the complete responsibility of the sound mind. This much is inferred from the known characteristics of insane delusion. There is another element besides abstract right which enters largely into the formation and constitution of every highly artificial and civilized society. That is, the element or principle of expediency. Would it not be expedient, as well as right, to impose upon all partially insane persons some degree of responsibility? As it is now, every partial lunatic, in the contemplation of crime, has a hope of escape upon the ground of insanity. He knows well that, whatever atrocity he may commit, there is a chance that he may go free. In fact, it is a principle of insane nature, that unless the punishment for an offense is certain and impending, the prospect of punishment has no restraining terrors.*

It would then appear to be highly expedient that the partially insane should be brought to understand that there is no immunity for crime, upon the plea of insanity; that all the partially insane are partially responsible; and that punishment will follow upon proof of crime, with

*Bucknill, 3d Lumlein Lecture.

no hope of escape on account of disease. No one can doubt but such a knowledge possessed by the monomaniac would greatly diminish the number of crimes resulting from the indulgence of insane proclivities.

It is no uncommon thing to see elaborate plans, and preparations, and suggestions, and innuendoes, in the conduct of the monomaniac, in order to prepare a defense after the completion of some unlawful act which he contemplates. A full knowledge that this can not avail in escaping severe punishment will not only deter the lunatic from committing crime, but it will also exert a wholesome restraint upon criminals who feign, or intend to feign insanity, as a means of escape from the legal consequences of crime.

It seems, therefore, that it is not only right that the monomaniac should be held in some degree of responsibility for crime, but that it is expedient also.

The conclusions from the preceding analysis of insane delusion are as follows:

1. The partially insane should be held responsible for crime.
2. The degree of responsibility attaching to the acts of the monomaniac is less than that which belongs to the sound mind.
3. Capital punishment should never be visited upon one infected with any taint of lunacy.

Catarrhal Deafness.

BY W. R. AMICK, M. D., CINCINNATI, OHIO.

It is not our intention, in the present article, to give a dissertation upon the various forms of deafness from catarrhal causes, but to speak of a simple case of this form, which, owing to a congenital malformation, was treated in a different manner than the ordinary course that is pursued in such cases. When we say different, we refer to the way in which the application was made, and not the application *per se*. The usual method pursued in treating the non-suppurative form of catarrhal deafness, especially when concomitant with tinnitus aurium, is by forcing air through the eustachian tube into the cavity of the tympanum. The air may be impregnated, or it may be used

in its common form. The two methods in common use at the present time for inflating the drum, are, first, by means of the eustachian catheter and air bag, and, second, Politzer's method. In the first method the catheter is passed through the inferior portion of the nasal cavity until the beak arrives at the posterior portion of the nasal septum, when it is rotated outward into the pharyngeal orifice of the eustachian tube. Then the current of air is directed through it by means of the air bag. This is the usual method of inflating the cavity of the tympanum by means of the catheter, but not the only way as will be seen in the report of the following case:

Mrs. P—— is a lady forty-three years old, of medium height and size. On the 16th of September she presented herself to be treated for deafness. From her I obtained the following history; but I should mention first that she has a congenital deformity, consisting of a cleft palate. This makes it somewhat difficult to understand her statements, as the sound, instead of being directed forward through the mouth, passes up into the nasal cavity and through the nostrils, producing a hollow, imperfectly articulated, unpleasant sound. When she was twelve or fourteen years old, she had trouble with her right ear, consisting of pain, fullness and tinnitus aurium followed by a discharge. This discharge continued for some time, but finally ceased. The treatment consisted chiefly in keeping the ear well cleansed, but she used some kind of liquid that she put into the external auditory canal. Cotton was placed in the mouth of the canal to protect the inflamed portions from the vicissitudes of the atmosphere. Ever since this time she has been unable to hear any sound, unless very loud, with this ear. She is troubled with a sensation of fullness, or, as she expressed it, as if her ear was "stuffed up." She thinks a little wad of cotton has, in some manner, been pushed down upon the membrane tympani, and that that is the cause of this peculiar and unnatural sensation.

Two years ago she caught cold, and had severe pain in the left ear, together with tinnitus aurium. Ever since that time she has occasionally had pain in this ear, and the hearing power has been gradually getting worse. The tinnitus, which at first was periodical and not very marked, has become constant, and much more annoying.

On examination, the internal portion of the right audi-

tory canal was found to be contracted. The membrane tympanus was much smaller than its fellow, and had a much darker tint. It was distorted, thickened, and finely granular. The triangular spot of light could not be seen. The internal portions of the canal were normal in color. The left membrane tympani was considerably depressed. The transparency appeared normal, but the yellow spot was very small. In this ear she had a sensation of fullness and tinnitus, but it was not so marked as in the right ear. The watch could be heard three inches from the left auricle, but could not be heard at all with the right.

There was a general diffuse congestion of the mucous membrane of the throat and nasal cavity. On the posterior wall of the pharynx, just above the plane of the palate, there existed a circle of white lines, converging in a curved manner to a common center. This center consisted of a grayish white substance that resembled an eschar. There was no history that would indicate that she ever had any trouble existing at this point. This spot appeared to be the nucleus, around and over which thick tenacious mucus would collect. When it had gathered in sufficient quantity it would pass down the mucous membrane into the fauces. Its presence there would cause irritation, when it would be expectorated by coughing.

The treatment in this case was parly by inflation, but not in the ordinary method, and this is what we wish to speak about. Instead of putting the catheter in the nose, it was placed in the mouth. By the patient slightly reclining her head backward and opening her mouth, a complete view of the mouths of the eustachian tubes could be obtained by the aid of a forehead mirror. As both the soft and hard palate were absent, we could obtain a good view of the posterior wall of the fauces on upward to the roof of the nasal cavities, or, more probably, as in this case, there was no division, I should say cavity. The prominences caused by the turbinated bones were plainly visible. The vomer existed only as a septum in that portion of the nose which forms the external prominence on the face. It did not extend backward into the cavity. The mouth of the left eustachian tube was slightly different in formation from its fellow. The opening was oblique, inclining at an angle of about thirty-five degrees from a vertical line dropped from the superior and posterior margin of the orifice. Running at the same angle the poste-

rior portion of the opening was guarded by a cartilaginous column. This column began above and posterior to the upper margin of the mouth of the tube, and extended downward and forward. It arose out of the side of the nasal cavity gradually, and in the same manner was lost in it again. Its side formed the base by which it was connected with the nasal wall. This column was about thirty millimeters in length, ten millimeters broad at its base, and *en rilievo* about seven millimeters. There was a similar prominence in front, but not so long nor so large. Just posterior to the first prominence, at the point where the mucous membrane makes the turn from the fauces to the nasal cavity, there were four cell-like openings.

There was a similar condition existing on the right side, except that instead of a prominence in front of the opening, the mucous membrane was folded on itself, and looked more like a wing standing out at that point as a guard to the mouth of the tube. The entrance to both tubes was by a rounded lip margin that offered considerable resistance to the instrument. The orifice of the tubes were slightly separated, but frequently when an instrument was introduced there would be a spasm of the tubal muscles, and the instrument tightly grasped. In a short time the muscles would relax, and the instrument would drop out by its own weight. During the muscular spasm it required some force to draw it away. If the mouth of the tube was irritated by touching and rubbing it with the point of the instrument, there would be a contraction of the muscles sufficient to prevent the air from passing up to the cavity of the even with the beak of the catheter placed in the extremity of the tube.

The orifice or pharyngeal extremities of the tube were not round, but like a compressed elongated 0. They were about five millimeters in length. In the center the margins on the right side were separated nearly two millimeters, while on the left they were in contact in the center, but separated on either side of this point about one millimeter. On the right side, posterior to the mouth of the tube, and corresponding in position and number to those on the left, were four openings in the mucous membrane, resembling the orifice of small canals. One of the openings on this side was sufficiently large to admit the point of the catheter. Into this the catheter was inserted, and when air was forced through it the diagnostic tube

revealed a sound as if air was passing into the cavity of the tympanum through an opening. This inflation did not cause any more unpleasantness than when the catheter was inserted into the eustachian tube. By inflation through the eustachian tubes the air passed into the middle ear very freely and with considerable force.

The patient, on account of her peculiar situation and circumstances, only received six treatments, but stated that from these she had derived considerable benefit, as the fullness and tinnitus had disappeared from the left ear, and that with it she heard much better.

SELECTIONS.

Therapeutic Action of the Cinchona Alkaloids.

BY J. T. M'COLGAN, M. D., OF CELINA, TENN.

THERE are at the present time but few practicing physicians who, if asked the therapeutic properties of quinine and its kindred cinchona alkaloids, would unhesitatingly reply, "Tonic and antiperiodic." Further than this few men care to pursue any investigation; satisfied with the beneficial results obtained from it in the "so-called" periodic diseases, they are willing to be thankful for such marvelous success, and like honest Sancho, "bid God bless the giver, nor look the gift-horse in the mouth." Now we do not propose to instruct the profession at large on this or any other subject, for we are not so egotistic as to believe ourselves competent for such a task, but we wish to offer a few suggestions, based upon a long experience with these articles, which may be of some interest, though containing nothing new, but simply practical application of well-known facts and principles.

We first beg leave to state that periodicity is not an essential element of disease, nor is it even a pathologic condition, but simply a normal physiological manifestation, attendant to a greater or less extent upon almost every "ill that flesh is heir to," and by no means confined to malarial diseases, for which these alkaloids are justly denominated the Sampson remedy. All diseases which exert a depressing effect upon the nervous centers are

more or less marked by periodicity, or we might more appropriately say that periodicity is the vibration produced by any jar of the great nervous system, for we find it in the manifestations from traumatic injuries, as well as in disease. We should remember that when the system suffers any injury, whether from natural or traumatic causes, whether from an over-supply of deleterious food, or a blow from a stick, nature makes an herculean effort to rid herself of the grievance, and repair the injury done, nor does she cease that effort until she exhausts all the powers at her disposal; when that is done she ceases, in order to recuperate for another struggle. This is done under well-known physiological laws. No bodily function will bear continuous exertion without its periodic rest; contraction must be followed by relaxation, or disintegration is the result; even the heart, which carries on its unceasing action, has its period of rest between every beat; digestion has its periodic stages. We can not support life if we force into the stomach a continuous supply of food, although we do not exceed the quantity required; that organ must have its period of rest, which, if denied, will revolt at what you offer, and cease its work altogether. Periodicity is a law of nature, all-pervading and inexorable, and if disease shows its manifestations more markedly at certain periods than at others, it is in obedience to this great physiological law, and not a pathologic condition of the disease in question.

We have heard men speak gravely of a malarial diathesis which predisposes all diseases in malarial regions to assume a periodic type, but such logic is too puerile to be of any weight, for you must first take for granted the very fact that they are attempting to prove, viz: that periodicity is a peculiar pathologic characteristic of these diseases. Now 'tis true that the periodic manifestation is more observable in these disorders because of the rapidity and severity in which the paroxysms occur, but not more markedly than in epilepsy, hysteria and many other diseases, and we find these periodic manifestations in regions where malaria does not, and can not exist, and so with the periodic pain in cancer, gout, rheumatism, wounds and injuries; it is as well marked in northern latitudes as it is in the more temperate zones.

Let us now briefly look at some of the uses of quinine. It is a fact well known to every observer that quinine

exerts a wonderful influence over congestion, no matter where situated or how produced, relieving it sooner and more effectually than any other means at our disposal. It is also affirmed, and to the truth of which we bear witness, that it controls hemorrhage to a great extent. Certain forms of dysentery yield to its influence. In suppressed menstrual discharges it is as potent as it is in ague, and as an oxytocic is superior to ergot. Does it fulfill all these indications as a tonic and antiperiodic? It would be rather vague to say that antiperiodic medicine is needed to produce uterine contraction during parturition, and a tonic under those circumstances would be wonderfully slow. That a tonic and antiperiodic would produce hyperæmia of the uterus and promote the menstrual flow, and the same agent check a hemorrhage from the same organ—one is a normal periodic function, the other is a morbid condition, apparently the exact antithesis of the other; but as it does these things, there must be some good reason for its doing so, and this is the explanation we have to offer. Quinine and its kindred, cinchona alkaloids, are simply *nervous stimulants*, exerting a special stimulant effect on the *vaso-motor nerves*, and thereby equalizing and maintaining that balance in the circulation which is necessary to the normal working of the animal machine.

Now we are all aware that congestion is dependent on a semi-paralytic condition of the muscular coats of the vessels of the part congested, caused by a want of nerve stimuli (see Brown-Sequard and Claude Bernard's experiments), and we further know that where there is too much blood in any given part, it is at the expense of some other; or there is a corresponding deficiency of blood somewhere in the circulation, when there is hyperæmia in any particular part, and in order to relieve this, we must stimulate the vaso-motor nerves to action, and when we do so, the distended vessels contract, the balance of circulation is restored, and harmony is the result. Hemorrhage is dependent on local hyperæmia, and the beneficial effects of quinine in controlling hemorrhage is due, we think, to its stimulating effects on the vaso-motor nerve centers. In confirmation of this view, we would call attention to the following facts: When from the exposure to sudden cold the menstrua is arrested, there is nothing that will so speedily restore the function as decided doses of quinine, and when from a lax condition of the uterine vessels menorrhagia

occurs we find quinine just as potent in its arrest. Now in both these conditions we have the same thing inversely in sudden suppression of the menstrua; there is not sufficient blood sent to the uterus to enable it to perform this function, and consequently there must be hyperæmia elsewhere, and the vaso-motor stimulating properties of the quinine causes a more equal distribution by contracting the distended arteries where the local hyperæmia exists. In menorrhagia you have the local hyperæmia in the uterus itself, and it is stopped by the same means.

During any stage of pregnancy you may give quinine to any reasonable degree of cinchonism without disturbing the uterus in the least, and we have known cases of threatened abortion checked promptly and efficiently when opium utterly failed to relieve the pains; and we have, during parturition, produced urine contractions with the same drug, where ergot was as impotent as water. Now this is the way in which we account for these seeming inconsistencies. In the first case quinine has a specific stimulating effect over the whole vaso-motor system, and a general contraction of the whole arterial system alike, would not affect the normal status of the gravid uterus. In those cases of threatened abortion the cause was evidently a hyperæmic condition of the uterus, and the quinine relieved what the opium could not. The beneficial effect of quinine in parturition is not dependent on any specific action it has over the contraction of the uterus, but is best observed in those lingering cases of labor, where the patient has pains more of a neuralgic character than true contraction, when contraction commencing creates a reflex action, which from its severity cuts short the contraction, and in those cases of lingering labor where the powers are exhausted, and is due to keeping equalized the sympathetic system and preventing reflex nervous action, thereby allowing labor to proceed naturally.

To account for the beneficial effects of quinine in diarrhœa, we must only call to mind the fact that partial hyperæmia in a gland produces increased functional activity, and in those cases where it is beneficial there is enteric hyperæmia, and they are checked, not by a tonic or astringent effects of the quinine, but by its stimulating properties on enteric vessels, equalizing the circulation and diminishing congestion.

As to its therapeutic effect in malarial diseases, we may

reiterate what we have already stated. In all malarial diseases there is a great want of balance in the circulation; congestion is one of its marked characteristics, and while the limits of this article do not admit of a discussion of the pathology of these diseases, we will state that our experience leads us to the conclusion that they are not dependent on any specific *blood poison*, and the primary lesion must be looked for in the great sympathetic ganglia, and the alteration of the blood observed in these diseases is rather from a want of nerve-influence in perfecting natural changes, than the effect of any so-called poison. Whatever produces this functional derangement of the nerve-centers, there is no better means of remedying it, than sending to the brain a normal quantity of oxygenized blood, and quinine, by its stimulating effects on the vaso-motor system, regulates this supply by restoring the equilibrium of the circulation.

So far as regards the tonic properties of quinine, if we properly understand what is meant by a tonic, we have utterly failed to find that it has any. Its influence is as evanescent as it is potent, but as an adjunct to tonics, it is highly beneficial. As the carpenter uses a clamp to hold his boards together until he fastens them permanently with nails or screws, so do we use quinine. It holds the system temporarily in shape, and gives us a chance to permanently tighten all the loose screws.

All that we have said in regard to quinia holds good with all the cinchona alkaloids; they each and all possess this property of stimulating the vaso-motor system, and the results obtained from them are in proportion to their solubility in the juices of the stomach. These remedies require to go into the circulation by endosmosis, and are only completely soluble in an acid, and if they pass into the duodenum they meet with alkaline secretions, which render them more insoluble, and consequently inert. By using acid drinks during their administration (and we prefer buttermilk to all others), there is scarcely any appreciable difference in their effects. We have had as rapid and perfect results with the tasteless cinchona alkaloid by using buttermilk with it, as we ever had from quinine, and we have seen cases where quinine failed to act when given alone, brought promptly under its influence by using acidulous drinks. We have further found that, as a matter of economy, it is well to use them all

together. Cinchonidia, sulphate of cinchona and quinia intimately mixed, will produce better results and require smaller doses than either of them alone.

This, from our experience, is the whole therapeutical property of these remedies, and when we reflect on the amount of paresis of the sympathetic centers there is in almost all diseases, if we are correct in our conclusions, it opens a wider field for the usefulness of these preparations which will enable them to confer an incalculable benefit to mankind.

Philadelphia County Medical Society.

A CONVERSATIONAL meeting was held at the hall of the College of Physicians, Philadelphia, October 8, 1879, Professor Henry H. Smith, President of the Society, in the chair. Dr. Charles T. Hunter read a paper (see page 89) on "Hot Water as a Hæmostatic in Surgery," which received a vote of thanks from the Society.

Dr. John H. Packard said that he could add his testimony to what had been said as to the value of hot water as a hæmostatic in surgical operations, and would endorse it even to a greater degree than the lecturer had. In a recent attempt to remove a tumor from the antrum, of the nature of a polypus, which had grown principally outward, so that it was covered with a mere shell of bone, he had adopted the hot water as a hæmostatic with perfect success, so that this usually bloody operation was performed without the profuse bleeding that was expected. When the floor of the antrum was exposed there was pretty free hemorrhage, but on applying a sponge wet with warm water directly to the surface the bleeding immediately ceased. It was also effective in checking the hemorrhage from the cut surface of the lips in the earlier stage of the operation. He had resorted to it in a number of instances with success. In the operation of tying the external iliac artery the continual welling up of blood is a constant source of embarrassment. Performing this operation not long ago, he had noticed that by applying sponges dipped in hot water the oozing was prevented, and the wound was kept in a clean condition, which was very desirable in making the dissection. Only the last week, while performing an amputation of the leg, he had

found it to accomplish fully all that Dr. Hunter had claimed for it.

Dr. M. O'Hara remarked that the temperature of the water recommended to be used for injection in uterine hemorrhage is from 118° to 120°, and therefore hotter than that named by the lecturer by nearly ten degrees. He also called attention to the manner of application of the agent in obstetrics, where it is thrown against the bleeding surface, with some force and in considerable quantity. He inclined to the opinion that this manner of application by the douche might be more efficient than by sponges or fomentations, since in the latter case the heat is rapidly lost as soon as applied. When the use of the thermometer is inconvenient, the temperature of the water may readily be tested by the back of the hand. From experiments made at the Woman's Hospital of this city, it was ascertained that the highest temperature that could be borne in this way without pain corresponded usually with about 118° of Fahrenheit's scale.

Dr. Hunter replied that at the late meeting of the British Medical Association at Cork, the gentlemen attending the gynæcological section gave as the result of their experience that the temperature of the water should not be above 110°. He knew that it had been used hotter for the same purposes in this country, but he had arrived at his conclusions as to the proper temperature to be employed in surgery only after careful comparison, observation and experiment.

In regard to the manner of application, he was in the habit of making a thick compress, large enough to cover the entire surface of the wound. This is made of towels, and after dipping in the water is applied to the entire surface simultaneously. He was confident that much less heat is lost in this way than by the stream of water delivered from the syringe or douche. He had tried both methods at the University and Pennsylvania Hospitals, and preferred the method recommended in the paper.

Dr. Charles B. Nancrede said that he had adopted this expedient in a number of cases during the last few months, with complete satisfaction. In a case of whitlow, where he had been called upon to remove the ungual phalanx, the parts were very vascular and bled freely. The application of ice did not check the hemorrhage, but the hot water stopped it instantly. In two cases of lymphadenoma

of the neck that he had removed recently, requiring careful dissection, the hot water checked the bleeding so as greatly to facilitate the operation. He also referred to a case of partial amputation of the foot for old disease, where the parts were very vascular and congested, but the hot water prevented hemorrhage. In secondary hemorrhage it is also useful, and he communicated a case where there was a tendency to hemorrhage and bleeding, recurring for several days, in spite of ordinary styptics, but which was permanently checked by hot water.

Dr. W. R. D. Blackwood inquired if any member had seen injurious constitutional impressions from the use of hot water as a hæmsotatic. The application must make a powerful impression upon the nerves of the part, and might increase the shock after surgical operations. He asked this question because, in a recent case of threatened post-partum hemorrhage occurring in a habitual flooder, he had used the hot injection as recommended at a previous meeting of this Society by Dr. Albert H. Smith, and he was certain that the shock which made its appearance within fifteen minutes after the injection was due solely to the hot water. The patient appeared to be in a state of serious collapse, but recovered by the liberal use of stimulants. The hemorrhage was checked, however, and the woman actually lost less blood than in an ordinary labor. He had also noticed in one of the medical journals that a practitioner in one of the Southern States had decided trouble in gynæcological practice after the hot-water injections.

Dr. Hunter stated that he had never seen any bad effects from it. In a recent case of exstrophy of the bladder, operated upon by Dr. Levis, at the Pennsylvania Hospital, in which there was a very large wounded surface, the capillary bleeding was fully controlled by the hot water, and no bad results followed, but the child recovered very nicely from the effects of the operation, although prolonged etherization had been required.

Dr. Henry H. Smith called attention to the use of hot oil as an application to check hemorrhage in military surgery previous to the introduction of the ligature by Ambrose Pare. He inquired of the lecturer what was the physiological action of liquid or moist heat.

Dr. Hunter had recently seen a reference to this use of hot oil by Pare, in a paper by Thirsch. He had not been

able, however, to find any satisfactory account of the physiological effects of the hot application in any of the journals. The only reference to the use of hot water as a hæmostatic he knew of was in *The Practitioner* for February, 1879, in a communication from Charles B. Keetley, F.R.C.S., Assistant Surgeon to the West London Hospital.

Dr. W. H. Parish had used the hot water in gynæcological practice, in hemorrhage from the uterus or vagina, with the effect of promptly checking the bleeding. In regard to bad consequences, he had seen three cases of severe uterine colic from the use of hot-water injections—just as severe as though cold water had been used. He had not thought that the hot water entered the uterus, but that colic occurred simply from the excess of heat, and the friction or impinging of the douche upon the cervix.

Dr. Hunter remarked that as the result of some experiments upon sensation he had found that he was able to take water as hot as 140° into his mouth, but not above this without pain. He could hold his hand in water of 130°; the back of the hand is rather more sensitive, as observed by Dr. O'Hara, and as he had also found stated in Kuss's Physiology.

Dr. George Hamilton said that the method proposed for the arrest of hemorrhage by means of hot applications was not only different from, but was apparently antagonistic to, the action of cold, hitherto so generally employed for this purpose. The lecture of this evening, novel, interesting and important in its practical aspects, shows, in connection with other statements made during the discussion upon the subject, that this is not the case. More than forty years ago, while practicing in the country, a nurse had spoken to him (Dr. Hamilton) of the successful application to the hypogastric region of a hot-folded napkin, by order of the attending physician, for the arrest of uterine hemorrhage, when the ordinary measures had failed. Cold water, suddenly dashed upon the abdomen, in post-partum hemorrhage, is known to be one of the most effectual methods for arresting the discharge. The shock to the nervous system by this procedure is evident from the shivering or chill that at once ensues, and, as a sequence, diminished action of the whole vascular system.

The *rationale*, when a very hot application is suddenly

made, may be of the same character, for here, just as is seen in case of severe burns or scalding, chills or rigor may ensue, and here again a partial paralysis of the heart and vascular system occurs. Water of a high temperature used for the suppression of hemorrhage in surgery—to which object the lecturer has given his particular attention this evening—or injected into the cavity of the uterus, acts, no doubt, as was stated in the lecture, locally, by producing coagulation, as well as by reflex action of the nervous system.

Dr. Nancrede attributed the hæmostatic effects of the application of hot water partly to the coagulation of fibrin by the action of heat, and partly to the stimulating influence upon the vaso-motor nerves.

Dr. Benjamin H. Lee inquired whether the year 1875 was regarded as the date of the introduction of hot water into obstetric practice.

Dr. Hunter replied that in the discussion at Cork, before referred to, it was so stated, he thought, by a gentleman named Kerr; but Dr. Stillwell, of San Francisco, states that three years before he saw Dr. Marion Sims throw hot water upon a raw surface to check bleeding.

Dr. Lee said that about twenty years ago a paper by a distinguished physician of New Orleans was published on the "Use of Hot Water as a Hæmostatic," in which he had personally felt much interest. He believed the paper could be found in the early transactions of the American Medical Association.

Dr. Henry H. Smith could not recall having seen such a paper in the transactions.

Dr. J. T. Eskridge explained the physiological action of hot water through its action on the nervous system, and as an irritant to the parts. He did not think it directly favored the coagulation of fibrin, for this will take place at, and is assisted by, any temperature below 160°, and above the freezing point, but a much higher temperature would prevent its coagulation.

Dr. William B. Atkinson said that he recalled the fact that in 1867, while he was assistant editor of the Philadelphia *Medical and Surgical Reporter*, a paper was presented by a Dr. Neville C. Read, of this city, in which he recommended the use of hot water as an agent for checking hemorrhage. The editor of the journal, the late Dr.

S. W. Butler, refused to publish the paper on the ground of its being impracticable and visionary.

Dr. Charles K. Mills said that the hæmostatic effect of the hot water is principally owing to its effect on the vaso-motor nerves. Two classes of cases occur in which there is general vaso-motor spasm; in one there is extreme pallor and coldness of the extremities, and in another set there is vaso-motor paresis, with passive congestion and sudden flooding of the parts by the blood. These can be treated by heat, electricity, stimulants, etc. In considering the local effects of the hot water, it appears that the action is a direct one, and occurs independently of the vaso-motor centers. There is little doubt that there exists in the spinal cord a series of vaso-motor centers, besides the well-known center in the pons and the higher cerebral vascular centers. In the sudden application of hot water there is a powerful impression made upon the peripheral nerves, which is subsequently carried to the spinal cord, and may thus stimulate the vaso-motor centers into reflex action. In cases of hemorrhage due to vaso-motor paresis the good effects of the hot water may be explained in the same way.

Dr. O'Hara did not believe that the effect of the hot water could be explained altogether by nervous influence, because in that case it would be temporary, and the bleeding would return when the nerves resumed their functions. Coagulation must occur to stop the bleeding permanently.

Dr. J. L. Ludlow inquired whether the lecturer had observed anything like a shock in his cases.

Dr. Hunter said that his first impression had been that the effect was a reflex one, through vaso-motor influence; he now regarded the hot water as acting more particularly as a stimulant to the arterioles and the connective tissue in which the vessels lie. Undoubtedly the permanent occlusion of the vessels depends upon the formation of clots, although the heat is also capable of producing a profound nervous impression. He had often used the hot bath as a stimulant to the circulation, with good results. In a case of angina pectoris he had always succeeded in giving complete relief by a bath rapidly raised from 98° to 110°; immersion of about ten minutes entirely removing the oppression around the heart, and alleviating the other urgent symptoms.

In regard to the action of hot water upon the vaso-motor nerves, he said that Mr. Druitt* had recommended hot applications for excessive perspiration by sponging the surface with water at 130°, but for immersion the heat must be less; prolonged applications cause the surface to become red and congested. Upon a raw surface water of 110° will close the open mouths of the capillary vessels as the first action; but if continued for several minutes it would probably produce the contrary effect, and lead to profuse hemorrhage, as he had observed that the prolonged action of hot water seems to produce a condition of turgidity of the vessels lying immediately beneath the surface.

A CASE OF CALCAREOUS DEGENERATION OF THE MEMBRANA TYMPANI.

Dr. Charles L. Turnbull presented a patient of about twenty-six years of age for examination, with calcareous degeneration of membrana tympani. The symptoms consisted only in slight impairment of hearing; there was no history of any previous suppurative action or earache. Dr. Turnbull also exhibited a plate representing this condition, which had been colored for him while in Vienna, by Dr. Adam Politzer, the author of most of the literature of this disorder.

The calcareous deposit takes place primarily in the middle lamina of the membrane, as in the case under discussion, the mucoid and epidermal layers generally escaping; although Politzer has seen cases where these other layers have participated in the change, and in some the deposit consist of bony substances. The condition has been found co-existing with gout or rheumatism, and may accompany chalky deposits in the auricle and the fingers. No evidence of this kind could be obtained in the present case beyond the fact that the patient believed that he had been scrofulous in childhood.

A vote of thanks was unanimously passed by the Society to Dr. Hunter for his valuable paper, and to Dr. Turnbull for his interesting remarks. The Society then adjourned.—*Medical Times.*

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*On the Use of Hot Water as a Remedy in Profuse Perspiration, in the *Medical Times and Gazette*, March, 1865.

Cerebral Anatomy.

In discussing cerebral anatomy in the Academy of Medicine of New York, Dr. Dalton said attention is being directed especially to the anatomy of the corpus striatum.

The anatomy of the brain, said Dr. Dalton, is complicated in its details, but simple in its general structure. It consists of gray and white matter. The gray matter is arranged in two separate divisions, occupying two separate localities: 1. Exterior, convolutions; 2. Interior, cerebral ganglia, the corpus striatum and the optic thalamus. The white matter is a continuation of the longitudinal columns of the spinal cord. The ascending fibers of white substance were then traced through the madulla, the pons varolii, crura cerebri, internal capsule, and to the fan-shaped expansion, the corona radiata. In the cerebro-spinal system, counting from without inward, there are three distinct deposits of gray matter: 1. The gray matter of the spinal cord; 2. The gray matter of the cerebral ganglia; 3. The gray matter of the convolutions.

The doctrines now in vogue—even the recent views of Meynert and others, when divested of superfluous nomenclature—regarding the anatomy of the brain, were based upon the general view of three successive deposits of gray matter, connected with each other by three successive sets of white fibers. Of these three deposits of gray matter, the middle consists of the large cerebral ganglia, both of which occupy about the same level.

Dr. Dalton then referred to differences between the corpus striatum and the optic thalamus—the latter, on section, presenting a rather uniform gray tint, and the former showing white fibers arranged in bundles visible to the naked eye, and giving it a striated appearance. The corpus striatum was made up of two distinct parts: 1. Anteriorly, the intra-ventricular portion, or caudate nucleus; and 2. Posteriorly, the extra-ventricular portion, or lenticular nucleus. The optic thalamus was a single ganglion by itself. Of late it had become quite customary to restrict the term, corpus striatum, to its intra-ventricular portion.

He then alluded to the situation of these masses of gray matter with relation to the internal capsule and the crura cerebri, and passed to the consideration of the internal capsule. It could not be seen that the internal capsule

was composed throughout of fibers which run continuously from the madulla oblongata below to the convolutions above, but, on the contrary, there was a strong conviction that they were not the same fibers, and that in the passage from below upward there was an interchange of fibers, in the cerebral ganglia, not visible to the naked eye. In a physiological point of view there was no doubt that it was the channel of conduction between the hemispheres and the spinal cord.

Dr. Dalton then passed to the consideration of certain general and specific differences between the human brain and the brains of animals. The general difference consisted in the greater development of cortical substance. The specific differences were two: 1. The fissure of Sylvius was double in the human subject, consisting, 1, of a posterior branch, which was simply an elongation of the Sylvian fissure, as seen in the brain of the fox; and 2, an anterior branch; and between the two there was a triangular mass which was known as the *operculum*, and below them a group of convolutions known as the Island of Reil. He then directed attention to the formation of the fissure of Rolando, which was simply a dividing line between the descending and ascending portion of a curve the convolutions made in addition to the double curve formed on the convexity of the hemisphere; to the cuneus, the precuneus and the paracentral lobule; to the gyrus fornicatus; and then spoke of a special anatomy of the corpus striatum, which was usually described as a gray mass having an enlarged club-shaped extremity, directed forward and occupying the anterior horn of the lateral ventricle, and a cylindrical tail-like prolongation directed backward, and running along the outer edge of the lateral ventricle and terminating somewhere about the posterior end of the optic thalamus. In reality it was much more extensive than that. In fact, the extent of the corpus striatum was almost that of a complete ring encircling the crus cerebri and internal capsule, exactly as did the gyrus fornicatus. That arrangement could sometimes be seen simply by opening the lateral ventricle throughout its entire extent. It had enlargements in its course, and was more or less interrupted by oblique fibers, which came from the tænia semicircularis.

The anterior extremity of the corpus was connected with the gray matter of the convolutions at the base of

the brain, just in front of the Sylvian fissure; and in a similar way the end of its curved portion was connected with the gray matter at the inferior extremity of the posterior horn of the lateral ventricle, with the amygdala just underneath the lenticular nucleus. In the smaller portion of the corpus striatum the striations were lost. The corpora striata were masses, which correspond in structure exactly with the remainder of the hemispheres.

In the discussion that followed, Dr. E. C. Seguin directed attention to two points: 1. The great importance of clearly separating the nucleus caudatus from the nucleus lenticularis. They were almost completely separated anatomically, and the functions of the two parts were distinct. The nucleus caudatus had a more intimate connection with the motor tract than had the nucleus lenticularis.

2. The importance of understanding the true relations of the internal capsule. If any fact had been demonstrated by the help of pathological anatomy, it was that there was a continuous connection, by means of the white matter, between the cortex of the brain and the spinal cord. It was interesting to notice the growth of opinion relative to the physiological importance of the internal capsule, nucleus caudatus, and the nucleus lenticularis. There were competent observers who doubted whether hemorrhage into the lenticular nucleus was a cause of hemiplegia. Charcot was of the opinion that the hemiplegia was produced by the pressure exerted upon the internal capsule. If the lesion destroyed the anterior portion of the internal capsule, motor disturbances followed; if the lesionwas in the posterior portion, sometimes distinct motor symptoms were developed, but most prominently sensory disturbances upon the opposite side.

Dr. E. G. Janeway referred to a case which threw doubt upon the belief that destruction of the posterior part of the internal capsule always produced hemianæsthesia. In a case of hemiplegia the leg almost entirely recovered, the arm remained a trifle stiff, but possessed considerable power, and there was no anæsthesia. The patient died a year and a half afterward, and it was found that the lesion involved the entire posterior two-fifths of the caudate nucleus, all the internal capsule between it and the lenticular nucleus, besides producing well-marked atrophy of the lenticular nucleus and anterior part of the optic

thalamus. With reference to effects produced by lesion in the lenticular nucleus, he referred to a case in which a tumor was limited to that region, was not capable of producing much pressure on surrounding parts, and yet the symptom was simply aphasia, with a certain kind of dizziness having no special significance. He had also seen a case in which the lenticular nucleus was the site of an old cyst, which produced persistent aphsaia. How explain the aphasia?

Dr. Wm. H. Welch said that the valuable contribution of Dr. Dalton to the anatomy of the corpus striatum proved that there was still room for work in the topographical anatomy of the brain. The statement of Dr. Dalton, concerning the termination of fibers of the internal capsule in the basal ganglia, needed modification, since the researches of Flechsig had shown that the fibers which convey voluntary motor impulses from the central convolutions passed through the posterior third of the internal capsule, without terminating in the caudate or the lenticular nucleus. This discovery was in opposition to Meynert's theory of the three projection systems. Dr. Janeway's case of absence of anæsthesia with a lesion of the posterior part of the internal capsule, was rather in accord with Flechsig's views than with those of Charcot, who placed the motor fibers in the anterior two-thirds of the internal capsule.

Notwithstanding Meynert's brilliant investigations, the purely anatomical methods, while they taught us the topography of the brain, had given us very little certain information concerning its inner architecture—that is, the course pursued by nerve-fibers and the connections between the different nerve-centers. For a knowledge of these most important relations we were to look also, in the future, to embryology, comparative anatomy, pathology, and experimental physiology. Flechsig's embryological researches and the experiments of Gudden on young rabbits were referred to. Comparative anatomy might be expected to give important information, after the homologies between the different parts of the brain of man and those of the lower animals had been more clearly determined than was yet the case. But caution was requisite as regards applying directly to man the observations made on the nervous systems of the lower animals, since it had been shown that the pyramidal-fibers, for instance,

occupy very different parts of the spinal cord in different animals. As a basis for the study of the localization and of the connections of nerve-centers and nerve-fibers, an accurate topographical anatomy of the brain was indispensable.

Dr. W. A. Hammond, on invitation, remarked that it was held by neurologists in general that lesion in the optic thalamus was followed by temporary paralysis upon the opposite side and hemianæsthesia; that a lesion confined to the intra-ventricular nucleus gave rise to transient hemiplegia upon the opposite side, with derangement of sensibility; that a lesion involving the extra-ventricular nucleus also produced transient hemiplegia upon the opposite side; that a lesion involving the anterior portion of the internal capsule produced permanent hemiplegia upon the opposite side, much more so than lesion involving either the corpus striatum or optic thalamus; that a lesion involving the posterior two-thirds of the internal capsule produced permanent paralysis, hemi-anæsthesia, and permanent contraction of the muscles. He thought that when contractions of the muscles came on later they were not cerebral in origin, but depended upon secondary degeneration of the spinal cord.

Dr. Dalton replied to Dr. Welch, who thought that we should look for the most permanent advancement in our knowledge of the brain in pathological observation and physiological experiment, because so little real information had been obtained by purely anatomical investigations, and did so with the greatest respect for his opinion, by entering a protest against this view, for the reason that too much had already been done in that direction. For example, a section is made directly through certain nerve-fibers, and certain effects are produced upon distant parts, and immediately we deduce anatomical facts from physiological experiment—a method of reasoning which he believed was entirely wrong. The same was true with regard to pathology. For example, a tumor in a certain portion of the brain is associated with symptoms produced in a certain part of the body, but it was impossible to say that nerve-fibers extended from the first place to the second. He thought one of the faults that had been committed was conducting purely anatomical investigations of the brain by means of physiological experiments

and pathological observations. Both had their distinct values.

Dr. E. C. Spitzka, on invitation, spoke of the development of the corpus striatum in the lower animals, and also in man, and said that he found the portion most posterior to be composed more of neuroglia and atrophic elements, than of real ganglion tissue. With regard to Dr. Dalton's interpretation of the amygdala, he thought it would bear further investigation. He also thought that the results obtained by Flechsig, referred to by Dr. Welch, had been overrated, for F. had so confounded anatomical parts that his opinion could not be regarded as one having very great value. He then spoke regarding the striated appearance of the corpus striatum and the arrangement of the convolutions.

Dr. Welch remarked that he placed physiological experiments as the least valuable, of those mentioned, as a means of research. He thought, however, that experimental physiology and pathology had been of no slight service, inasmuch as they had taught us the location of psycho-motor and psycho-sensory centers in the cerebral cortex, and the course of certain groups of important nerve-fibers in the brain and the spinal cord.

A Case of Talipes Valgus—Quandary of Diagnosis—Experimental Therapeutics—Relief by Operation.

BY LOUIS BAUER, M. D.,
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An eminent jurist desired my visit to his lame daughter. For reasons of his own, he seemed to be reluctant to answer any questions. All I could ascertain was, that the patient had been an invalid for the last three years, and had used crutches for the last eighteen months; that, although there was no swelling, discoloration, deformity, or any other noticeable morbid change about *her left foot*, she could not use it without insufferable pain. When at rest, the foot gave her no inconvenience, nor had her general health been compromised. A cursory examination disclosed at once the varied symptoms of talipes valgus, to wit:

1. Moderate attenuation of the leg.

2. Loss in the span of the plantar arch.

3. Protrusion of the scaphoid bone.

4. Rotation of the foot at Chopart's joint (articulation between the first and second row of tarsal bones), with depression of the tibial and an elevation of the fibular margin.

5. Eversion of the toes, and,

6. Contraction of both posterior peronæi.

When these muscles were stretched by an opposite rotation of the foot, the very identical pains at the ankle joint were produced, of which the patient complained whenever the foot was put into use. There were no other morbid changes at or about the ankle joint or foot.

Thus diagnosis and treatment were clearly marked out.

On the next day the tendons of the contracted muscles were divided, and the deformity thus corrected.

Immediately after the operation, the young lady was induced to stand on the affected extremity and was able to bear her entire weight upon it. The pain had vanished. A letter from her father, lately received, affirms that she had no more use for crutches.

This case offers no extraordinary points to me and I would not have thought it worth publishing, if it was not for the fact that some of the most prominent surgeons of the Mississippi valley had completely failed in recognizing and relieving so perspicuous a case.

When combined talent and experience fall short, it is to be presumed that the general practitioner would appreciate the relation of a case which has made some stir among the learned and advanced portion of the profession.

"To my thinking" the case could be only one of two conditions. It was either synovitis of the ankle joint, or talipes valgus. In both there may be pain and muscular contraction of the peronæi. In the one it is the result of reflex action excited by the inflammation of the tibio—tarsal articulation; the other is often congenital and mostly the result of central irritation and morbid centripedal innervation.

Synovitis it could not be, for the following reasons:

1. There were no symptoms of inflammation of the synovial membrane, to wit: swelling and distention of the joint by effusion, and,

2. The pain was not permanent—absent in rest and

present when the foot had to bear part of the weight of the body.

Osteomyelitis of the tarsal bones and bones of the leg it could not be, since a duration of three years had failed to effect any disintegration, suppuration, caries or other changes of the individual bones.

Then, by exclusion, it was a case of genuine, probably congenital, talipes valgus.

It might be averred, that in such an instance the effects of talipes should have manifested themselves at an earlier age. My answer is, not necessarily. A moderate degree of that deformity may exist for years without any serious trouble, provided the patient is not very tall, and heavy in weight, or is obliged to lift heavy objects. Now the young lady had of late grown very tall and fleshy; her weight, although but fourteen years of age, had risen to one hundred and thirty pounds. This alone would furnish a sufficient cause to aggravate her trouble. Thus cause and effect are obvious.

A careful logical reasoning should have led to a correct diagnosis. But supposing inflammation had been recognized, the treatment would not have deviated materially. The acknowledged therapeutical rule would have been *to immobilize the joint in an appropriate position, and to dispose of existing muscular opposition.* Whether the muscular contraction was reflex or centripedal was of no material weight. The contracted muscles had to be cut in order to reduce the deformity. While it prevailed, the limb was of no use, since the corporeal weight alighted in a prejudicial direction upon the skeleton of the foot and caused a painful stretch of the contracted muscles.

The tenotomy, the most important measure of relief, was neglected, and hence the failure.

I will not reiterate here all the mistakes made in the treatment of the young lady, nor will I set myself up in judgment of my confreres; but this I can say in honest candor, that the moral courage has never failed me to peremptorily decline the treatment of any case, unless I have a diagnosis at the foundation of my surgical action.

Medical Society of the District of Columbia.

ITS ORIGIN AND HISTORY.

At a regular meeting of the Medical Society of the District of Columbia, on Wednesday evening, Dr. D. R. Hagner (president) in the chair, the special business of the evening was the delivery of the annual oration of the society. There was a good attendance of the profession and their friends. The chairman of the committee of arrangements, Dr. J. M. Toner, in introducing the orator of the evening, alluded to the origin of the society, and remarked that the first public notice relative to its formation was contained in the *National Intelligencer*, of September 24, 1817, in the following words: "The physicians of Washington and Georgetown are requested to meet at 'Tennison's Hotel,' on Friday, the 26th inst. (Sept., 1817), at 11 o'clock, for the purpose of taking into consideration the organization of a Medical Society." Sixteen physicians assembled at the time and place indicated. On an occasion like this, after a lapse of over sixty-two years, it may have some historical interest to give the names of these—the fathers of the society: Drs. Charles Worthington, James H. Blake, Thomas Sim, Alexander McWilliams, Robert French, Samuel Hearsley, James T. Johnson, J. P. C. McMahon, Paregrini Warfield, Thomas Henderson, George Clark, Benjamin S. Bohrer, John Harrison, William Jones, Nicholas Worthington and Henry Huntt. Dr. Charles Worthington was requested to take the chair, and Dr. Henry Huntt chosen secretary. The object of the meeting having been stated and fully discussed, the project met with unanimous approval, as was manifested by the passage of a resolution, which appeared in the notice of the meeting in the *National Intelligencer* the following morning: "That the physicians attending this meeting deem it important and expedient to organize at once a society in the District for the promotion of medical science." A committee of seven men was then chosen by ballot, to draft a constitution and by-laws for the government of a society to be called "The Medical Society of the District of Columbia;" and to report to a meeting to be held on the first Monday in November, at the same hour and place. This committee consisted of

Drs. Blake, Sim, Henderson, Clark, Worthington, jr., Warfield and Huntt. The society met accordingly November 3, and heard the report, which was taken up, section by section, and altered or amended as they desired. Being unable to complete the work at this sitting, they adjourned until the 10th, to meet at the same place. (See *National Intelligencer*, November 8, 1817.) At the third meeting the work of reducing to form the fundamental regulations was concluded, but, as the first notice had unintentionally omitted in the call the Alexandria physicians, a final vote of adoption of the constitution and by-laws as a whole was deferred until they could be copied into a book, and until a notice was published inviting all the physicians in the District to participate in the formation of the society, to meet January 5, 1818, at "Tennison's Hotel," for the purpose of completing the organization. At this meeting the physicians of Alexandria attended, and took part in the organization, and were given places among the officers and on the different committees, and continued in active co-operation until 1846, when that part of the District south of the Potomac was retroceded to Virginia. The society at that time provided for the establishment of a library and for four regular meetings in each year. The officers chosen at the first meeting after the adoption of the constitution and by-laws were Dr. Charles Worthington, President; Drs. Arnold Elzy and Jas. H. Blake, Vice Presidents; Dr. Henry Huntt, Corresponding Secretary; Dr. Thomas Henderson, Recording Secretary; Dr. Richard Weightman, Librarian; Dr. William Jones, Treasurer. The society was popular and prosperous, and in 1818 twenty-one members of the society joined in a petition to Congress for a charter. An act passed Congress incorporating the society under the name of "The Medical Society of the District of Columbia," which became a law February 16, 1819. The charter of the society has been amended but once, which bears date July 7, 1838. None of the original members are now living. Dr. William Jones, who died June 25, 1867, was the last of these worthies to pass from earth. At the time the revised charter was asked for, in 1838, there were but seven of the twenty-one original incorporators living. These seven, with fifteen additional names, members of the society, making twenty-two physicians who are named in the revised charter. Of these twenty-two

there are, after forty-one years, but seven of them living, namely, Drs. John B. Blake, Joseph Barrows, H. F. Condict, J. C. Hall, Benjamin King, Harvey Lindsly and Noble Young. In closing, Dr. Toner said: "Although a resident physician and a member of this society for nearly a quarter of a century, I see in the room physicians who were born in this city, and who have been over half a century physicians and members of this old and honored society, and who know its origin and history better than myself. I will not, therefore, detain you longer with a recital of its origin and progress, but at once introduce to you the orator of the evening, Prof. Robert Reyburn, who has been chosen to address you on this occasion." Dr. Reyburn then delivered the annual oration, which was a very interesting one to his hearers, ably sketching as he did recent progress and improvements in the science of medicine, and throwing out valuable suggestions for medical practice at the present day.

Microscopy.

The Cause of Consumption.

Dr. Salisbury is of the opinion that Consumption is caused by a fungoid or vegetable growth in the blood. "If a drop of the blood be examined in the microscope, it will be found to be filled with this vegetable growth, which looks like the spores in the blood to become watery, and depriving it of the life-giving qualities. The stomach of one in this condition is little else than an yeast pot. All that is taken into the stomach ferments, causing carbonic acid gas to generate. This rises mainly to the cavity of the left side of the stomach—this being the highest point—and paralyzes the muscles, and so interferes with the action of the heart, lungs and vocal cords as to cause loss of voice, and often partial paralysis of the legs."

The Doctor therefore recommends a beef diet as a curative means in the treatment of Consumption. A fruit and vegetable diet he regards as very injurious, producing, as it does, fermentation and fungoid growth in the blood. The following is his mode of broiling meat that it

may be the most nutritious and the least likely to do harm:

"First, trim off all the fat, then cut out the bone and all the large fibers and strings; then chop fine as for sausage meat. Next, with a knife and fork, go over it again and remove all the little fibers that may have escaped notice before, and it is then ready for shaping. The meat is now almost a paste, and can be made into steaks of any size, or formed in a plate into one large piece to cover the broiler, which, when cooked on one side, can be turned by covering with the plate and reversing both plate and broiler, taking care to save the gravy. Butter, salt and pepper to taste after being cooked—not before—as it hardens the meat. A change can be made to porter-house or tender-loin steak if desired—not chopped, but trimmed of all fat. A roast of beef, lamb roast (trimmed of all fat) and dried beef can be eaten sparingly after awhile; but for steady eating, broiled steak will be found the best. Lamb and chicken should be avoided if there is a tendency to diarrhea; and in cases of excessive diarrhea, stop the hot water for a few times, and substitute a glass of boiled milk, made black with pepper."

Blood in Diagnosis.

Some five years ago, Dr. Heitzman announced, in the *Medical Record* of this city, an important discovery in respect to the anatomy of protoplasm. He claimed that protoplasm of every description invariably contains a network of threads and granules inclosing a fluid, and that the threads and granules constitute the living matter. This view, he now asserts, has been accepted by more than a dozen of the best microscopists abroad, although it has not yet been recognized in this country; and he makes it the basis of an announcement which, if satisfactorily demonstrated, can not fail to have a marked and beneficial effect upon the practice of medicine—the announcement that a drop of man's blood under the microscope will tell just what his condition and constitution may be.

A protracted study of the pus corpuscles in urine, in connection with clinical histories, led Dr. Heitzman to the conclusion that the constitution of a patient could be determined by such examinations, the pus corpuscles of a

healthy and strong person containing a greater abundance of living matter than those of a person enfeebled by disease or otherwise. He next extended his investigations to the colorless blood corpuscles, suspecting that by their examination also he might be able to determine the constitution of the individual furnishing the blood. His expectation was verified, he says: an abundance of large granules going with a good constitution; on the other hand, if the granules were few and fine, or the entire body of the corpuscle pale, it was evidence of a poor constitution. He frequently noticed that the number of white blood corpuscles was considerably increased after a single sleepless night, so much so that it might be determined whether a man had been kept from his rest or not, by the examination of his blood. It could also be determined whether a man was to have acute diseases, or whether he was to suffer from the slow processes of disease incident to a strumous diathesis.

A committee of physicians has been appointed to investigate and report on this most promising subject. If it proves possible to determine a man's physical constitution by the examination of a drop of his blood, a new field of investigation will be opened, and one having very important practical bearings.

The Use of the Microspectroscope.

It promises important results in chemical analysis, but requires delicate observation and exact measurements, together with a careful and systematic study of a large number of colored substances.

In using the microspectroscope, much depends on the regulation of the slit. It should be just wide enough to give a clear spectrum, without irregular shading. As a general rule, it should be just wide enough to show Frauenhofer's lines, indistinctly, in daylight. The slit in the side stage should be such that the two spectra are of equal brilliancy. No light should pass up the microscope but such as has passed through the object under examination. This sometimes requires a cap over the object-glass, perforated with an opening of about one-sixteenth of an inch for a one and a half inch objective.

The number, position, width and intensity of the ab-

sorption bands are the data on which to form an opinion as to the nature of the object observed, and Mr. Sorby has invented a set of symbols for recording such observations. These bands, however, do not relate so much to the elementary constitution as to the physical condition of the substance, and vary according to the nature of the solvent, etc., yet many structures give such positive effects as to enable us to decide with confidence what they are.

Colored beads obtained by ordinary blowpipe testing, sections of crystals, etc., cut wedged-shaped so as to vary their thickness, often give satisfactory results. But minute quantities of animal and vegetable substances, as blood-stains, etc., dissolved and placed in short tubes fastened endwise on glass slides, or in some other convenient apparatus, offer the most valuable objects of research. To measure the exact position of the absorption-bands, the micrometer already described may be used, or Mr. Sorby's apparatus, giving an interference spectrum with twelve divisions, made by two Nicol's prisms, with an intervening plate of quartz of the required thickness. —*Wythe.*

GLEANINGS.

ERRORS IN DIET AS A CAUSE OF DIARRHEA.—Another cause of diarrhea troubles is the giving of all sorts of diet too early. There is a desire to make the child strong and grow more rapidly. Meat, vegetables, and farinaceous articles in abundance are given to children even eight or ten months old. A child under eight months ought to have no other diet than milk, and even up to two years milk should be its main diet. Human milk is the best during the first year or until weaning, but often from necessity the child is brought up on the bottle. During the first eight months cow's milk diluted one-fourth with barley-water makes the best diet. The ground or crushed barley should be boiled with water of sufficient quantity, so that when cold it is about as thick as thin cream. The milk should be given about blood-warm and a little sweetened. What place should condensed milk be given in the feeding of children? I should give it a place on the shelf at the grocer's. I have tried the condensed

milk with children thoroughly, and have seen it tried in the practice of others, and must protest against its use. Children fed on condensed milk, although they may thrive well apparently, yet when they fall ill show very little resisting power; and particularly when they fall ill of diarrhea they weaken very rapidly and the diarrhea is apt to be obstinate. There are exceptional cases in which it may be used, and some cases in which it is desirable to use it for a short time. When bottle-fed children suffer from diarrhea it is well to boil the milk and make the barley-water thinner and give more of it—say one-third barley-water and two-thirds boiled milk. I have found thoroughly-cooked wheat-flour an admirable food for children with diarrhea. Have it prepared in this way: Put about two pounds of flour in a muslin bag, tie a string around the top of it, and suspend it in a kettle of water and boil it for five hours; then let it get cold. Take off the bag, cut off the outside dough and grate it. Thicken boiled milk with this to about the consistency of a thin gruel, or about thick enough for it to pass through the rubber nipple of a nursing-bottle. All food for children should be thoroughly cooked. Still more is this to be observed when they are ill of diarrhea. As a rule, feed children suffering with acute diarrhea just as little food as will satisfy their hunger, and often a little cold water will relieve their thirst and lessen the desire for food. Avoid alcoholic stimulants, unless there is exhaustion. Champagne iced may be given in small quantities if there is obstinate vomiting.

External Applications in Strumous Disease. — Dr. Horatio Storer, in the Virginia *Medical Monthly:*

From oil inunction every physician has obtained benefit who has taken the trouble to see that it was faithfully employed. Ordinary olive oil has been ordered, on the ground that it is cleaner. I am quite sure, however, that in fish oils, the odor of which, when prepared and kept with care, is no worse than many remedial agents that are constantly prescribed, we have a drug of greater specific power. Their price, especially the oil of menhaden, as compared with that of the olive, is much less, and on this account is of importance, certainly in hospital and dispensary practice.

Sea-water is so easily procured, so close at hand to many of our profession, that we are apt to forget that it is, in

reality, a "mineral water" of exceeding value. Let the same or very nearly the same formula be discovered in any spring-existing inland, as is the case with some of the most famous health-resorts in this country and Europe, and language in praise of it is exhausted by medical men. But then this sea-water is so very common. Allowing for all the benefits that change of air, of diet, of scene, and of thought have for an invalid brought to the sea-side, there yet remains, and prominently, the effect of the sea-bathing; and this, too, where the water is still and the stimulating shock of surf is absent.

Much of the advantage to be derived from sea-water can no doubt be obtained from its natural salt procured by evaporation, which the skill of the chemist has in vain tried to imitate. It is now somewhat difficult to obtain real sea-salt, as almost all the evaporating vats along the coast have been allowed to fall to pieces since the general use of rock salt and that from salt springs; but it would be for the advantage of invalids were it and sea-water added to their list of necessaries by druggists and country physicians. A pint of sea-water or half an ounce of sea-salt dissolved in a pint of rain-water will, if used with care, furnish an abundant sponge-bath. Careful analysis of the true and factitious sea-salts may seem to give identical results, but in effects the latter will be found to be lacking in a certain something that is possessed by the former.

Sea-water, it may here be said, has the same advantages as other mineral waters where indicated for internal use. In an overdose, like them, it will vomit and purge. In more reasonable quantities it produces, like them, a tonic, alterative, resolvent, deobstruent effect.

When used as a bath there are many methods, usual and unusual, by which to employ sea-water for strumous cases. I have spoken of the possibility of producing a temporary and local saline climate by its atomization. Here, in reality, we bathe and stimulate the respiratory mucous membrane, as well as obtain medicinal absorption thereby. In precisely the same way, by the atomizer, by the direct douche, and by the "internal soak," as it may be termed, where the cavity is partially filled, and allowed to remain unemptied for a considerable period of time, the rectal, vaginal, and even vesical coats may, for various indications, receive sea-water applications.

THE ABUSE OF QUININE.—Dr. A. G. Tebault, in Virginia *Medical Monthly:*

While it is impossible to estimate at its true value the boon conferred upon the human family by the discovery of *quinia*, there are reasons to suspect that, like venesection, catharsis, and other therapeutic agents in vogue at various epochs, it has often been employed without a due regard to proper limitations. Its lavish and excessive use in all diseases recognized to be of malarious origin and under all contingencies can not always be judicious. Seldom are doses above twenty grains necessary except in pernicious fever and Asiatic cholera, and then solely with a view to secure the speedy absorption of enough of the remedy to impress the system. Meantime its toxicological effects should be avoided with professional tact, as these may enhance the danger. In former years doses of one or two grains, frequently repeated, with the addition of opium when indicated, succeeded very generally as well in overcoming collapse. Briquet (*Traite Therapeutique du Quinquina et de ses Preparations*) concludes that the administration of the salts of quinia in doses sufficient to induce a sedative impression upon the circulation produces in the economy so serious a perturbation that the risk ought not to be run except when the disease is serious, either from its duration, its gravity, or the accidents and danger to which it may expose the patient.

That quinia is a specific in malarious diseases is a phrase calculated to conceal our ignorance of the mode of cure. Even its power as a prophylactic, when fairly tested, has proven unsatisfactory and fallen below expectation. Often when exhibited in large doses without due preparation, in anticipation of a paroxysm, or for weeks and months in divided doses as a preventive, it has failed to avert an attack. Indeed, as a prophylactic carbolic acid given in grain doses, at intervals of three to six hours, has, in my hands, yielded comparatively far happier results, even in cases where unmistakable prodromes of malarial fever were actually present. In experiments instituted during the past seven years, on my own person and others, feelings of lassitude, malaise, cutaneous torpors, disturbed sleep, furred tongue, nauseous taste, and anorexia often gave way under this treatment within twenty-four hours; and a pulse hitherto jerking and irritable became calm and of the natural rhythm, while a soothingly pleasant

sensation pervaded the system. No fever manifested itself in any of the cases; on the contrary, the person felt refreshed and buoyant.

No other agent which I have employed has ever superseded *carbolic acid* as an *apparent* disinfector of the malarious taint within the system; and this, after anxious thought on the subject for years, is, to my mind, the first glimmer of light that may lead to the discovery of means to act directly on the poison of fever.

To return from this digression. Quinia, besides not being antiloimic, is not by far the best tonic, nor does it directly promote hematosis, nor is it a good hemostatic.

MEAT DIET.—Over 75,000 people die every year from this disease alone in the United States. The one thing to be noticed in the study of the statistics of consumption is, that climate has not so much to do with it, as has the method of feeding of those who suffer from it.

New England baked beans have been the cause of more disease than has the severity of its climate.

Consumption is hereditary, just as a father's spectacles or cane may be. If one accepts and chooses to wear the spectacles and walk with the cane, they are hereditary, and pass from father to son, but not otherwise. Whatever way one may live, the children will be likely to follow; and if the diet of the parents was food likely to ferment—such as fruits, vegetables, etc.—the children will follow in the same manner of eating. The principal thing needed is to change the diet, and regulate it according to the requirements of the patient's system. One may be predisposed to consumption in the sense that they have been accustomed to a diet that will, if persisted in, cause that disease; but it is within the power of every one to rid themselves of this predisposition by avoiding the cause. Consumption is not, like some other diseases, entailed upon us—only the conditions are, in a secondary sense; and a child born of a consumptive mother has no more liability to this disease, than one whose mother died of old age, provided the child will live in accordance with the requirements of health. The child's blood may have more or less of yeast, or fungoid growth in it; but live aright, and this yeast will die out, because the blood is no longer a fit soil for it to grow in. This yeast being removed, there remains no more tendency on the part of

a child born of consumptive parents to consumption, than there is in any other person.

Charity Work.—Advice to a young doctor—"Having, in a long time of practice, both from choice and necessity, done a great deal of gratuitous service, I have yet to find a single case where my charity work was appreciated. Those who pay nothing always offset it by liberal abuse, which keeps away those who would pay. Your charity case may be a worthy man, but if you were making a struggle to build a house would he work for you at reduced rates (or for nothing)? It is the doctors themselves, who allow their kind feelings to overrun their judgment, that are responsible for this wholesale robbing to which every doctor in this land is subjected. We deal with the most afflicted; so does the undertaker, who is not expected to work for nothing. We can maintain no rights that we weakly yield to extortion.

The doctors are most universally regarded as rich persons who ride about for exercise, and practice for philanthropy, to be paid if everything turns out lovely; if not, they can go to the d—l and must not complain. The people who pay are always grateful; the thieves are like other dead beats, abusive and always most exacting and querulous. * * * If the patient cannot pay for what might save his life, his friends or the public should. It is easier for the town to shoulder the cost than two or three poor devils who had the bad luck to study physic. Now or never is the time to put ourselves on the same footing with other business, and as we have the same losses we must ask for the same gains.—*Ca. Lancet.*

A New Preparation of Quinine Solution in Water.—In the *Centralblatt, f. d. Med. Wiss.*, June 14, Dr. Jaffe, of the Hamburg General Hospital, reports the results of the trials which he has made of a new preparation of quinine, termed *quinia bimuriatica carbamidata*, formed by Drygin from a combination of twenty parts of muriate of quinia, twelve parts of muriatic acid, and three parts of urea. The resulting salt is soluble in equal parts of water, and is, therefore, eminently suitable for the administration of large doses of quinine by the hypodermic method. The trials that have been made of it at Hamburg have proved so successful that it is highly desirable it should be more widely known. A fifty per cent. solu-

tion has always been employed, so that a Pravaz syringe full (holding one gramme) will contain a third of a gramme of the salt. The quantity injected varied from a half to three syringes full. The local irritation consequent on the injection was in most cases very slight, and at most consisted in a circumscribed burning pain (which was soon relieved by cold Goulard water), without redness or swelling. Doses of a gramme produced in men scarcely any subjective sensations, and the noises in the ear complained of by women and children soon disappeared. The anti-febrile effects were evident and certain, intermittents disappearing after the second or third injection. This form of administration seems especially indicated (1) in those sensitive persons who have an invincible objection to taking quinine by the mouth; (2) when gastric affections co-exist; (3) in children; and (4) in hospital and pauper practice, as a much smaller quantity of quinine is required than when it is administered internally.

Intussusception in Infants.—There is no absolute pathognomonic symptom of the disease, and it is difficult, particularly in the early period of the attack, to make the diagnosis. Intussusception may be confounded with acute indigestion, gastritis from poisoning, acute dysentery, colic, cholera infantum, and with other forms of internal strangulation of the intestine. The sudden development of abdominal pain in an infant above the age of three months, with persistent vomiting, soon followed by bloody stools and tenesmus, points very strongly to intussusception. If the presence of an abdominal tumor of recent occurrence can be ascertained, there can scarcely exist a doubt as to the special character of the disease. If, with the above described symptoms, a tumor can be felt in the rectum, a positive diagnosis can at once be made.

Plugging the Cervix Uteri for Metrorrhagia.—At a late meeting of the Obstetrical Society of Paris, a discussion on the treatment of metrorrhagia was introduced, and among the various manipulative measures that were referred to, preference was given to plugging the cavity of the neck of the womb, which had several advantages over plugging the vagina in such cases. It stopped the blood more effectually, the patients bore it better, and there was less chance of putrid absorption. Each speaker

recommended his own plan; but that adopted by M. Panas seems to me the best. It consists of introducing into the cavity of the uterine neck a pledget of cotton wool, rolled up to about the thickness of a goose-quill, and steeped in a solution of the perchloride of iron of the Cordex, to which is added one part of water, to prevent its caustic effects. This being done, he introduces a ball of cotton wool and places it in the posterior *cul-de-sac* of the vagina, where it not only forms a support to the uterine plug, but it absorbs any liquid that may escape through it, and thus protects part of the vagina (which is covered with the peritoneum) from the corroding effects of the perchloride of iron and the acrid discharges from the womb.—*Med. and Surg. Reporter.*

Epilepsy Cured by Removal of the Ovaries.—A woman, thirty-six years of age, had been afflicted with epileptic convulsions from the time of the first appearance of her menses, when she was in her sixteenth year. These had increased in number and in force the older she grew, until her life became so unbearable that she looked forward to death as a happy release. She was treated in all kinds of ways, even to having her teeth drawn, under the mistaken idea of nerve stretching. Her convulsions came on her at each return of the menses, and finally came as frequent as sixteen in twenty-four hours. Some place in North Germany she became impressed with the idea that her ovaries were at fault; she then came here, and, placing herself under Dr. Baun's care, told him to take out the ovaries. He at first demurred—told her of the dangers, etc. She replied she would take the risk. She preferred death to living any longer such a life. The big, fat doctor said all right, and in less time than it takes to tell it he took the ovaries out, and since then the little woman has had no fit. She has gone home very happy, feeling like she was a girl again. Close examination showed the ovaries somewhat diseased.—*Cincinnati Lancet and Clinic.*

Preserve the tracings of the sphygmograph by making a strong solution of the (red) ferro-cyanide of potassium. Paint this solution over some sheets of writing paper, allow the paper to dry in the dark, and keep secluded from the light. When it is required to make copy of the tracings, cut a piece of the paper of an appropriate size,

and having laid the glass upon it, face downwards, expose it for some hours to the sunlight. Then remove the paper and wash it in clear water. The curve will be found printed in blue.—*M. and S. Rep.*

SCARLET FEVER, epidemic at Springfield, Ill., is being attended with great mortality. The public schools have been ordered closed for the remainder of the year. Public funerals are prohibited, and viewing the remains of those dying of the fever is forbidden. Houses will be placarded and stringent rules be adopted to prevent the spread of the disease. Houses will be fumigated and children kept from off the streets.

BOOK NOTICES.

A TREATISE ON HYGIENE AND PUBLIC HEALTH.—Edited by Alfred H. Buck, M.D., American editor of Ziemssen's Cyclopedia of the Practice of Medicine. Two volumes. 8vo. Vol. i., p. 792; vol. ii., p. 657.

This very large and valuable work was gotten up from the belief that a treatise on private and public hygiene, written with special reference to the different climates, conditions of soil, habitations, modes of life and laws of the United States, would meet with favor, not among physicians only, but also among all educated classes. The work, also, takes the place, as it were, of the first volume of the German edition of Ziemssen's *Handbuch der speciellen Pathologie und Therapie.* In the preparation of the scheme announcing a translation of it, it was thought advisable to omit the first volume of the series, relating to the subject of public health, for the reason that the book, though excellent in all other respects, treats the subject almost entirely from a German standpoint.

Whatever pertains to the hygiene or health of the individual, family, community and country is treated at large in these volumes. They are composed of articles contributed by different gentlemen, mostly physicians, each one of whom has been supposed to be especially qualified to discuss the subject allotted to him. For instance, the Introduction, consisting of seventy closely printed pages, in which, besides some prefatory remarks,

there are treated at length the "Causes of Disease," and "Jurisprudence of Hygienic," is written by John S. Billings, M. D., Surgeon U. S. Army, who has become noted for his contributions to hygienic literature; A. Jacobi, M. D., Prof. of Diseases of Children in the College of Physicians and Surgeons, New York, is author of a long article on "Infant Hygiene;" Roger S. Tracy, M. D., Sanitary Inspector of the Board of Health, New York, has an article on "Hygiene of Occupation;" "Hygiene of Coal Mines" is treated by Mr. Henry C. Sheafer, Coal Editor of the *Miners' Journal*, Pottsville, Pennsylvania; "Inland Quarantine" has attention given it by S. S. Herrick, M. D., Secretary of the Louisiana State Board of Health. But we have not space to recite further the titles and authors of the numerous articles that appear in the two volumes of the work. What we have quoted will give an idea of the scope of the work, although it is very imperfect in outline. There are in all twenty-three contributors.

In conclusion, we will say that it is the most complete work of the kind in the English language. It is without superficialness, but is a profoundly scientific work in the treatment of all that pertains to the preservation and increase of health and strength. Every physician who aims at a high culture, who seeks to make broad his knowledge in all that has to do with his profession, will not lose time in adding it to the shelves of his library.

THE PATHOLOGY AND TREATMENT OF VENEREAL DISEASES: By Freeman J. Bumstead, M.D., LL.D., Professor of Venereal Diseases at the College of Physicians and Surgeons. Fourth edition, revised, enlarged, and in great part rewritten by the author and by Robert W. Taylor, M.D., Professor of Skin Diseases in the University of Vermont. 138 wood cuts. 8vo., pp. 835. Philadelphia: Henry C. Lea. Cincinnati: Robert Clarke & Co. Price $5.75.

As stated in the title page, this work has been made almost entirely a new one. It has been enlarged by 131 pages, but, as a reduced size of type has been employed, it is estimated to contain about one-half more reading matter than its predecessor. There is not a chapter in the book which has not been revised, and the attempt made to bring it up to our present knowledge. Entirely new chapters have been called for to include affections

until recently unknown. A new feature of this edition has been the introduction of chapters upon certain diseases, which, although not strictly venereal, are liable to be mistaken for such, and often come under the care of the venereal specialist. We refer particularly to affections of the scrotal organs and to some simple affections of the skin. The number of illustrations has been largely increased.

Physicians and students will find this one of the most complete works on venereal diseases in the English language. This class of affections is yearly exciting more and more importance, and demanding more and more attention from the learned; and the necessity, therefore, of being informed in regard to them is constantly increasing. The book before us, it seems to us, brought up, as it is, abreast of the knowledge of the present, affords every facility for a thorough acquaintance with them. No one in this country, probably no one in the world, holds a higher position as a specialist than Prof. Bumstead; and a work proceeding from him can not but be of high authority. The fact that it has passed through four editions, is proof conclusive of its great popularity in the profession.

It seems strange, indeed, that diseases which proceed from indulgences in the vilest propensities of men, should become of such importance as to demand the profoundest observation, study and learning of the ablest minds. But it is nevertheless a fact. These affections, more markedly, perhaps, than any others, demonstrate the truth of the statement of the Bible that the sins of the fathers are visited upon the children to the third and fourth generations, and, in consequence, they become interwoven with other diseases modifying them, and modifying the constitutions of a family or a number of families, of the members of which none have been offenders against any law of morality. A beloved minister of the gospel, who, from Sabbath to Sabbath, preaches virtue to his flock and urges the pursuit of it upon them, decrying vice as something to be shunned, may, at the same time, have his blood tainted by a disease begotten through the incontinence of a forefather several generations prior to him. So, also, the learned judge upon the bench, who metes out justice to his fellow-beings, when they become involved in crime, may be the sufferer of a vice of which he

himself has never indulged in. Considering these facts, it is not wonderful that the treatment of venereal disease commands so much learning in its study, and has so much literature upon the subject.

DIPHTHERIA: Its Nature and Treatment, Varieties and Local Expressions. By Morell Mackenzie, M. D., London, Senior Physician to the Hospital for Diseases of the Throat and Lungs, etc. 12mo. Pp. 104. Philadelphia: Lindsay & Blakiston; Cincinnati: Robert Clarke & Co.

This little work will undoubtedly be regarded as a very valuable addition to the literature of diphtheria, which, although it consists largely of journal articles, is very considerable. Much that has been written upon the subject, except here and there an exception, as with a number of our French writers, has been of a desultory character, and not of a kind to increase one's knowledge. It is with pleasure, then, we introduce the work to the attention of our readers.

Dr. Mackenzie's opportunities of studying diphtheria have been very extensive, indeed; besides that, he has the qualifications essential to make correct observations and render deductions accordingly. A disease so obscure as diphtheria, in all its features, will have a vast amount written about it that is of no value, for the reason that not a few have not the fitness necessary for studying it—they are without proper mental training, and are not possessed of those logical powers of mind for forming reliable reasoning processes. But our author seems well qualified for the task he has undertaken.

Dr. Mackenzie speaks of diphtheria as having existed for *many* thousands of years, and, therefore, not of recent origin. He states that the "illustrious Washington" died from it, and that the unfortuunate Empress Josephine, "whose family had previously shown a marked susceptibility to the affection," quickly succumbed to it. It is well known that the historians of the times state that Washington died from acute laryngitis. If, however, it was the former ailment he had, it is no wonder that death followed upon the profuse bleedings to which he was subjected by his physicians.

The work is divided into eleven chapters, giving the definition and history of the disease, its etiology, symp-

toms, paralysis, diagnosis, pathology, prognosis, treatment. Then there is described laryngo-tracheal diphtheria, nasal and secondary diphtheria.

The work will well repay an attentive study. Some new and valuable ideas will undoubtedly be gotten from its perusal. Dr. Mackenzie is conservative in his views; and it has not been his purpose to issue a sensational monogram. So far as the views of previous observers have been confirmed by his researches, he has adopted them. This is easily shown in his definition of diphtheria, which he defines as "a specific communicable disease, occurring epidemically, endemically and solitarily, and characterized by more or less inflammation of the mucous membrane of the pharynx, larynx, or air-passages, and by the formation, on the surface of these parts—especially on the mucous membrane of the fauces and windpipe—of a layer or layers of lymph or false membrane, generally showing signs of bacteroid mycosis."

FIRST LINES OF THERAPEUTICS, AS BASED ON THE MODES AND THE PROCESSES OF HEALING, AS OCCURRING SPONTANEOUSLY IN DISEASE; AND ON THE MODES AND THE PROCESSES OF DYING, AS RESULTING NATURALLY FROM DISEASE: In a series of lectures, by Alexander Harvey, M. A., M. D., (Edinburg) Emeritus Professor of Materia Medica in the University of Aberdeen, etc. 12 mo., pp. 278. New York: D. Appleton & Co. Cincinnati: Robert Clarke & Co. Price $1.50.

The author has written this work because the two great subjects of the Modes and Processes of Healing and Recovery, and the Modes and Processes of Dying, are but little, if at all, taught in the medical schools. On account of this omission in instruction, the author is disposed to ascribe much of the misconception that prevails in the profession in regard to the relations subsisting between nature and art in the cure of disease.

Every observing and intelligent physician, sooner or later, perceives in the course of the diseases he is treating, that there is an inherent tendency on the part of the individual to recover—to get well of himself. A *vis medicatrix naturæ* exhibits itself to every medical man who does not blindly close his eyes to it. The object of the work is to impart a right knowledge and due appreciation of the powers and the resources of nature in

curing disease, and also to exhibit the fatal tendencies and the modes of fatal termination of diseases.

In discussing the subject of dying, our author states that, while all the modes may be reduced to *one*, viz: failure of the heart's action, yet there are in fact *two* primary ones. Of these two, one consists in a direct failure or suspension of the action of the heart; the other, in a direct failure of the action of the lungs. "By failure of the action of the lungs we mean, specifically, arrest of arterialization of the blood in the pulmonic capillaries. This arrest brings the circulation through the lungs to a standstill. The blood stagnates there; and this stagnation blocks the action of the heart. While, then, the several ways of dying are all of them eventually referable to a permanent cessation of the heart's action, they may, in a practical sense (nor less truly in a physiological sense), be resolved into the two ways just indicated."

The work will be found highly interesting and instructive to all. The careful student will find in it much to assist him in the treatment of diseases.

THE ADVANTAGES AND ACCIDENTS OF ARTIFICIAL RESPIRATION. A Manual of Anesthetic Agents, and their Employment in the Treatment of Disease. By Lawrence Turnbull, M. D., Ph. G., Aural Surgeon to Jefferson Medical College, etc., etc. Second edition, revised and enlarged, with twenty-seven illustrations. 12mo. Pp. 322. Philadelphia: Lindsay & Blakiston; Cincinnati: Robert Clarke & Co. 1879. Price $1.50.

The author of this work is able to state, no doubt with no little pride to himself, that a large edition was sold in a short period of one year. This large demand is not surprising when we consider the merits of the work—containing, as it does, pretty nearly, if not altogether, all the information in regard to anesthetics, which his own extensive observation has afforded, and which he has been able to collect from every available source. In its compilation no labor has been spared—books, medical journals, essays, papers, reports, proceedings of societies, have been sedulously examined, and whatever seemed of value made use of. It is, therefore, really a *thesaurus* of knowledge as regards anesthetics.

The object of the work, as stated by the author, is "to give, in as concise a manner as possible, a description of

the most available agents that may be successfully and safely employed as anesthetics." In the second place, "to present the chief chemical tests of the purity of each substance considered," etc. Thirdly, "to exhibit the best methods of administering the various anesthetics; to give careful directions, and to state the precautions to be taken to avoid risk to the life of the patient." Fourthly, "to note the personal experience of the author, his assistants and friends, with the various forms of anesthetics and inhalers in use, not withholding the objections and experiments of other reliable investigators." Fifthly, "to compare the relative mortality from all the anesthetics now employed." Practical hints are also added on local anesthetics.

We think no physician can very well afford to do without the work. No one could better invest a dollar and a half than in purchasing it. It is worth many times the small amount asked for it.

A System of Midwifery, including the Diseases of Pregnancy and the Puerperal State: By William Leishman, M.D., Professor in the University of Glasgow, etc. Third American Edition, revised by the author. With additions by John S. Parry, M.D.: with 205 illustrations. 8vo., pp. 732. Philadelphia; Henry C. Lea. Cincinnati: Robert Clarke & Co. Price $5.50.

This work has, within a very short time, reached a third edition in this country, which certainly is the best evidence of the great value in which it is held. It has, indeed, become a standard work of the highest authority, being second to none other.

This "Third American Edition" has been prepared by the author himself for this country. In the preparation of it, such alterations have been made as the progress of obstetrical science seems to require. All the valuable additions made by Dr. Parry, the former editor of the work, now deceased, have been retained in this edition.

As a work for the use of students and practitioners, we do not know of any better. It is of convenient size, and is written in plain perspicuous language, which makes its demonstrations easily comprehended. But, while concise, there is nothing omitted necessary for the full understanding of the subjects treated. Midwifery, in all of its departments, is fully and satisfactorily treated by it.

COMPLIMENTARY DINNER GIVEN TO PROFESSOR S. D. GROSS BY HIS MEDICAL FRIENDS IN COMMEMORATION OF HIS FIFTY-FIRST YEAR IN THE PROFESSION, APRIL 10, 1879. 8vo. Pp. 42. Philadelphia: Lindsay & Blakiston; Cincinnati: Robert Clarke & Co. Price $1.

The volume before us is devoted to an account of the ceremonies of that most interesting occasion when was commemorated Prof. S. D. Gross' fifty-first year in the profession. It had been the purpose of Prof. Gross' friends to have extended to him the compliment of a dinner on the occasion of his semi-centennial professional birthday, but domestic bereavement compelled them to postpone the celebration until this year—his fifty-first year in the profession of medicine.

The St. George Hotel, Philadelphia, was the place selected for giving the dinner, and April 10th the day. On either side of the guest of the evening and the presiding officer, Prof. Agnew, were seated Profs. Flint, Sr., of New York; Benj. Silliman, of Yale College; A. Flint, Jr., of New York; Trail Green, of Easton, Penn., and Dr. Bozeman. At other prominent places were seated Profs. Wood, Post, and Sayre, of N. Y; Yandell, of Louisville, Ky; Otis and Norris, U. S. A.; Van Bibber and Smith, of Baltimore. Besides these, the profession of Philadelphia was represented by many of its most distinguished members.

The book contains the toasts that were given on the occasion, and the speeches that followed. The latter were generally interesting, and many contained valuable reminiscences. Also, there is printed in full quite a number of letters from gentlemen who had been invited, but were not able to attend.

A most superb steel engraving of Prof. Gross forms the frontispiece of the book.

LONG LIFE AND HOW TO REACH IT: By J. G. Richardson, M. D. Vol. IV., American Health Primers. Philadelphia: Lindsay & Blakiston. Cincinnati: Robert Clarke & Co. Price 50c.

We have informed our readers of the publication, by Lindsay & Blakiston, of a series of "American Health Primers." This is one of them. It is well written, and will prove interesting to both the professional and unprofessional. It discusses the causes of disease, as excessive

heat and cold, contagion, impure air, improper food, loss of sleep, parasites, etc. In addition, it instructs how health is to be preserved. It gives very good suggestions in regard to proper material for clothing, describes the different kinds of baths, and the points to be considered in building our dwelling houses, and the proper methods of taking exercise. The last chapter is on "Old Age and How to Meet it," in which there is much to instruct those whose vital powers are growing weak from advance of years.

THE PHYSICIAN'S POCKET DAY-BOOK: By Henri Leonard, M. A., of Detroit.

This little book for the pocket accommodates daily charges for twenty or forty families weekly; has complete obstetrical record for ninety-four cases, and monthly memoranda for Dr. or Cr. cash account. Like the visiting lists generally, it takes the place of a day-book, and will be found very convenient for the purpose, besides being arranged for such memoranda as a physician requires. Price $1.00.

EDITORIAL.

OUTRAGES IN LUNATIC ASYLUMS.—Recent disclosures of the management of lunatic asylums, and other charitable institutions of the State of New York, exhibit the criminality of placing such organizations under political control. In that State, as in other States of this country, they belong to the spoils of office, and are manned by those whose political party happens to be in the ascendency. Political experts, and not medical experts, are made the superintendents and physicians of the lunatic asylums and other eleemosynary institutions that fall to the management of medical men. The question, when considering the appointing of a physician to a position in one of them, is, has the candidate political influence? What has he done for the party in power? If he can establish he has claims on the party—that he has expended money freely for securing votes—that he has put himself on a level with the rabble, and rattled glasses with them—that his fealty to party is above every other motive, and all

others are sunk in it—his chances of election are good. It never occurs to these political boards of trustees that before placing a physician over a lunatic asylum, in which are hundreds of helpless beings, deprived by disease of reason, and waiting to be restored to health of body and mind, that it behooves them to be satisfied that he is a humane man and a man of learning—to know that he is skilled in his profession and has made mental disorders a study, and is qualified "to administer to a mind diseased."

In a report that we have understood that Drs. Hammond and Spitzka have recently made, they say that the community "to this day are ignorant of the outrages constantly committed in insane asylums by irresponsible superintendents and brutal attendants." Dr. Hammond lays particular stress on the fact that "the scandalous and outrageous mismanagement of New York insane asylums is the direct and natural outgrowth of letting these institutions be run on the political system." As is correctly stated, they are a disgrace to civilization, and would not be tolerated in Great Britain a day. In that country a superintendent is appointed with reference to his qualifications, and holds his position during life, unless he either resigns or is removed for cause, and is not changed by any change in politics. In one case, an assistant physician of the asylum on Ward's Island testified that he had been asked to sign a certificate that a patient had died of lung disease, when, in fact, the man had been beaten to death by the attendants, and had had twelve ribs broken.

It has been truthfully stated that New York pays enough to have her public charities managed well. As remarked by a newspaper, "it is the vile, rotten politics, into which they are dragged, that ruins them, as well as other State and municipal institutions all over the country."

The New York Legislature awhile ago appointed a committee to investigate the management of the insane asylums of the State. But the day before the committee were to commence operations the superintendents met them, and made themselves "solid" with them. The consequence was that complainants were not permitted to bring any documentary evidence or witnesses to substantiate their charges. The evidence of the physician we have mentioned, of the asylum on Ward's Island, was

refused to be heard. In like manner, it is said, that they ruled out whatever other evidence was of a very damaging kind; and, even then, their report was of such a damaging character that they did not dare to have it printed.

It seems to us that the members of the medical profession should endeavor to rouse the most intelligent and humane of the community to unite with them, and have this shameful wickedness of permitting the great charitable institutions of the country being the prey of politicians put an end to. Those who have near relatives and friends with minds diseased, and are compelled to place them in asylums for treatment, where only all the proper means of cure exist, desire that those that are in charge have the proper qualifications, both humane and scientific. It is a matter of no importance to such what the politics of the superintendent and his assistants are. What cares the husband of an insane wife, or the father of a lunatic son, whether the medical adviser be a Republican or a Democrat? But he does care whether or not he possesses scientific acquirements, and knows something about mental diseases.

But these abuses will not be corrected until those most interested, as the humane and intelligent, take a decided stand against their further perpetration.

Politicians will do anything to advance their interests. The primary object of all their labor is spoils; and when, therefore, a ring of them succeed in getting into power, they are not going to hold back in enriching themselves through any regard for humanity. We have societies organized for the prevention of cruelty to animals—why not have those for the prevention of cruelty to human beings? They are certainly needed. We feel quite sure that if the intelligent community, through the efforts of physicians, would set their faces against changes in the management of charitable institutions, in consequence of political changes, it would not be done. For many years the property holders of Cincinnati kept the fire department of their city out of politics; and we believe the same thing can be done throughout the different States as regards the humane organizations. It is certainly worth trying.

MEASUREMENT OF HEADS.—The interest taken by certain of the French physicians and surgeons, in the relation of the head to intelligence, is apparently increasing, and volunteers almost everywhere avail themselves of opportunities for observation. Now we have it, according to the New York *Tribune*, that measurements were taken of the heads of 190 doctors of medicine, 133 soldiers who had received an elementary instruction, 90 soldiers who could neither read nor write, and 91 soldiers who were prisoners, all connected with the *Val de Grace*. The results obtained were in favor of the doctors, as to size; the frontal diameter especially being more considerable than that of the soldiers, etc. It was found, also, that both halves of the head are not symmetrically developed in students; the left frontal region is more developed than the right, while, in illiterate individuals, the right occipital region is larger than the left. On the whole, it appeared that the heads of students who worked much with their brains, are considerably more developed than those of illiterate individuals, or such as have allowed their brains to remain inactive. Again, in students the frontal region is more developed than the occipital region—or, if there may be said to be any difference in favor of the latter, it is very small; while in illiterate people the latter region is the larger. Fresh discoveries, these!

CHANGING PHYSICIANS.—The *Medical Record* has, in a recent number, a very good article on "Consultations." The latter part of the article takes ground opposed to the conduct of not a few physicians—of some who would not purposely offend against what is not right, viz: that a medical gentleman, who has been called in consultation with the attendant, can not supersede the latter honorably, if he becomes discharged before the patient has recovered. Says the *Record:* "The patient has a right to change his physician if he so pleases, and, having notified him to that effect (after having, of course, paid the bill), is under no more obligations to him. Any physician who would refuse to accept such a case would manifest a species of transcendental fastidiousness that could hardly be appreciated by the most upright member of the Medico-Historical Society. It is another thing, however, when a gentleman is called after having, during the same illness, attended the case in consultation. Under such

circumstances he is bound, in honor, invariably to decline having any further thing to do with the case. As it is to be presumed that through the practitioner he became known to the family—that the same practitioner, perhaps, gave him his reputation—he must not in any manner supplant him. If the latter did not actually occur sometimes, it would appear almost like an insult to honorable men to refer to it as a possibility."

MALTINE.—Our readers are directed to the advertisement of Messrs. Reed & Cornrick to be found in our advertising form. Maltine, as prepared by this house, is a concentrated extract of malted barley, wheat and oats, and it is claimed for it to have all the medicinal and nutritious principles of these three important cereals.

Maltine can be had prepared with iron, with phosphates, with codliver oil and phosphates, with pepsine and pancreatine, with hops, etc. Our readers are aware of the great celebrity that preparations of malt have obtained in the cure of many diseases. In the preparations we speak of, it is very concentrated—containing, as is claimed, three times the amount of those elements which enter into the various tissues, such as nitrogenous material and the phosphates—those which enter into the formation of muscular and fatty tissues, bone, etc.

We recommend a trial of these preparations, for, we feel assured, they will be found exceedingly valuable in all those affections in which the system needs building up, as in all wasting diseases. The testimony of their value in consumptive diseases is too great for there to be longer any doubt in regard to it. But not only in these affections and others, but we have known them to be of essential service in chronic skin diseases. They do not act merely as a medicine, but they afford nutrition. Deprived of all foreign material, the nutritive elements are in such a form as to be readily taken into the system and assimilated. When the digestive functions are too enfeebled to properly digest ordinary food, it will be found in many cases that maltine will be appropriated.

CALLENDER.—George W. Callender, F. R. S. We regret to announce the death of this eminent English surgeon, which took place on board the steamship Gallia, which sailed from New York October 15, 1879. He arrived in

this country early in September, to visit some friends, and was taken sick at the house of Mr. Henry C. Lea, Philadelphia. His death was caused by Bright's disease. He had not the least suspicion of his disease until his urine was examined by Dr. Da Costa, in his presence, when it was found loaded with albumen, and contained large and small hyaline and granular casts, and had a specific gravity of 1.014. His age was about fifty years.

Prof. James Aitken Meigs.—James Aitken Meigs, M. D., Professor of Physiology and the Institutes of Medicine in the Jefferson Medical College, died at his residence in Philadelphia on November 9, 1879, in the 51st year of his age. He had been ill with what appeared to be a severe malarial attack for a few days, but his death was preceded by evidences of blood-poisoning. No post-mortem examination was permitted; the immediate cause of death must, therefore, remain a subject for conjecture, heart-clot, portal phlebitis, and discharge of hepatic abscess into the vena cava having each been suggested.— *Medical Times.*

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ORIGINAL CONTRIBUTIONS.

Juvenile Insanity.

BY ISAAC N. KERLIN, M. D.

Read before the Pennsylvania State Medical Society.

IN a broad sense, and in accordance with the classification of Esquirol, which is mainly adopted by modern writers, and followed in the "Nomenclature of Diseases, American Medical Association, 1872," the idiocy and the imbecility of children are the insanities of early life.

But that childhood is subject to insanity, as the term is usually employed, accompanied or not with hallucination, is now acknowledged by some writers. In their books, it is stated to be a rare affection. Under the heading of Insanity in Early Life,* Winslow cites several remarkable cases, illustrating that during school life children may suffer from acute attacks of insanity, to all appearances recover, and the tendency remain dormant for several years, when there have been recurrences, calling for hospital treatment and restraint. He quotes Esquirol: "I am more than ever convinced, that the existing causes of insanity do not act abruptly, except when the patients are strongly predisposed. Almost all the insane exhibit before their disease some alterations in their functions, alterations which commenced many years previously, and even in infancy The greater part had had convulsions, cephalalgia, colic or cramps, constipation, and menstrual irregularities. Several had been endowed with great

* Forbes Winslow's Obscure Disease of the Brain and Disorders of the Mind, pp. 139, 144.

activity in the mental faculties, and had been the sport of vehement, impetuous and angry passions. Others had been fantastical in their ideas, their affections, and passions; some had had an extravagant imagination, and been incapable of continuous study; others, excessively obstinate, could not live except in a very narrow circle of ideas and affections; whilst many, void of moral energy, had been timid, fearful, irresolute, indifferent to everything. With these dispositions a mere accidental cause is sufficient to make the insanity break out.

Esquirol treated two children, one of eight and another of nine years, and a girl of fourteen, all laboring under mania; he was also consulted about a child of eleven, in which the disease assumed the form of melancholia.

The early age at which insanity develops in the United States has already received attention from Drs. Evans and Worthington, in their report of Pennsylvania Asylums, who refer it to the special kind of educational influences to which childhood is subjected.

Dr. Wigan, in Winslow's Psychological Journal, vol. xi. p. 497, collects a number of cases of juvenile crime, committed without cause, and suggestive of mental alienation; while reading them the boy Pomeroy is suggested to the mind of any one.

Statistics of Dr. Boutteville give large proportions for juvenile insanity; of the total insane from five to nine years of age, 0.9 per cent.; ten to fourteen, 3.5 per cent.; fifteen to nineteen, 20 per cent. Winslow concludes "that mental disease is undoubtedly more frequent in childhood than is generally supposed."

Maudsley devotes one chapter of his inimitable text to the insanity of early life, quoting from Greding his case of a child raving mad as soon as it was born, and explaining that such child insanity is necessarily confined to conclusive reflex actions of the nervous centers. These narratives, as well as most of Maudsley's descriptions,* are open, however, to criticism, old as Spurzheim's, who viewed such cases as "partial idiots from birth." Mania, melancholia, and affective insanity, are certainly intercurrent conditions frequently observed in the history of idiots and imbeciles.

* The Physiology and Pathology of the Mind, Henry Maudsley, M. D. Part II., chap. ii. D. Appleton & Co., 1871.

The establishment of institutions for children of defective mind, in many of our American States, is bringing to our knowledge facts and statistics on this important subject, which prove that *juvenile affective insanity* is more common than has been hitherto stated: indeed, it is not improbable, that lesser degrees of this disorder have been allowed to go unrecognized, being, as they so generally are, the temporary consequences of sympathetic disturbances, or the sequelæ of acute diseases, removed when the cause is dismissed or outgrown. But in many cases this happy sequence does not occur, and the victims sink rapidly into the dementia of idiocy, or develop into erratic, excitable, vicious childhood, passing through the courts to the refuges and reformatories as criminals: from whence, if circumstances are not favorable, they graduate into the higher planes of crime, and thence into more somber institutions for penal correction; and just here I wish to say, that the experience of any institution for the feeble-minded will verify some of the findings of intelligent observers in our prisons, refuges and penitentiaries, such as suggest an underlying cerebral weakness and nervous instability, as common conditions associated with crime. The question of juvenile insanity to be recognized as affective or pathetic insanity is so open, and so fruitful of controversy, that I prefer to give illustrations from my case-book for your consideration, rather than attempt its discussion.

Case I.—Bessie was three years old when brought to my notice; it is said that one year before she had a fall which injured her spine, followed by fever and convulsions; on her recovery from these symptoms, she was found with vacant, staring eyes; her feet turned inward, and her gait was tottering; she ran wildly from one thing to another, and seemed to have but momentary enjoyment in each; she knew not when danger was near. Before her illness she had begun to talk, knew her parents, and called them by name; after it she not only lost their names, but was wanting, in great measure, in that natural affection which before had endeared them to her. Her destructiveness was very marked, her habits became filthy, and her tastes strangely perverted. She was placed in an institution: it did not pain her to see her mother leave; she was at home in the strange place, at home with anybody. She ran among the other children, without interest in any of them.

She amused herself with what came within reach, and injured or destroyed everything that amused her. Seven months after her admission, her condition is thus described: "her eye is not now staring and vacant; her feet are not now unsteady, but as she prances through our apartments and grounds, she carries in her sure and steady step the glad tidings of approaching recovery; she is not now wild with the aimless capers of imbecility; her enjoyments are natural, and her affections are full and spontaneous. At a recent visit of her father, he was recognized by her, before he had yet seen her, and his ear caught the sound of 'papa, papa,' before he saw from whence it came. She had been wisely, painfully taken from her home, though only three years old, very soon after her calamity, and had been placed under circumstances favorable to her recovery; the result proves the self-sacrificing good sense of her parents, who, having the welfare of their child alone at heart, listened not to the false notions of *popular affection*, which inculcate indulgence at home as the pity for early misfortune, but took the best and the earliest means to restore the lost one."

Case II.—Tom McK., aged twelve, when first brought to our knowledge was described as an incorrigible boy, who had been passed from one county home to another, through a juvenile reformatory, and at last, to prevent his own self-destruction, because of his propensity to climb the rods and water-spouts of the refuge, and to ramble dangerously over its roofings, he was locked in a secure room. Excepting his under-stature, nervous manner and glittering eyes, there was nothing in the appearance of the pale-faced boy to suggest any unlikeness to normal boyhood: indeed, his aptness in language, both usual and profane, would suggest precocity. A study of his case under treatment will discover no inability to acquire knowledge; he is but little more backward in his studies than would be any neglected boy; he is full of mischief and deceit; the usual indifference of a bad boy to punishment is morbidly increased in his case, and there is a moral hebetude and a causeless willfulness that have taken the place of the fretfulness, kickings and bitings of his earlier childhood.

Result of Treatment.—The blind propensity to climb lightning-rods seemed to have been extinguished on the first day of our intercourse, when he was gravely requested to climb a rod fastened to a stack 100 feet high, and

straighten the point, which had been injured in a storm. The little fellow seemed to measure the difficulties and to compute the impossibility, but he did not guess the purpose of his physician; he shamefacedly turned away from the chimney, evidently discomfited, and from that day he has had the freedom of the grounds, without showing any unusual disposition to clamber.

The restlessness of the eye and its strange glitter are no longer noticeable, and, by the appliances of the school, and the agreeable but constant occupation and exercise found out of school, the boy is certainly getting well. If any doubt existed as to his title to insanity, the diagnosis seemed complete, when a few days since the writer discovered Tom's mother in the insane department of a county home, one of the saddest of dements, and learned that the father had always been an unsteady, wild and violent man, seriously addicted to liquor; the boy's conception, birth and childhood—nay, his whole history was laid in physical disorder, fright and dissoluteness; happily, there are no other children.

Case III.—Anne W., a pretty little child of seven years, was brought to me two years ago. She was slightly under stature for her age, had a peculiarly delicate and waxen skin, and a brilliant, unsettled black eye; the toes turned in slightly, and in walking, she bore most of her weight on the outer side of the right foot; the tongue in protruding diverged from the median line to the left somewhat. These indications could only be read by the physician; any casual observer would not surmise that the pretty, petite girl could be a subject for an institution for feeble-minded children, and would be slow to believe the mother, who flushed with exasperation while telling her trials, and betraying her own unfitness to nurse and rear such a babe.

She was described as obstinate to the last degree, and she proved so—clambering over sheds and out-buildings if allowed any freedom, running into danger without any apprehension or attention, but, worse than all, she repeated the livelong day, ringing in monotonous changes, the solitary idea of "marble steps." Marble steps formed the substantive of almost every sentence. "Can my mother have marble steps?" "Anne wants marble steps." Whenever meeting her mother, whenever sitting in her lap, when being rocked in her cradle, or put in her bed, this monotone

of marble steps was poured into her mother's ears, until the woman was wild with this horror, and the child had become to her an object of aversion.

This strange child was brought to our institution, and I have only to add that to-day there are no marks upon her and no impulses betraying any other than the reaction of child life to its best impressions. The child is healed to all appearances.

Now, family history helps us to the comprehension of such a case as this. Anne's father died of softening of the brain, at thirty-five, after a life of excesses, leaving two babies buried, one of cholera infantum, and one of convulsions; and two living children, Anne, already described, and a little girl of five years of age, who is dwarfed, and, as the mother feared, "growing like Anne." A son of the mother's sister, aged twenty, is in an insane asylum, and is said "never to have been all right;" so that, as far as the family history of this little girl is made up, her own blight is suggested in a poor inheritance.

Case IV.—Ten years ago, I was called to prescribe for a child, a little girl of five, of precocious intelligence and physical growth; although but five years of age, she might apparently be eight or ten, and of a wonderful robustness. The cause of my summons was the exhaustion of family means to control this child in her violent explosions of temper; these usually occurred in the latter part of the day, were most frequently directed toward her mother, and usually ended in her dismissal to an early bed, where she would fret herself into a feverish sleep; or at other times angry ravings, and occasionally the tearing of her clothes and bedding, would discharge the tempest, from which she would sink into a deep sleep. She had had treatment for intestinal worms, and had been placed on the bromides by the family physician, but without favorable results. The anxiety of the mother was the more intense, because of the presence of grave forms of insanity in the family, and it was probably only the painful misgivings of what might be in store for this dear child, that induced them to seek a consultation. My duty was mainly to approve, perhaps, expedite, the purposes already formed by the intelligent mother.

1st. To bring in daily contact with the child a new element in the person of a discreet governess, before whom

the mother should retire; the mother's characteristics and those of her child were reacting injuriously on both.

2d. Equal amounts of in-door occupation and out-door exercise were insisted upon, and special means were provided to secure the latter. Present impressions make the life of a child, and that life can not be a happy and developing one, unless these impressions are favorable; most of their actions being reactionary to impressions, the former will not be healthy unless the latter are normal.

3d. A slight, thin white fur on the tongue suggested a possible disturbance of the nerve centers, which was more convincingly shown in some choreic movements, and a liability to ring-worm. But I only prescribed an occasional emetic of ipecacuanha, especially when there was any unusual fretfulness; and, at intervals of a week, two grains of calomel, to be taken in four powders, between five and seven P. M., to promote hepatic secretion.

4th. I employed a powerful shock for the child's moral sensibilities. I carried her through the wards of an institution for feeble-minded children, making no exposure to her that the condition of my feeble patients might be her own some day, but I found a history corresponding to her own, in the case of a girl older than herself, and in answer to her rapid questioning, I told it, leaving the application to my little patient's quick wit. Her conclusion was as specific as if I had helped her to it.

Marshall Hall* has called what I have tried to present in this case, "temper disease or ego mania." He says, "It is a perversity; an insaniola, originating in bodily disorders or mental affection, and perpetuated by a morbid indulgence of temper, and desire for sympathy and attention." Added to this, I should say with some decision that there is undoubtedly, in many of these cases, a pathological condition, probably of the membranes of the brain, accompanied, it may be, with slight effusions, which under favoring circumstances are readily and promptly re-absorbed. I regard the cause of these periodic or habitual temper explosions as pathological, and not beneath or outside of the serious attention of the family physician. Moreover, I believe that these children in whom lurk the seeds of insanity will often pass into idiocy or dementia in later life, if these early exhibitions are not arrested or

*Observations in Medicine, by Dr. M. Hall, 1st series, p. 87.

treated prudently. Case IV. made a happy recovery, or, I should say, a safe passage through a critical period of her child life, and is now a finely-balanced and very promising young woman. She remembers the cloud of her childhood as a fearful nightmare, and she is so intelligent as to provide against a sad future by a well-ordered self-restraint.

Case V.—M. P., æt. 13. Reasoning exact in all particulars—possessing a copious vocabulary, and most retentive memory; but in natural attachment to friend, sister or mother, entirely wanting; oblivious to all rules of order and discipline; delighting only in antagonism; all methods of conciliation, restraint or punishment, which an intelligent, excellent mother could devise, have failed, and, under sheer exhaustion of all home care, she has been committed to our care.

Since her admission, she has unceasingly worried to be whipped; it has been the subject of the most complacent reflection, that some of these days she expects the matron will whip her; she has diligently inquired into the special character of our whippings, whether they leave marks, whether they draw any blood, and, eagerly imagining the delights of a flogging, she claps her hands with anticipation, exclaiming, "Oh! I shall be so happy, if they will only give me a good whipping."

All the small deprivations, which would afflict another child, are lost on her, in the ineffable joy of punishment, and she is daily and hourly circumventing all rules, misbehaving in all conceivable ways—irritating, annoying and disturbing—until her wishes for suffering shall be gratified.

The history of these five cases defines the nature of the affection I have attempted to describe, and, in conclusion of this part of my subject, it remains to briefly summarize the views of those who have studied this form of insanity.

1st. The affective insanity of children is manifested in paroxysmal passion, destructiveness and incorrigibility, in emotional storms, and fantastic willfulness.

2d. Delusions rarely exist, for these doubtless depend on a prior organization of definite ideas, which being more or less limited in the child's mind, the extent of delusion is likely to be also limited. This is exemplified in Anne, Case III. She had had but little intercourse with living things; confined to her mother's kitchen, and looking out

only upon the brick fronts and marble steps of the street on which she lived, marble steps became the nidus of a puny, fantastical delirium; her fancies or her facts never carried her to the gravity of delusion.

3d. The diagnosis in those uncertain cases which border on normal childhood, as in Cases IV. and V., consists in the unlikeness of the patient, in general behavior, to the usual standard of childhood.

Headache, coated tongue and sick stomach are frequent, as also irregularity of the heart's action, and low vital temperature; a singular luster of the eye was noticeable in all the above-mentioned cases. The advanced means of diagnosis, such as the ophthalmoscope, dynamometer, microscope, and urinary analysis have not to my knowledge been applied by any one to the study of these cases, and I must confess to my personal failure to do so in those I have reported. These recent scientific appliances for diagnosis would probably remove doubt in some cases of uncertainty.

To diagnose between the usual forms of idiocy and juvenile insanity is not so difficult; the latter condition is excitable, erratic, intractable, intense; speech, sight and hearing are generally all perfect, which is an exceptional fact in idiocy and imbecility; the moral nature is usually perverted to the last degree in the insane child: while the idiot, imbecile and *enfant arriere* are usually trustful, kind and loving, the insane child is suspicious, secretive, and violent in its likes and dislikes.

4th. We should not omit from our investigation a careful inquiry into the antecedents of the child: family history may throw much light upon the doubtful features, aiding not only in our diagnosis, but in the prognosis and treatment.

Dr. Boisment* says, that in a list of forty-two young people, in whom mental disease had commenced between fourteen and sixteen years of age, in eighteen instances it was inherited from the parents. In all the cases I have reported in this paper, there were emphatically marked hereditary tendencies to neurotic disease.

5th. The prognosis, according to Dr. Paulmier, is hopeful, the cases tending to recovery. Dr. Delasiauve refers to the great susceptibility of the patient to relapse, or a

*Winslow on the Brain and Mind, p. 143.

return of the disease in subsequent years. Dr. Winslow adds, that, "though in a certain number of cases recovery takes place, the mental alienation of children and young people is a most serious disease, partly from their antecedents and partly on account of the imperfect development of the cerebral and other organs."* The opinion advanced by the latter gentleman was based upon the experience of private practice, and of observations made on insane children under ordinary hospital treatment, and needs to be retraversed by examining the results secured in institutions for the feeble-minded: the amusements, schools and shops of which establishments are so favorable for the treatment of such subjects, and where in these days they should be found, and never in hospitals with adults, and rarely within the domestic circle of their own homes.

I can not conclude this paper—already encroaching on your twenty minutes' rule—without a passing notice of the identity of the insane diathesis with the conditions found among idiotic and imbecile children. Those who have closely followed the line of this paper will appreciate that this is germane to the subject.

The identity of the neurotic phenomena, found in an asylum of feeble-minded, idiotic and insane children, with those characteristic of the adult patients of an insane hospital, is unmistakable, if we study the correspondence of the bodily derangements, in the two classes. Taking, for this parallel observation, a recent translation citing the characteristic bodily derangements of the insane, we find—

1st. The bodily weight of inmates of hospitals for the insane and of inmates of institutions for the imbecile is less than that of sane persons, of similar age, constitution and build.

2d. The teeth of both classes are irregular, carious and defective; and, I will add, the maxillary arches are frequently narrow, and the teeth generally crowded.

3d. The irregular insertion of the cartilage of the ear, and the imperfect shape of the helix, noticed so frequently among the insane, are of still greater frequency in institutions for the idiotic and imbecile.

4th. The same irregularities of sight are noticed in both classes.

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*Winslow's Psychological Journal, No. xiii., new series.

5th. Low cutaneous temperature, warts, eczema, etc., are very common in one and both, while the amenorrhœas and anæmias of the female insane are strictly represented in sterility and torpidity of the majority of the female idiotic.

6th. The asymmetry of the head is a daily observation in the asylum for idiocy; scarcely less is it in the wards of the insane hospital.

7th. Motor disturbances are universal in both classes.

8th. So also are eccentric phenomena of sensation.

9th. The affective faculties are morbid among the inmates of the asylum for the insane; in the institutions for imbeciles, they are exhibited in the most explosive and erratic phases.

10th. Of the insane it is said, that three-fourths are hereditarily predisposed to their sad condition. This is certainly no overstatement in the wards of the institution for imbeciles.

Now it requires but to throw this objective on the *juvenile criminal classes*, to show that at all points there is a wonderful correspondence. That there is a "criminal diathesis," interwoven with tendencies to insanity and conditions of imbecility, is a fact that is not unrecognized by those who are brought into close contact with the degraded and the defective classes. In the refuges and reformatories of Scotland it was found that one-third of the juvenile criminals were held by the teachers to be "imbeciles, self-willed and hard to teach."

Of 6,000 prisoners examined by a competent authority, twelve per cent. exhibited decided mental weakness, independently of those who became actually insane; and, as a result of these inquiries of Mr. Thompson, a movement has been inaugurated toward life confinement of the incorrigible, morally insane, and imbecile criminal class, *that their propagation shall cease*, and crime be thus measurably diminished, by the partial extinction of criminals. A like inquiry among the degraded public women of our streets would doubtless develop the fact of their moral and mental incapacity, which should be a righteous claim upon our charity, and a reason for protecting them and their victims by the absolute restraint of the former in curative or custodial homes.

This line of inquiry can not be followed out; a fitting conclusion is here reached, with this assertion, that there

seems to be a correlation of causation, symptomatology, and results under treatment, of the insane and imbecile child in our asylums for the feeble-minded, of the incorrigible child in the reformatories, of the insane adult in the hospital, and of the inveterate criminal in the penitentiary. All these, with rare exceptions, are the victims of similarly violated physiological laws—personal, ancestral and society sins—all are children of woe, and the suppliants of your merciful intervention.

Some Important Topical Remedies and their Use in the Treatment of Skin Diseases.

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Read before the Pennsylvania State Medical Society.

I PROPOSE to discuss in this paper some of the numerous agents which should be taken into consideration in the external treatment of skin diseases. In the first place, my purpose is to point out the proper use of soap and to assist in preventing its indiscriminate use as practiced at the present day. Secondly, I shall endeavor to add some practical facts, and some new preparations to those that are known as the *oleates;* and, lastly, I shall refer to the great importance of mechanical remedies in the external treatment of skin diseases.

The first topical agent I shall refer to is soap. It will be necessary here to make reference to the natural condition of the skin in order to understand properly the action of this remedy. The skin is provided with oily substances in which the impurities that are cast off by the system and the dirt from the air become adherent. In order to remove these impurities, the water that is used for cleansing the skin must be assisted by some chemical substance that will have the power of exerting an influence over these oily matters. The chemical substance used for this purpose is soap. Soap is readily dissolved in water, and, when applied to the body in the normal condition, cleanses and purifies the skin, and so serves to preserve the health of the individual.

The use of soap is not only a valuable aid for preserving the skin in health, but is also of importance in assisting in the treatment of diseases of this organ. In the use of this

agent for its remedial action of the skin, either one of two kinds—the soda or the hard, or the potash or the soft soap—can be selected. The hard or soda soap can be medicated with either bran, oatmeal, borax, carbolic acid, sulphur, chamomile flowers, almonds, or other medicinal substances, or a combination of those already named; soap that is prepared in this manner is known as medicated soap. It is of great service in removing impurities and dirt from the skin, and in medicating the surface at the same time according to the medicinal substance held in suspension. For instance, it will be found that tar soap, by its astringent and stimulating action, is very valuable in certain stages of psoriasis; sulphur soap is of benefit by its stimulating effect in indurated acne, and carbolic soap is of great service for its cleansing, deodorizing and astringent action in excessive secretion and pustular affections. I have observed that a combination of different medicinal substances in the form of hard soap can be used with great benefit in some of the cutaneous eruptions. One especial combination that I have used with remarkably good result is composed of one and a half ounces each of olive oil and oil of theobroma, two drachms of powdered German chamomile flowers, one drachm of precipitated sulphur, and a sufficient quantity of caustic soda solution to saponify. This soap has a mild stimulating action upon the skin. I have frequently used it for this purpose in place of soft soap with great success in stimulating old eczematous patches and in removing crusts and scales in seborrhœa and pityriasis. This form of soap has been prepared at my suggestion by Mr. L. Wolff, Chemist and Pharmaceutist, of Philadelphia, and I name it according to its ingredients (sapo matricariæ sulphurisque).

The second variety of soap may be prepared from either an animal fat or a vegetable oil, with an excess of caustic potash, and is commonly known as soft soap or sapo *viridis*. It is a soft brownish or greenish-brown gelatinous substance, with a strong caustic odor. These characteristics will vary very much according to the manner in which it is manufactured.

It can be applied to the skin either alone or in combination with water, alcohol, oils, or other medicinal substances. Its effect upon cutaneous substances will depend very much as to whether it is applied alone, or diluted with some other preparation. When applied to the skin

in full strength it is a moderately good caustic. It is endowed with far greater power of diffusion into the tissues by the potash that it contains than the soda soap, and should therefore be used with great care upon delicate surfaces. I have found that the indiscriminate use of this soft soap, with its penetrating and destructive action on the tissues, has brought on an immense amount of mischief by awaking violent and obstinate inflammation of the skin. It has, however, been used with great benefit, alone and in combination, in treating parasitic affections, more especially scabies, but it should be employed with great caution in all cases.

The Oleates.—The second medicinal remedy that I shall consider in this paper was recently introduced into practice by Mr. John Marshall, of England. These remedies are exceedingly valuable, and possess, in certain diseases, many advantages over ointments. In the first place, oleic acid possesses solvent powers that are more active than most bases of ointments, and consequently the chemical combination so formed will be more potent when applied to the skin. Further, they will not decompose like ointments, and, on this account, will be more effective and not act as irritants to the skin. When the oleates are prepared either as a five or ten per cent. solution, they are all, with the exception of the oleate of zinz, in the liquid state, and will therefore have a greater absorbent power. They will also penetrate deeper and more rapidly into the tissues than ointments. And, lastly, as they are of a liquid condition, with one exception, they are better suited for applications over the scalp, the beard, axillary and pubic region, or any hairy part of the body, in preference to ointments, which frequently mat together the hairs.

Mr. Marshall, in his valuable paper on this subject, refers to the powerful action of the oleates of morphia and atropia in allaying pain and nervous irritation, and also to the advantage of employing the oleate of mercury in sycosis, chloasma, pediculi, syphilitic affections and other morbid conditions. Since the publication of these practical observations I have frequently had occasion to apply the oleates as external remedies in the treatment of skin affections, with the most happy results. In addition to their value in the diseases named by Mr. Marshall, I have also found that the oleates of atropia and mercury are equally efficacious in other cutaneous affections. I may

first mention that the oleate of atropia (one grain of atropia to the ounce of oleic acid) exerts a marked influence in arresting the abundant secretion of seborrhœa, and in subduing high inflammatory action in some cases of erysipelas. Secondly, I have observed that a ten per cent. solution of the oleate of mercury, with the addition of a small quantity of olive oil, and scented with some essential oil, is an invaluable application for general thinning and loss of hair. When brushed lightly over the scalp in the above condition it produces both a tonic and alterative effect upon the part. I have also employed, as an application, with great success a two ounce solution of the oleate of mercury, of ten per cent. strength, mixed with an equal quantity of olive oil in psoriasis and pityriasis, after all the redness and scales have disappeared. The use of this preparation, in these affections, protects and soothes the hyperæmic skin, and prevents a return of the diseased condition.

Mr. L. Wolff has also lately made for me, after many tedious experiments, two additional and valuable preparations of the oleates; namely, the oleates of lead and bismuth. And I believe I have been the first to use these remedies as topical applications in cutaneous affections. The former of these agents, the oleate of lead, is manufactured by adding liquor potassæ to a diluted preparation of liquor plumbi subacetatis, and the precipitate collected on a filter and dried. The dry suboxide of lead should then be dissolved in oleic acid by means of the water-bath. The strength of the solution should be five per cent. of lead to the oleic acid, and as free as possible of stearic and margaric acid, in order to have it in the liquid form. Should either the per cent. of lead be increased, or the solution contaminated by stearic or margaric acid, the oleate will be semi-solid, and will not have the same efficient action. The oleate of lead is an opaque oily liquid, if prepared with care in the manner that I have indicated. It is a mild astringent, more readily absorbed than either Goulard's cerate or (Hebra's) litharge ointment; while it possesses the advantage of neither decomposing nor turning rancid. I have obtained remarkably good results from its use in eczema, in rosacea, after depletion of the parts, in burns and in erythema. It arrests morbid discharges, protects the surface, and allays irritation by its astringent and sedative action.

The oleate of bismuth, an oily-brown liquid, the second one of these new preparations of oleates, is not so difficult to manufacture as the last named, and I will therefore omit the manner of preparing it. It, however, possesses valuable medicinal effect when applied in pustular eruptions, especially in sycosis and herpetic affections. It is, also, a most useful remedy in soothing and relieving cutaneous irritation when mixed with an equal quantity of olive oil and applied in acute specific eruptions, especially in scarlet fever.

The last, and by far the most important agents that I shall discuss, are the mechanical remedies, whose value, however, has not been sufficiently estimated, notwithstanding the strenuous efforts that have been made by a few physicians to bring them into more general notice. In regard to the use of these remedies I shall confine my remarks to two or three of them as deserving of particular attention. I shall first allude to friction, secondly to compression, and thirdly to bloodletting.

Friction is a valuable antiphlogistic agent, and is capable of doing much good when judiciously employed. It may be applied with either the dry hand, brushes, a rough towel, or with liniments. Its great value consists in stimulating the part so that any impediment in peripheral circulation may be aroused, and thus promote the removal of all effused material. That it is capable of doing an immense amount of good is certainly apparent when the scalp is rubbed and brushed in thinning and loss of hair. This active friction in a diseased state arouses the sluggish circulation, and adds tone and vigor to the scalp and hair; similar effects are observed when friction is made over the skin in which the pigment is in excess, or deficient in quantity. The stimulation, so excited, helps the skin to recover its healthy state. Another beneficial effect of this agent can be witnessed in indurated acne and in glandular swellings of the skin. The friction so employed arouses the circulation, and so relieves the glandular congestion. Friction has, likewise, been used with great advantage in dry seborrhœa, in chronic lichen and eczema, and in certain neuroses of the skin. In using friction in cutaneous diseases, a certain amount of judgment is requisite in its application. It should not be employed either too frequently or too violently, as it may occasion much mischief by aggravating the morbid action.

Thus, it will be seen that violent brushing of the scalp often sets up an attack of eczema, and roughly rubbing the face in acne may excite erythema of the part. From these facts it should be borne in mind that friction should be carefully employed, according to the exigencies of each particular case.

A practical knowledge of *compression*, the second mechanical remedy that I have enumerated, is of great service, and should receive more attention from the active practitioner in the treatment of cutaneous diseases.

The means usually made use of for compression are the common muslin and gum bandages and plasters. Compression, when employed in this manner, soothes muscular irritation, tones up the dilated capillaries, and prevents the escape of serosity into the tissues. It will be found that these effects are not by any means the only benefits that are realized from compression. It will also be seen that it will enable the vessels to remove poured-out fluids, protect denuded surfaces, and exclude the air, which is very stimulating to inflamed and irritable parts, and so moderate deceased action. The treatment of cases of chronic eczema of the leg, in which the surface is livid and covered with ulcers, by a muslin bandage will afford a satisfactory example of the efficacy of this method. In a short space of time, after using the above means, the excessive irritation and congestion disappear, and the ulcers promptly take on a healthy condition. On the other hand, experience has verified the fact that the gum bandage is more elastic, and is always to be preferred, when it can be procured, on account of the equable pressure that it makes over the whole limb. The bandage will also have a similar effect on other chronic and inflammatory conditions of the skin, by the systematic pressure that it produces.

Compression can likewise be made with plasters, and they can be either simple or medicated. The common adhesive plaster, however, usually answers all purposes, although opium, belladonna, mercury, soap, pitch, or other medicinal substances can be used when necessary. The beneficial influence of plaster cut in strips and applied to the surface is most strikingly evinced in eczema of the lips. The mucous surface in this disease is torn open with every movement of the lips, and all the lotions, ointments and powders will not soothe the muscular irritation and

heal the parts until they are protected and placed at rest. In order to accomplish this purpose, adhesive strips can be made to encircle and allowed to meet posteriorly at the nape of the neck. In this manner the movement of the lips is controlled, the raw surface protected, the irritation soothed, and the disease promptly and effectually arrested. In removing the adhesive strips, in cases of this description, care should always be taken to detach both ends and draw gradually to the center; otherwise, the mucous surface may again be torn open.

Compression made in a like manner is admirably adapted to the treatment of that variety of dry and cracked eczema that attacks the hands and feet. If the adhesive strips in this condition are wound around the hands or feet, the muscular action on the inflamed surface will be arrested, the parts protected, and, with the addition of appropriate internal treatment, the most obstinate cases will rapidly recover. The same end may be obtained in fissures of the hands, by having India-rubber gloves made which will fit nicely, and so make equable compression. The employment of this agent, twelve hours during the day, not only makes suitable compression, but protects the hands from the many irritating substances with which they daily come in contact. A certain amount of care should be exercised in using compression, in order to prevent making too much pressure on the part, and thus arresting the circulation. It should always be applied so as to support, protect and place the tissues at rest.

I shall next proceed to the consideration of local bloodletting as a mechanical remedy in the treatment of skin diseases. It is one of the most powerful antiphlogistic agents that we possess. It is, also, one of the most speedy and most efficient means of combating morbid conditions, after all our other medicinal agents have been exhausted in vain attempts to cure certain eruptive diseases.

Blood may be extracted locally, by leeches, cups, scarification, or punctures. The manner of applying leeches and cups is so well known to all that it is unnecessary to enter into a description of either method. I think, however, for topical bleeding in skin diseases, that scarification and punctures are all the forms that are necessary to be used. In scarifying or puncturing a part, the blood that has engorged the vessels and the effused serum in the tissues are allowed to escape. In addition, it relieves the

tension and congestion of the part, and awakens the action of the absorbent vessels. Scarification can be performed with either a lancet or the bistoury, and is particularly applicable to chronic ulcers and ulcerating lupus.

In the great majority of cases, however, that require depletion in cutaneous diseases, I usually puncture the surface with a small needle-knife. I have employed this method of treatment with success in inflammation of the hair follicles of the beard, in acne, in enlargement of the blood vessels of the face, in chronic eczema, in excess of pigment of the skin, and in neuroses. Thus, in inflammation of the hair follicles of the beard, depletion in this way relieves the engorged glands, and drains off altered and vitiated blood. A similar effect is produced in acne, by allowing the stagnated blood and the broken-down sebum to freely ooze from the small incisions. Again, the abstraction of blood, by puncturing the surface, in enlargement of the blood vessels of the face and in chronic eczema, especially where there is a large quantity of hypertrophied tissue, is an invaluable remedy. In these diseases it relieves the congestion and stagnation of blood in the vessels, equalizes the circulation, and so stimulates the action of the absorbent vessels that all deposits may be carried off. Puncturing is equally efficacious in arousing the torpid tissues to activity in excess of pigment of the skin, and in allaying the pruritic troubles of old age. I have relieved, and, with appropriate internal treatment, have cured some of the worst cases of pruritic difficulty in old persons by the above method of puncturing over all the diseased surface. This application blunts the irritation of the cutaneous nerves, and relieves the capillary congestion set up by the morbid condition of the part. After puncturing the surface, it should be allowed to bleed freely by the application of warm or hot water, either one or the other of which I use in all cases of local abstraction fo blood. The relief afforded by this method of treating many cutaneous affections will be best manifested by patients wishing a repetition of the operation, as has been my experience again and again in both dispensary and private practice.

Selections.

Baltimore Academy of Medicine.

Regular meeting held October 21st, 1879 (Discussion on Dr. Chew's case of Puerperal Eclampsia).

Dr. H. P. C. Wilson spoke of the extreme opposition to blood-letting, prevalent of late years. He favors its use in puerperal eclampsia at the beginning. He thinks the cupping, and also the loss of blood during the labor, both had a beneficial effect by relieving cerebral congestion. Four years ago, he met with a lady who was so modest that she refused to see him until labor set in. He was summoned at 8 A. M., and at 12 the os was as large as a quarter, and very rigid. She now suddenly exclaimed, "Oh, my head!" Chloroform was at once administered, and, in a half-hour afterward, the child was delivered naturally without a convulsion. One hour after delivery he left her in a good condition. Shortly after he left, she was seized with a convulsion, which was rapidly repeated. Not knowing of the occurrence, he did not see her for some hours, when he found several physicians present. Chloroform by inhalation was administered with only temporary effect, the convulsions recurring even while under its influence. Ten minims of Majendie's solution were now administered hypodermically, and repeated from time to time, without any recurrence of the convulsions after the first injection. A semi-comatose condition remained for several days, and her vision has been affected ever since. There is no single remedy, in Dr. Wilson's opinion, as effectual in puerperal eclampsia as hypodermics of morphia, but general blood-letting, chloroform and morphia, are the sides of a triangle, on which must rest all that is good in the treatment of this disease; each side lends strength to the others. Of course, the prime necessity of emptying the pregnant uterus, at the earliest practicable moment, is never to be forgotten.

Dr. Williams had had a uniformly favorable experience in this disease up to three years ago, having never lost a patient; he then lost three in rapid succession. One of these was ascribed to reflex action, from an immense quantity of pickled beets, which the patient had eaten. The labor was over, and the patient awoke from a nap, com-

plaining of sick stomach, which was supposed to be due to chloroform administered during the labor. She again fell asleep, and awoke with headache and nausea. Soon after, she threw up her left hand suddenly, and went into a convulsion, which was followed by fifteen to twenty others, terminating fatally, in spite of chloroform and morphia hypodermics, in twenty-four hours. This patient was not bled, because she was anæmic, but an unsuccessful attempt was made to unload the bowels by croton oil, in gtt.ij, doses every two hours, until twelve drops were administered. There was an entire absence of any evidence of renal trouble. The other fatal cases were bled. He indorsed fully Dr. Chew's views with regard to venesection, and, in the case reported, he thought the local bleeding had been beneficial, not only by its derivative action, but by the actual loss of blood, which was not inconsiderable (℥x—xij,—in addition to that lost during the labor). The morphia treatment in these cases had been severely criticised, but it is rational by prolonging the good effects of the chloroform.

Dr. Chisolm said the best effects of local bleeding were through its revulsive action. In affections of the eyeball, we leech and cup the temples, the vessels of which are derived from an entirely different source from those supplying the eyeball itself.

Dr. Arnold said this discussion shows that blood-letting has again come into favor, a practice which he had always advocated in eclampsia due to uræmic poisoning. On the other hand, it appears from the remarks of Dr. Chew that morphia is now commended in the same affection, although this drug has been considered particularly contra-indicated in cases where the eliminating functions of the kidneys are interfered with.

It is easily understood why morphia occasionally checks epileptiform convulsions, which are of a reflex character, and experience teaches that a certain proportion of puerperal eclampsias are of this nature. But the existence of albuminuria indicates a different pathology, and requires, therefore, a corresponding treatment. At least, such drugs should be avoided as diminish the renal excretion. He did not hesitate to say that Dr. Chew's employment of cups and chloroform inhalations was more than sufficient to overcome the deleterious effects of comparatively small doses of morphia.

Dr. Williams said that anything that would quiet the nervous system and temporarily allay its excitement was rational. Morphia, chloroform and blood-letting, all act practically in the same way. Put the nervous system in a condition to bear the strain brought upon it by the labor, and then your patient may get well. Nearly all recent writers recommend morphia. It seems rational to suppose that it would render the nervous system less sensitive to the irritation of the urea, or other causes producing the convulsions. Even if we admit the charge, made by Dr. Arnold, that morphia diminishes the quantity of urine, there is no valid objection to its use. The immense advantage gained by its sedative action upon the nerve centers, more than compensates for any temporary diminution of the urinary secretion. Theory and practice concur in the propriety of using morphia, combined with chloroform, and with blood-letting, general and local.

Dr. Wilson thought the use of morphia just as philosophical as blood-letting and chloroform. Whatever controlled the circulation, diminished the danger of irreparable damage to the brain, till time could be gained to remove the cause on which the convulsions depend. Just as blood-letting and chloroform diminish vascular tension and cardiac force, so morphia, by calming innervation and lessening the stimulus, will even more powerfully accomplish the same.

Dr. Cordell said that he had had, last summer, whilst at the Jordan Alum Springs, a case of puerperal eclampsia, which, in view of the discussion this evening, might be of interest. The patient was a lady's maid, black, unmarried, and aged 39 years. Previous to the attack, she had suffered from severe earache and slight dyspepsia, but her uterine functions were said to be normal. The attack began at 9:30 A. M., August 10th, with a sudden and violent epileptiform convulsion, during which she foamed at the mouth and bit her tongue. This was succeeded by some stupor. Other convulsions followed, so that by 3 P. M. she had had six, and was now in a profound coma, from which she could not be aroused. So far, she had taken about seventy grains of bromide of potassium, and chloroform had been administered during the attacks. Her lower extremities were enormously swollen with dropsy; her face and upper extremities were free from swelling at this

time, although they, too, became œdematous subsequently. Her breath was excessively ammoniacal, and so foul that the disgusting odor pervaded the whole room. Her abdomen was enlarged, and, on auscultation, revealed the fœtal heart; the indications, afterward confirmed, showed that she was somewhere near eight months gone. At 3 P. M., she vomited about four ounces of offensive greenish liquid. At the same time, Dr. Cordell drew from her bladder about one-half ounce of strong, dark urine, which, on being tested by heat and nitric acid, completely solidified in the test tube. Some of the urine was submitted to microscopic examination by his colleague, Prof. J. Staige Davis, of the Rockbridge Alum Springs (of whose assistance he availed himself), but with a negative result. At 3 P. M., as she was entirely unconscious, he injected, per rectum, 40 grains of hydrate chloral, and repeated this dose every three hours, the chloroform being continued as before in the seizures, and on any sign of their approach. By thus watching closely, and beginning the inhalation in time, he believed he had warded off many convulsions; when the latter were once established, and their onset was often so sudden as to preclude prophylactic measures, inhalation was rendered impossible by the tonic contraction of the diaphragm, which lasted during the whole spasmodic seizure. The beneficial effect of the chloral injections is seen by the following record:

Aug. 10th, 3 P. M., injection.
Aug. 10th, 6 " " (which was rejected, and on immediate repetition again rejected).
Aug. 10th, 9 P. M., injection.
Aug. 10th, 12 midnight, injection.
Aug. 11th, 3 A. M., injection.
" " 9 " "
Aug. 10th, 5:15 P. M., mild convulsion.
Aug. 10th, 5:55 P. M., mild convulsion.
Aug. 10th, 7:45 P. M., severe convulsion.
Aug. 10th, 8:00 P. M., severe convulsion.
Aug. 10th, 8:45 P. M., severe convulsion.
Aug. 10th, 8:50 P. M., severe convulsion.
Aug. 10th, 11:50 P. M., convulsion.
Aug. 10th, 12 midnight, convulsion.
Aug. 11th, 1:00 A. M., convulsion.

Aug. 11th, 8:10 A. M., convulsion.
Aug. 11th, 5:00 P. M., convulsion.

On second day (August 11), at 1 P. M., two drops of croton oil were given; at same time, ℥ iij of strong, dark urine, the entire accumulation of the previous twenty-two hours, were drawn with the catheter. At 5 P. M., just after the last spasm, a blister was applied to the nape of the neck. At 9 P. M., two drops of croton oil were again given, and at midnight there was a copious liquid operation, followed during the night by four others.

On the third day, found her partly conscious; she had been up, and her pulse was 34 beats less than at 11 P. M. the night before. She was totally blind. She passed one-half gallon of urine, at one time, in the afternoon. In the afternoon, gave her ℥ ij of jaborandi leaves in infusion, but, whilst it caused copious salivation, it did not produce any marked diaphoresis. At 11 P. M., had her wrapped in wet sheet, wrung out of hot water, which caused some sweating.

On the fourth day, œdema of face, fore arms and hands noted. Bitartrate potash ℥ ss every 6 hours ordered.

Her condition continued to improve, day by day, until the seventh day, when, although her nurse reported that she had *nine copious watery passages* during the previous 36 hours, and had passed her urine very freely, she complained all day of frontal headache and pain in the left side of her face and ear, and at 7 P. M. had a convulsion, repeated at 7:30 and 8 P. M., when labor pains began. At 9:15 P. M., gave her, per orem, hydrate chloral gr. xx, and bromide potash gr. xxx, repeating this dose at intervals of four hours. She had but one more convulsion, viz.:

On eighth day, at 1 A. M. At 9:15 A. M., the waters were discharged, and the child (a female) was born dead at 9:30 A. M., the vertex presenting first in the ordinary position. The placenta came away in ten minutes. The woman remained in a deep stupor all day.

On the ninth day, during the day she passed three quarts of urine, containing 1-5 albumen.

On the fourteenth day, whilst sitting on the chamber, she had a slight convulsion. Had given her a dose of epsom salts the morning before, which had produced three actions; her urine, too, had been "very free." Urine

showed 1-5 albumen. There was still some œdema of the feet and legs, and indistinctness of vision. Two or three doses of the bromide and chloral mixture were given.

On the twenty-first day, when attendance upon the patient ceased, the dropsy had entirely disappeared, and there had been no trace of albumen on repeated examination. She had now resumed her duties, but vision was still very defective. The patient was under observation about two weeks longer, without any unfavorable symptom.

Dr. McSherry spoke of the so-called typho-malarial fever, of which he had seen many cases recently. It is not distinctly typhoid, nor typhus, nor malarial, although there is, no doubt, a malarial element in it. He should be disposed to term it "typh-fever," after Chambers. Quinine will not break it up. A remarkable feature about it is the disproportion in the pulse and temperature (which was alluded to in a previous discussion of the subject—see *Maryland Medical Journal*, for February, 1879); for instance: In one case the temperature was 103° F., whilst the pulse was 80, and this proportion continued for about three weeks. Once the pulse went up to 108, but the temperature was then 107° F.; with such a temperature as this we would have a right to expect a pulse of about 160. This patient recovered. He had heard of one case in which the temperature rose to 109° F., with a fatal result. In a case, occurring in a medical student, aged 24, when first seen the temperature was 102°, the pulse 92; the next morning, they were respectively 105° and 86. The highest point reached by the pulse at any time was 96, the temperature being at the same time 104 2-5° F. He read from a letter just received from Prof. Bartholow, of Philadelphia, in reply to one of inquiry upon the subject. Dr. Bartholow said that he had seen many such cases in Cincinnati, and that it was there called typho-malarial fever. He had obtained the best results from the following:

℞. Tinct. Iodini,
Acid, Carbolici, partes equales.

S. gtt. j—ij quarta vel sexta quaque hora.

Quinine, he says, does nothing more than reduce the pyrexia. When diarrhœa occurred, he used liq. potassæ arsenitis (Fowler's) gtt. j and tinct. opii Deodoratæ gtt. ij —v, every four hours.

Dr. McSherry thought that quinine was wantonly wasted, under German authority; we have many agents which act better as antipyretics, that is, for the immediate reduction of the pyrexia. In answer to the inquiry of a member, as to what these were, he mentioned nitrous powder and aconite as two among them. Quinine is too valuable a remedy in every sense, to be consumed by inappropriate use or misuse.

Dr. Morris read a paper upon the therapeutic uses of ergot, which concluded with the following summary:

1. Ergot is prescribed very wildly, and frequently injudiciously.

2. Its powers as a general agent are not positively understood, and further clinical investigation and observation are necessary to give it its true place in therapeutics.

3. It exercises an unmistakable influence on the impregnated uterus during labor.

4. It has no influence over the non-gravid uterus, save when its muscular fibers are distended by foreign growths.

5. It has no power in a healthy subject to initiate labor or produce abortion.

6. Its administration in labor frequently endangers the life of the child, and the forceps are to be preferred as a means of delivery.

7. That whilst it exercises an undoubted power in controlling uterine hemorrhage, the exact character of the cases in which this power is evidenced remains yet to be described.

MEETING HELD NOVEMBER 4TH, 1879.

Dr. H. P. C. Wilson reported a case of ovariotomy, and exhibited a composite, multilocular tumor removed in the operation, which was performed November 3d. The patient was 40 years old, the mother of nine children. She had had no miscarriage. Dr. Wilson found a large tumor of the right ovary, and principally upon the vaginal examination diagnosed pregnancy, advanced to within ten days of four months. This diagnosis was based chiefly upon the granular eroded appearance of the os uteri, and upon the blue mulberry appearance of the vaginal mucous membrane. The patient, on the other hand, was certain she was not pregnant, because she had always

suffered from deathly sickness in all her previous pregnancies, and had had no sickness recently; there had been no fœtal movements perceptible to her; no fœtal heart could be detected, on repeated examination, nor had her family physician any idea of her condition. Coming from a malarious region, and being subject to intermittent fever, she was put upon quinine in full doses. Before taking this, Dr. Wilson was summoned to see her one night, and found her suffering intense pain, but nothing like labor pains, and with the symptoms of general peritonitis. Relief was imperatively demanded. Two plans presented themselves for consideration—the 1st, to tap her and let her go home; 2d, to remove the tumor by an operation. There were several objections to the first measure; the composite nature of the tumor contraindicated it; it would be required several times during her pregnancy; its performance entailed risk to both mother and child, and he had lost one patient after aspiration from general peritonitis. These considerations induced him to prefer ovariotomy. The night before the operation, gr. v of quinine were administered, with a view to removing any malarial poison still remaining in the system, and, also, to counteract any tendency to nervous shock, and 10 grains were given in the morning, five hours before the operation; compound licorice powder was also administered the night before to move her bowels. The incision being made through the abdominal wall in the usual manner, he was able, by placing the finger of one hand on the fundus and a finger of the other hand on the cervix, to verify the existence of pregnancy. She was now turned on her side, and the cyst tapped; the fluid removed from it was of a dark claret color, due to the admixture of blood. Adhesions were found between the tumor and the intestines, also with the omentum, and in breaking up the latter there was a good deal of hemorrhage. The pedicle was but one-half inch long, which rendered the use of the clamp, of course, impracticable; it was, therefore, transfixed by a needle armed with a double carbolized silk ligature, and, being securely ligated and touched with sol. subsulph. of iron, was returned into the abdomen. The operation was performed at 1 P. M., on the 3d, and the patient has done well so far, her pulse never having risen above 84 (except temporarily on the re-action following her recovery from the chloroform), nor

her temperature above 99° F. She has had no nausea yet. She has only been permitted to have crushed ice and lime water and milk (2 teaspoonfuls of the former to 1 teaspoonful of the latter) every two hours. Hypodermic injections of Majendie's solution, in the dose of *m* x to xx have been repeated at intervals of seven and a half hours.

In answer to a question, Dr. W. said that he had no fear of quinine in this case, having never seen it produce abortion, and being accustomed to use it liberally in pregnancy. He suspected the adhesions occurred at the time he found the patient suffering from symptoms of general peritonitis.

Dr. McSherry reported a case of facial neuralgia in a sailor at the University Hospital, which was relieved by croton-chloral in five grain doses. The attack seemed due to malaria, from which the patient had previously suffered, but quinine had no effect upon it, nor was it all benefited by any other of the numerous remedies employed, nor by the croton-chloral in smaller doses.

Dr. McKew also reported a similar case, in which the same remedy, in five grain doses, twice daily, gave immediate relief; the patient had taken everything else which he and other physicians could suggest, without benefit.

Dr. Chisolm had used croton-chloral extensively in pains seated in the eye, and with excellent results. He employs gr. v to x doses, three times a day. The remedy is objectionable on account of its horrible taste and difficulty of solution. The best vehicle is glycerine.

Dr. Morris had tried croton-chloral in trifacial neuralgia without effect.

Dr. Chisolm spoke of a new method of liberating the lens from the capsule in cataract extraction, as introduced by Dr. Knapp. According to the methods heretofore used, the capsule was extensively opened from the front by making a large triangular laceration, through which the lens could easily be pushed. After its removal from the eye, the posterior capsular wall kept the vitreous in place and gave a subsequent clear pupil. The only objection to this method is that the rubbing of the lens, in its escape, against the posterior surface of the irritable iris, and the irritation caused by the presence of any lenticular debris that may be accidentally left in the eye would frequently induce iritis with pupilary closure.

This inflammation would sometimes lead to destruction. By the new method, the capsule is opened at its upper edge, and the lens slid out as if from the open mouth of a bag. The whole anterior capsular wall remains with its smooth surface protecting the iris from irritation, even if fragments of the lens are left behind. His experience, which now embraces about twenty cases for the past two months, confirms the statements of others, that iritic inflammation is much less likely to follow upon this modification. In some cases, in which he expected iritis, especially in one accompanying a severe case of diabetes mellitus, there was not the slightest trace of iritic inflammation. The operation, while it seems to protect from this great danger, is not altogether a perfect method. In several of his cases he found that a little blood had gotten into the sac after the eyes had been bandaged, and could still be seen as a blood-clot two weeks after the operation. Its presence may explain the clouding of the capsule, which necessitates so many secondary operations in the hands of its inventor. In the old method of tearing up the front of the capsule, such an accident with its sequelæ could not have happened.

Dr. Chisolm also reported the case of a child, aged seven years, who had been brought to him in May last suffering from headache and nausea, with loss of sight. The eyes were clear, pupils large and bright. The opthalmoscope exhibited some wooliness of the right disc. In this eye there was no perception of light. In the left eye, with which he could see to get about, there were no intra-ocular changes. For want of more data, the case was called one of amaurosis from cerebral causes, and iod. pot. was prescribed. Recently, after six months interval, the case was brought back to him. Now the cause of the amaurosis was evident enough. Both eyes protruded markedly. The right was so prominent that when the expanded upper lid was raised, the optic nerve entrance seemed to be on a level with the root of the nose. In the slow protrusion, the lids had developed so as to continue to cover the eyeballs. When lifted, the eyes exhibited a perfectly normal appearance, with not the slightest injection. The bright eyeball was fixed, and incapable of any lateral motion. The left eye had an external cast, and could be still moved toward the temple. The media of each were still clear, and white discs, indicative of atrophy, were revealed

by the opthalmoscope. There was now no vestige of light in either eye. From the last visit, six months since, there had been no headache or nausea. For some months he had lost the power of smell. In thrusting the tip of the finger between the eyeball and rim of the socket, Dr. Chisolm felt a firm mass in all directions, showing that the right socket was filled by a growth, which had so slowly thrust the eyeball outwards as not to affect in any way the nutrition of the cornea. On the left side, the nasal portion of the socket was lined by a similar growth. None could yet be felt toward the temporal side of the left orbit. The cause of trouble could now be easily made out. A malignant growth had apparently started in the anterior sphenoid cells under the sella turcica, which, in its earliest stage, caused brain irritation and encroached upon the optic foramina, squeezing the optic nerves, to the destruction of sight. In its further development, the tumor had grown externally instead of encroaching further on the brain cavity; had gradually filled up the right orbit, then the nose, and was now rapidly doing the same for the left socket. It promised in the future a frightful case of deformity. The little boy is a peculiarly bright child, and indicates no mental obtuseness whatsoever, showing that the growth is strictly a face tumor.

Dr. Williams reported the case of a lady, forty-five years old, the mother of seven children, who, fourteen years ago, began to have attacks of petit-mal; these became more and more frequent until they occurred many times a day. In time, attacks of grand-mal also appeared, which likewise increased in frequency until, when the patient came under care last summer, they occurred once a week. They came on between 2 and 4 A. M., and were very violent. Her intellect, naturally brilliant, was beginning to deteriorate. She had been under the care of the best neurologists in England, who, among other remedies, had used electricity and bromide of potash, but nothing seemed to do her any good. She had been treated, in this country, with a like result. With but one exception, the convulsions had taken place at night and after sleep. Dr. Williams ordered the following:

℞. Potass Bromide, ℈j,
Tr. Gelsemii gtt., xx.

To be taken three times a day, and twice this quantity on

retiring to bed. As already stated, the convulsive attacks occurred invariably after profound sleep, coming on about 2 o'clock A. M. This fact, coupled with the further fact that the patient took no food after dinner until the next morning, induced Dr. Williams to suppose that prolonged abstinence from food increased the tendency to the convulsions. Acting upon this hypothesis, he prescribed *a hearty meal, to be taken at bedtime*, in addition to the increased dose of medicine taken at the same time. After using this combination a few days, the convulsions ceased, and she had no more for two months, when they recurred, on a neglect to take the medicine. On resuming the medicine they again ceased, and now four months have elapsed without their re-appearance, and there has been great improvement in her condition, both mental and physical. In view of the failure of the bromide, when used alone, the benefit seemed fairly attributable to the gelsemium. Dr. Williams was induced to use this remedy, in the case reported, on account of its power of controlling the cerebral circulation. He combined with it the bromide on account of attacks of intense spinal neuralgia, for the relief of which hypodermics of morphia had been required.

Dr. Williams stated that he wrote a paper upon the use of the yellow jessamine, some years ago, advocating its importance in cerebral congestion, and in nervous pains dependent thereon, especially supraorbital neuralgia. He was sorry to learn that his professional colleagues had not obtained such favorable results as he had, and could not account for such a disagreement except on the supposition that they had not used the agent in sufficient doses to obtain its full therapeutic value. He does not hesitate to say that fullness of the head or brain is controlled by the jessamine more promptly than by any other remedy.

Dr. McKew said the discrepancy of opinion as to the value of yellow jessamine was remarkable and unaccountable. No modern remedy is more fully endorsed than this by some authorities; on the other hand, others seem to have a terror of it. For the great majority of the profession, it is one of the most useless drugs on the apothecaries' shelves.

Dr. Chew had formed an unfavorable opinion of it, and been deterred from further use of it, by his experience in

the case of a lady suffering with trifacial neuralgia, especially severe about the frontal region. He gave her one dose of *m* x of the tincture prepared by Andrews & Thompson, of this city. It produced ptosis, vertigo and syncope, and the patient said she was satisfied, if it were renewed, it would kill her. Being persuaded to take another similar dose, the same effect followed, and she declared that she would take no more. The pain was not at all lessened.

Dr. Williams first used it in his own case for supra-orbital neuralgia. He did not hesitate to take a drachm at a dose. For purposes of experiment, he had taken it in sufficient quantities to cause ptosis, dilatation of pupils and paresis of the legs. Ptosis indicates the limit of its safe use.

He related a case of tubercular meningitis, in a child under the care of Prof. Johnston, which was characterized by the most piercing cries, annoying all the inmates of the house. On his recommendation, fifteen drops of the tincture of jessamine were given every four hours; in twenty-four hours the cries ceased entirely. To test the influence of the remedy, it was discontinued; the cries returned, to be again checked by a renewal of the jessamine. Of course it had no effect upon the ultimate result. He had used it with like results in other similar cases.

Dr. Chisolm thought Dr. Williams' colleagues were, perhaps, afraid to use it in the doses which he recommends. A gentleman to whom he administered *m* ij of the fluid extract, in 1866, was rendered uncomfortable by it for twenty-four hours.

Dr. Cordell found it to relieve, very promptly, a case of supra-orbital neuralgia, brought on by riding across a prairie in a strong wind. He gave fifteen drops every two hours.

Dr. Winslow said that an infusion of yellow jessamine has been long used as a domestic remedy in North Carolina for fever and various other disorders. It was popular in gonorrhœa. It is often difficult to get patients to take it, on account of the alarming symptoms it produces, as ptosis, giddiness, weakness of limbs, etc. A patient of his took, by mistake, ʒ j. of tincture, and it looked as though he were going to die. Strange to say, he shortly

after repeated his mistake with still more threatening results; nevertheless, he recovered.

Dr. Winslow regards it as useful in nervous palpitation of the heart.

Dr. Chew related the following case of poisoning by atropia: A young lady was taking a solution of quinine; at the same time her mother was being treated, by atropia drops, for an affection of the ear. Yesterday the young lady took, by mistake, after dinner, ʒ j of the atropia solution, containing one-fourth grain of atropia. At once the face became flushed and the pupils extremely dilated. She was freely vomited by sulphate of zinc, and *m* x of Majendie's solution injected hypodermically. Two hours after the accident her pulse was 132, and she was extremely faint and feeble. There was no need to repeat the morphia. With stimulants she gradually recovered.

Dr. Chisolm referred to a case where a gentleman took, by mistake, atropia instead of iodide of potash. In three minutes his face was scarlet; and, in twenty minutes, notwithstanding the use of emetics, he was insensible, and remained so for twenty-four hours.

Dr. Chisolm thought mistakes could be avoided by adopting the habit of specialists, and using rose-water as the vehicle, the association of rose-water with collyria being generally understood. It was, probably, from this association that it had come to be regarded as of local use in eye troubles. He would also prescribe it to patients in very small quantity, say a grain in a two-drachm vial. In answer to a question, he stated that the solution he used in his office was of the strength of grs. iv to ʒ i of rose-water. He sometimes used a solution twice as strong as this. He mentioned a case of a patient suffering with eye trouble, who came to him with *a pint* solution of nitrate of silver, ordered by his family physician, which he had been applying with the result of producing extensive blackening of the conjunctiva.

Dr. McSherry related the case of a student, who, from merely smelling a small vial of atropia, passed around for examination by the class, was so affected that he could not renew his studies for several days.

Dr. Chew mentioned the case of Dr. Beatty, of this city, who, after an accidental dose of atropia, suffered from impairment of co-ordinasion, with muttering delirium, and inability to stand.

Dr. McKew thought such accidents could be avoided by prescribing a very small quantity of the solution. A patient would hardly be likely to take a drachm at a time out of a small vial containing but one or two drachms.

Dr. Winslow thought the same result could be attained by having the skull and cross-bones on the bottle.

—*Md. Med. Journal.*

Clinical Lecture on Dementia, Idiocy, Imbecility.

DELIVERED AT THE NEW YORK CITY ASYLUM FOR THE INSANE, WARD'S ISLAND, BY A. E. MACDONALD, M. D., MEDICAL SUPERINTENDENT.

GENTLEMEN:—The mental conditions which we are to study to-day differ essentially from those which have engaged our attention at our former meetings. Then we were confronted by minds which had lost none of their normal activity, which were, if anything, more than normally active, and which found their difference from ordinary sane minds in the abnormal manners and channels in which their activity was manifested. The common phrase by which an insane person's condition is expressed—that he has "lost his mind"—could not, with propriety, therefore, be applied to the victim of either mania or melancholia; for there is disturbance, not loss. But, as applied to the sufferer from dementia, and only when so applied, the term is a proper one. As regards imbecility and idiocy, they have this in common with dementia, that in each of the three conditions there is deficiency of mind; but, in their case, the deficiency is in original one, while in dementia it is acquired. Hence, at is customary to group them under the designation "amentia," so marking the essential point of distinction between them and dementia.

Dementia, then, to begin with, is that form of insanity in which we find not merely distortion or misdirection of mind, but actual deprivation of it. In the patients before you, you see a very different condition of affairs, both mentally and physically, from that which marked those who occupied their seats at either of your previous visits. You find a dull, stolid, heavy countenance, a fixed attitude, and an utter failure to respond to external influ-

ences, or to indicate in any way that the patient is conscious of his surroundings. Before—in the one instance, as part of the general excitement; in the other, from fear or suspicion as to their possible bearing upon them—the patients manifested a lively and anxious interest in our movements and our words. Now the eyes and the ears of our patients seem to take cognizance of neither the one nor the other.

Of dementia, as of the other forms of insanity which we have already considered, different divisions are made by different authors and teachers. Some speak of the disease as either acute or chronic, while others recognize primary and secondary dementia as constituting its two forms. The first classification I consider undesirable, for, whatever its origin or duration, there is at no time anything *acute* in the symptoms of the disease; and I prefer to adopt, and to recommend to you the adoption of the latter. By secondary dementia, we mean that form in which the disease comes on as a consequent or terminal condition in the course of an attack of insanity of one or other of the types which we have already considered, or after apoplexy or epilepsy, or some other nervous disease; or yet, again, in the general decay of the vital powers which attends advancing age. By primary dementia, we understand the form in which the insanity possesses the characteristics of dementia from the outset. Of the two, secondary dementia is relatively of very much more frequent occurrence, primary dementia being met with comparatively rarely.

We have already spoken of the approximation of the different forms of insanity, one toward the other, and of the mixed and doubtful cases which occupied the borderline between each; and, in the case of mania and melancholia, we found that by no means all the patients showed only the typical evidences of one or the other form, but that in many they were so mingled, or so alternated, that it was sometimes hard to say to just which side the patient belonged. Similarly, in dementia, there is an approach toward its next neighbor, melancholia; and primary dementia and melancholia, with stupor, have much in common in their symptoms. In a general way, we may usually differentiate upon the grounds that melancholia with stupor is found in older persons, and that

there are emaciation, refusal of food, want of sleep, suicidal tendencies, which are not met with in dementia.

Case I.—Here is a young man whose disease takes the form of primary dementia, and whose attack commenced at about the average age of patients so attacked—in his twentieth year. The victims of primary dementia are all young, ranging from fifteen years upward, and they are generally of weak constitution—boys and girls that have outgrown their strength, as the saying is. In some instances the attack comes on very suddenly, and then it usually owns a moral cause. Sudden fright is the most common, and the patient is literally frightened out of his wits. From this form recovery is more likely to occur than from that of which we shall presently speak, and from which the patient before you suffers. Girls are, perhaps, more frequently than boys, the victims of the suddenly developed form; and, coincident with it, and lasting as long as it continues, there is then suppression of the menstrual function. There seems to be complete prostration and stagnation of the bodily and mental functions; the circulation is depressed, and the extremities cold and congested; there are constipation and retention of urine, and general relaxation of the muscles, so that the patient sits in a listless and stooping position. The mind seems closed to all external impressions, and there is, after recovery, if that takes place, no recollection whatever of what has happened during the continuance of the disease. This period is a perfect blank to the patient, who can not even judge as to its extent; whereas, after recovery from other forms of insanity, the patients have usually a tolerably clear remembrance of what was said and done in their presence, even at times when they appeared to pay the least attention, and to be the least capable of understanding. Refusal of food is common in the cases of which we are speaking; or, I should say, rather neglect of it. The patient will not feed himself, nor even convey the food to his mouth, if it is placed upon the table before him; but there is not active resistance to feeding, and, if food be placed in the mouth, it will be swallowed mechanically.

But, as we have said, primary dementia oftener approaches in a different way, and has different characteristics, as in the case of this boy. Here, the approach was gradual; there was a recognizable period of change, and

there are two points in the history which may always be pretty confidently looked for when the approach is thus gradual. These are hereditary predisposition and self-abuse. We have learned regarding him, that his father and two sisters have been of unsound mind, and that he was himself a masturbator. This is the common, in fact, the almost invariable, history in such cases. The children have been considered uncommonly bright and studious, and it is quite usual for the parents to boast of this fact, and tell how they would spend hours alone over their books; the suggestion that the solitude was perhaps sought for another purpose being always indignantly rejected. And this leads me to speak of masturbation as a factor in the production of insanity, and of the undue importance that has at times been assigned to it. There is a good deal of fashion in this matter of the assigned causes of insanity; sometimes one ostensible cause is taken into favor, sometimes another, and masturbation has had its turn with the rest. Not many years ago it was gravely asserted that a fabulous percentage—seventy-five or eighty, I think—of the inmates of asylums owed their insanity to the practice of self-abuse, and this statement went the rounds of the press, and was duly turned to their own account by the venders of certain quack medicines. Such exaggerated claims are not now generally made, but still the efficiency of this particular cause is, in my judgment, greatly overrated by some. Apart from the special form of insanity of which we are now speaking, I doubt if masturbation is to blame for many cases, although we do find patients with other forms practicing it. In these cases, however, it is far more likely that the insanity has preceded, and led to the habit, than the reverse. In the present instance, however, and in cases of this class, its potency can not be doubted, and the existence of the habit, the gradual approach of the disease, and the hereditary taint, combine to mark the case as incurable.

Case II.—Here is a fair type of secondary dementia. He is a man of forty-six, and has been about ten years in the asylums. In his case, the primary disease took the form of chronic mania, and you see the stiff, wiry hair, so often associated with that condition, still remaining. He is fat and well nourished, does not speak at all, has a foolish smile, and shows the interest of a child in bright

colors and trinkets. This taking on of flesh usually attends the transition of secondary dementia from the more active forms of insanity. The delusions are lost, life becomes mechanical and automatic, and the patient becomes gradually more and more stupid, and passes down through the animal grades until his existence is more like that of a vegetable than anything else.

CASE III.—This man is a case of senile dementia. His loss of mind has not followed upon any other form of insanity, but has simply come on gradually as his years have gathered. He is seventy-eight years of age, and you see that he is childish and simple. He prattles away in a silly manner, is sometimes petulant and irascible, but, as a rule, gives very little trouble, and is easily controlled and directed. The prominent feature in these cases is loss of memory, and particularly as regards recent events. Occurrences which were impressed upon the mind in earlier days, when it had not lost its vigor, are remembered and detailed with considerable accuracy; but present happenings seem to make no impression, and are at once forgotten. For example, the senile dement will tell you very correctly some story of his early life, and a few hours afterward he will tell it to you again, equally correctly, but quite forgetting that it is not new to you.

Of course, there is nothing to be done for such cases with any expectation of improvement; the only thing is to make them comfortable for the rest of their days, and this may generally be done at their homes. The physician's connection with them is more apt to be in the capacity of adviser upon the point of their ability to make wills or execute contracts. Then it will be well to remember that the law does not require a man performing such acts to be as strong of mind as he ever was, bnt only to be strong enough to appreciate the nature and the effect of his acts; and, further, that in this, and, indeed, in all forms of insanity, there is occasionally, just before death, a temporary clearing up of the mind, which takes it back, for the time, almost to its former vigor.

CASE IV.—Among the synonyms for dementia, sometimes used, is that of "cataleptoid insanity." Here is a case that illustrates the occasional appropriateness of the term. This man has sat immovable during all the time that I have occupied in introducing the other patients.

His head is bent forward, his eyes fixed, his mouth open, with the saliva dribbling from it, and his arms hanging by his sides. When I take hold of his arm and urge him, he rises, and again becomes immovable. As I place my hand on his shoulder and push him, he steps out like a walking doll; and the moment I stop he stops, and there he will stand until he is moved again. Now I raise his arms and bend them in different positions, and they remain just as I place them. I bend one knee and raise his foot from the ground, and he stands steadily upon the other. I press him back into his seat, raise both feet in the air, and in that position he will remain until it is changed for him. This is an excellent example of what has been called the "lay-figure" condition, or the condition of "waxy mobility." Of course, this man does nothing for himself, but has to be attended to and moved about like a machine. Even if food were placed in his mouth, it would remain there unswallowed, and so he has to be fed with the stomach-tube. He has to be taken up and dressed, and undressed, and put to bed again; and he passes his dejections without heed, if he passes them at all. Often the bowels have to be relieved by injection, and the bladder with the catheter.

We pass now from the dements to the idiots and the imbeciles. Idiocy and imbecility are not properly forms of insanity, certainly not so under the definition which we agreed upon; for *their* difference from the normal condition can not be determined by comparison of the individual suffering with himself at another time. In their case we are obliged to set up an ideal standard and judge their victims by it, and not by remembering their normal condition. They are, in fact, *in* their normal condition. With dementia, they have this in common, that there is in each case want of mind; but in one case the want arises from loss, and in the other from original absence. Differing, in this, from dementia, they differ between themselves; idiocy being a congenital condition, and imbecility a condition of arrested development, the arrest occurring after birth, and at a longer or shorter interval. I do not mean to say that an idiot or an imbecile may not be insane. His brain may take on diseased action, and he may have an attack of acute mania or of insanity of some other form as well as another. But the existence of his idiocy or his imbecility does not in itself

constitute insanity. In other words, he may be of defective mind without being of unsound mind.

The patients before you are not inmates of this institution, but come from the Idiot Asylum on Randall's Island, by the kind permission of its superintendent, Dr. J. C. Howard. Among them are some idiots and some imbeciles, but in each one you will notice one or more defects in physical development, which establish a decided contrast between not alone them and ordinary mortals, but between them and the insane persons who have already appeared before you. Taking the idiots first, you will notice a very decided difference between them—an anatomical one. Some of them have very small heads, some of them very large, and we divide them, therefore, into microcephalic and macrocephalic idiots. As a rule, the large-headed are, more properly speaking, imbeciles, for the brain is not simply undeveloped, but diseased; but this is not always so. The capacity of the skull does not always indicate the size of the brain; and the former may be very great, and the latter very small. In a general way, we may say, that the brain of the idiot represents quality without quantity; while of that of the imbecile the reverse is the case. As a rule, the terms which we have used have fairly suggested their own definitions; but, in the present instance, I fear that this is scarcely the case. For, in the original, the term idiot meant one who had not sufficient intellect to engage in political affairs, or hold political office; and, in these latter days, there is a suspicion that it has somewhat lost its significance in that regard. Ancient tests, also, have, to some degree, lost their value; for one of those in best repute was, to require the alleged idiot to identify his own father and mother, while more recent authority has declared one-half of that to be difficult even for a wise man.

With these idiots I can do little beyond directing your attention to the physical peculiarities which they present. I know nothing of them myself as to their histories and so forth, and but little is known at the institution from which they come. How little, may be judged from the fact that one of them is known as "Central Park"—a name probably not acquired in the usual way, from his godfathers and godmothers, but rather from the locality in which he was found; while a second is called "Sloppy," in delicate allusion to a personal characteristic which is sufficiently apparent to you.—*Medical Record.*

Therapeutic Skepticism.

THE following extract, from a lecture by Dr. Roberts Bartholow, well describes the doubt that prevails as to the efficacy of the bulk of medicines—a deadly blight that is liable to fasten on the too scientific physician:

We constantly hear physicians complaining that the published results of others, in respect to the utilit y of particular plan of treatment, can not be realized in their own experiences; that, although Davy cured paralysis by the inhalation of nitrous oxide, they can not succeed, although they have carefully observed all the conditions of the experiment. They entirely overlook the fundamental fact that one physician summons to his aid the mysterious mental force in hope, faith, expectant attention; and another represses it, not consciously to himself, by a lack of personal enthusiasm, and still more, by a lack of confidence in his own powers, and in the power of his remedies—fatal defects in the character of the physician, which will not escape the keen scrutiny of the anxious patient. I will not use the vulgar term "personal magnetism," for it has no meaning, and the power is not a magnetic quality or power—not a mysterious gift possessed by the chosen few. That which inspires a supreme, unquestioning, all-pervading belief in the efficacy of the means proposed, is a reflex of the confidence of the physician—not a boastful, self-asserting egotism, not the blind faith of ignorant credulity, but the well-founded convictions of the enlightened therapeutist, confident in his resources from long experience of their capabilities.

The end to which all our studies are directed, as practical physicians, is the application of remedial agents to the cure of diseases. An unprejudiced thinker, to whom the subject was mentioned, would assert with confidence that gentlemen engaged in a pursuit requiring the use of certain agents to accomplish the desired results, would be most solicitous to inform themselves fully in respect to those agents. He would regard it as incredible that a considerable part of our profession are either indifferent or satisfied with vague notions, and that a still larger part fall into the routine methods with a few agents which have to do duty for all possible conditions. This widespread inappreciation, indifference, or ignorance of the actions and uses of drugs is due partly to fashion, partly

to the unpromising nature of the subject. Within a few years past a therapeutical nihilism has been the position occupied by many of the most influential leaders in modern medical thought. This movement is a result, in part, of the overshadowing importance of physiological and pathological studies. The founding of great laboratories, and the brilliancy of discovery in these departments, have attracted universal attention to those studies which have become the fashion. We see on every side the efforts put forth to give this direction to medical study and teaching. The desire of the time seems to be to make students, histologists, pathologists, microscopists, rather than sound practitioners, full of the humble but necessary knowledge of the practical departments of our art and science. I hold this to be a perversion of the duty of a medical school. Its first and highest duty is to instruct students, not to pursue minute researches, but to become thoroughly accomplished physicians and surgeons. No fact is more evident than that the highest order of physicians and surgeons are not men remarkable for their knowledge of microscopy, of experimental physiology, and the other branches of theoretical medical science; and, conversely, that the microscopists and pure physiologists are not remarkable as physicians, and, indeed, can not be. The attempt to pervert the proper purpose of medical schools, and to give merely a science aspect to medical teaching, is a fashion of the time,which, if it gain more adherents, is likely to do serious mischief to the cause of medical education. For young men, allured by the glitter of the scientific world, will neglect the important and really more difficult attainments of true professional studies.

It is a mere pseudo-science which is misleading so many that it has become commonplace to know something about drugs and prescribe them; the new school of pathologists and physiologists look upon the whole business of medicine-giving as unscientific, and, therefore, unworthy the attention of the higher order of medical thinkers. It is a very fascinating doctrine, that to be ignorant of drugs is to be regarded as superior to commonplace—as being in the higher walks of medical life—and, hence, many make haste to adopt it, relying for the hereafter on mint-water in the treatment of rheumatism, and similar nihilistic absurdities. The great question of the

times is, does it pay? Applying this utilitarian method to the subject, I answer, it does not pay to be ignorant of therapeutics, and I prove my position by some illustrative examples selected from those recently deceased, so as not to be accused of making invidious comparison. The most successful physicians Paris, Vienna, Berlin, London, Edinburgh have had for a generation, were Trousseau, Oppolzer, Traube, Todd, Begbie—all of whom were most careful students of therapeutics, have contributed to our knowledge of the subject, and were diligent prescribers of remedies. These great men were not only successful teachers and clinicians, but had great local renown as practitioners, and each had a large *clientele*. I beg you will not, therefore, be misled by the depreciation of therapeutics by presumed medical scientists, who are not sufficiently scientific to feel their position assured, but must manifest their superiority by speaking contemptuously of the so-called practical branches.

Many who have started out on a medical career with a competent knowledge of therapeutics have been disheartened by a failure to obtain the expected results. Failures of this kind arise from two causes: First, from an incorrect appreciation of what nature and art respectively accomplish; and, second, from an inability to make a correct therapeutical diagnosis. The rage in our time is to make an accurate diagnosis of disease, and it is an enthusiasm to be encouraged, but there ought to be a corresponding desire to make an accurate therapeutical diagnosis—that is, to ascertain the remedy adapted to the form and character of the disease and condition of the patient. Into this problem many complex questions enter, and he only can solve it correctly who has an intimate acquaintance with the phenomena of disease, and with the whole range of rational and scientific therapeutics.

What art, what nature can accomplish, is a wide subject, which I must merely mention. It is a singular fact that but few young physicians, comparatively, recognize the limit of remedial power. The result is that they may begin with a blind, unquestioning faith, but they end with an unreasoning skepticism.

Confronted at the outset of his career with the subjects of *materia medica*, a student may well stand appalled. A subject which embraces the mineralogy, the chemistry,

the botany, the pharmacology of several hundred articles belonging to the three great kingdoms of nature, would seem to require the undivided attention of a life given to the task. The student of medicine can not become sufficiently well informed in these sciences to utilize them in the study of the *materia medica*, and, at the same time, devote sufficient attention to his strictly medical studies. The result is, he abandons an undertaking which seems to him hopeless, cuts the subject of *materia medica*, and contents himself with the fewest possible facts in therapeutics. He enters into practice with crude notions, and is given to a boundless credulity respecting the curative powers of drugs, or he cultivates a skeptical dilettanteism, or becomes a skeptic, affecting a patronizing forbearance for the weakness of those who have faith in remedies. The condition to which the practitioners are now reduced in Paris is gravely stated in a letter which appears in a recent issue of the *Lancet*—so gravely that it can hardly be regarded as satirical: "No wonder therapeutic skepticism is now the rule with prescribers. Thanks to the enterprise of wholesale druggists, a host of *elegant* preparations are always at hand which relieve the scientific *clinicien* from the ridiculous absurdity of writing a useless formula. Now that diseases are allowed to run their normal course under the watchful eye of the medical naturalist, the exhibition of an inert but *elegant* granule, must be considered a vast improvement upon the active interference of our physicking forefathers."

No wonder that, at a recent meeting (last month) of the Paris Academy of Medicine, there were loud demands for reform. No wonder that Dr. Andrew Clark, in that recent iconoclastic address, from which I have just quoted, cries out that therapeutics, "the highest department of our art, and one of its chief ends, is in a backward and unsatisfactory condition."—*Medical Record.*

What Causes Putrefaction?

In the *American Practitioner* are appearing a very clever series of Lectures on Surgery, by Dr. Chiene, of Edinburgh. We extract the following concise exposition of the "burning question" of the day—antisepticism:

"We have next to consider the cause of putrefaction.

If we examine putrid matter, we find in it numbers of rod-like bodies, which are termed bacteria. These bacteria are living; they have all the characteristics of life; they move, they propagate like other bodies; they require certain conditions for their existence; they require more favorable conditions for their growth and propagation. They are seen in putrid matter. Are they the *cause* or the *result* of the change which is termed putrefaction? That they have something to do with the process is very evident. Putrefaction is allowed to be a form of fermentation, and we may liken it to the well-understood variety of fermentation termed alcoholic fermentation. If to sugar we add the yeast-plant—a living organism—and keep it at a certain temperature, we find after a time that the sugar is converted into alcohol and carbonic acid; these are the products of the fermentation. We also find that the yeast-plant is increased in quantity. The yeast-plant causes the change in the sugar, and it grows at the same time that the change is taking place. The bacterium is the yeast-plant; the nitrogenous substance—say a solution of meat—is the sugar. The products of putrefaction—analogous to the alcohol and carbonic acid—are sulphuretted hydrogen, carbonic, butyric, valerianic acids, ammonia and its compounds, etc. The bacterium, then, is the cause and not the result of the sepsis or putrefaction.

"The *germ theory of putrefaction* asserts, first, that living organisms are the cause of putrefaction; second, that these organisms arise from parents; third, that they are planted in the substance which putrifies; fourth, that putrefaction is the result of the growth of these organisms in the substance which putrefies. Certain substances, termed antiseptics, interfere with this change, and they interfere by destroying the organisms which cause the change.

"We have, then, to note that we have to deal with two factors, a living organism and a nidus for its life—a plant, and the soil in which it is planted. The growth of the organism can be interfered with in two ways. We may destroy the organism, or we may render the soil in which it grows unsuitable for its development. The object which the surgeon has in view may be likened to the daily work of the farmer in preventing weeds from growing on his land. The farmer either attacks and destroys the weeds, or mixes something with his soil which will prevent the

weeds from growing. This is the problem difficult for both surgeon and farmer, and the solution of this problem is antiseptic surgery."

Microscopy.

Nucleated Blood Corpuscles.—Mr. G. W. Morehouse, of Wayland, N. Y., writes to us as follows: "Referring to Mr. R. Hitchcock's reference to me, in your June number, I would say, I have no recollection of having 'suggested' the nucleated or non-nucleated structure of human blood corpuscles; in fact, I have never made such study of them as to enable me to form a positive opinion on the question. I do not, therefore, understand the purport of Mr. H.'s remarks so far as they relate to myself."

New Microscopical Society.

As a sequel to the late session of microscopists at Buffalo, we record the recent organization of the "Griffith Microscopic Club of Detroit, Mich." Its second meeting was held on the evening of October 1. The undersigned being present, by invitation, was pleased to find in attendance many well-known friends. Among them may be named:

Prof. E. T. Whetmore, E. H. Griffith, A. M., Prof. I. A. Jones, M. D., Prof. P. B. Rose, M. D., Prof. J. M. B. Sill, Prof. E. L. Shirley, M. D., T. P. Main, M. D., L. Younghusband, M. D., I. D. McGune, M. D., E. W. Chase, M. D., R. C. Olin, M. D., W. H. Breasley, Esq.

Our Detroit friends seemed unanimous that the next session of the National Society should be held with them, Mr. Breasley kindly offering to provide accommodations, free of expense, to its members. I have been at Detroit once, and desire to repeat.

In haste, but sincerely yours,

J. Edward Smith,

323 Euclid Ave., Cleveland, Ohio.

Pathogenetic Bacteria in Salt Water Marshes.

In studying the infusorial life in sweet and salt water bodies, I was soon struck by the almost general absence of bacteria in stagnant water, pools, marshes, etc. Around carcasses of larger animals they are always found in abundance, but they are confined to a limited area around the putrefying substance; they do not spread through the whole body of water. Knowing the widespread occurrence of bacteria in the atmosphere, I was the more astonished, but failed to find an explanation for this apparently paradoxical fact. Meanwhile, observations in the fall of last year gave me a satisfactory solution of the problem. In the beginning of fall, in the months of September and October, infusorial life is the richest and most variable.

Having exposed to the air glass jars containing plants and samples of water from different localities, I soon found certain jars full of wrigglers, the larvæ of mosquitoes (Culex pipiens) bouncing with the greatest velocity through the water, which proved to be almost entirely deprived of infusorial life. In the struggle for existence, the wrigglers consume all the weaker micro-organisms, and the only infusoria surviving the struggle are the largest Hypotrichous ciliata, such as stylonychia, euplotes, etc.

Closer observation revealed small brownish lumps of a velvety appearance, deposited on the surface of the water, and containing a large number of mosquito eggs, which after a few days are transformed into larvæ. As mosquitoes breed at an enormous rate, the water is soon swarming with wrigglers. To prevent the destruction of my stock for microscopical examination, I had to cover the jars to exclude mosquitoes.

Septic liquids containing putrid meat and decaying plants, giving off a most terrible stench, were purified after wrigglers developed therein, and feasted upon the myriads of bacteria, flagellata, etc. The liquids became perfectly clear, transparent and odorless—the bacteria at the same time disappearing entirely. Thus I had found in wrigglers the most important factor for controlling and preventing septic processes. Undoubtedly the wrigglers are substituted in other countries by the larvæ of other insects. The scarcity of bacteria, or septic infusoria, in stagnant water, is lucidly explained by the abundance of

wrigglers—they bearing to each other the relation of cause and effect.

Into the study of the etiology of mycotic diseases enters, therefore, a new element, viz: the conditions regulating the development of the enemies of pathogenetic infusoria —in particular, that of the wrigglers.

The present frequent occurence of septic infusoria will find an easy explanation in the scarcity of wrigglers, which scarcity was brought on in the following manner: The great and sudden reduction of temperature in the latter part of September caused the destruction of mosquitoes, especially the females. Although the cold days were followed immediately by hot weather, only a few struggling individuals were left behind, the principal stock having been killed. A jar, with a lively breed of wrigglers in my possession, dates from the beginning of October. Later on, mosquitoes ceased to annoy me, and I did not need to protect the jars any longer. This scarcity of wrigglers, combined with an unusually high temperature, so favorable to infusorial life, are sufficient to explain the present frequent occurrence of septic infusoria.

Among the pathogenetic bacteria swarming at present in stagnant waters, I wish to allude in particular to Spirillum undula, generally of much rarer occurrence than the other septic bacteria. As well known, Obarmeier described, in *Ciblt.*, 1873, No. 10, a micro-organism resembling Spirillum tenue, possessing the same rapid corkscrew-like movement, and living in the blood of patients suffering from recurrent fever. Spirillum undula of comparatively large size is a conspicuous object for microscopical examination, and scarcely fails to be detected if present. The transition from the latent or passive state—which state may be easily procured by exposure to cold—to the active state, is readily observed aud produced at will. This interesting phenomenon illustrates fully the appearance and disappearance of certain mycotic diseases, and their dependence upon cosmic agencies.—*Medical Record.*

The Germ Theory on Stilts.—We find, in a late number of the San Francisco *Evening Bulletin*, an editorial on the subject of typhoid fever and kindred diseases, which is calculated to mislead the public mind in some respects, rather than to enlighten it. The ideas expressed are de-

rived mainly from an article in the *Nineteenth Century*, written by some over-confident advocate of the germ theory of disease, which may or may not be true, but the truth of which it would be premature to affirm in the present state of medical science. The editor says: "The microscope, in the hands of modern scientists, has settled the germ theory of contagion. It has detected millions of organisms, each of which would have the power to breed disease. Most of the poisonous organisms of typhoid fever are emitted from the bowels." All this is far in advance of established scientific truth. The germ theory is now under fire, and looks like losing ground rather than gaining it. The statement in regard to the origin of typhoid fever is an assumption. It may be true, and it may not. There is nothing in the history of typhoid fever in California which would tend to confirm it. The following passage, quoted by the *Bulletin*, from the article referred to, we copy as a fair specimen of closet speculation: "In typhoid fever, the nidus is situated in a limited portion of the bowel, the sole route to which, by way of the circulation, is through an artery the size of a crow-quill. A typhoid germ may be taken in through the lungs, and may make the round of circulation two or three dozen times without being likely to enter that vessel. The more often this may occur, the greater the chance of its being thrown off from the system without acting. But if the typhoid germ be taken in through the digestive organs, it is brought into direct contact with the seat of its nidus, and can scarcely fail to act."—*Pac. Medical and Surgical Journal.*

GLEANINGS.

CEREBRAL SYPHILIS.—Dr. L. E. Atkinson, of Baltimore, relates (*Virginia Medical Monthly*, Dec., 1879) three interesting cases of cerebral disease of syphilitic origin. We have space for his conclusions only: It will be universally recognized that not one of the symptoms of brain disease, observed in these patients, presented a feature which could, in any special sense, be termed syphilitic, which could not, equally well, be produced by a non-syphilitic malady. At the same time, they show that widely different morbid conditions may arise from the

same source, and that this source, probably more than any other in the pathology of these affections, is within the influence of our art. And it daily happens that their true nature remains unrecognized, and patients drift into suffering, helplessness, imbecility and death, when the timely and judicious administration of mercury and potassium, or sodium iodide, could have saved them to life and usefulness. And let it not be forgotten, that if we are to cure these patients, it must be while the *specific* processes are developing or in full activity—while the membrane is hyperæmic and beginning to thicken, the gumma forming, the artery narrowing—and not after the essential parts have been destroyed or crowded out by the unwelcome stranger. Usually, it is not difficult to recognize the presence of syphilis in these stages, in view of the curious combinations of symptoms displayed; and it is incumbent upon us not to be unmindful of the possibility of a syphilitic origin of any given case, so that timely advantage of a proper diagnosis may be taken. The treatment of cerebral syphilis, then, consists in the treatment of processes essentially syphilitic; and it must be kept in mind, that, apart from these, the results of syphilitic disease of the brain are identical with those of various other affections—they are the indelible traces of a battle that has, may be, long since been fought.

Leprosy.—Dr. Henry Gibbons, Sr., President of the California State Board of Health, and senior editor of the *Pacific Medical and Surgical Journal*, gives his views upon the question of the probability of our country being invaded by leprosy, in the November number of his excellent journal:

"There is not, nor has there ever been, the least reason to fear its diffusion among our people. Unwisely, if not dishonestly, efforts have been made, from time to time, to alarm the public mind with the idea that we are in danger of an invasion of the disease through the Chinese immigration. The President of the State Board of Health has received, from intelligent persons in the Atlantic States, earnest inquiries whether our nation is likely to be inundated with the plague of leprosy, as might be inferred from certain statements published in California. Whatever may have been the loathsome and dangerous character of the disease in ages long gone by, it has lost

its terror in modern times. The best authorities all over the world agree that it is not contagious or communicable under any ordinary circumstances, and that it is propagated only by inheritance. In fact, it appears to have been dying out during the last centuries, and is now scarcely known, except sporadically in a few countries, and as an endemic in some isolated localities. From the settlement of California, thirty years ago, and the immigration of the Chinese at the same period, individual cases have been observed among the latter. But no disposition of the disease to extend itself has been manifested, and it is a question whether a single case of genuine leprosy has been known in a Caucasian subject during that time. Certainly there is no proof that any white person has contracted the disease from a Chinese leper. As far as regards the Caucasian population, leprosy is a mere phantom."

Congenital Absence of Rectum.—Dr. A. L. Carroll, of New Brighton, New York (New York *Medical Record*), reports the case of a male infant in whom the rectum was entirely absent. Dr. Carroll introduced a trocar, pushing it along the line normally occupied by the gut, to the depth of three and seven-eighths inches, when the cavity of the bowel was reached. There was no chance of drawing the intestinal pouch down to the anus, hence he only hoped to maintain and dilate the sinus he had thus formed. The operation was performed on November 23, 1878, and the case seemed to progress fairly well until January 3, 1879. The advent of severe cold weather seemed to have caused the fatal termination. After discussing the question of malformation of the rectum, he reached the following conclusions regarding the treatment and prognosis:

1. In congenital malformation of the rectum, exploration from the perineum should always be first essayed, and, by preference, with the trocar. If the occlusion consists of a simple membranous septum, it need only be incised crucially with a probe-pointed bistoury. If the intestinal pouch be sufficiently near to the surface, the track of the trocar should be enlarged by the knife, and an endeavor made to bring the mucous lining down to the external wound. If, however, the interruption of continuity be too great for this proceeding, we should be

content with dilatation of the fistulous passage, although with small chance of prolonging life beyond a few weeks.

2. In case of failure to find the bowel with the trocar, a forlorn hope may be sought in colotomy. And here, in view of the probability that the arrest of development has occurred at an early stage, I should choose the right lumbar region as the site of operation.

3. Where the deficiency of the rectum involves a considerable part of its course, the prognosis is almost hopeless, whatever method of operating be adopted.

TREATMENT OF ACUTE PLEURISY WITH JABORANDI AND PILOCARPINE.—M. Bouchet, in his clinic at the Children's Hospital, related the following cases occurring under his observation:

Case 1, a little girl, aged five, whose parents died of phthisis, had marked symptoms of acute pleurisy. Two days after her admission she was given three grms. of infusion of jaborandi, daily; light diet. In a short time the effusion had disappeared, and the day after its disappearance the patient was discharged.

Case 2, a girl aged fourteen, who last October had typhoid fever with right pleurisy, was discharged cured in December. Sometime ago she was taken with pains in the right side, fever, and felt generally broken up. On August 30th she was given jaborandi, 1 grm., and a hypodermic injection of .01 grm. of nitrate of pilocarpine on the abdomen.

Aug. 31—Injection of .01 grm. The effusion is diminished.

Sept. 1—Hypodermic injection of .0075 grm. of nitrate of pilocarpine.

Sept. 2—Infusion of jaborandi, 1 grm.

Sept. 4—.0075 grm. pilocarpine, hypodermically.

Sept. 6—.0050 grm. pilocarpine, and infusion of jaborandi, 1 grm.

Sept. 7—Pilocarpine stopped and jaborandi continued.

Sept. 12—All medication stopped.

Sept. 24—Patient discharged as cured.

Case 3, a little girl aged ten; is strumous, presented symptoms of subacute pleurisy. She was of a debilitated constitution and the diagnosis most difficult to establish. She was given two grms. of infusion of jaborandi daily, and rapidly recovered.—*Paris Medical*, Oct. 16, 1879.

DEFORMED PELVIS A RESULT OF AMPUTATION.—Dr. Brochin relates the following case, occurring in the hospital under Dr. Dumas, at Montpellier. A young woman, aged 19, who had the right thigh amputated when three years old, entered the hospital in December, 1873, to be delivered. On examination the pelvis appeared normal. The pregnancy had been quite natural and she was easily and safely delivered. In a few days after delivery she had rigors, general pain, and soon died of peritonitis.

The post mortem examination showed the following anomalies in relation to the pelvis:

1. The total height of the pelvis is much diminished on the right side.

2. The false pelvis is enlarged transversely by the sinking outwards of the left ilium, and the distance between the two anterior superior spines of the ilia is greater than that taken at the middle joint of their crests, which is the reverse in a normal pelvis.

3. The superior strait has all of its diameters more or less increased, and this is greatest in the left oblique. The circumference is greater than normal, the right half being the longer; the curve being irregular at various points and the plane of the straits being inclined to the right.

4. Two diameters of the excavation are notably increased.

5. The diameters of the inferior strait are slightly diminished.

6. The right catyloid cavity is markedly atrophied, as also the whole corresponding half of the pelvis.

These are changes more especially interesting to accoucheurs, who will readily perceive all the complications that may arise from such deformities.—*Gazette des Hopitaux*, Oct. 18, 1879.

STROMA OF RED BLOOD CORPUSCLES.—M. Houel, at the Biological Society, remarked that when a thin layer of dried blood is washed with distilled water, the corpuscles are not dissolved, the water only carrying away the hæmoglobin. He further stated that when a thin layer of blood is dried in the air, the red discs roll themselves the same as they do in a wet preparation. The diameters of these corpuscles are measured with a micrometer and the layer is then washed with distilled water, which is

allowed to run off slowly. The hæmoglobin is carried away, whilst the decolorized corpuscles remain behind on the glass slide. Iodinized water is then poured over it, and on examination it can be seen that none of the corpuscles have disappeared. The red ones, deprived of their hæmoglobin, are reduced to a thin pellicle colored yellow by the iodine, and having a double contouri. By the aid of the micrometer it can be readily seen that they have preserved their dimensions and form. The highest powers of the microscope fail to show the presence of any structure in this pellicle, which has no nucleus, filaments or granular matters. This permits us to consider the pretended *stroma* as a thin pellicle of protoid nature, insoluble in water and forming an external membrane to the red blood corpuscle.—*Ibid.*, Oct. 18, 1879.

Consumption Cured(?).—Prof. Rokitansky, the younger, has astonished the medical world with the statement that benzoate of soda, given by inhalation, will cure this disease. We copy, from the Cincinnati *Lancet and Clinic* the directions for its use, given by Dr. Kroczak, of Innsbruck: "We use one part of benzoate of soda in a five per cent. solution, twice daily, to the thousand of the body-weight, by means of a good atomizer, for seven weeks without interruption. With it we enjoin the use of abundant satisfaction of the rapidly returning appetite with meat diet, fresh air and abstention from all debilitating causes." It will be well to wait for further trials of this much-vaunted remedy before ordering it in any excessively large quantity.

A Cranial Sequestrum.—(*London Lancet.*) A sequestrum, consisting of the two parietal bones, with portions of the frontal and occipital bones, were recently shown to the Academy of Medicine by M. Benea. The boy from whose head these bones were obtained always had a peculiar, if not pathological, profoundness of sleep. At night neither noise nor blows would awake him. One evening he was left alone in the house. When his parents returned, they found the boy on the floor, his head in the fire, and fast asleep. His cap and hair were burned, and also a large portion of the scalp. He was put to bed still fast asleep. The boy awoke in the morning, and went to the mountains to attend sheep, as usual. Six weeks after the burn, a large slough separated, ex-

posed the cranial vault, and pleased the boy much, as it enabled him to carry bundles of sticks on his head without being hurt by the thorns. Six months later a large piece of bone came away, a portion only being preserved. Oiled linen was applied under the cap, and, a year after the accident, the entire wound was granulating nicely. At one time pulsations synchronous with the pulse of the wrist were observed, but afterward they could not be detected. Hence, it is not improbable a new bony covering has formed. The wound is imperfectly cicatrized, and will probably soon heal. The boy is now well otherwise, and eleven years old. The accident happened three years ago.

THE DIPHTHERIC POISON.—A singular instance of the vitality of the poison of diphtheria is reported in the *Vratschebnyia Vedomosti*. A gentleman in the south of Russia had, four years ago, lost a boy from diphtheria. A family vault having recently been constructed, the coffin of the boy was transferred thither. Before it was lowered down into the vault, the father wished to look at the body, having entertained a suspicion that the child had been buried alive. An opening was accordingly made in the lid of the coffin, the whole family, including five children, looking on. The next day, all the children were ill with diphtheria, and one of them has since died. —*British Medical Journal*, June 7, 1879.

TREATMENT OF WHOOPING COUGH BY CARBOLIC ACID INHALATION.—Dr. Thorner used carbolic acid inhalation in sixteen cases of whooping cough with good result. Large children can use a regular inhaler, the glass of which holds about 80.0 (f ℥ 2⅔) and inhale three times a day, sitting about three feet from the instrument. The solution should be one to two per cent. carbolic acid. When children are too small to properly use the inhaler, two or three glasses may be "sprayed" into a tightly closed room and the children allowed to sit in it twenty minutes at a time.—*Centralblat*, March.

NITRITE OF AMYL IN POST-PARTUM HEMORRHAGE has been used, with most satisfactory results, by Elias W. Kern, M. B. (*British Medical Journal*, November 1, 1879.) The patient was in collapse when the nitrite was given by inhalation. The hemorrhage ceased at once and permanently, and the patient was restored.—*Archives of Medicine.*

TREATMENT OF PURULENT OTITIS.—(*Gazette Hebdomadaire.*) A round piece of wicking may be used to cleanse the ear instead of a syringe. It may be introduced by the patient himself. A gentle rotary motion will carry it to the bottom of the meatus, where it quickly absorbs the pus. This is to be repeated until the ear is cleansed, and a piece is left *in situ*. It may be medicated with an alkaline solution, or with salt water.

BOOK NOTICES.

A SYSTEM OF MEDICINE. Edited by J. Russell Reynolds, M. D., F. R. S., Fellow of the Royal College of Physicians of London, etc., etc. With numerous additions and illustrations, by Henry Hartshorne, A. M., M. D. In three volumes. Volume I, General Diseases and Diseases of the Nervous System. Philadelphia: Henry C. Lea. 8vo. Pp. 1127.

We have on our table the first volume of this large and magnificent work, which is to be completed in three volumes—the English edition, with less matter, consisting of five volumes. Since the first appearance of the first volume it has acquired the well-deserved reputation of being the work in which modern British medicine is presented in its fullest and most practical form. This is not remarkable, since it is not the product of one mind, but is the result of the collaborations of the leading minds of the profession of Great Britain. The contributors are: Sir Henry Thompson, Graily Hewitt, Henry Maudsley, J. Hughes Bennet, Chas. B. Radcliffe, Francis Sibson, Francis E. Austin, Wm. Roberts, Hyde Salter, Jonathan Hutchinson, Charlton Bastian, Alfred B. Garrod, Wilson Fox, B. Squire, Marell Mackenzie, B. Curling, Lander Brunton, J. Hughling Jackson, Sir Wm. Jenner, Thos. King Chambers, etc.—the contributions of all edited by J. Russell Reynolds. Dr. Henry Hartshorne, of Philadelphia, has supplied whatever deficiencies seemed to be in the English edition, and has rendered whatever service necessary to make the work more suitable to this country.

"Reynolds' System of Medicine," the product of the best minds in the medical profession, must take the position of being the leading work on the "Principles and Practice of Medicine" in the English language. As the

editor states, it presents within as small a compass as is consistent with its practical utility, such an account of all that constitutes both the natural history of disease and the science of pathology as shall be of service in either preventing the occurrence, or detecting the presence, and guiding the treatment, of special forms of illness. To those physicians who desire a very complete work, one that treats minutely of all forms of disease—history, pathology, and treatment—we very cordially recommend it.

The work, we believe, is to be sold by subscription. The price, in cloth binding, is $15 for the three volumes; $18 in leather. The second volume will be ready early in March; and the third shortly after.

A Treatise on the Theory and Practice of Medicine. By John Syer Bristowe, M. D., London. Second American edition, revised by the author, with Notes and Additions, by James H. Hutchinson, M. D. 8vo. Pp. 1081. Philadelphia: Henry C. Lea. Cincinnati: R. Clarke & Co.

The work of Dr. Bristowe has met with flattering success in this country—this being the second edition which has been called for within a very short time from the publication of the first. It has been prepared for the American profession by the author himself, and has a preface by him.

This edition has been very thoroughly revised by the author. Errors and inconsistencies of teaching have been corrected. Whatever seemed questionable or superfluous has been struck out, and the work brought fully abreast of present knowledge.

Dr. Bristowe, as a practitioner and a teacher of medicine, has a very extensive experience, and has brought his learning to bear in the preparation of his book. It is not, therefore, by any means, a mere compilation; but, while the author has availed himself of the researches of others, he has epitomized very largely his own personal clinical and pathological observations. As he states, there are few even of the incidental remarks and statements which are scattered throughout the pages that have not originated in, or been sanctioned by, independent thought and observation.

Consisting of a single volume, the work is well adapted

for students and for practitioners as a work of reference. While it is concise, it is sufficiently full for all practical purposes. It contains a very complete epitome of all that characterize the various diseases and their treatment.

We feel confident that the work will continue to maintain its popularity with students and physicians.

A Biographical Dictionary of Contemporary American Physicians and Surgeons. Edited by William B. Atkinson, M. D. Second edition, enlarged and revised. 8vo. Pp. 747. Philadelphia: D. G. Brinton. Cincinnati: R. Clarke & Co.

The publisher of this work has no doubt conferred a favor upon the profession by its publication. Every one will appreciate the advantage of a work that on reference to it a brief biographical sketch can be obtained of almost any contemporary physician of prominence in the United States. We have often experienced the need of one of the kind, and so, no doubt, have others. A second edition being called for is evidence of the satisfaction of the profession with it.

It has been the effort of the publisher to give a brief biographical sketch of every living physician of the United States who has visibly and publicly contributed to the advancement of medical science. We would suppose, from the list of names of the index, that there are about 2,500 biographical sketches; from which it will be perceived that not many gentlemen of prominence in the profession have been passed by. Of course many omissions would necessarily occur in consequence of the extent of territory embraced, and the hesitancy of some gentlemen to supply information. Of the two or three hundred physicians of Cincinnati there are biographies of thirty-three. To properly represent the profession of the "Paris of America," several of these should have been omitted, and a number that do not appear inserted; but it is impossible that there should be perfection—while many undeserving individuals will obtain positions, to which they are not entitled, by effrontery and dishonorable means, many meritorious persons remain in the background through diffidence and failing to use proper efforts to secure what properly belongs to them.

"As a monument of the labors of the many, and as a storehouse of innumerable interesting biographical facts

of the most authentic character, the volume can not but have a permanent historical value, and be treasured by all who take an interest in the progress of scientific medicine."

PHYSIOLOGY AND HISTOLOGY OF THE CEREBRAL CONVOLUTIONS. Also, POISONS OF THE INTELLECT. By Chas. Richet, A. M., M. D., Ph. D. Translated by Edward P. Fowler, M. D. 8vo. Pp. 170. New York: Wm. Wood & Co. Cincinnati: R. Clarke & Co. Price, $1.50.

All our readers interested in the study of mental phenomena, and in that of the physiology and pathology of the brain and nervous system, will be interested in this little work. It is not a phrenological work by any means, although the author is disposed to consider that various mental functions are localized in the brain, the great organ of the mind. It is a full account of the structure of the brain, its anatomy and physiology; and from the stand-point of anatomy and physiology—the only scientific mode—intellection, and all that is comprised in it, is studied. We have not space, or we would make a number of interesting extracts. We may at another time. But we advise our readers to purchase and peruse the work.

THE PHYSICIAN'S VISITING LIST, for 1880. Twenty-ninth Year of its Publication. Philadelphia: Lindsay & Blakiston. Price, $1.00.

Our readers are well acquainted with this List, having been before the profession for so many years. It is the one we use ourself, and in this way exhibit our esteem of its superiority. If there are any physicians in city or country who do not use a Visiting List we advise them to make a trial of one, and be convinced that they will save many a dollar.

DEFERRED NOTICES.—We have received a number of valuable works from publishers for notice, which we are under the necessity of letting lie over until another time, for want of space. They will receive due attention in due time.

EDITORIAL.

END OF VOLUME.—This number of the MEDICAL NEWS closes the volume of the present year. We are late in getting the number out, but our readers will recollect that we were prostrated the whole of October by a severe attack of illness, which threw us behind; and in the time that has elapsed since then, in consequence of press of business, we have not been able to catch up, but we expect, ere long, to be able to issue the journal on the first of the month of its date. In the meantime we hope our subscribers will be patient.

As to the value of the volume which this number completes, we leave for our subscribers to judge. We will say, however, that while it might have been better, we think it will bear very favorable comparison with most of its contemporaries. We feel warranted in asserting this, for there has appeared in the MEDICAL NEWS, during the year, no little matter from the most eminent men of the profession, both in this country and Europe. While the articles written for us have generally been good, contributed by intelligent physicians, some of them distinguished in the profession, we have endeavored, so far as lay within us, in our selections, to present to our readers the most valuable matter of other journals, domestic and foreign. A glance over the numbers of the year will show articles written by medical scientists of the highest distinction.

In conducting the MEDICAL NEWS, we have endeavored, as much as possible, to do it in such a manner that it would but little duplicate any other journal that a subscriber might be taking. We have tried to give it features peculiar to itself; and we think we have succeeded. While it has been as practical as good medical journals are in the main, its matter has been of a kind generally to interest the intelligent, thinking, philosophic physician. A truly scientific physician wishes for something more than formulas of medicines to be used in treating special affections. He is interested in physiology, pathology, the history of disease, its prevention, and in such of the collateral sciences as tend to throw light upon medicine as a science and increase the comprehensiveness of his

views. Keeping this in mind, the NEWS has been given features to a considerable extent peculiar to itself.

In conclusion, we will say that we hope all of our present subscribers will continue with us during the coming year. We hope with the new volume to improve the NEWS very much. It is now the cheapest medical journal published, and if we do not make it the best it will not be on account of our sparing our labor. During 1880 we will have more time than heretofore to devote to it, and we propose to make it evident in its improvement.

MORBID IMPULSES.—We copy the following from the *Medical and Surgical Reporter*. It will be perceived that Dr. Bigelow has modified his views somewhat since he wrote for the MEDICAL NEWS:

"In an article written for the Cincinnati *Medical News*, in May, 1874, I offered the following explanation of the morbid impulse:

"'When the impulse becomes dominant, asserting itself despite the will, then it is that the person is pronounced insane. The mere existence of the *fixed idea*, so long as it be controlled by volition, is in no wise an abnormality. When the hemispherical cells cease to react upon each other harmoniously—when an idea prolongs its tension so as to 'tyrannize over the understanding, and become an absorbing entity'—illusions and delusions result. A man in this condition of mental erythism, acting under a delusion, would not be amenable to law, only in so far as his confinement in a proper asylum would be demanded. The *modus operandi* by which an idea becomes excited and active is this: The necessary external stimulus applied to the sensory ganglia is expressed outwardly as pleasure or disgust, while the residua furnish to the well-balanced mind the stimulus which was necessary to excite the particular idea in one of the numerous cortical cells. Just what stimulus was needed, and just what idea would obtain from its application, are the lessons stamped on the mental growth by the experience of generations. The nervous action may become weakened by the vicious transmission of heredity, or the integrity of the nervous vitality of the centers may be upset by injurious practices.'

"A more precise observation has forced the belief upon

me, that a morbid impulse, which is always dominant, and may not be controlled by the will, never originates *de novo*, but is the result of previous family instability. The underlying predisposition to the various conditions of mental erythism may always be found in a transmitted tendency of heredity, or, in women, in uterine disorders and misplacements. The hypochondria incident to acute dyspepsia is often the offspring of eccentricity (so-called) in either the father or the mother, and may, in turn, become the parent of a more pronounced form of mental unsoundness in the next generation. Each one, in his life's history, may remember the existence of a transitory impulse, which, had it been realized outwardly in action, would have occasioned shame and disgrace. But such occasions only become matters of legitimate legal inquiry when they are offered in extenuation of crime. An influential consideration which must always be a prominent factor in the ultimate diagnosis is the social position of the patient. The commission of a criminal act by a person whose previous record has been untarnished, who has never been vicious or immoral, whose education has been elevating, and whose associations such as tend to develop and strengthen the better sentiments of human nature, is much more apt to be caused by disease, than would be a a similar realized impulse in one whose constant acquaintance with crime had lowered the moral tone and brought into prominence the brutal passions."

The Health of New Orleans.—The Yellow Fever of 1878 was estimated, by the Board of Health, to have caused a direct money loss to the city of $10,572,000. But this vast sum was but a trifle compared with the loss of life. On the approach of the summer of 1879, there was every reason to anticipate a renewal of the catastrophe. The question arose: "How can it be prevented?" A Sanitary Association was organized to accomplish the task. It was formed and controlled mainly by physicians. Of course, it was. They went to work and labored incessantly in cleansing and purifying. The citizens, appreciating the importance of the occasion, encouraged them with word and coin. Comparatively a small quantity of money was required. The summer came, and, with it, the desolation of Memphis, and, at the same time, a slight demonstration in New Orleans, showing that the enemy was

there. But the guardians of health proved too much for him. The iron-horse was too closely watched to permit the outpouring of the legions of death by night. The mortality in June, from all causes, was 400. Cowardly people, and those who had no faith in sanitary work, began to quake with fear. But July gave only 420 deaths—a slight increase. August, however, was yet to come, and, still worse, September. The blessed frost would not come before October, if then. But the deaths in August were only 350. People breathed more freely, and began to have much faith in their sanitary guard; and, when the dread September came and went, with a mortality under 350, the question was settled. There had been but 41 cases of yellow fever, and 19 deaths. The triumph was complete. Well may the members of that sanitary body felicitate themselves on the result. This little scrap of sanitary history tells a plain story, and should not be lost elsewhere.—*Exchange.*

Dr. Freeman J. Bumstead died at his residence in New York, November 28, 1879, after a protracted illness. He was born in Boston, April 21, 1826. Immediately upon leaving college, he began the study of medicine, attending lectures at the Tremont Medical School, and, in 1851, received his degree of Doctor of Medicine from Harvard. In 1852, Dr. Bumstead settled in New York and began the general practice of medicine. From 1868 to 1871, Dr. Bumstead was Professor in the College of Physicians and Surgeons, resigning in 1871. During the last years of his life he was engaged, in connection with Dr. R. W. Taylor, in revising and enlarging his treatise on venereal diseases, and making it worthy of its high reputation as a leading text-book. He completed this work, revising the last of the proof-sheets since the beginning of his last illness. Last summer Williams College conferred upon him the degree of LL. D.

Altering Prescriptions.—An exchange relates that a druggist, on making a mistake in filling a prescription, which proved fatal to the patient taking it, inserted into the prescription the name of a poisonous drug which the physician writing it had not prescribed. This he did to shield himself and throw the blame upon the physician. As far as possible, physicians should write their

prescriptions with pen and ink, and not with lead-pencil; and, besides, should retain copies of prescriptions. When a lead-pencil is employed, it is very easy to erase the name of a medicine and insert another. A pen has been invented, which can be carried in the pocket, the handle of which can be filled with ink, which penetrates to the point during writing. Such a pen physicians will find very useful for prescription writing.

Charging for the Know How.—We find, in a stray newspaper, an excellent answer put in the mouth of the colored servant of a medical man in the South, to whom a patient, who had an important surgical operation performed, complained that his master had made a very steep charge of $25 for half an hour's work, and that $5 would have been enough. "He only charge you five dollars for de operation," said Moses; "de oder twenty was for de know how."—*Pa. Journal.*

Another Journal.—A successor to the late *American Quarterly Microscopical Journal* is announced, in the form of a monthly, by the same editor, and in a more popular form. The first number is promised for the present month. The editor's name is a sufficient guarantee of the scientific spirit and energetic management of the new enterprise, which can scarcely fail, and ought not to fail, at the low subscription price of one dollar per year, to receive so general a support as to become self-sustaining and permanent. It is published by Romyn Hitchcock, at 51 Maiden Lane, New York.

Cincinnati medical news