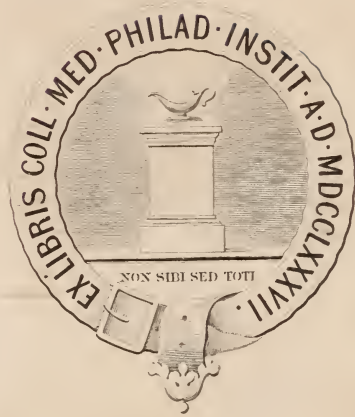




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GAILLARD'S MEDICAL JOURNAL.

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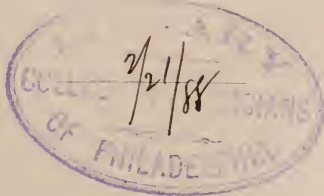
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VOLUME XLV.

JULY TO DECEMBER,

1887.



NEW YORK:
M. E. GAILLARD

MDCCCLXXXVII.

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ORIGINAL ARTICLES.

ARTICLE I.

THE DIAGNOSIS AND TREATMENT OF UTERINE FLEXIONS.* By JOHN BLAKE WHITE, M.D., New York, Physician to Charity Hospital, Consulting Surgeon House of Refuge, Randall's Island, etc.

The normal position of the uterus is somewhat slightly turned forwards, with an evident point of curvature commencing a very little above

* Read before the Yorkville Medical Association, April 28th, 1887.

the os internum. This fact should be well borne in mind, or the natural tendency of the fundus forwards might be mistaken for a moderate displacement anteriorly. When this curve is sufficiently great to produce a decided angle either backwards or forwards, the displacement is termed retroflexion or anteflexion, respectively, and assumes pathological importance in proportion to the degree of special functional derangement, as well as general disturbance created in the system at large.

Schroeder describes a flexion as a displacement "in which the direction of the axes of the two portions of the uterus are not quite normal." This cannot be technically correct, because the organ rests in the pelvic cavity, and is supported in such a manner that freedom of motion is permitted, so that its normal position will necessarily vary with every change of position of the body, and the direction of the axes would thus be continually altered. The above definition of flexion, therefore, is not a good one, and will have to be qualified, at least, in order to clearly indicate what is the physiological and what the pathological degree of change of the uterine axis. I would define a true flexion of the uterus to be a change of relation of the cervix and fundus maintained continuously and unaffected in any respect by the position of the body. A flexion either forwards or backwards under these circumstances would be clearly pathological, and result, if not immediately, at least in a short time, in the manifestation of symptoms characteristic in quality and sufficiently important to require a resort to measures of a more or less surgical nature for their amelioration and permanent relief.

An allusion to the more common symptoms of flexion is all that is necessary, for the close relation that exists between the uterus and certain other pelvic organs will suggest results of uterine displacements which may be anticipated.

Many constitutional evils have been attributed to womb dislocations which, in reality, were not at all due to such conditions; while, on the other hand, important constitutional defects have been entirely overlooked, when undoubtedly superinduced by displacements, and therefore have escaped the attention which they justly merited.

Scanzoni went so far as to assert that "flexions of the womb do not acquire any importance, nor are followed by any serious dangers, save when they are complicated with an alteration in the texture of the organ;" but Gaillard Thomas does not evidently accord with such extreme views, for he cleverly quotes in refutation of this statement a paragraph from Scanzoni's own work, "that in well-marked flexion

the canal of the neck is always more or less impermeable, which opposes an insurmountable obstacle to conception," which is clearly an admission, after all, of the importance of flexion, though uncomplicated with texture alteration.

As the uterus rests in the pelvis in juxtaposition to the bladder anteriorly and the rectum posteriorly, pressure upon either one of these two organs is occasioned when displacement occurs; hence disturbances of the organ impinged upon must be expected.

When the womb is anteflexed incontinence of urine and other symptoms of irritability of the bladder become manifest in due time. When retroflexion exists, various disturbances referable to the digestive organs are observed, resulting in obstinate constipation, though the opposite condition does sometimes obtain. Flexion necessarily constitutes a barrier to the egress of the menstrual discharge, as well as to the entrance of spermatozoa after coition; in each case producing disorders which bear relation to these respective functions.

Lassitude, languor, headache, backache, hot flashes, nausea, pain down the anterior aspect of the thighs, frequent and painful urination, and a sense of dragging pain in the pelvis are among the general symptoms of uterine flexion. Supra-pubic pain in anteflexion and sacro-lumbar pain in retroflexion, amenorrhœa, dysmenorrhœa, menorrhagia, leucorrhœa, and sterility are among the more special symptoms observed, which, with a history of the patient's condition, may serve to aid very materially in arriving at a correct diagnosis, if they do not at once warrant the institution of an examination for the purpose of definitely determining the position which the uterus occupies. In order to make a satisfactory examination of the cervix either the dorsal or Sims' position may be selected. To facilitate exploration of the several parts of the womb, I have had my vaginal specula modified to meet the want of certain important features in which even the most practical form of speculum now in use seemed to be deficient.* I refer to the necessity of greater conformity to the vaginal canal, especially the posterior curve. The success attained through this device in facility of introduction, in readiness of adaptability, and perfect command of the parts to be examined or treated, has been satisfactorily demonstrated on repeated occasions.

The lower blade, A, of the speculum just represented, is constructed to conform, when the instrument is introduced, to the posterior vaginal wall, which, owing to the sacral concavity, is not a straight canal. If the womb is anteflexed the cervix will necessarily be forced back-

* Medical Record, April 24th, 1886.

wards, and the posterior vaginal wall elongated. The curved blade of the speculum will aid in bringing the cervix into view far better than an instrument not possessing this feature in its construction.

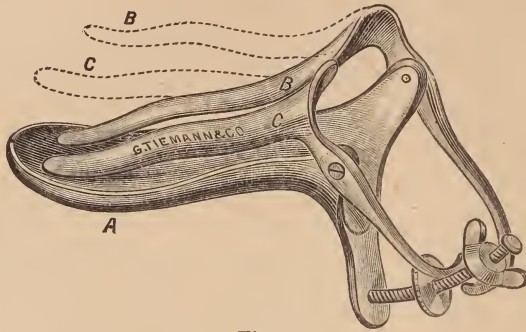


Fig. 1.



Fig. 2.

The two upper blades, B and C, are concavo-convex, permitting fullest dilatation of the vagina superiorly at points where least resistance is offered by the anatomy of the region.

The same modification applied to the Sims' speculum renders it (Fig. 2) a more useful instrument when the blade conforms to the requirements of this vaginal curve. Less effort is needed on the part of the attendant to hold it in place, since the amount of leverage required is lessened by the perfect adjustability of the instrument. The curved blade, when the speculum is *in situ*, facilitates the introduction of the uterine sound or sponge tents, and renders more practicable local treatment of the endometrium or the use of the *metratrep* in remedying flexions.

No better classification of the causes of uterine flexion can be found than that of Dr. Gaillard Thomas in his work on the diseases of women, as follows:

I. Any influence which increases the weight of the uterus, as inflammation or congestion; tumors in the walls or cavity, pregnancy, hy-

pertrophy, subinvolution, fluid retained in the cavity, masses of cancer or tubercle.

II. Any influence weakening uterine supports, as rupture of the perineum, weakening of vaginal walls, stretching of uterine ligaments, want of tone in uterine tissue, degeneration of uterine tissue.

III. Any influence which pushes the uterus out of place, as tight clothing, heavy clothing supported on the abdomen, muscular efforts, ascites, abdominal tumors, abscesses or masses of lymph, repletion of the bladder.

IV. Any influence which displaces the uterus by traction, as lymph deposited on peritoneum of pelvic viscera, cicatrices in vaginal walls, shortening of the uterine ligaments.

Diagnosis.—Ordinarily flexions may be readily recognized, upon digital examination, by noting the relation of the os to the vaginal wall, and also by observing the direction of the vaginal wall; both of which have a tendency forwards in retroflexions and backwards in anteflexions. The position of the fundus can be determined by bimanual manipulation quite easily in anteflexion, but it is a much more difficult matter to discover it when retroflexion exists, as tumors in the posterior vaginal cul de sac are not infrequently met with, and as they resemble the body of the uterus very closely they might be readily mistaken for it.

A symptom of great diagnostic importance in retroflexion is pain in the lower part of the spine, which is sometimes mistaken for a symptom of spinal lesion.

Indications of paralysis frequently supervene in retroflexion, and affect the lower extremities more especially. This symptom is occasionally of an hysterical nature, but in some cases it is genuine, and doubtless due to pressure of the displaced organ upon the pelvic nerves, seriously impairing their motor distribution to the lower extremities, and interfering, also, with trophic function.

A local neuritis may lead to myelitis producing paralysis, or the latter condition may be only the result of reflex influences, without the existence of any actual lesion of the nerve centres.

The crucial test for flexions is, as tersely stated by Gaillard Thomas, to place the patient in position for examination, introduce a Sims' speculum, and gently probe the uterus to the fundus. A curve should be given to the sound which, by vaginal examination, the uterus has been found to have. The curve must be altered, and an attempt to pass it should be made each time that the instrument does not appear to enter the uterine canal with facility. This operation is more easily described and understood than practiced with the ordinary uterine sounds, but

with the *metratrep** the curve can be readily formed while the instrument is being introduced, and the character of the flexion, with its degree, can be most accurately determined.

The bimanual method of examination is sometimes attended with so much difficulty that recourse must be had to the sound, or some instrument much more flexible than the ordinary uterine sounds. To meet what appeared to me to be a requirement for a suitable instrument for diagnosis and replacement, I devised and had made, by Tiemann & Co., 107 Park Row, the following instrument which I have denominated the *metratrep*, from the two Greek words, *μήτρα* the womb, and *τρέπειν* to guide.



Fig. 3.

The instrument is composed of two parts: One is a straight tube of fine calibre, narrower at one extremity than at the other, and made of highly polished metal. At the larger end two rings are attached, to enable the operator to steady and guide the stem when using the instrument. At the tapering end of this tube there is a highly flexible and elastic spiral attachment, pervious, like the tube it forms a part of, which terminates in a blunt probe point. The spiral extremity is graduated to the depth of a normal womb, not exceeding two inches and a half in length, and, being extremely pliant, can be made to follow, without the slightest effort, a most devious flexion without producing pain.

The second part, which may be combined with, or disunited from, the first part at will, by means of a catch, consists of a split metallic spring, made to fit the calibre of the tube already described, precisely as a sword would slide into its scabbard, and is furnished with a separate handle, upon which is attached a graduated dial plate and a moveable index. The point of the spring, which is within the spiral inclosure when the two parts are combined, can be made to turn upwards or downwards by means of a governing screw at the handle; the index meantime records faithfully every change of direction impressed by the will of the operator.

Treatment.—The indications for treatment are clearly as follows:

* *N. Y. Medical Journal*, April 10, 1886.

1. Replacement. 2. Retaining the uterus in place. 3. Removing all causes of flexion as far as it is practicable to do so. 4. Prevention of a recurrence of flexion. The accomplishment of the first indication is simple enough in many instances, but there are cases where flexions are maintained by influences of such long standing that it is a difficult matter to correct them so effectually as to prevent their recurrence.

I have no doubt that it is for this reason, especially, authorities speak so despairingly of realizing permanent good results after restoring the uterus to its normal position when it has been displaced any length of time. I have little doubt also that the somewhat imperfect and irrational method of replacement has had much to do with the unsatisfactory results realized.

Recent anteflexions can usually be corrected by the introduction of the finger into the vagina, thereby fixing the cervix; meanwhile, by pressing with the other hand between the pubis and fundus, the uterus may be elevated and pushed backwards into place. In retroflexion the reduction is effected by fixing the cervix with one or two fingers of one hand in the vagina, and endeavoring, with the other hand, to raise the fundus uteri from behind through the abdominal wall.

This operation can sometimes be readily performed through the rectum, by placing the patient in the knee-chest position. When it is found impossible to effect reduction of the uterus in the different ways described, recourse must be had to a suitable instrument for the purpose of elevating and replacing the fundus.

I have not seen any serious consequences result from careful and skillful efforts to overcome moderate adhesions with the *metratrep*, and therefore believe that Schroeder's* cautions, that free mobility of the organ should exist before any attempt be made at instrumental replacement, may be modified in respect to the use of the *metratrep* in skillful hands. The ordinary uterine sound is certainly not without danger when used in such cases for replacing the fundus. This instrument, when introduced in conformity with a flexion to be corrected, is turned over so that it shall occupy with the uterus its natural position. To accomplish this it will be noted that the uterine portion of the sound is obliged to describe a very long curve, which not only subjects the organ to the liability of serious injury, but actually contorts the longitudinal muscular fibres with the other tissues and vessels of the womb so that congestion is promoted, and the symptoms, for which the operation was deemed necessary, instead of being relieved, are aggravated, and the displacement almost immediately recurs.

*Schroeder, Ziemssen Cyclopædia.

This method of reduction has always seemed unscientific and unnatural to me, and so it must have appeared to the immortal Sims, who devised a more suitable uterine repository, a full description of which may be found in Thomas' work on diseases of women, page 314. This is an admirable instrument, and is serviceable in some cases of flexion, but, although the *modus operandi* is simple and in accord with reason, its use will not meet with the requirements of all cases. The uterine staff is too straight to admit of its easy introduction in cases of marked flexion, and the elevation of the fundus is somewhat too hastily and abruptly effected. The objection as to the straightness of the staff has been partially met by making it jointed, thereby increasing the value of the instrument, but not wholly meeting all useful indications.

It should be borne in mind that when the uterus becomes flexed it does not assume its abnormal position by describing a circle with the fundus and twisting itself out of position, but the organ simply is dragged or falls out of place, curving backwards or forwards, in the direction of the influences at work. It is true that it may be pushed out of its axis by morbid attachments, in which case it falls in the direction opposite to that of the morbid agent; but its flexion is, nevertheless, in the direction of its weakest support, producing the same physical defect as if directly dragged from its normal position in the pelvis. If retroflexion or anteflexion is permitted to remain for any length of time, the uterus becomes congested and heavy, and drags upon its various attachments, which are stretched and rendered irritable. The fundus, pressing continuously upon some adjacent organ or intervening tissue, excites a local inflammation which results in lymph exudation, and, becoming organized, binds the body of the womb to this unnatural position.

The only way to correct such a flexion must, therefore, be a resort to some instrument which can return the body of the organ to its natural position without injury, and by the same track it followed in becoming displaced. This is to be effected by carefully introducing into the uterine canal a flexible staff which can be made firm at will, and operated so as to cautiously elevate the fundus, and at the same time gradually permit the surrounding soft parts to reassume their respective relations in the pelvic cavity. This operation can be best and most safely performed by the *metratrep*.* If this instrument is introduced into an anteflexed or retroflexed uterus, its spiral extremity, yielding to the maldirection, would follow the precise degree of flexion

* New York Medical Journal, April 10, 1886.

existing, and faithfully record it on the dial. The restoration of the uterus to its normal position is effected by operating the governing screw at the handle, while the combined instrument is held steadily and firmly in place. As the screw is slowly turned in the opposite direction to the existing flexion, the body of the womb is gradually and painlessly lifted into its proper place, and the fact announced by the index when it is accomplished. The instrument may be then withdrawn carefully, and the uterus left in its redressed position.

To prevent the recurrence of flexion I have been in the habit of placing a tampon of carbolized glycerine around the cervix, packing it anteriorly or posteriorly, with especial reference to the pre-existing flexion, and this may be permitted to remain for two or three days. The recumbent posture should be particularly enjoined for two or more weeks, during which time the carbolized tampon should be renewed every two or three days, and moderately warm vaginal douches regularly administered.

General tonic treatment should not be overlooked as a valuable, if not necessary, means of restoring tone to the flaccid uterine tissue. Some strengthening influence may be expected from the internal administration of iron, ergot and ext. cannabis purificat. When the patient is permitted to leave the couch chalybeate tonics should, of course, be continued, and cold hip baths, medicated with sea salt, regularly taken. An artificial Kreuznach bath may be devised with advantage according to the following formula: One half a pound of Kreuznach salt, two pounds common salt, to three gallons of water. Let the patient remain in this bath from ten to twenty minutes once or twice daily. Some of the same solution, warmed, may be used with good effect as a vaginal douche once or twice daily.

Mechanical means for retaining the uterus in place may prove necessary when a selection may be made of a suitable pessary. I will not test your patience unnecessarily by reviewing in detail the various pessaries which are more or less beneficial, as you are already familiar with the most approved patterns. A mere allusion to two or three which I have found useful will suffice. The intra-uterine pessary, various modifications of which are described in works on diseases of females, is sometimes required; but great care should be exercised in resorting to them, as serious inflammation has resulted from their use.

The employment of eccentric rings has in some cases proved successful in retaining the uterus in place, by keeping the cervix in a position which tends to prevent the body from falling out of its normal axis.

The variously modified Hodge's lever pessary, constructed of hard rubber or copper zinc covered with soft rubber, which is quite flexible, will do well in supporting the uterus in many instances. Thomas' horse shoe modification of Hedge's pessary may be used with advantage, and Schultze's retroflexion pessary will be found to answer its purpose admirably in the class of cases for which it is best adapted.

The following case, which I saw in consultation with my friend Dr. De Lancy Carter, will prove interesting, as it illustrates the value of the *metratrep* in restoring a long standing flexion, with permanent good results.

Miss G—— about eight or nine years prior to becoming a patient of Dr. Carter took care of an invalid father whom she often was obliged to lift unassisted, this requiring great muscular effort in each instance. For seven years she was more or less of an invalid, when she had a fall seriously injuring her arm. After this accident she was confined to bed for a time, and more particularly had her attention called to symptoms referable to the pelvic organs, as dysmenorrhœa, obstinate constipation and vesical irritability, resulting in frequent and painful urination. On recovering from the acute effects of the accident, though able to be about, she was never free from headache, backache, hot flashes, lassitude, languor, irregular and painful menstruation, ovarian neuralgia, more or less leucorrhœa, occasional nausea and vomiting, and continued vesical irritability.

So persistent and distressing were these symptoms that she visited two or three distinguished gynæcologists, who recognized the presence of an acute ante flexion of the uterus, and corrected the condition in the usual way; but the displacement immediately recurred. One of the gentlemen she consulted advised Tait's operation as a means of relief. When she was examined by Dr. Carter and myself, a complete ante flexion of the uterus was discovered. Replacement was thought advisable, and hope entertained of ameliorating some of the most distressing symptoms.

The angle of flexion was so acute that the ordinary sounds could not be introduced without great difficulty, and efforts to do so were accordingly abandoned.

On inserting the *metratrep* it was necessary to cause the spiral extremity to conform to the uterine curve by the agency of the governing screw, while the instrument was in process of introduction. When the instrument was inserted to the fundus, the uterine curve was found to have reached its fullest extent, as indicated by the index. Very gradually and carefully the staff was raised and carried backwards and downwards, so as to place the uterus in a retroverted position, when

the instrument was withdrawn and a tampon of carbolized glycerine packed about the cervix, anteriorly, as already described.

The operation caused no immediate reaction, but for several days subsequently some pain was experienced. The patient was advised to remain in the recumbent position, and a moderate dose of codeia administered at intervals.

Three weeks after the operation the patient was examined, and the uterus was found in its normal position.

A Simpson sound, with the natural curve, was readily admitted to the fundus without causing pain. Again six weeks afterwards she was examined by Dr. Carter, who found the organ in place.

It is needless to add that much relief has been realized from the operation. The successful reduction of long standing flexion, without immediate recurrence, is thus fully proven, and the undertaking established as a safe procedure. It is, moreover, demonstrated that it is a practical thing to prevent the recurrence of flexion when reduction has been effected in the manner advocated, and the case subsequently treated as advised.

Similar good results have occurred in my experience, but I will not consume more of your time with the details.

I cannot close these remarks without expressing my grateful appreciation of your patience and interest in a subject which has afforded me some interesting study.

941 Madison Avenue.

ARTICLE II.

RESPIRATORY THERAPEUTICS IN THE TREATMENT OF PHTHISIS PULMONALIS.* By LAURENCE J. MCNAMARA, M.D., New York, Instructor in the Carnegie Laboratory, Bellevue Hospital Medical College.

It is with considerable hesitation that I attempt the effort of contributing to this subject at the present time; and on account of the shortness of the notice given me I am obliged to limit my paper this evening to one division of the subject, namely, the local treatment of phthisis pulmonalis by medical agents applied to the interior of the respiratory tract in finely divided particles. I shall not, therefore, consider the constitutional remedies supposed to act locally by elimination, nor the treatment of pulmonic disease by the use of means to increase or diminish the air-pressure either in the air inspired or on

*Read before the New York County Medical Association, May 16, 1887.

the body surface. Moreover, the pathological conditions in phthisis are of such a varied nature, and the physical effects produced also so different in character, that, in order to study the local treatment scientifically, each case should be distinct in its history and the results obtained; and time prevents the narration of the principal features of each individual case observed.

This local treatment of the respiratory passages has of late years been used by many observers. The etiology of the morbid processes of pulmonic phthisis was until recently the theme of many writers, and the arguments as to the nature of the cause have engaged the attention of physicians for many years. The contention of the different theorists as to whether the disease was of a primary tuberculous nature, or that the tuberculous element was of secondary importance, kept alive the spirit of scientific research, even though the death-rate did not visibly diminish. To the followers of Laennec, however, the award of success must be conceded. The fierce antagonism that met his statement of the primary nature of the tuberculous element was the beginning of many experiments by later observers. It is my sincere belief that his final insistence on the tuberculous nature of this disease led directly to the discovery of its specific nature. The brilliant achievement of Koch in successfully isolating by his peculiar method of staining the bacillus tuberculosis seems to me but the logical conclusion of such reasoning. Admit the importance of the bacillus, and you admit that the disease is of infectious nature. The bacillus is always found, whether it be the acute tuberculous process or the caseous pneumonia.

The necessity of using means to retard the further development of the organism, or to destroy it and place the exposed person in an atmosphere devoid of its presence, becomes at once apparent. The acceptance of this idea of infection by the profession in general will be the dawning of a new day in the treatment of consumption. The possibilities of relief and cure become bright with the expectation of success, and I think that those who utilize the topical treatment have attained it in many instances. The idea of prophylaxis becomes prominent. The changing of an infectious pulmonary discharge to one devoid of dangerous elements is the logical sequence of putting the theory into practice.

I do not desire to have it understood that the antiseptic treatment of phthisis is the only form of treatment worthy of application to the diseased lung. I believe that it is at present a necessary and most important means of modifying the course of the disease. The physical conditions caused by the extension of the inflammatory irritant will,

of course, call for other methods of treatment. The advantages derived from the employment of means producing a change in the atmospheric pressure have been evident, and the medical journals are constantly giving proofs of the efficacy of the process. The introduction, therefore, of a system to reach these morbid processes by local means, and the ability to destroy their infectious nature, opened a new field of scientific research. For the last few years the literature of medicine has been increased by the addition of many works bearing directly on this subject. The number of mechanical appliances devised and in use to reduce fluid of a medicinal nature to the finest spray has been very great, but the majority of them are, unfortunately, of no value. That we can, however, produce a spray of sufficient fineness to pass the larynx and penetrate beyond the larger bronchi cannot be denied. The use of compressed air and the employment of tubes with very minute openings have been of late years generally adopted by those interested in this branch of therapeutics. About four years ago my attention was attracted to an inhalation apparatus, consisting of a funnel-shaped glass globe with two openings: one for the attachment of a metallic disk holding in its centre the spray tubes, and the other immediately opposite, and terminating in a long mouth-piece. The fluid to be atomized was placed in the globe, and a rubber tube connected the fluid with one of the spray tips. The other tip had a connection with a cylinder of compressed air. The globe rested on a bracket capable of being raised or lowered according to the necessity of the case. The patient, standing with head elevated, took the mouth-piece in his mouth and inspired, allowing the expired air to escape through the nostrils.

My first impression was that the apparatus was of similar nature to many others tried before and found wanting. It seemed natural to suppose that the propulsive power of the current of compressed air would be directed horizontally towards the pharyngeal wall, and deposit upon it the larger and smaller particles of the fluid; and the occurrence of this would render the action of the apparatus useless for topical application to the smaller air-passages. The inspiratory efforts, being weaker than the force applied, could not divert this current, and the gradual accumulation of fluid in the pharynx would produce in time irritation and coughing. The object sought for was to obtain a spray so fine as to be capable of being diffusible with the reserve and residual air in the lower air-passages, devoid of any momentum sufficient to cause its condensation by being projected against any portion of the mouth or pharynx.

Experience in the use of this simple apparatus, however, has convinced me of its practical utility. The spray produced in the globe consists of a central stream of very great attenuation, the larger particles of the atomized fluid being projected against the sloping sides of the globe, beyond the opening. These large particles condense and fall as drops into the original solution, and do not escape through the opening. The mist that escapes through the mouth-piece has no such momentum as to cause its entire condensation, and will not wet the hand when held before it. Ordinary inspiratory efforts will carry this spray into the lower respiratory passages. The compressed air I obtained from a large cylinder, from which it was allowed to escape into a smaller one before reaching the spray tubes. By this method, keeping the valves partly open, I obtained constant steady pressure in the smaller cylinder, and consequently the same character of spray. The pressure used varied from fifteen to twenty pounds, and never exceeded the latter amount; the larger cylinder having, of course, a higher pressure to supply the smaller one.

I have been using this apparatus for nearly eighteen months. When I began this form of treatment it was with the idea that I could relieve in many instances many of the distressing symptoms in my phthical patients. Noticing, however, the marked amelioration of the condition in the majority of instances, I determined, some months ago, to make more exact observations as to temperature, pulse, respiration and expectoration, and especially in regard to the presence of bacilli and the effect of the treatment upon them. The number of cases treated was between fifty and sixty, but nearly one half of them used the treatment for such a small number of times, and at such irregular intervals, that I did not consider them worthy of recording. The number is limited because they were drawn exclusively from private practice, and the attempt to follow out a plan of treatment was frequently rendered useless by the failure of the patient to properly appreciate the necessity of constant attendance.

The cases worthy of mention embraced, I may say, almost all of the forms of phthisis, and remained under treatment from one week to nearly eight. It is not my intention to narrate the special features of every case, but I will state that outside of the cases of excavation, improvement followed the treatment. The cough and expectoration diminished, and in those under treatment the longest the cough disappeared, and the expectoration decreased in quantity. Bacilli were found in every one of these cases, and except in one instance were always present up to the termination of the treatment, although visibly dimin-

ished in numbers. The symptoms, however, had in most cases disappeared. One case alone I shall speak of at length. Mrs. F., age about twenty-three, married. She had been suffering from a cough with expectoration for about eight months, and been losing weight rapidly. She had night sweats and anorexia, and felt constantly fatigued. She was also pale and emaciated. Examination of the lungs showed dulness in infra- and supra-clavicular regions, with bronchovesicular respiration and many small sub-mucous râles. She had pain over affected lung and expectoration of a muco-purulent character; temperature varied from 98.45 to 101. The sputum contained bacilli. I placed her on a tonic of iron, quinine and strychnine, and gave her daily inhalations of a solution consisting of bicarbonate and borate of soda, each ʒi ; carbolic acid, gtt. xx; glycerine, ʒi ; "Listerine" $\text{ʒ}\frac{1}{4}$; water ʒxvi . She continued this treatment for nearly two weeks, and during this time the expectoration increased; but its purulent character was changed to one more mucoid, while the small whitish specks, used to determine the presence of the bacillus, became less numerous in the sputum, though still present. The cough was lessened in severity, and the general health began to improve. I then placed her upon an inhalation of the dark extract of *pinus canadensis*, Lugol's solution, 1 to 5 gtt. to ʒi , glycerine, carbolic acid and distilled water. She remained under treatment regularly for almost five weeks longer, and then refused to continue daily treatment; afterwards coming to the office two or three times a week. When she abandoned the daily inhalations I examined the slight discharge raised during the day (about ʒss), and, notwithstanding repeated examinations, I failed to find any evidence of the presence of the bacillus tuberculosis. About three months afterward I again examined the sputum for bacilli, and found none. In this last search I was aided by Dr. Grauer, instructor in the Carnegie Laboratory. The other cases were subjected to the same rigid tests, and bacilli were found in every one, even when the distressing symptoms disappeared. It seemed to me, reflecting on the outcome of this case, that we had now a proper and scientific method of treating phthisis, more especially in hospitals and asylums.

There is no claim on my part to originality in the use of these methods of treatment. The idea of inhaling medicinal agents in vapor or spray existed among the ancients; Galen giving directions as to the method of holding the hollow reed over the steaming medicines. There is but one point that I desire to call special attention to. In the many cases published from time to time of the cure of phthisis by some peculiar apparatus, no mention has been made of late years of the sys-

tematic search for the bacillus tuberculosis. The cases alluded to as leaving my office relieved of their symptoms, the evidence from the absence of physical signs, pointing to a cure of the process, still had bacilli in the scanty expectoration remaining. In the case of the young woman mentioned the vesicular murmur returned, and the râles disappeared; the interesting point being the absence of the bacillus. I may be too sanguine of the results obtained, but it is certainly a fact that those who have employed this treatment systematically, and for a considerable period of time, are, as a rule, in favor of its continuance. The difficulties surrounding the physician in private practice in utilizing the local application of atomized medicinal fluids to the respiratory passages will be appreciated by each member of this society. The place of treatment should be in some special institute, where the inhalations could be combined with the "pneumatic method," when the physical condition of the patient called for the employment of the latter.

ARTICLE III.

THERAPEUTIC EFFECTS OF AMMONIUM SALICYLATE, WITH CASES.*

By J. D. SULLIVAN, M. D., Brooklyn, N. Y.

The object of this paper is to assist in bringing to the notice of the profession an agent which, in my experience, has proved to be a valuable remedy in the treatment of various forms of disease. For the beneficial results which I have obtained with it my thanks are due to Dr. J. R. Barnett, of the Committee on Materia Medica and Therapeutics of the Wisconsin State Medical Society, who read a paper before that body at its annual session, June, 1886, on "Salicylate of Ammonium in the Treatment of Typhoid and Septic Fevers and Inflammations," which was published in the *Journal of the American Medical Association*, December 11th of the same year.

Dr. Barnett introduced his valuable paper by stating that for two years he had been "employing the salicylate of ammonium in some of those affections in which we have been accustomed to place our main reliance upon quinine," and that the leading motive of the investigation which he pursued was that "the inadequacy of quinine in typhoid and remittent fevers, and other grave affections to which it is commonly addressed, nay, its not infrequent harmfulness, raised the question in my mind years ago whether it were not desirable to supersede it as an an-

* Read at the annual meeting of the Fifth District Branch of the New York State Medical Association, held in Brooklyn, May 24, 1887.

tipyretic by some other of at least equal power, and free from its disadvantages and dangers."

At the meeting of the American Medical Association which was held in Washington a few years ago, Dr. S. K. Jackson, of Norfolk, Va., submitted a valuable contribution on the "Ammonia Treatment of Typhoid Fever," with a remarkable record of successful cases treated with the nitrate, the acetate, the carbonate and the hydrochlorate of ammonia, employing "each in its appropriate stage of the fever," and these he affirmed "constituted the sole necessary treatment."

These views harmonized with the experience of Dr. Barnett, and he, taking into consideration the antipyretic and antiseptic powers of salicylic acid and its salts, reasoned that the ammonium salicylate must be a rational remedy in "modifying, if not aborting, the course of a fever." He put those theories into practice, and the successful results which he obtained were very satisfactory and encouraging.

Being favorably impressed with the theories and the experience of Drs. Jackson and Barnett, I determined to give the ammonium salicylate a careful trial. On February 8th, 1887, I was called to a neighborhood where a short time previously I had attended six cases of typhoid fever, to see a young gentleman who had been ailing for about a week or ten days, and, his usual domestic remedies having failed to relieve him, he reluctantly consented to remain in bed and be treated by a physician.

The invasion of his illness was very gradual, the most prominent symptoms being loss of appetite, headache, with chilly sensations, and a progressive weakness. I found him presenting a suffused countenance, furred tongue, dry skin, temperature about 102° F., with tenderness over the abdomen, and the general characteristics of a case of typhoid fever. I prescribed a small dose of calomel, with one grain of pulverized ipecac, to evacuate his bowels, to be followed by eight grains of salicylate of ammonium, in a solution of glycerine and water, every four hours. His diet was restricted to fluids, chiefly milk and cocoa. On the next day his temperature was reduced to 100°. His skin was moist and he expressed himself as feeling somewhat better, but still complaining of headache and a feeling of prostration. On the following day his improvement was quite evident, and the ammonium salicylate was reduced to eight grains four times a day. He continued to improve daily, and to my surprise on the fifth day of my attendance I found him dressed and sitting up. His temperature was normal and he complained of nothing but weakness. Although I explained to him the nature of his disease, I could not persuade him to remain in bed. I

then advised him to continue taking the same doses three times daily, and prescribed a tonic containing the sulphate of quinia. He continued to improve, and within two weeks from the time of my first visit he was able to return to his business.

It is generally known to the profession that we occasionally meet with mild cases of typhoid fever which run a comparatively short course and do well under any rational treatment. This case may have been one of that kind; still I feel convinced that it was favorably influenced by the salicylate of ammonium.

While I do not expect to meet with equally good results in every case of typhoid fever, I have reason to believe that this agent will prove to be a valuable remedy in that grave disease.

In six cases of erysipelas of the face and head I have used it with very gratifying results. The temperature was invariably reduced by its administration, and the course of the disease so modified that its beneficial effects were quite evident. In all these cases the disease subsided in from four to seven days.

In a case of septic cellulitis of the arm, with profound constitutional symptoms, it assisted materially in controlling the disease and bringing it to a favorable issue. I will relate a brief synopsis of the case.

On the evening of February 28, 1887, Mr. J. C., aged 49, American, of a robust physique, and a butcher by occupation, called at my office and complained of a painful sensation which had taken place in his right arm during that afternoon. On the ulnar surface, about the middle of the forearm, there was a subcutaneous circumscribed swelling, quite painful on pressure, but free from redness or any discoloration. He knew of no cause for the trouble. On the posterior aspect of the ring finger I noticed a slight wound which he said he had received about a week previously, but, as he was quite accustomed to such accidents, he merely applied a simple dressing and gave it no further attention. From the subsequent history of the case this little wound was evidently the source of infection.

I prescribed a lead and opium lotion, containing two and one-half per cent. of carbolic acid, to be applied to the forearm.

In about one hour afterwards I was hastily summoned to see him, and learned that shortly after leaving my office he was seized with a violent chill, which continued for nearly an hour. This chill was followed by a high fever, with extreme restlessness and anxiety. During the next twenty-four hours his temperature ranged from 104° F. to 105° F., although he was cinchonized with quinia, which was administered freely with small doses of morphia. In the meantime

the swelling in the arm had extended very much and assumed an erysipelatous appearance. He now became quite delirious, vomiting set in, and the case assumed a very serious aspect. The use of quinine was now suspended and the ammonium salicylate was ordered in eight grain doses every two hours. After the fourth dose a copious perspiration was induced and the temperature fell to 102° F., and he became comparatively comfortable. The salicylate was now reduced to eight grains every four hours. Although the inflammatory process in the arm continued to extend until the whole arm was involved and immensely swollen from the hand to the shoulder, he remained in a copious perspiration and his temperature ranged from 100° to 102° for the next two days. As he was now very much depressed, the salicylate was temporarily suspended and his temperature again rose to 104° , but, on resuming its administration, it gradually fell to 101° . He was now placed upon tonic doses of quinine and liberal doses of the tincture of the chloride of iron, and the salicylate was only used from two to four times daily, with a view of controlling the excessive temperature, and possibly to assist in neutralizing the septic process which was going on in his system. On the fourth day of his illness the patient was seen by Dr. P. H. Kretzschmar, and on the seventh day by Dr. J. C. Hutchinson, and both physicians considered the prognosis quite grave. At the suggestion of Dr. Hutchinson, free incisions were made at various times into different parts of the arm for the purpose of relieving the tension on the tissues. The cellulitis terminated in suppuration, and during the second and third weeks there was a copious discharge of pus from the several openings. He gradually rallied from a state of profound prostration, and the case progressed remarkably well to a complete recovery.

In a case of puerperal metro-peritonitis and septicæmia, and subsequently complicated with pyæmia, the antipyretic action of the ammonium salicylate was satisfactorily demonstrated.

Mrs. S., 22 years of age, American, primipara, was delivered of a healthy child after a normal labor of twelve hours' duration, at 3 A. M., March 31, 1887. The placenta was expelled intact about fifteen minutes later. During the three following days she was remarkably well, cheerful, and happy. After my visit on the fourth day she had a chill, followed by fever, with a moderate pain in the lower portion of the abdomen.

This disturbance was attributed to some domestic trouble and disappointment which occurred about that time. On the fifth day, April 5th, I was surprised to find her with a flushed face, rapid pulse,

temperature 104° , and uterus larger than on the previous day, and painful on pressure. The lochia were free and normal, and no cause for these symptoms could be ascertained excepting the mental excitement and annoyance above mentioned. Half a drachm of sulphate of quinia was prescribed, to be taken in divided doses during the next twenty-four hours, and opium sufficient to allay pain and produce a reasonable amount of sleep. The bowels had been moved freely with citrate of magnesia. Vaginal injections of warm carbolized water were ordered to be given twice daily, and these douches were continued throughout the course of the disease. During April 6th and 7th the temperature remained at about 103° , the abdomen became more tympanitic, and the stomach so irritable that vomiting was very distressing. The usual remedies were employed to relieve these symptoms; but on the morning of the 8th the temperature was still 103° , and there was no improvement whatever. The quinia, which had been administered to cinchonism, was now discontinued and fifteen grains of ammonium salicylate given in one dose, and followed by eight grain doses every two hours. By seven P.M. of the same day the temperature was reduced to 101° , the skin was moist, and, as she expressed it, "the high pressure was removed from her brain," so that she was in a decidedly more comfortable condition.

On the 9th her temperature remained at 101° morning and evening; her tongue became clean and moist; she took nourishment well and all the symptoms were favorable.

She now complained of ringing in her ears, caused by the salicylate, and the interval between the doses was increased to four hours. On the 10th her condition was about the same, excepting that respiration was more labored and she appeared weaker. On the 11th temperature fell to $99\frac{1}{2}^{\circ}$; pulse about 100 and of moderate force; respiration was still more labored, and she expressed herself as feeling very much depressed. This depression, I subsequently learned, was partly due to the salicylate. From the 12th to the 15th there was very little change in her condition excepting that the prostration appeared to be increasing, while she was taking nourishment freely and digesting it well. On the evening of the 15th, believing that the great depression was somewhat due to the salicylate, the carbonate of ammonia was substituted for it, and the tincture of the chloride of iron and tonic doses of quinia were ordered. On the morning of the 16th her symptoms were very much improved, but by midday the temperature was again up to 103° , with other indications that the disease was progressing with all its intensity.

On this day Prof. Charles Jewett was called in consultation, and,

after hearing the history of the case and examining the patient, he expressed the opinion that the disease commenced as a septic endometritis which developed into a metro-peritonitis and septicæmia with probably uterine phlebitis, and that the prognosis was decidedly unfavorable. At his suggestion the uterus was washed out with warm water containing one to twelve thousand of the biniodide of mercury. This had no appreciable effect upon her condition, and on the 17th the temperature rose to 104° , the tongue was parched, and she was quite delirious. Another uterine irrigation was given, but as it did not affect the fever, the ammonium salicylate was again administered. After a few doses the temperature was reduced to 101° , the tongue became moist, and there was less delirium. About this time a bright redness was noticed above the wrist on the right arm, and subsequently at a corresponding part on the left; and still later over both ankle joints. The inflammatory process at these points continued, and some of them developed into abscesses. These and other symptoms gave unmistakable evidence that the disease was now complicated with pyæmia. Notwithstanding this extreme degree of morbid action, so long as the salicylate was administered in the usual doses, the temperature would range from 100 to 102° .

On the 18th she appeared so weak and depressed that it was deemed advisable to suspend the salicylate, and in eight hours after its suspension the temperature rose to $104\frac{1}{2}^{\circ}$. Again it was resumed, and after the third dose it fell to 102° .

She continued to take nourishment, and stimulants were given freely. The tincture of the chloride of iron and quinia were continued. On the 19th and 20th her condition remained about the same, the temperature remaining down while the salicylate was administered, and rising in from four to six hours after it was discontinued.

On the 21st the temperature rose to 105° and four grains of antifebrin were given, and shortly after it fell to 101° , but within two hours it was again up to 105° . The salicylate and antifebrin were now given alternately, and they controlled the febrile action very well. Still she was rapidly emaciating and growing weaker, and it was the opinion of Dr. Jewett that there was a continued influx of septic material from the uterine veins into the general circulation. The diarrhœa, which heretofore was only moderate, became watery and the evacuation involuntary. On the 22d the stomach refused nourishment, the medicines were discontinued, the temperature rose to 106° , with a small rapid pulse, and she died on the 23d day of April and the twentieth day of the disease.

There were many interesting features in this case, but I have endeavored to mention only those which were necessary to illustrate the therapeutic effects of the ammonium salicylate. During the first three days of the fever the usual remedies were employed to control the elevated temperature and the accompanying febrile disturbance, but with little avail. Then, upon the administration of the salicylate of ammonium, the temperature was maintained at from 100 to 101° for seven days in succession, although the disease was in active progress during that time. When its use was suspended the temperature attained the height which generally prevails in that grave affection. A few doses would again reduce the temperature, and so it was throughout the course of the illness. I feel convinced that this agent served a good purpose in controlling the morbid activity of the disease; and were it not for the unlimited supply of septic material in the system I have reason to believe that the case would have terminated more favorably.

Two cases of septic fever following accidental abortion recovered in an unusually short period of time under the same treatment.

From my experience I feel justified in affirming that it will control the septic fever accompanying the third stage of pulmonary phthisis better than any remedy which has as yet come under my observation. Not only will it keep the temperature down to a comfortable degree, but it has a remarkable influence in subduing the troublesome cough and allaying the bronchial irritation. I have used it in several cases, and will cite one in which its beneficial effects are worthy of careful consideration.

Mrs. S., aged 37, who for three years had been afflicted with a variety of debilitating affections, had an attack of pleurisy in the right side about one year ago. This was accompanied with pleuritic effusion which exerted considerable compression on the lung, and subacute or chronic pneumonitis was developed. Although the fluid was gradually absorbed, the lung never fully expanded or recovered from the chronic inflammatory process. She had a troublesome cough with a moderate elevation of temperature during the summer and fall of 1886, with gradual emaciation. Last November there was marked dullness on percussion over the right apex and axillary regions, with diminution of the vesicular murmur and bronchial respiration.

She was then treated for a month with minute doses of mercuric bichloride, in combination with the ordinary doses of the chloride of arsenic and tincture of the chloride of iron. Particular attention was given to nourishment, and her appetite was very good. She appeared to do fairly well under this treatment, but there was no marked im-

provement in the condition of the lung. For three weeks in December she received one and one-half grains of iodoform three times a day, with tonic doses of quinia. During this time her appetite improved, but the cough and expectoration were very annoying. In January of this year she took ten grains of tannic acid dissolved in glycerine three or four times daily for about two weeks; still the disease was progressing and the lung beginning to break down. Then for a few weeks she received but very little medication, and every possible effort was made to improve digestion and the assimilation of food.

On Feb. 25th Dr. B. F. Westbrook saw her in consultation, and expressed the opinion that the case was undoubtedly one of tubercular disease, and that the prognosis was decidedly unfavorable. At this time her temperature ranged from 100° to 102° , pulse about 120, with evidences of consolidation of the upper lobe of the right lung and incipient disease in the left. From February 26th to March 26th she was treated twelve times with the pneumatic cabinet, and during this time the temperature gradually became more elevated, frequently rising to 103° and occasionally to 104° . Antipyrin had little or no effect in controlling it. The lung continued to degenerate, a cavity was formed, expectoration became very copious, and the cough and night-sweats were very troublesome.

On March 26th she had a chill, followed by a high fever and great prostration.

On April 1st ult., Dr. Jacob Fuhs saw her with me, and we deemed it but useless to try any further medication. At this time her temperature ranged at about 100° in the morning, and from 103° to 104° in the evening. On April 10th I prescribed the salicylate of ammonium in eight grain doses four times a day. Within three days the temperature fell to 97° in the morning, and 101° in the evening, with marked improvement in the general symptoms. This treatment was continued for ten days, and the temperature ranged from 98 to 100. Its depressing effect upon the respiratory system was now quite evident, and the same dose was given but three times a day. After a few days the temperature rose to 102° , with an upward tendency; but when the salicylate was again given four times a day the temperature fell to nearly normal. Again its depressing effects were noticed, and one-half a drachm of the aromatic spirits of ammonia was combined with each dose of the salicylate, and in that form it has been continued from three to four times daily up to the present time, May 20th inst. Her temperature now ranges from 98° to 100° , with an occasional exacerbation in the evening. She has no excessive night sweats, the cough is so

slight that she does not notice it, and the expectoration is less than one tenth the amount it was six weeks ago. Her appetite is fair, and her digestion good. She sleeps well and is comparatively comfortable. There is now marked dullness on percussion over the entire surface of the right lung, with considerable bronchial respiration and evidences of quite a large cavity in the upper lobe. Although we have scarcely any hope of her recovery, there is such positive amelioration of all the symptoms that either the disease must be in a quiescent state, or the septicæmia, which is caused by the suppuration of the tubercles in the lung, is controlled to a certain extent by the ammonium salicylate.

I have used this agent in several cases of croupous pneumonia with very good results. In one case I employed it in combination with the aromatic spirits of ammonia, and with apparently better effect than when administered alone. In this case the salicylate was prescribed on the second day of the disease, and after that date the temperature did not rise above 102°. They all terminated in recovery after the usual course, qualified, however, by unusual mildness.

Two cases of diphtheria recovered within four days, and the only treatment they received was one dose of calomel in the beginning, and eight grains of salicylate of ammonium every four hours, with daily applications of equal parts of the solution of the subsulphate of iron and glycerine to the tonsils and pharynx.

Three cases of dyspepsia in which there were evidences of fermentation going on in the stomach, with an uncomfortable sense of fullness and anorexia, were remarkably relieved by taking a dose of the ammonium salicylate half an hour before each meal.

Considerable has been written upon the use of salicylic acid and its salts in controlling the diarrhœal affections of children, and I have had some favorable results, especially with the salicylate of calcium, as recommended by Dr. Alexander Hutchins in a paper read before the Kings County Medical Society in September, 1880; but in a large proportion of my cases the acid or its salts of calcium or sodium were so nauseating and depressing, if continued for any considerable length of time, that I have rarely employed them during the last two years. Since my attention has been directed to the ammonium salt, I have used it in a few cases with good results, and find it much less irritating and depressing than the acid or any other of its salts. In the majority of these diarrhœal disturbances there are either decomposing or fermenting substances in the alimentary canal which cause or keep up the morbid action; or an undue amount of fermentation may be excited by ex-

posure to excessive heat, or by some abnormal interruption of the proper nerve influence.

By administering a germicide or antiseptic in a form which is least objectionable, the decomposition or fermentation is arrested, and the local irritation caused by the offending material or fermenting process is removed, while the excessive peristaltic action of, and secretion into, the bowels will be restrained and the condition of the patient improved.

Dr. Sternberg says: "A two to four per cent. solution of salicylic acid will destroy the vitality of germs, while the presence of a one-quarter to one-half per cent. solution will prevent their development."

The ammonium salt has an acid reaction, and is soluble in its own weight of water; and, from some experiments which I have made with it, I infer that its antiseptic powers approach, if they do not equal, those of the acid.

I am fully aware that my experience with salicylate of ammonium is far too limited to establish definitely its superiority in the line of cases herein mentioned; still its effects in these few cases tend to confirm the observations made by Dr. J. R. Barnett, and the results will justify further investigation upon a larger scale.

During last autumn Dr. Barnett had twenty-four cases of typhoid and allied fevers which were subjected to the salicylate of ammonium treatment only, and which were all convalescing by the end of the second week. To use his own words, "Three cases showed entire absence of fever on the twelfth day, three more on the ninth; all the rest were convalescent at the end of the first week or earlier."

His report also contains a record of a variety of cases of septic fevers and inflammations which were treated with ammonium salicylate with an unusual degree of success.

This article by Dr. Barnett constitutes the only literature which I have been able to reach on this subject, and, so far as I can ascertain, the drug is comparatively unknown to the profession; therefore its remedial value cannot as yet be accurately defined. From the few observations which I have made I feel justified in drawing the following conclusions:

It is certainly a very effective antipyretic. In certain diseases of septic origin it exerts a curative action by tending to retard, and possibly inhibit, the developments of septic elements in the system.

It will not reduce the temperature as rapidly as antipyrin or anti-febrin, but the antipyretic effect is more lasting than that produced by either of these agents.

I cannot agree with Dr. Barnett that it is stimulating. From my own experience I am inclined to believe that in large doses, or in moderate doses continued for a long period of time, it has a decidedly depressing effect upon the heart and respiration; but this depression may be obviated by administering it in combination with the aromatic spirits of ammonia.

It has an irritating action upon the kidneys, and consequently should not be given in scarlet fever or in any case where these organs are not in a healthy condition.

It has been my custom to prescribe it in from eight to ten grain doses every two to four hours during the first day, then at longer intervals as the requirements of the case may indicate. In some cases one half a drachm given in divided doses during twenty-four hours will produce decided ringing in the ears; others will take a drachm in the same time with but little disturbance. To children of about three years of age I usually administer it in three grain doses every four hours.

ARTICLE IV.

MUTILATIONS. By M. A. RUST, M.D., Richmond, Va.

PART II.*

Mutilation of the feet, which formed the subject of the first part of this paper,† is the outcome of fashion aided by thoughtlessness and ignorance. Fashion, on a low level of culture, hardens into relentless custom which stuns reason and crushes individuality. In more highly developed societies its action is gentler; it hypnotizes free will with a motion of its fingers; it laughs, like a naughty child, at the philosopher's expostulations and the sanitarian's rebuffs, and bids that black shall be called white; that the mutilated foot shall be regarded as prettier than the normal foot; the wasp-like construction produced by the baneful corset, handsomer than the beautiful, wavy lines of the natural female body; it ordains that the "bustle" shall serve as an embellishment to woman's body—possibly with the idea of imitating in cotton goods the fatty buttock humps which exist in the Hottentot female.

There is not a single tribe of savages on the face of the globe who do not disfigure parts of their bodies, and hardly a part of the body susceptible of disfigurement which has not been disfigured. This is not done in accordance with individual fancy, but in strict conformity to inexorable tribal rule.

*Read before the Richmond Medical and Surgical Society, May 10, 1887.

† See GAILLARD'S MEDICAL JOURNAL, June 1887.

Ornamentation lies at the root of many, but not of all, of these mutilations. A great number of them entail such an amount of suffering and torture that, in order to establish them, to enforce submission and co-operation, potencies awful and mysterious must have been at work, striking fear into every individual heart. Once established, the obligation became as automatic as the daily walks of an ant.

A striking exemplification of this class of mutilations is furnished by trephining, a mutilation which certainly could not have sprung from a desire for adornment. Trepanned skulls have been discovered in several caves and dolmens of France, which belong to the earlier period of the new stone age. These skulls, diligently studied and described by the lamented Dr. Paul Brocca, of Paris, were trephined during lifetime, as evidenced by the cicatrices they present.

Moreover, a number of the skulls of those persons who had been operated upon during their lives were, after death, again subjected to the same operation, as shown by the fact that in proximity to the skulls a number of small discs were found cut from around the trephined part in such a way that each disc contained a portion of the cicatrized edge made by the original trepanning. Edged stones found in the vicinity formed the *armamentarium chirurgicum* of those early and unknown surgeons.

In the same category of mutilations we must also class circumcision. It is executed deliberately, and at the same time instinctively under pressure of the constraining, and, retaining forces of the social medium, to which the individual, living in that medium, can offer as little resistance as he can to the functions of his organs.

In descanting with unfettered reason upon this mutilation, we are by no means forgetful of the regard which is due to this and kindred acts, by which, in primitive times, the nascent social force coerced the brutish, egotistic impulses, to minister even at the cost of individual pain and injury, to the weal of the inchoate social union. We may behold in these crude and strange acts the embryonic forms of the most exalted social virtues of true humanity—*self-denial—altruism!*

Circumcision.—Circumcision is the most ancient and widely spread mutilation in existence, and it is practiced in all the five parts of the world, though to the greatest extent in Asia, Africa, and among the savages of Australia. Of civilized nations we note about one hundred and thirty millions of Muhamedans, and about ten millions of Jews, and the Christians of Abyssinia. It was practiced in Mexico at the time of the conquest of Cortez,* and, according to the accounts of

*Bancroft : Native races of America.

modern travellers, is still in use among Indian tribes in Nicaragua and on the Amazon.

No wonder that the origin of a mutilation so barbarous, so repulsive, and, at the same time, so widely spread and so tenaciously adhered to should have so repeatedly formed an object of inquiry and speculation. *Muhammed* found circumcision already an ancient usage among many of the Arabian tribes; he took it up for reasons akin to those for which Paul dropped it. It had prevailed, since time immemorial, among the Abyssinians, when they embraced Christianity. Travellers who make inquiries among savage tribes generally obtain for answer that it is a tribal custom which has always been; they cannot conceive why other reasons should be demanded.

Out of the multitude of theories advanced in explanation of the origin of circumcision, we select three as worthy of consideration.

1. Origin founded on religious grounds.
2. On hygienic grounds.
3. On sexual grounds.

All three theories stand on the same level; the reasons advanced for either of them are neither stronger nor weaker than the reasons for the other two.

1.—*Origin on religious grounds.*

The myths and traditions of the sacred books of the Hebrews point to such an origin. On the other hand, none of the other races and nations who practice circumcision possess such traditions. Rationalists admit the religious origin by postulating circumcision as a substitute for human sacrifices. This view becomes the more plausible, as the Hebrew sacred books furnish instances tending to show that human sacrifices were customary among the ancient Semitic tribes, even after they had changed their nomadic mode of life.

The account narrated in Exodus iv: 24, 25, is of peculiar interest; sublime in its ferocity and conciseness. A wife and mother saves her husband's life by swiftly cutting off as a bloody offering a piece of her babe's skin. The story, moreover, stands in no connection with, and is entirely foreign to, the rest of the text into which it is introduced, and is evidently derived from a source much older than any other part of the book, possibly from a tradition handed down from the stone age. But further argumentation is superogatory, since circumcision did not originate with the Hebrews. We meet it as an ancient established usage in Egypt long before the Jew was evolved.

Herodotus, in his immortal historical work, in giving an account of Egypt, which he had visited, speaks of circumcision as an Egyptian

custom prevailing since time immemorial. He has nothing to say about its origin or purport. All Egyptian male mummies bear vestiges of circumcision. The penis of such a mummy, a warrior, who, according to the sepulchral inscription, lived between 1555 and 1614 before Christ, was brought home by Ebers, from Egypt, to demonstrate the scar left by the operation.* How many thousands of years of Egyptian life preceded this warrior, we are not prepared to tell; but for any thing we know to the contrary, circumcision may be much older than Egyptian nationality. There are also indications pointing to its existence in the stone age.

Be this as it may, circumcision, with the Egyptians, was no religious act; it was a distinction of caste. The kings, the warriors, the priests and the Magi were circumcised, not the common people. No uncircumcised could be initiated into the mysteries of the temple of wisdom, and it is said that Pythagoras during his visit to Egypt, actuated by his thirst for knowledge, submitted to the operation.

2.—*Origin on hygienic grounds, or grounds of cleanliness and health.*

Since Philo Judæus† this has been the favorite rationalistic explanation. It is argued that early experience, especially in hot climates, led to the removal or splitting of the fore-skin to keep the glans clear from smegma and other impurities, with a view to prevent disease. Now it is a fact that the circumcised millions are not exactly the cleanest millions, and we cannot see why a filthy savage should take so much pains to have a clean penis. Hygienic precautions are not the upshot of a low level of culture, nor is it presumable that the advanced savage of yore should have anticipated Lustgarten's idea of locating the birth-place of the bacillus sphiliticus in the smegma.

The defenders of the hygienic theory have laid stress on the remarkable frequency of occurrence of the term "clean" in some parts of the ancient Hebrew literature, especially in the priestly or Levitical rules and laws; but here the term "clean" denotes a peculiar Levitical tenet, exclusive of all relation to hygiene; it means conformity to Levitic rule. In this peculiar, transcendental sense the term is used in the phraseology of the time of Christ. Only the circumcised was "clean;" the rest of the world was "unclean." But even the circumcised, if he ventured to step outside the Levitical shibboleth, became "unclean." Jesus, though circumcised, was "unclean." He

*George Ebers, "Egypten und die Buecher Moses;" (and other writings by the same author).

†De Mundi Opificio, etc. Lib. III. Section, De circumcissione.

himself could not but use the term in the received transcendental sense; but from his lips it assumed an ennobled, loftier purport. it meant purity of heart regardless of Levitical rule. "Woe unto you pharisees—ye *cleanse* the outside of the cup and of the platter; but your inward part is full of contortion and wickedness." . . . "Thou blind pharisee, *cleanse* first the inside of the cup, that the outside thereof may become *clean* also." (Luke ii: 39; Matt. xxiii: 25). When Antiochus IV, King of Syria, tried—by most tyrannical means indeed—to reform the Jews, it is said, in 1 Maccabees i: 47, that he wanted "to make their souls abominable with all manner of *uncleanness* and profanation."

That circumcision, in primitive ages, could not have arisen from hygienic considerations is a conclusion beyond all dispute. But circumcision has been extolled in modern times, lately by some Jewish physicians, as a prophylactic against a score of evils, especially syphilis.* One of them did not even shrink from advancing the preposterous proposition of making it compulsory for the whole male population. Out of the many reasons given, only one deserves consideration: *syphilis*. It is a fact that there is less syphilis among the Jews than among the Christians, but it is not a fact that it is circumcision which causes the difference. If there is less syphilis among the circumcised Jews, there is also less drunkenness, less dissipation and debauchery, less ruffianism and ribaldry, etc. As for the causes, we must look, not to the prepuce, but to the brain cells. These different moral qualities are the result of the adaptation of brain function to environment. Nearly two thousand years of calamities, of oppression and persecution, have rendered the Jew more provident, more temperate, cautious and guarded. Self-restraint, and a greater capability to repress impulses and to calculate the cost of his acts, are with him hereditary. On the other hand, if, in his seed, the gemmules which build up the Blue-beard, the murderer, the man with the revolver, etc., are scarce, the gemmules which make the hero and the self-sacrificing patriot are equally rare. Christianization will gradually equalize these inequalities; but then the Christianized Semite, with or without prepuce, will have his full proportional share of syphilis.

*It is obvious that the circumcised is as exempt from balanitis, balano-posthitis, etc., as he would be from tooth-ache should his teeth be prophylactically extracted. On the other hand, the uncovered penis is more exposed to gonorrhœa. Of the few who have countenanced circumcision I may quote, as worthy of notice, Hutchinson: On the influence of circumcision in preventing syphilis. *London Med. Times & Gaz.* Dec., 1885.

A bitter rebuke for the above mentioned attempts may be found in *Streubel*: Philippica gegen die Beschneidungs Sucht. Prager Vierteljahrschr. Volume II 1858.

3.—*Origin on Sexual Grounds, or Circumcision as a means to promote Fertility.*

According to this theory we must imagine that the prepuce appeared to the eyes of primitive man as something which ought not to be where it is—as a thing which stood in the way of the free exercise of the sexual function—and, in order to get rid of the incumbrance, slitting, cutting, crushing and strangling were resorted to. That being so, one must also suppose that, originally, it was the *presence of phimosis* which prompted the action.

But congenital phimosis, calling for surgical intervention, is of rare occurrence; certainly not of such frequency as to justify the supposition that it was the proximate cause of the custom in question. It is true the new-born infant generally presents a certain degree of phimosis: that is to say, there are, in the majority of cases, be the prepuce narrow or wide, adhesions between its inner surface and the outer surface of the glans, sometimes only at the apex, sometimes extending down to the collum or sulcus-retroglandularis. Attempts to draw back the skin are fruitless, and, if persisted in, painful to the child. This is not a pathological, but a physiological condition—a continuance of the foetal condition for a short while longer. It never calls for surgical intervention; in the course of a few weeks or months (sometimes a few years) these adhesions wane and vanish through cornification and exuviation of the respective epithelial layers. Even in those rarer instances when narrowness of the skin has persisted during boyhood, the youngster finds his glans coming out all right at the first erection.

Now, after a little reflection, we shall arrive at the conclusion that it cannot be infantile phimosis which lies at the root of the custom of circumcision; assuredly the primordial sire was neither physically nor intellectually in a condition to make such nice observations and examinations of the delicate sexual organs of his new-born papoose. Moreover, infantile circumcision is customary only with a small minority—the Jews; among the great majority of the nations and tribes who practice circumcision the performance takes place during boyhood, at or near the period of puberty, when the infantile condition of the prepuce has long ceased to exist. Now it is precisely the fact of the prevalence of circumcision at the period of puberty which is adduced as a proof of the theory that this performance was instituted as an act of initiation into manhood, as a preparation for the free exercise of the sexual function.

This is the theory of Ploss, who expounds it with ingenuity and

learning.* Passing under review all the usages regarding circumcision, he finds in most of them some points supporting this theory—though he often greatly stretches his points. For instance, a recent traveller (Riegler) relates that he obtained from sundry savage tribes of the Dutch Spice Islands the information that circumcision is performed *ad augendam in coitu mulierum voluptatem*. In reference to this Ploss remarks that as one cannot possibly see how the slitting of the prepuce can increase *mulierum voluptas in coitu*, the meaning of Riegler's information can only be that the operation serves to satisfy the desire of the women for greater fertility. But without unduly straining, their meaning might take the words of the savages literally and find a natural explanation of the exaltation of *mulierum voluptas in coitu* in the consequences of the crude and barbarous methods of circumcision prevailing among those tribes. It would not be contrary to experience to suppose that the rough way of splitting, tearing, crushing and strangulating to which the prepuce, or parts thereof, are subjected, the sloughing and the suppurative and ulcerative processes which follows, may bring about a kind of hypertrophy, a bossy enlargement of the remaining parts, and, consequently, to the proud satisfaction of the happy savage, an increase of circumference of his *columna adstans inguinibus*.

Slitting and ripping of the prepuce is a widely-spread custom, and it varies, as to methods, with almost every tribe. Some tribes go a little deeper into the matter, and slit the urethra also.

The tools used vary as much as the methods: blunt knives, edged pieces of bamboo, stones, shells, etc. With some tribes the prepuce is perforated at the cervix of the glans, and a string passed between glans and skin, and knotted so that the strangulated portion of the prepuce mortifies. With others a small staff of wood is inserted between glans and prepuce, a second one outside, both staves being kept firmly in place by means of a clasp, till, through pressure, mortification ensues. Again, a stout piece of wood is forced in between skin and glans, and whilst the projecting part of the staff is held with one hand, the other, armed with a club or stone, produces, by a vigorous blow, the much coveted solution of continuity.

Other tribes insert a piece of wood between prepuce and glans, a longitudinal cut is made on the dorsal surface close to the corona through the skin by means of a shell, the rest of the skin is rent in twain by the fingers, and the split part left swinging. It seems that some

*Ploss, Das Kind in Brauch und Sitte der Voelker. Item: Die Knabenbeschneidung. Arch f. Gesch d. Medicin, Band VIII.

savages take pride in having an appendix of a finger's length hanging from the inferior part of the *virgula virilis*.*

Contrariwise, an appendix to the female parts seems to sundry tribes objectionable. It is said that in Nubia, Abyssinia, etc., the girls at the age of seven years are circumcised also, to wit: the nymphæ and the prepuce of the clitoris, or the whole clitoris, are cut off.

After wading through such a mire of barbarities, it is refreshing to meet with some curious devices of more human aspect. In South Africa† we come across a kind of hypnotism, viz., the operation is performed with a knife, while behind the victim stand men with rods ready to administer a whipping should he give the slightest sign of abject fear. It is said that this seldom occurs, preliminary whipping having made the boy understand that business is meant. Again, we may regard it as a dim idea of local anæsthesia when, some time before the operation, the boy is made to sit in cold water; and, to conclude, we find an anticipation of Esmarch's method in the following: The prepuce being drawn up, a ligature is laid round it, close to the head of the glans; a second one a little way above; the cut is made between the two ligatures, painless and bloodless.

In general it seems that those tribes who have learned circumcision from the Muhamedans do the silly thing in a more sensible and decent manner, the main feature of the Muhamedan method being amputation with a sharp knife (frequently a razor), leaving the glans partially covered.

A description of all the various ways in which this mutilation is executed would fill a moderate sized volume. We must refer to the original sources. ‡

With some tribes and nations circumcision is accompanied by festivities, or by religious or social ceremonies. Others do the thing privately; the father circumcises his sons, or the boys do it themselves, or help one another. Obviously they are anxious to do it, as sexual intercourse is only permitted to the circumcised. With the Jews it is

*Jos. Thomson, *Through Massai Land*, London, 1885. p. 586. (quoted by Ploss.) In describing the manner in which the Massai, a tribe in East Africa, perform circumcision, he says: "Præputio nempe dorsum, de superiore parte penis secto, segmenta utrinque diducta ita componuntur infra, ut in bolum coalescant qui, unum digitum longus, dimidium digitum tatus, ab infimo pene pendet."

†Livingston's Travels.

‡A galaxy of distinguished ethnologists and travelers in Africa, India, and Australia, whose names and the titles of whose writings would fill up several pages. Out of the many we only mention Livingston, Schweinefurth, Pritchard, Wilken and Vatelyn, etc. Of greater works may be mentioned, *Authenrieth*, *Ursprung der Beschneidung*. Ploss, *Das Kind in Brauch und Sitte der Voelker*. (both works valuable ethnological studies.) *Sibree*, *The Great African Island*.

coupled with religious ceremonies and an entertainment; the poorest offer wine and cakes, the richer a sumptuous repast.

The operative method is decidedly barbarous. The circumciser grasps the prepuce between his fingers, draws it up as far as it will go, secures it with a clamp, grazing the top of the glans, and, giving thanks to Jehovah, the guests joining in, cuts it off close to the clamp. He now seizes with his fingers the remaining part of the skin, and pushing it back over the corona, splits and tears off with the long and sharp nails of his thumbs the inner lamella. Then he takes a mouthful of wine, and, squirting it over the wound, sucks the blood. All this he executes with a facility, skill, and rapidity with which no tyro in surgery could keep pace. Barbarous as his method may appear to the scientific eye, he can say with the poet:

“All’s well that ends well.”

But it does not *always* end well. The operation for phimosis is not one of the simplest operations. It is surrounded by dangers of which the circumciser has not the remotest idea, ignorant as he is of the anatomy and physiology of the tissue on which he is operating. There are, in the first place, those adhesions above spoken of. Even when the skin is apparently movable, there may be adhesions near the corona, and when, after cutting, the circumciser takes his leap in the dark, pushing back the remainder of the skin and tearing with his finger nails the inner lamella, he may, unwittingly, tear off along with it shreds of the teguments of the glans, causing alarming, often fatal hemorrhages. It was Professor Bokay, of Buda-Pest, who, eighteen years ago, by his valuable researches, discovered in these adhesions the most frequent cause of bleeding after circumcision. * Abnormal vessels in the prepuce constitute another cause for hemorrhage; hæmophilia a third cause. When this last-named affection has been in the family, even in former generations, circumcision ends fatally. The wounded part often becomes the seat of erysipelas, extending downwards

*In my long practice I have witnessed, at the request of the parents, a great number of circumcisions, but I do not think that much is gained by the presence of a physician. The safety of the operation entirely depends on the skill and dexterity of the circumciser; his is a ritual surgery which does not admit of interference on the part of the physician. In some instances, when the adhesions were strong, I loosened them by means of a smooth probe, or had the operation suspended. In one case in which the brim of the prepuce was so firmly agglutinated to the apex of the glans that lateral traction on the skin caused the lips of the meatus to open, we had to wait two months—probing at intervals—till the adhesions were sufficiently loosened. The ordinary slighter adhesions the circumciser disposes of automatically by moving the skin up and down several times. I have treated a number of cases of consecutive suppuration and phlegmonous inflammation, but never witnessed an accident like those awful ones quoted on the next page.

over the scrotum and the seat, or upwards to the navel. Mark well the case of two boys (in Cracow) who, after having been circumcised in a house where puerperal fever existed, both became infected with erysipelas. * Phlegmonous processes of the wounded part, often involving the inguinal glands, at times occur; erysipelas gangrenosum, also primary gangrene of the glands have been observed; terminating, in one of the cases, with the loss of the glands and a part of the penis.† Trismus and tetanus have appeared;‡ it was said as a consequence of the laceration of the inner lamella; but since the discovery of the microbe of tetanus one can easily understand that the germs may be conveyed to the wound by the finger nails of the circumciser. The appearance of diphtheria in the wound of circumcision has been repeatedly observed by Jacobi, of New York, and others. Most of these are evils for which the circumciser cannot be held responsible. But it often happens that he chops off a thin slice from the apex of the glans; it has also happened that the whole head of the penis has been cut off,|| the operator holding it unawares, together with the prepuce, between his fingers.

In another instance it was an oblique cut which took off a portion of the inferior wall of the urethra, creating a kind of artificial hypospadias. Another case is mentioned where a portion of the scrotum had been drawn up and cut through, so as to allow a protrusion of the testicle.§ Sometimes, together with the prepuce, a portion of the glans is clasped; if the clasped part escapes the knife it comes out so contused that the function of the urethra is impaired. It is to be noted that most of these cases come under observation only in after years as existing deformities.

We find another unique case quoted by Zaffé. We should take it as a joke did it not come from a grave and trustworthy source.** A circumciser, short-sighted and long-nosed, in order to be able to see his way, bent his face down so close to the sexual organ of the child that, in cutting the prepuce, he also cut off the tip of his own nose.

The barbarous custom of sucking the wound—which, however, has latterly been dropped in more enlightened communities—is a fruitful source of infection with syphilis, tuberculosis, etc. Such cases have often been disputed; but Dr. Elsberg, attending surgeon to the

* Zaffé, Ritnelle Circumcision.

† “ l. c.

‡ *Wiener med. Presse*, No. 14, 1867.

|| Zaffé l. c.

§ Zaffé, l. c.

** Henke's “*Zeitschrift für Staatsarzneikunde*,” Vol. X.

syphilitic division of the Hebrew Hospital of Warsaw, has recently furnished incontrovertible evidence to this effect. On a child subjected to that procedure (sucking the wound) a number of ulcers appeared on the wounded part. On examination tubercles and bacilli of tuberculosis were found in these ulcers, and in the caseous inguinal glands of the child, as well as in the sputa of the circumciser.

Dr. Elsberg has since reported three similar cases, and states that he has all the year round under treatment in his hospital syphilitic children, to whom the disease was conveyed through the same channels.*

Dr. Fedotoff† reports the cases of three infants infected with syphilis in the same manner by one circumciser. All these children conveyed the disease to their mothers.

Observation and perusal of the literature concerning circumcision cannot fail to force upon every unbiassed mind the conclusion that the evil consequences counterbalance the pretended prophylactic benefits.‡ Moreover, it is only the smallest number of such ill-fated cases which find their way into literature; the greater number, especially in communities more remote from civilization, pass unobserved, or, if observed, unpublished. Granted that these evils are exceptional and rare, the vaunted benefits are equally so.

The operative method now in use among the Jews, uniformly all over the world, is, to all intents and purposes, an extirpation of the prepuce. It was not so in former times.

After the conquests of the great Alexander the spirit of Greek culture had gradually penetrated into Judea, and perhaps might, by peaceful measures, have overcome Judaism. But Antiochus IV, king of Syria, took it into his head to cure the Jews at once of Judaism. He applied desperate means. He burnt their books and sometimes the owners thereof also. And we read in I Maccabees, Chap. i: 41, 42, that "he wrote to his whole kingdom that all should be one people and every one should have his laws." We further read, I Maccabees Chap. i: 11, 48: "In those days went there out of Israel wicked men, who persuaded many, saying, let us go and make a covenant with the heathen that are round about us." . . . "and they made themselves UNCIRCUMCISED and joined themselves to the heathen."

From these quotations we learn that numbers of Jews, partly from a desire to break with Judaism, partly with a view to escape persecution, had recourse to a restoration or reformation of the foreskin. For

* *Med. Centralblatt*, No. 50, 1886. *Berl. Wochenschrift*, No. 35, 1886.

† *Annals de Dermatologie et Syphilis*, Paris, 1885, Tom V, No. 9 et 10.

‡ E. g. Sayre's cases in *Boston Med. and Surg. Journal*, No. 102.

the same reasons the performance of this restorative operation was probably continued in various parts of the Roman Empire during the two centuries after Antiochus IV. The proof for this inference we find in Celsus, who wrote his great work "De Medicina" a short time before Christ. In the two books on surgery (books VII and VIII of his work) he furnishes an accurate description of all the surgical operations in practice at his time, and speaks—in Book VII, Chap. 25—of the operation for the restoration of the prepuce. Philo Judæus, a contemporary of Christ, may have been thinking of this operation when he thundered against the Jewish apostates.

The operation for the restoration of the prepuce was performed either by making a circular incision round the sulcus glandularis, and drawing the skin over the glans, or, in a bloodless way, by an instrument (epispaster) invented for the purpose, which gradually stretched the skin till the glans became covered by it.

In order to put a stop to this procedure, priests or rabbis devised and ordered at the same time the now existing operative plan, which indeed renders restoration of the skin impracticable. The prepuce, which assists in covering the erected penis, being radically extirpated, there is no material left for the surgeon to work with. As it is, the skin of the penis becomes, during erection, stretched to its utmost capacity.

It is of no avail to wonder how circumcision can have worn so long; how it can have outlasted so many other articles of faith of younger origin and stronger texture; the fact is that it *has* worn; and as, in all likelihood, it *will* wear for some generations longer, human dignity demands that the operation shall be performed according to surgical methods, by the hands of a surgeon.



LECTURES.

ADDRESS BEFORE THE SIXTH GERMAN CONGRESS FOR INTERNAL MEDICINE, HELD AT WIESBADEN, APRIL, 1887, BY THE PRESIDENT, PROFESSOR E. LEYDEN, of the University of Berlin.

My most honored colleagues: The Executive Committee has done me the honor to select me to preside over this, the Sixth Congress for Internal Medicine, and the members have confirmed this selection. I thank you for this honor, and welcome you again to common labor in this richly-blessed city which we love and call the home of our congress. It is already an accustomed feast for us, at the beginning of the spring, to collect here; we find well-known faces, dear, good friends,

who meet us here every year. We ask after those who are absent, kept away by unavoidable hindrances. The congress has already gained a distinct physiognomy through her members. She has also earned her definite place and consideration outside of her own circle, for not only in our great German fatherland, but also in foreign lands, the meeting of this congress is an event in the field of medicine. She takes an equal stand beside the ten-year-old surgical congress. True, the surgical congress has imitators in foreign lands, but I will opine that the congress for internal medicine also be found to be a necessity; for internal medicine needs an independent association to further her own interests, to say the least, as much as does surgery.

As you well know, the city of Wiesbaden will this year not only receive our congress into its hospitable walls, but also the German Association of Naturalists. Both associations, which meet successively here, involuntarily work to a common end and raise anew the question whether the separation of the special congress was a necessity at the time, that is in the interests of the development of medicine. Those who were witnesses of the great interest in the last association of scientists from all quarters, who were witnesses of its brilliant course, might be in doubt as to the answer, yet the fact presents itself that immediately after the adjournment of this association two new special congresses were inaugurated. This of itself is a proof that this association did not cover the object and aim of those special congresses. The association of scientists unites all the different divisions of this great common field, and includes medicine as a natural science. It is told us that we live in a scientific age. The natural science which at present celebrates the greatest triumph impresses its character on the association. Medicine also sails under her flag. Pathology and therapy shall become mechanical sciences.

We all, as physicians, know how much the medicine of to-day has to thank natural science. We know that she alone has rescued medicine from the pool of wilful and unreasonable speculation, and built it anew on a basis of well-grounded facts. We should never cease to honor and thank those of our profession who were chief in the work of this reform. We know that it was in this way that medicine has found her firm and enduring foundation. The physician must be a naturalist. He must learn to prove, observe, and sift the causes of disease with a knowledge of the natural sciences.

The object of medicine is, however, not restricted to this. It has a practical as well as a scientific object in view. It must be helpful. Those who are inclined to elevate the scientific in medicine above the practical must remember that medicine has not a scientific speculation, but a practical need, to thank for its origin, and that he who has chosen medicine as his calling must undertake his work with conscientiousness and bring to his aid in the treatment of those patients who apply to him all the aids which the medicine of the day supplies. Medicine will sacrifice its historical and social importance when it loses this its original aim or allows it to take a place in the background. The work of completion of this object is and remains her most important aim.

For the completion of this work we recognize the natural sciences as the weightiest and most sure foundation. We must, however, not forget that natural science alone is not sufficient to accomplish the work. We must follow our duty where the method of the natural sciences can not take us.

In this endeavor medicine must be quite independent, quite sovereign. She can allow her path and aim to be ordered from no other side. To her there is no dogma, no method; she must see with her own open eyes and hear with her own ears.

Therefore the object of medicine is not that only of the natural scientist; it has still another which she alone must seek to attain, and, indeed, this must be done in every branch of medicine in its own independent manner.

In this I find the justification of the special congress.

According to my mind, no branch of medicine, in this day of specialism, needs emancipation more than internal medicine; for no other is influenced so much from other sides. Its position in the age of the natural sciences has been the severest of them all.

Under the natural sciences medicine has wonderfully furthered her knowledge of the history of disease and insight into its causation. Internal therapeutics, no one will deny, can show marked advances in the same way. But, on the other side, it must not be denied that an evident weakening, an insecurity, an imperfection, an absence of self-confidence, has grown in internal therapeutics. This goes to show that she has left her earlier path, and is confined to new ones in which she has no firm foothold as yet. A scientific medicine makes a scientific, a mechanical, or a chemical therapeutics. She is inclined to put little stress on that which was not obtained through scientific work. Science is still unable to supply all demands. Thus we see therapy in a very difficult position. On the one side science demands a scientific therapy which she is unable to give. On the other side the claims of the present present themselves, of which she dare not deprive herself. Will she seek fruit on the one side only, then she overlooks those on the other side, which are riper and easier plucked. She dare not satisfy herself with problems which the beautiful fruit promises, the solving of which is probably far in the future. We should be useful in the present, and must learn to use properly those remedies which stand at our command to-day.

That security which was the ornament of the older medicine is to-day considered a joke; but we must seek by means of common work and intelligence to win it again. Before all things we must not allow the knowledge of the high importance of our art to be curtailed.

Medicine is distinguished above all other of the natural sciences by the fact that the object with which she has to deal is man himself. *De te historia narratur.* It treats of the well-being of our fellow men. In this branch of the natural sciences which is called medicine, says C. Hüter, there is prominent the endeavor to protect the lives and usefulness of our fellow men. This object gives to medicine her especial im-

portance. Our time is eminently practical, and the science shall be useful. That saying of Cicero's is true to-day more than ever before: *Nisi utile est, quod faciamus, stulta est gloria*. "I know," says C. Hüter farther, "that this practical treatment is also a great privilege, which I must fulfill, especially when I know that I cannot fulfill it alone on the foundation of scientific laws."

Every age has its especial culture-object which takes on the especial development of the time. Medicine is not always unchangeable. She is changeable, as all that which develops organically. The epoch in which we live is marked by the influences of the natural sciences and experiments. In his famed lectures on physiology, which Claude Bernard held in the College de France, he said most properly: "Can medicine forsake that, so rich in facts, which she has collected in the hospital, and withdraw into the laboratory? She assumes the form of an experimental physiology, and hopes herself a science. But she can be assured that later her usefulness will be either less extensive or less wonderful than the chemico-physiological sciences." The medicine which has come to us from the laboratory is richly laden with splendor and renown, and she still pursues the same glorious way to do. She labors without rest on the solution of the greater problems which the advances of our science show, but whose use only later generations will come to know and enjoy. Medicine should not forget to care for the present generation. The living have rights. We must understand the wants of the time. The time has come when we must remember that medicine has an inexhaustible supply of knowledge and advance to seek at the bedside of the patient. *Medicina tota est in observationibus* says F. Hoffman, and the first president of our congress, Frerichs, said in his opening address: "The groundwork of our investigation, the especial field of our knowledge is, and remains forever, the observations on diseased mankind, these alone determining the questions which present themselves before us. The work of the laboratory is to study the separate causes of disease, to investigate them in their laws, their connections, their actions. Yet the experiments remain one-sided, in that they bring out only one or few appearances. The whole number of causes we can only study, understand, and learn at the bedside of the patient."

The device of our time, the separation into specialisms, has also influenced medicine. The medicine which was the last time united in the hands of Boerhave is splintered into numerous pieces, as man was no more able to command the whole of the knowledge and experience. In the hands of his scholars the separation of the work began. This process has made very rapid progress. The number of specialties grows fast from day to day. Specialists and special knowledge increase. Every branch demands for it a power of its own.

In this dividing, the whole threatens to go to pieces. The human body is scarcely any more a whole; it is an aggregate of organs and of cells. Every organ demands for itself special study, special knowledge and ability. The local examination, the local diagnosis, the local treat-

ment, is the principal thing. Internal medicine is also drawn into this process. The positiveness of the diagnosis, the local, the specific treatment, are the fruits which are drawn upon. Internal medicine has, in a certain sense, become a specialty. In this line, however, she has not found all that she has sought, and she cannot find it. The results of the local, the specific therapy, remain unsatisfactory.

In the great sum of special knowledge and special ability a firm point of union must be sought; great comprehensive single ideas fail. To give these internal medicine is called upon, from her historical development and importance. She will always form the middle point of the endeavor towards comprehensiveness, for with her more than with any other branch of medicine is it true that she has with the individual man to deal. Not without ground, and sharper than ever before, it is advanced from various sides that we shall remember that we have not only to deal with a disease but with a diseased individual, and that we treat not only a pneumonia or a typhus but men who are attacked with this disease, and whom we, by our presence and help, must assist in the battle. We must know the organization and strength of the organ which is involved. That we may protect and assist the patient, we must also have studied his feelings and thoughts. In the judgment and treatment of the individual internal medicine overtops all others. From long hence the individualization has been one of the highest qualifications of a physician. In this connection internal medicine precedes all others. It was formerly said to us from noteworthy sources that the internal therapy must become more surgical. We can now say to the surgeon, You should again become more medical, and earnestly seek connection with the Alma Mater of the general art of curing.

When internal medicine goes forward in her own way, rich success will not fail her. In spite of all her imperfections she may rejoice over her accomplishments and successes, just as much as surgery, with right, rejoices over her recent accomplishments.

How often is the work of internal medicine falsely understood in these days. Every one believes himself able to master medicine and to give it good advice. "The best helmsmen stay on land," is an old Holland proverb. "The spirit of medicine is easily comprehended," is an old proverb which every child learns. It should really be, "The spirit of medicine is hard to comprehend." He who has given years and tens of years of the study of his best strength to the observation and treatment of patients can properly comprehend the spirit of medicine. In this connection there is scarcely anything more beautiful and more to be honored than the old, well-known saying of the undying Hippocrates, viz: *Ars longa, vita brevis, occasio fugax, indicium fallax, experimentum difficile.*

In the medicine of this century so much is thought, said, and written, that it is scarcely possible to say anything entirely new. But old truths and old facts can be forgotten, and it is not unworthy, at this place and time, to remind you of them.

We turn now to our work. The pains of the committee have again

furnished us with a richly supplied programme. Themes of the greatest importance are to be treated of in this sitting, and the names of the gentlemen to read give us assurance that this will be done in a profitable manner.

I declare the Sixth Congress for Internal Medicine opened.

THE NERVOUS DISORDERS OF URÆMIA.

A Lecture Delivered by M. Lancereaux at the Hospital La Pitié,
Paris.

Translated from the *Union Médicale* for GAILLARD'S MEDICAL
JOURNAL by H. McS. Gamble, M.D., Moorefield, West Va.

PART I.

The animal organism, like vegetables, possesses the property of fabricating toxic substances, the ultimate residue of the nutrition of its tissues. In a preceding lecture I have shown you that the morbid retention of these organic waste materials determined a series of disorders on the part of the digestive apparatus. We shall pursue to-day the study of uræmia by the exposition of the modifications of the apparatus of innervation.

The nervous perturbations in uræmia do not have the same significance as the digestive perturbations. Their pathogenic course is likewise a little different. The gastro-intestinal phenomena are, in fact—at least at their commencement—compensating disorders. They present a character of utility, of necessity, in a manner that it is essential not to neglect, and that controls the therapeutical intervention. The nervous disturbances, on the contrary, always constitute serious symptoms that it is important to combat as soon as possible. On the other hand, the disorders of the first category result from an elective action upon the digestive mucous membrane, of which the excretory power is solicited by the afflux of excrementitial principles. There is nothing similar for the nervous system. It is simply encumbered, like all the other tissues, by the products of waste; only it re-acts more actively by reason of its special excitability, and the sufferings of its nutrition are betrayed by more expressive symptoms.

The cerebro-spinal disorders of uræmia are extremely important. By their frequency and their gravity they occupy, in the hierarchy of uræmic phenomena, a much higher rank than the digestive disorders. Their clinical modalities are very numerous. We have seen that hic-cough marked the limit between the two orders of symptoms, and might serve as a transition. Among the purely nervous symptoms we may isolate at first, and describe apart, the group of *cardio-pulmonary symptoms*.

Dyspnœic uræmia has been wrongfully separated from cerebro-spinal uræmia. In this form, in fact, the thoracic organs are not

directly affected. They only serve to betray the functional disorder of the nervous centres.

Uræmic dyspnœa presents three principal varieties: Simple dyspnœa, paroxysmal dyspnœa, and spasmodic dyspnœa. *Simple dyspnœa* is characterized by the acceleration and the variations of extent of the respiratory movement, and by panting under the influence of the least effort, or even simply of walking. Examination of the mode of respiration almost always shows a preponderance of the diaphragmatic type. This is, besides, the mark of uræmic respiration in general, that it is accomplished almost exclusively by aid of the diaphragm.

The costal type is seldom observed except among subjects of uræmia who have at the same time material lesions of the lung or heart. The simple dyspnœa of uræmic subjects is sometimes accompanied by laryngeal phenomena, hoarseness of the voice, and inspiratory whistling, which have been mistaken for an obstruction of the upper respiratory tract to the degree of inducing a recourse to tracheotomy. In patients affected by this dyspnœa the pulse is ordinarily accelerated.

The *paroxysmal dyspnœa* is characterized by a violent oppression, which reappears from time to time with expressions of suffering. Observed by Cheyne in 1816, described by Stokes in 1854, this variety of dyspnœa has been designated by the name of Cheyne-Stokes respiration. It consists in the succession, regular and periodical, of a period of apnœa or pause, and of a period of dyspnœa in which the inspirations, at first rare, short, and superficial, gradually increase in amplitude, become more and more frequent, profound, and noisy, then progressively decrease until a new pause.

The period of apnœa is limited generally to thirty or forty seconds. The complete cycle has a duration of a few minutes at most. It is accompanied by circulatory, oculo-pupillary and cerebral disorders. The circulation, in fact, is always more or less embarrassed; the lips are purplish, cyanosed; the pupils contract during the pause, to dilate again at the time of the return of the respiratory movements; the psychical faculties are more or less obtuse. Cardiac steatosis has been considered at first as the principal pathogenic condition of this phenomenon. Afterwards other lesions of the heart were incriminated, and finally a certain number of cerebral changes. We believe in the possible influence of these latter affections in the production of this symptom; but in the absence of information as to the state of the kidneys, there is reason to think that in some cases in which the heart and the brain were accused the kidneys were diseased. The renal lesions which, in general, give rise to this phenomenon are those which bear more especially upon the arterial system. Starting from this fact, some authors have thought that the pathogenic condition of the Cheyne-Stokes respiration was in the brain, and that it must belong to a certain degree of ischæmia. But nothing proves this assertion, and as this symptom arises sometimes in the course even of epithelial

nephritis, it seems to me much more rational to attribute it to the action upon the respiratory centres of excrementitious substances not eliminated by the kidneys. The proof that these substances are really the cause of the symptom in question is that quite commonly one or two energetic purgatives suffice to cause it to disappear. This phenomenon is none the less the index of a serious disorder which may, it is true, have only a passing duration, but which may also be prolonged in a continuous manner for weeks, leaving hardly any intervals of respite, to disappear at length and give place to a regular respiration.

Spasmodic dyspnœa has much analogy with paroxysms of asthma, so that it has often been described under the name of *uræmic asthma*. This variety, which I have already indicated in the article KIDNEY of the *Encyclopedic Dictionary of the Medical Sciences*, to be more rare than the two preceding, is none the less met with in a certain number of cases. It supervenes suddenly, like a paroxysm of purely nervous asthma, and, most frequently, without appreciable incidental cause. It consists in the sensation of a painful anguish which forces the patient to sit down upon his bed, to cling to the surrounding objects, to make efforts to respire the air which appears to fail him. The distended and globular chest remains fixed in the position of inspiration, and the air is not renewed therein; whence the suffocation. Then to this phase of forced inspiration succeeds the release, expiration commences by the relaxation of inspiratory and ends by the contraction of the expiratory muscles; it is slow, prolonged, but not sibilant, as in the paroxysms of asthma properly so-called; so one rarely hears sibilant and sonorous râles in auscultation, and, moreover, the attack is not followed by expectoration. At the same time the eyes are salient, the face is pale, the lips colorless, and the pulse is hard; often, also, vomiting supervenes; it may be before, it may be after the dyspnœic crisis, and far from indicating the road to the diagnosis, it may in some cases, in pregnancy, for example, give a false security to the physician who should not attentively study the vomited matters. The duration of an attack of this kind is variable. It may be for half an hour or even for an hour, and be renewed several times in a day, but principally at night.

This kind of symptoms, which I have had occasion to observe in many circumstances, was very manifest in the case of a woman, seventy-one years old, who, in consequence of fluxions of acute gout, was found attacked with polyuria, albuminuria, and all the signs of interstitial nephritis. The two crises which I observed in this woman having been followed by vomiting, I was led to administer energetic purgatives, and the symptoms ceased. I have obtained these results in a great number of cases.

Uræmic anhelation, whatever may be its form, represents a variable prognosis. Thus we see old subjects of Bright's disease from time to time pass through crises of dyspnœa, and that for entire years. These patients easily get rid of their oppression by aid of a few drastics, or simply by a more rigorous observance of a *régime*. At other times,

on the contrary, the dyspnœa rapidly destroys life, with phenomena of syncope or asphyxia. It is then impossible to establish a fixed rule for the estimation of the risks.

Some have been very much occupied in investigating in these patients the reaction of the carbonate of ammonia contained in the breath. Frerichs insisted upon this sign, which tallied with his theory of ammoniæmia. For this purpose they placed before the mouth a glass rod moistened with hydrochloric acid, and quite often obtained the formation of white vapors of hydrochlorate of ammonia. Hæmatoxylin and red litmus paper have been employed with the same view. These are altogether useless clinical investigations. The reactions obtained have no decisive value. We find them in many other patients besides the subjects of uræmia; on the other hand, they are often absent in the latter. It suffices, in order to understand this, to remember that the pulmonary symptoms do not, in kind, pertain to a modification of the alveolar excretion, but that they betray only the vitiated nutrition of the bulbar centers.

On the part of the circulatory apparatus, the functional troubles observed in uræmia consist in more or less intense palpitations of the heart or even of the vessels. These irregular and intermittent palpitations are felt in the state of repose, and often exaggerated by movement. They incommode the patients in the daytime and perhaps still more during the night, for they frequently cause insomnia. The pulse is ordinarily accelerated during the crises of uræmia, whatever may be, moreover, the symptomatic variety. Before the grand convulsive paroxysms of acute uræmia, principally in the case of lying-in-women and of scarlatinous subjects, the pulse often presents a remarkable modification, consisting in a slowing of the pulsations, which is sometimes extreme. This phenomenon has been mentioned by a great number of authors. It is legitimate to interpret it in the sense of a perturbation of the innervation of the pneumogastric.

Such are the different respiratory and circulatory disorders that the alterations of the kidneys may engender. It is well understood that they do not belong especially to these alterations, and that they may be met with under other circumstances; but it is not the less true that their existence ought to awaken in the mind of the physician the possibility of a renal lesion, and to lead him to attentively examine the urine as to its quantity and quality.

These disorders do not have as their point of departure either the lungs, which are sound, or the heart, which, in general, is simply hypertrophied. Again, however the function of hæmatosis may be diminished, the blood cannot be the cause of symptoms which have an irregular, intermittent march. So, everything inclines us to believe that they are really dependent upon a disorder of bulbar innervation, itself produced by the action of toxic matters retained in the organism. It is for this reason that they deserve to be ranged in the picture of cerebro-spinal uræmia, of which we are now going to study the nervous manifestations properly so called.

The CEREBRAL SYMPTOMS of uræmia relate to the three grand functions of sensibility, of motion, and of intelligence, which are affected separately or simultaneously.

The *sensitive disorders* consist in subjective sensations of itching, of numbness, and of pain in different parts of the body; then, finally, in passing disturbances of vision.

The itching, already mentioned in the article KIDNEY, of the Encyclopædic Dictionary, has become the subject of a more profound study which has led several authors to make it a sign of *Bright's disease*. However, as this phenomenon is specially observed among persons whose renal lesion is under the dependence of generalized arterio-sclerosis, and as this latter alteration is always connected with disorders of innervation, there is room to ask if the pruritus is not rather the effect of the general morbid state which engenders the renal affection than of this affection itself. This view is so much the more rational as the pruritus forms part of the latent period of *Bright's disease*, and appears at a time when uræmia does not yet exist. The attacks of itching, sometimes very severe, have their seat more especially in the genital organs; but they possess no essential character which permits us to attribute them to a renal insufficiency. Whatever may be its significance, this pruritus, supervening in the case of an individual who is pale and a little advanced in years, ought not the less to draw the attention towards the kidney and lead to an examination of the urine.

What I have just said about pruritus applies equally to the sensations of *pricking* and *stinging* of the limbs that are observed above all in arterial nephritis, and that are perhaps only sensations belonging to an imperfect sanguine irrigation. Do not the pains which are experienced sometimes, in the region of the joints, by patients attacked with albuminuria, and which are referred to uræmic intoxication, depend also, in some cases at least, upon the general disease of which the renal lesion itself is only an effect? There are, in our opinion, serious reasons to believe so, and one of the most important is that these pains do not generally yield to the employment of drastics, which so well combat the uræmic symptoms. At all events, the only articular pains which it is possible to place to the account of the uræmia are mobile, erratic, rather than fixed, transient pains, having their point of departure in the nervous system and not in a material disorder of the articulation. We may compare them with the very painful cramps of which some patients complain, and which have their seat preferably in the muscles of the legs.

As to the phenomenon known under the name of *dead finger*, and attributed by some authors to uræmia, it is a symptom common among neuropathic and atheromatous subjects. Now, these are precisely the subjects predisposed to arterial nephritis. So it is preferable to attribute this phenomenon to the general disease of which the uræmia is only a remote consequence, rather than to that intoxication itself. What demonstrates still better the correctness of this opinion

is that the whole matter is not always confined to a local syncope of the digital extremities. The thing may go on even to a veritable gangrene by arterial obliteration.

Cephalalgia is a common phenomenon in uræmic intoxication. It betrays itself sometimes by a simple headache, sometimes by pains which have a great resemblance to migraine.

The first of these forms is continuous with paroxysms supervening sometimes in the daytime, but oftener during the night. Moreover, this is a feature common to all uræmic troubles, that they frequently undergo nocturnal exacerbations. The pain has its seat sometimes in the frontal region, sometimes in the occipital region, and reveals itself by a sensation of torture, of weight and crushing, rather than by darting pains. It is rarely located in the temporal region; more frequently it occupies the whole head, and manifests itself by a sort of painful circle that compresses the entire cranium, embraces it as if in a helmet or a vise. So it has been compared to the sensation that a *close and heavy helmet* produces upon the head.

It is distinguished by its intensity, by its tenacity, and the cries that it often forces from the patients when it is abandoned to itself. This intensity, joined to the nocturnal pains, assimilates uræmic cephalalgia to the ostealgic pains of syphilis, and it ought to be known that confusion with the latter is a possible event. I was called, about twenty years ago, to a woman thirty years old attacked with anasarca with albuminuria (epithelial nephritis), and who, before all, complained of a cephalalgia of the most intense character and of a persistent insomnia. The physician who was attending her, one of the most renowned practitioners of the time, had not hesitated to diagnose a syphilitic cephalalgia, and had administered iodide of potassium in large doses, but without the least success. Called to succeed this confrère, and taking account of the albuminuria, of the character of the pain, which was continuous, with exacerbation at night, and formed a sort of circle or caused a feeling like a heavy helmet around the head, I diagnosed an uræmic cephalalgia and contented myself in prescribing a few purgative enemata. This sufficed, for after a few days the patient slept and ceased to complain. Later on this cephalalgia reappeared and was combated in the same way. Since then it has happened to me to observe a pretty large number of errors of the same kind.

The cephalalgia, which in its characteristics approaches migraine, is intermittent and supervenes by crises of a duration which varies from a few hours to several days. Sometimes unilateral, it is most frequently frontal. The patients complain of experiencing something like the sensation of a clutch, of compression, of tearing; they rarely suffer thumping and shooting pains. This phenomenon is exceptionally accompanied by nausea or vomiting, and the latter always has the character of uræmic vomiting.

Vertigo is a symptom which it is not rare to observe in the uræmic subject where there are multiple causes. Quite common in the course of arterial nephritis, it is most frequently dependent upon narrowing of

the cerebral arteries and the ischæmia which is the consequence of it. In some cases, however, it is met with in patients whose arterial system seems perfectly intact, and perhaps it is then really dependent upon the uræmic poisoning. Nevertheless it is certain that vertigo is very rare in uræmia associated with epithelial nephritis.

Amaurosis supervenes in the acute form in a certain number of uræmic crises. It appears suddenly near the commencement of the crisis, continues during its whole duration, and disappears with it. Vision is obscured or even nearly abolished; objects are indistinct, they are confused and are seen as if through a veil. This phenomenon, as much by the transient nature of its appearance as by its mobility, differs notably from the permanent visual disorders associated with the retinal lesions of Bright's disease. The ophthalmoscope also fails to find the reason for it in the state of the retina; it is the result of a simple functional trouble.

One of my patients attacked with epithelial nephritis presented on several occasions convulsive paroxysms of uræmia during which he ceased almost completely to see clearly. This amblyopia persisted then for more than eight days. The most attentive ophthalmoscopic examination practiced at each crisis failed to discover any lesion of the fundus of the eye, and besides vision returned each time entirely. I have observed this phenomenon in many other cases, always with the acute forms of uræmia.

Along with amaurosis, we have sometimes noted diplopia, hemiopia, and even hemeralopia. It is well to remember that at the moment of the attacks of uræmia the pupils are habitually contracted.

Deafness has likewise been attributed to the renal insufficiency, but the relation of this symptom with an excess of excrementitious matters in the blood is not clearly established. Would this intoxication engender an acute transient deafness like uræmic amaurosis, or would it really produce an alteration of the expansions of the auditory nerve with permanent deafness? This has not yet been determined in a positive manner. These two varieties of deafness may exist in uræmia very well; several facts attentively followed lead us to think at least that there exists a purely functional uræmic deafness.

Motor disorders in uræmic intoxication are less complex than those of sensibility. They manifest themselves under the form of contractures, of convulsions, and even of paralyzes.

Contracture is relatively rare. In the majority of cases in which it presents itself it is transient, mobile, and associated with a transitory paralysis or with eclamptic seizures.

When it is isolated it is almost always localized in the muscles of the posterior region of the neck, and causes stiffness with a slight drawing of the head backwards. I have several times observed this variety of contracture at the same time as a considerable contraction of the pupils in acute nephritis, and particularly in scarlatinous nephritis. A young child, eleven years of age, in whom a distinguished *confrère* had diagnosed a meningitis, was found

attacked, a month after the appearance of a scarlatina, from which he had imperfectly recovered, with vomiting of greenish matters, an intense cephalalgia, contraction of the pupils, then with stiffness of all the muscles of the neck, of some of the muscles of the back, and finally with somnolence and coma. These were really the signs of a meningitis, and, as there did not exist a trace of anasarca, you understand how easy it was to commit the error. Nevertheless, the rapid progress of the symptoms, the existence of an anterior scarlatina and the absence of the usual causes of meningitis aroused our suspicions and made us think of uræmia. The scanty and thick urine was of a greenish red color and contained a large quantity of albumen, so that there could be no doubt as to the nature of the symptoms. Let us add that at the moment of our examination the patient was taken with a spitting of blood, and that in spite of the treatment prescribed, scammony, purgative enemata, raw milk, he died in twenty-four hours.



SELECTIONS.

THE DIETARY OF PHTHISIS. By J. Milner Fothergill, M.D.

Probably there is no disease to which mankind is liable—not even excepting gout and diabetes—in which the dietary is more truly important than phthisis. The term means “wasting” or “consumption,” and, though too much regarded at the present time as a “disease of the lungs,” pulmonary complications are not essential to phthisis. It matters not whether it is prevention or cure, the dietary in phthisis is quite as important as medicine themselves. Ten years’ experience as physician to a Chest Hospital has taught me very vividly what was suspected from previous experience, viz. : that the most hopeless case of phthisis is that where there is a steady emaciation going on which nothing can arrest. At last, and only at least when the end is close at hand, mischief declares itself in the lung-apices. Far less serious, though quite grave enough, is the opposite case where a large portion of the upper part of one lung is consolidated and threatening to break down; but where the digestion and assimilation are good and the nutrition of the body is well maintained, the latter case not unfrequently does well. We know that muscular fibre is a loose combination of albumen and fat; and as fat is a component factor in muscular histogenesis, so fatty degeneration is a histolytic change which is normal in the uterus after parturition, and the means by which involution is brought about, as well as the end of an hypertrophied heart when the nutrient arteries of the heart are occluded. Fat is necessary to the building up of healthy tissue; and in phthisis, whether threatened, existent in the early stage, or softening of the morbid area is on foot, or even when a cavity has formed, the dietary should be as rich in fat as the assimilative powers of the patient will permit, and to the utmost limit of tolerance on the part of the stomach. In the nursery, children in whose

veins lurks the taint of phthisis should be carefully brought up on milk and hominy or oatmeal porridge. And why are oats and maize chosen for the nursery? Because they "make bone," which is the special property of oatmeal the old Scotch folk thought. We now know only these two members of the *cerelia* are selected—albeit by a blind instinct—because they are the richest in fat. Wheat and barley, rice and rye, are well enough, but they lack fat. The milk contains, *i. e.* when it has not been carefully skimmed, a certain amount of fat; but then it is not an uncommon practice for the dishonest milk-vender to take a certain amount of cream from his milk before retailing it; or even to add equal parts of skimmed milk to fresh milk. The caseine is there; the milk-sugar is there; the salts are there—but the fat is wanting to a great degree. Jam and treacle, and honey and sugar are all well enough in the nursery in addition to plain bread and butter, porridge, and puddings made of milk and some farinaceous matter. But the fat must not be forgotten, that is, not *une quantité négligiable* by any manner of means.

What is now being said about the dietary of the nursery applies to later child life and adolescence. The bread and butter of the nursery too frequently is cut in thick slices and the butter spread over one aspect more or less liberally. Why should this be so? Why should "company" bread and butter alone be cut thin? Laziness is at the bottom of it. Laziness that does not take the trouble to realize that it is practically murderous. That its victims will be slowly tortured to death by a lingering disease; that all the torture, the discomfort, the disappointed hopes, the regrets of the survivors may be averted by a little consideration is a dream undreamt. No. That laziness is too ignorant, too contentedly ignorant in its own self-satisfaction to doubt the propriety of what is being done. The careless nursery maid has never read that pregnant sentence of Nathaniel Hawthorne: "The little regarded truth that the act of the passing generation is the germ which may and must produce a good or evil fruit in a far distant time." Or if she has, it has not struck her that it applies in any way to her when cutting bread and butter! Yet company bread and butter doubled is far better tolerated by the touchy little stomach than a hunk of bread which carries a solid layer of butter upon it. And very often the little mite may be thankful that the butter is there at all. A good many poor little atomies of strumous infants do not get the butter in liberal supplies. Of course the law draws a distinction betwixt wilful murder and death by misadventure. Before the day when advancing knowledge could tell us of the cardinal importance of fat in the building of the tissues of delicate children the blame which attached to the laziness was venial compared with what attaching to it now is when knowledge is enlightening us. A wise and proper dietary in the nursery would have saved many a consumptive now slowly perishing, fighting a losing fight, in the Yellowstone region, the high Swiss valleys, along the coast of Florida, or in the Riviera or Egypt. The farmer always believes in the young cattle that have been liberally fed, or

in bucolic phrase, "well done to," in early calf life. As a physician who has had special opportunities of seeing phthisis, I prefer as patients those who have been judiciously reared in the nursery, when any risky phthisis is looming up. To supply fat to the growing organisms sometimes a little cunning is necessary. The child does not like even the sight of a piece of animal fat; it revolts at the mere appearance, much less ever tries to eat it. The sweet slice of fat so toothsome and acceptable to those of stronger digestion and more capable assimilation, is repugnant to these more delicate organisms. Let that be the second fact to be borne in mind in the reformed dietary of the nursery. Fat must not be offered in visible tangible form, except as butter. It must be hidden. The potatoes must be mashed with liberal quantities of milk and butter warmed, if cream be beyond the purse. Then finely minced fat must be liberally supplied to the suet pudding (which is all the better for having some treacle in it—just enough to give it a light cinnamon-brown hue). Bread and butter pudding is an admirable nursery food. When the milk pudding is being served it is well to stir in a good lump of butter; though it must be admitted that this is detrimental to its appearance. But surely, where is the mother who would weigh her child's existence and the appearance of a nursery pudding in the same scale? Perish the unnatural thought! Where economy is the order of the day, rice stewed with cracked bones is at once palatable and highly nutritious. Where the assimilative powers are very feeble, then the milk pudding should be made with farina that has already made the acquaintance of heat. It is well to make it of broken biscuit. If made of equal parts of broken biscuit and ground malt, the resultant product is an ideal food, and those readers who are not prepared to take this upon trust and require something more than my unsupported word for the fact, had best forthwith try it and let "the proof of the pudding be the eating." One proviso, however, it will in prudence be well to put in, viz.: there are some palates to which malt is distasteful; and, of course, to these the pudding is a failure. And then let another fact be borne in mind by the food reformer presiding over the nursery and it is this: Malt sugar is not so distinctly and powerfully sweet as is cane sugar or beet sugar (but its flavor is finer); but, on the other hand, it does not nearly so easily undergo the acetous acid fermentation. Two great matters are involved in this: (1) acidity of the stomach; and (2) dental caries. Cane sugar decomposing into acid, is most favorable to the development of dental caries. The delicate children who are likely sooner or later to die of phthisis in some of its forms, are prone to bad teeth. The imperfect dentine soon is eaten away. And bad teeth interfere with mastication, and so are a fertile source of indigestion; while phthisis is a malady of imperfect nutrition.

Where only small meals are or can be taken at once little interludes are desirable. They should not consist of ordinary sweets made of common cane sugar, but rather of a draught of milk sweetened by malt-extract, a dry malt preparation, or the homely treacle. What

unconscious genius introduced treacle into the nursery dietary? Male or female, no trace remains; and yet that individual has been the savior of many a little mite. Treacle has rather sank in public estimation of late years. It is cheap and therefore of doubtful reputation. It is certainly rather a troublesome thing to handle; and, as our delightful friend, Oliver Wendell Holmes, says, it is not very easy to pour the last of the contents out of a jug—when the contents are treacle. But granting all this, treacle has its good qualities. As said before, it is a capital addition to a suet pudding. Treacle and butter in the centre of a plate of porridge have their attractions. Yes, and their memories too, gentle reader! Then in combination with butter it makes toffee. A marvelous concentrated food is toffee, and an extra ration of toffee in cold weather is an excellent practice. As simple body-fuel to keep up the lamp of life toffee is an excellent food. Rations of toffee are far more acceptable than spoonfuls of cod liver oil. Some time ago, when on the committee of the Westmoreland Society's school, I put this view forward, and the experiment of toffee in cold weather was tried and found to work capitally, the health of the children being most satisfactory; while, it is almost needless to say, the children approve of it. When toffee is suggested for a fastidious child which loathes fat and dislikes cod liver oil, a derisive smile breaks over the countenance of the mother. It is ignorance sneering at knowledge! Knowledge can afford it, but prejudice and ignorance to the contrary, notwithstanding, toffee is an admirable combination and has done yeoman service to many a delicate child, as my hospital experience can testify. When fish is eaten it should be with real melted butter and not the mixture of butter and paste usually substituted by the cook for the genuine article, while oysters should be eaten as "Little Pigs in Blankets," where the oyster is enclosed in a thin slice of fat bacon. Then as to fat itself. Next to cod liver oil in digestibility comes the liquid fat of bacon. This can be readily taken by any child if bread crumbs are mixed with it. Or the child will often take it as it is in the liquid state. The way in which potatoes are served in Devonshire at breakfast is an excellent measure for supplying fat to the organism in a very palatable form. The potatoes having been boiled are placed in the frying-pan along with a liberal supply of bacon fat. They are then chopped small while heating, and kept in the pan till the outside is browned. Such a fatty dish is admirable, and when accompanied by a draught of milk forms a typical breakfast for a growing child of strumous tendencies. If it be thought desirable to add more tissue-forming material, it is easy to boil an egg lightly and empty it over the potatoes on the plate when served at table. Mashed potatoes are good with an egg over them. Pork and hominy as prepared in the United States, and extensively eaten, also constitute a desirable form of food.

If such foods constitute excellent breakfast dishes, some modifications are desirable for dinner. The rule of the nursery ought to be rigidly followed, viz., pudding first and meat after. The saliva then

has time to act upon the starch, and thus a large quantity of the farinaceous material having been rendered soluble passes out of the stomach, and so leaves it comparatively unembarrassed to act upon the albuminous elements supplied by the meat. This is physiological feeding. Our present eating customs distinctly traverses Nature's processes. The stomach is filled with meat, and then when its acidity is pronounced, the farinaceous matter is introduced. The acidity of the stomach instantly arrests the conversion of starch by the saliva, and a load of unconverted starch is left to embarrass gastric digestion. By giving the farinaceous matter first the saliva has time to act upon the starch in the mouth (children should be taught to eat slowly and not to bolt their food), in the gullet and the stomach, before it becomes very distinctly acid. Then should follow some meat, as a slice from the joint. How desirable it would be if that slice might have, as a part of it, a piece of nice, sweet fat with it. But, unfortunately, this is too often impossible. Some good mashed potatoes, or carrots boiled and broken up with butter, or cauliflower, using just the white, should be added. As the child grows older its taste for vegetables will develop; and many vegetables can be made good and toothsome with butter if sufficient care be given to their preparation. Then should follow some stewed fruit and cream. And of this there could be a variety. Gooseberry food is good. Whipped cream is excellent. Cream moulds are suitable food. When adolescence is reached, then the biscuit or cracker with butter and a nip of cheese is relished. Cheese dishes are not as a rule much relished by the youthful palate; but adolescence brings with it other tastes. Hot sardines, or herrings' roe or millet on buttered toast, as a tasty relish some might prefer to biscuit and cheese.

The greatest evidence of the value of fat in the food of the phthisical is furnished by the universal confidence placed in cod liver oil as a curative agent in the treatment of consumption. Probably no dietetic remedy has made its way so fast into favor, and retained its hold upon the public mind, as well as upon that of the medical profession. Its introduction into regular and general use is due to the late Prof. J. Hughes Bennett, of Edinburgh; who, if not given to faith in drugs as a rule, certainly added a very important member to the therapeutic group. Yet cod liver oil is not the best form of fat. Far from it! In what then lies its superiority? In the fact that it is the most easily assimilable of all the fats, and can be taken very frequently when no other fat can. When the sweet slice of fat is loathed the nauseous fishy oil will be taken by a fastidious and dainty child; and not only that, but relished. And cod liver oil has undoubtedly snatched many a phthisical sufferer from a yawning grave. Granting all that, cod liver oil is merely the most digestible, and, perhaps, at the same time the most nauseous form of fat—at least, of those ordinarily used as food, probably the whale blubber of the Esquimau is more offensive. Then comes "fat emulsions." The digestion of fat is merely its high subdivision into particulars so minute that they can enter the mouths of the

lacteals in the intestinal villi. Cod liver oil passes through the intestines, and is voided unchanged in many instances, and consequently does the taker no good. Nature supplies an oil emulsion in milk, and this largely explains the excellent effects of milk in cases of constitutional delicacy. Cream can also be largely used where it is desirable to introduce fat into the system. It goes capitally with stewed fruit. Where fat in the stomach offends it, as is the case with many dyspeptics—and a phthical dyspeptic is truly and indeed “a handful” for physician, nurse and cook—then it must be given when the digestive act is well nigh complete, *i. e.*, from an hour and a half to two hours after a suitable meal. Cream can readily be taken with a little liquor, as Maraschino or Chartreuse; the liquor causing it to sit comfortably on the stomach. Another excellent plan which might be widely adopted with advantage, is to place a couple of tablespoonfuls of fresh cream in a tumbler and fill up with aerated water. This is a drink fit for one of the Muses or the Graces, if threatened with phthisis. Such fat emulsions are far more palatable than any of the prepared emulsions of cod liver oil, no matter how made. But then the cod liver oil emulsion has its advantages of ready assimilation. When the natural emulsion can not be digested, then the cod liver oil emulsion comes to the rescue. The emulsion of cod liver oil with malt-extract has been found of immense advantage in numerous cases.

As to the different dietetic cures of phthisis, the most remarkable is “the koumiss cure.” This is fermented mares’ milk. But then it is only really of use on the arid steepes of Asia. Dr. Carrick, of St. Petersburg, had some Kirghis mares over in England a couple of years ago to illustrate the plan. But he told me it was utterly and absolutely useless in this country. The humid air of England did not produce that thirst essential to the drinking of a sufficiency of koumiss. On the steppes fifteen or sixteen large quart bottles could be comfortably taken in a day by a delicate person. Unless, then, the patient try the koumiss cure under proper circumstances, it is probably the wisest plan to let it alone.

Finally, my experience leads me to express the following opinion, deliberately with a full consciousness of the gravity of the subject—if persons born with a phthical tendency were properly fed, with a full knowledge of what was good and desirable for them from the first day of their existence onwards and upwards; as soon as they were of years and intelligence to comprehend, to have explained to them how they carry their life in their own hands; how too, very often, their food inclinations are not in harmony with their tissue wants, and must be struggled with; if this were done we should be spared a very considerable proportion of our cases of pulmonary phthisis—one of the saddest of maladies to which frail humanity is subject.—*Journal of Reconstructives.*

ABSTRACTS.

THE MORTALITY OF PRIMARY LAPAROTOMY IN CASES OF EXTRA-UTERINE PREGNANCY; ITS CAUSE, AND THE DIFFICULTIES WHICH LIE IN THE WAY OF REDUCING IT (Dr. Robert P. Harris in the *Medical News*).—Under the present accepted classification, a laparotomy to be entitled to the term *primary*, in a case of ectopic gestation, must be performed not only while the foetus is living, but after it shall have reached a viable period of gestation; in other words, when it can be undertaken in the interest of two lives. When the foetus is dead, it may be a few hours or a few days, the gravity of the operation will be unchanged, but the classification will be; as the laparotomy is then performed in the interest only of the mother, it is to be classified as a *secondary* operation. The period of limit attached to the primary operation, and the functional activity of the placenta, must always render it one of great gravity. But the time for the secondary operation is not limited, except as to when it may commence. It may be performed (but very unwisely) a few hours or days after foetal death; or it may be postponed for months, or years, until it becomes a matter of necessity for the saving of life. Operations after three months will save a large proportion of mothers; but during the first month are, on the contrary, very largely fatal, the exceptional cases being late in the month and very slow in recovery. What is now regarded as the primary operation was first performed, so far as can be ascertained, in Berlin, in 1813, and has in seventy-four years been executed twenty-five times, with twenty-three deaths, and a loss of thirteen children. We are especially interested in this operation just now, because Dr. Joseph Price, of Philadelphia, recently performed it in Camden, New Jersey, the child living four hours and the mother fourteen days; the death of the latter resulted from hemorrhage. This operation has been performed only twice in the United States, in all her history, and both of the cases proved fatal. One other operation, it is true, was performed, in 1870, by Dr. E. Paul Sale, of Aberdeen, Mississippi, but in this case the operation was followed by the Cæsarean section, thus complicating the removal of the extrauterine foetus by an intrauterine one. The woman died of septicæmia, and the children, one at six months, and the other at twelve months, of measles and broncho-pneumonia respectively.

The primary and secondary operations are performed in exactly the same way, from the taking up of the knife to the suturing of the abdomen, and the difference of gravity in the two cases is due to the danger to be apprehended when placental separation begins, being infinitely greater in the former, because of the open condition of the placental sinuses. Thus far the mortality by the primary operation has been at least ninety-two per cent., and will foot up higher than this, when the cases of 1883, 1884, and 1885 come to be reported. The secondary operation, when performed not earlier than three months after foetal death, has of late years been one of comparative safety, as

there is only a moderate risk of secondary hemorrhage, and septic infection can be largely controlled by abdominal irrigation. Much will depend upon the location of the placenta in determining the final result. This will account for some patients recovering when operated upon only a month after the death of the fœtus, while others have died of hemorrhage after four months delay. The immunity under the secondary operation is due to the changes that take place in the placental circulation after its functional activity ceases.

If the primary operation is ever to be one of diminished risk, it must be made so by one of two methods: 1, the ligation of the vessels that supply the placenta and its removal with the cyst, as was done in Case 20 (1881), by Dr. August Martin, of Berlin; or 2, by an antiseptic treatment of the placenta, to prevent its decomposition and separation. If the placenta is implanted over the iliac fossa, a solid immovable base, this experiment might be tried: tie the cord and cut it off close to the placenta, wash out the cyst cavity with corrosive sublimate water, turn in the cyst opening so as to bring the serous surfaces in contact, and stitch them in apposition by the uninterrupted suture of Apolito or Gély, and finally close the abdominal wound without drainage. In Case 11, under Dr. Gervis, of London, the placenta was thus located, and the operation, performed in the usual manner, resulted in death from hemorrhage in fifty-six hours. The antiseptic plan cannot do worse than this, if it should entirely fail to maintain placental vitality and adhesion. This plan can only be tried, crucially, in a case where there has been no preceding peritonitis, rupture of cyst, sepsis, or hemorrhage.

TREATMENT OF FIBROID TUMORS OF THE UTERUS BY ELECTROLYSIS.—Dr. Franklin H. Martin thus concludes a paper on this subject in the *Journal of the American Medical Association*: Herein I have endeavored to give you an idea of the present status of the treatment of fibroid tumors of the uterus by means of the strong current of electricity. The use of the strong current was adopted by Dr. Apostoli, of Paris, he being the first to devise electrodes and rational means by which it could be made tolerant. To the extent of discussing the strong current and utilizing the coagulating effect of the positive pole for the checking of uterine hemorrhages, I have described Dr. Apostoli's methods. Otherwise I have not confined myself to any one system but have endeavored to give the best means, according to my knowledge and judgment, that have been developed, up to the present time, for the relief of this distressing malady. The scope of the subject is too broad to admit its being satisfactorily dealt with in one short paper, and, I therefore beg to submit, at the risk of wearying your patience, the following conclusions, which may cover a few points of importance that time would not allow me to discuss in the body of the paper.

1. A means of generating a continuous current of electricity which can be increased per 10 to 1,000 milliampères in strength is necessary in order to obtain all the benefits of this treatment.

2. Hemorrhages from hemorrhagic fibroid tumors can be cured by the local coagulating effect of the positive pole applied inter-uterine.

3. The inter-uterine electrode, when positive, should be of unattackable metal, conforming as nearly as possible to the size and shape of the uterine canal, and having the vaginal portion insulated.

4. When the cervical canal cannot be entered, a negative galvano-puncture should be made into the presenting part of the obstructing mass of the tumor and an artificial canal, which is to take the place of impenetrable uterine canal, in all subsequent treatments be formed.

5. The intra-uterine electrode should in all cases be negative, unless there is hemorrhage or excessive leucorrhœa, when the positive pole is always required. The same patient may, however, present successive symptoms demanding the use of each pole.

6. The strength of the current should be the strongest possible, consistent with the desired therapeutic effect and the endurance of the patient.

7. Cases of intolerance of high doses arrange themselves under the three following heads: 1. Hysteria. 2. Enteritis. 3. Acute nephritis, peri- or parametritis; the most tolerant being the deep uterine and profusely hemorrhagic.

8. The duration of the operation should be from eight to ten minutes, according to the toleration of the patient.

9. The number of operations is necessarily dependent upon and influenced by the result to be accomplished. A severe hemorrhage can be checked in from four to five séances, while a general reduction of the tumor necessitates many operations, varied, of course, according to size and location. In many cases simply a restoration to health and a relief from the prominent and annoying symptoms must be accepted as a substitute for an actual cure.

10. The time of commencing the treatment matters but little, if the tumor is not rapidly growing, and no excessive hemorrhage is present. The operation should be inter-menstrual if possible, but if hemorrhage is continuous, operate during the flow. The séances should occur two or three times a week if compatible with the endurance of the patient, and should be as regular as possible.

11. Extra-uterine puncture should be regarded only as a last resort, but every means of reaching the tumor through the uterus being impracticable, seek if possible to make the operation extra-peritoneal; should this in turn prove equally unadvisable, use, as a final alternative, the abdominal puncture.

12. Strictest cleanliness and thorough antiseptic precautions are absolutely demanded in operations connected with this treatment.

ACUTE CATARRHAL PNEUMONIA FOLLOWING PERTUSSIS, TREATED BY OXYGEN; RECOVERY.—Dr. W. B. Sawyer, of Riverside, Cal., publishes in the *Medical Bulletin* an interesting account of two cases of this kind occurring in his own children, aged respectively five and three and one-half years. He says: The diagnosis in these cases

was acute catarrhal pneumonia. The prognosis in both cases was grave, and with the younger child extremely so. With a mortality of from ninety to one hundred per cent., according to the fullest published statistics, and with the complication of long-continued and severe pertussis, recovery seemed quite improbable, and a fatal termination was naturally to be expected to occur sooner or later. The treatment was, as in the first case, the oiled, padded jacket, Dover's powder (only continued, however, for two or three days), an unvarying temperature, stimulating and highly nourishing food (wine whey, champagne, beef-tea, and milk), given toward the last by enemata as well as per orem, carbonate of ammonia, once or twice when the character of the pulse seemed to indicate it, quinine by inunction, and, finally, by capsules, six grains per diem after the twentieth day—and oxygen. Oxygen was used in these cases at first tentatively. Believing, from the nature of things and the recognized laws of pathological physiology, that fatal results and more severe symptoms were brought about by the poisoning of blood from carbonic acid gas; that death usually resulted from slow asphyxia, or was brought about through extreme prostration of the whole nervous and muscular systems with inability to free themselves from the accumulating poisons, resulting from rapid tissue metamorphosis, in short, from lack of oxygenating power, it was deemed rational as well as imperative to supply this agent in quantity as greatly in excess of the usual amount as the capacity of the lung to extract it from the usual medium, air, was decreased. The facts in both cases, to all observers of them, seemed emphatically to corroborate the theory. The ordinary and reasonable secondary symptoms did not occur. The blood was kept up to, perhaps beyond, its usual degree of oxidization. There were none of the usual concomitant symptoms of brain involvement in either case, though with the younger child there was an average temperature of 102° F., an average pulse-rate of 136, and a respiration-rate of 37 per minute, during seventeen days. All the physiological functions, other than those directly involved in the active lesion, were carried out without change, except as they would be necessarily enfeebled, in any case of the same duration, from exhaustion and its concomitants.

In these cases the use of oxygen was remarkably effective for good. Every one at the bedside marked the effect of the gas upon the patient. The gray, ashen look of partial asphyxia was changed to that of apparent health after a few whiffs of the gas; and when, from diminution of working lung tissue and excess of cough, further evidence of impoverished blood showed themselves in blue nails, rapid pulse (far more rapid even than any published in the record), and extreme nervousness, pushing the agent by a continuous exhibition of the gas never failed to relieve, and usually induced a quieting and restful sleep for a longer or shorter period. The method of using the gas was primitive, there being at hand no proper apparatus for administration in such cases, and the amount obtainable being only twenty gallons at a time. It was carried from the gasometer in rubber bags, holding ten gallons each,

given by opening the tube connected therewith under the nostrils of the patient, at longer or shorter intervals. Much of the gas was unavoidably wasted in this way, though what was not inhaled directly no doubt served to enrich the surrounding atmosphere, and thus helped indirectly. The amount varied, the largest quantity being about two hundred and forty gallons daily during the most critical hours of the disease, and as little as twenty gallons daily in the earlier and later stages of the disease.

These cases are given to the profession for what they are worth, in the line of experiment with a new, or at least, not well understood, remedy. Judged by the results in these cases, oxygen seems to occupy a place among curatives which has not yet been generally acknowledged. The possibilities and the final results of efforts in this line must be left to clear-headed and thoughtful practitioners. Should further trial, investigation, and clinical tests prove, what seems probable, that a comparatively unrecognized but really scientific agent has been made available in modern practice, and that a vital modification in the current treatment of a hitherto very fatal class of ailments has been made feasible, Dr. Wallian, of New York, deserves the thanks of his professional brethren and the gratitude of thousands who, without this aid, would be doomed to perish, but who may now be saved.

THE TREATMENT OF SCARLET FEVER. (Prof. F. E. Waxham in the *Philadelphia Medical Times*.)—In regard to the medicinal treatment let me say this: it is impossible to abort an attack of scarlet fever. If the child has been exposed and is susceptible to the disease and manifests unmistakably the initial symptoms, it must pass through the attack. It is impossible by heroic measures or otherwise to break it up, so that if the attack be mild we will be satisfied simply with rigid preventive and hygienic treatment, together with careful watching of the patient, without the administration of much medicine. Give the child plenty of water to drink; I have never known any harm to result from an abundance of water. Any child suffering with a contagious disease should have plenty of cold water. If the skin is hot it should be thoroughly anointed with lard or vaseline, cold cream or cosmoline, as previously mentioned. The application of these will serve a double purpose; they will prevent the diffusion of the contagion through the room, allay the burning and irritability of the skin, and are at the same time soothing to the inflamed epidermis. The frequent application of soothing lotions, the occasional cool sponge-bath, may be all that is required in mild cases. If, however, the attack is somewhat more severe, if the pulse is rapid, the temperature elevated to 103° or 104° , then perhaps we should resort to some medication, such as a combination of quinine. I believe that quinine is one of our most useful remedies in the treatment of diseases of early life. We might give the following:

℞ Quininæ sulph., ℥j ;
 Ext. glycyrrhizæ fld. (Burrough Bros.), fʒss ;
 Ol. anisi, gtt. vj ;
 Syr. sim., ad fʒij. M.

Sig.—Teaspoonful of this may be given every three hours. It is an antipyretic.

In addition, for a child two years old, we may give :

℞ Tr. digitalis, gtt. xxxij ;
 Liq. ammon. acetatis, fʒss ;
 Syr. simp., fʒss ;
 Aquæ, q. s. ad fʒij. M.

Sig.—Teaspoonful to be given every three hours, alternating with the quinine.

If the case is not dangerous and severe, this will be sufficient. Let us suppose there is a throat-complication—the inflammation of the throat severe and false membrane forming in the pharynx. Instead of the digitalis mixture we might use the following combination :

℞ Tr. ferri chl., gtt. xxxij ;
 Glycerinæ, fʒss ;
 Potassii chloratis, gr. xx ;
 Syr. simp., q. s. ad fʒij. M.

Sig.—Teaspoonful to be given alternating with the quinine mixture.

I believe no good can result in these cases from a continual swabbing of the throat with a rough sponge and the use of astringents. The physician can occasionally with benefit paint the pharynx with some astringent lotion ; but a coarse swab in the hands of an attendant will only increase the irritation of the pharyngeal mucous membrane and aggravate the symptoms. In place of the swab, we will accomplish far better results with the hand-atomizer, which is less annoying to the child. We may make this combination :

℞ Acidi carbolic, gr. ij ;
 Potass. chloratis, gr. xx ;
 Glycerinæ, fʒss ;
 Aquæ, ad fʒij. M.

This may be used in the atomizer every hour or so. The throat and pharynx should be thoroughly sprayed by such a solution, and it will not only be soothing to the pharyngeal mucous membrane, but antiseptic as well. We might gain a point by the use of lime-water in the solution, instead of plain water, inasmuch as it is a solvent to false membranes. If there is invasion of the nasal passages and a mucopurulent discharge from the nostrils, we should resort to the use of the spray. Let us attack the mucous membrane of the nostrils the very moment it becomes invaded, or the very moment symptoms of coryza manifest themselves. Immediately make use of the atomizer or nasal douche—a solution of the bichloride of mercury or carbolic acid, to act

upon the naso-pharyngeal mucous membrane—and in this manner we will in many cases prevent the inflammation extending into the middle ear by way of the Eustachian tube. We will prevent in many of these cases the suppurative inflammation that so frequently results in perforation of the membrane of the drum of the ear, with obstinate and offensive discharges.

If the disease be accompanied with high temperature, we must endeavor to reduce it by the frequent use of the cool sponge-bath, the cold bath, or the cold pack, or by the use of antipyrin or thallin. I believe these measures are far better than large doses of quinine, for the large doses necessary to reduce the temperature in a child will usually disturb the stomach and interfere with digestion; they will be frequently rejected, and consequently no benefit will be derived from them. We will resort, then, to frequent sponging of the patient's body with water in which some alcohol is placed. If this does not reduce the temperature we may give ten or twelve grains of antipyrin per rectum, the injection to be repeated in an hour or so; in fact, we give two or three injections until the temperature is reduced. If the antipyrin fails, you can make use of thallin; but antipyrin is preferable to thallin, for the reason that it is not so depressing in its action. If these measures fail we will resort to the cold bath. In giving the cold bath let us give it in such a manner as to produce no shock to the system. Let it be tepid, and reduce the temperature of the bath by adding pieces of ice; this will gradually lower its temperature without producing shock to the patient. Or in place of the cold bath we may use the cold pack. If we use the cold pack, the sheet which is wrapped around the child should be first wrung out of tepid water; after it is wrapped around the child it should be saturated by sprinkling cold water upon it, and then a blanket should be placed over the sheet so as to keep the child comfortable, and in this manner you may reduce the temperature gradually, and the patient may be able to remain in the pack ten, fifteen, twenty, or thirty minutes. After this time everything should be removed, the child thoroughly dried and placed in bed. In a great majority of cases the temperature will fall two or three degrees. Some authorities recommend that the patient be stripped and placed in a wash-tub, and then several pails of cold water thrown upon it at some little height; but I would not advise this process. If you were to take a little, frail, delicate child dangerously ill with scarlet fever, place him in a tub and dash cold water upon him, I should fear the result; the shock to the system would be too great.

In those cases attended with grave cerebral symptoms such as convulsions, followed by stupor and coma, we should make use of the bromides, or if the bromides fail to control the convulsions we might add chloral. In addition to this the head should always be kept cold, and for this purpose we may use the bladder or the rubber ice-bag, filling it half full with pounded ice and bran, which should be kept about the head. The rubber coil filled with ice-water, placed over the head, is also beneficial in these cases.

Nephritis I have already referred to as one of the most frequent and one of the most dangerous complications of the disease. I alluded to the necessity of keeping children in the house for three or four weeks in order to prevent the occurrence of this complication, and to the fact that this complication occurs during the period of desquamation, and it is generally the result of exposure to cold and dampness. Hence you can see how important it is that we should give strict and imperative directions with regard to keeping patients within until desquamation is entirely completed, and the skin has returned to its suppleness and normal condition. If dropsy has occurred and the child is very much weakened, then tonics are in order; iron—any of the ferruginous tonics—may be used. These are indicated, together with cod-liver oil. If the dropsy is considerable, and there is urgency in regard to the case, you may use cathartics and diaphoretics. Endeavor to eliminate the urea by the skin and from the bowels. In these cases the urine is usually lessened in quantity and loaded with albumen. Let us avoid stimulating the kidneys, for they are already congested, and if we stimulate them to increased activity by powerful diuretics we will naturally do harm. Let us therefore act upon the skin and bowels rather than upon the kidneys. If the case, as I have stated before, is urgent, we may make use of a mild diuretic, such as digitalis containing a little syrup of squill and spirit of Mindererus. We may use the following:

℞ Tr. digitalis,	-	-	-	-	-	gtt. xxxij;
Liq. ammon. acetatis,	-	-	-	-	-	fʒss;
Syr. scillæ,	-	-	-	-	-	fʒij;
Aquæ, q. s. ad	-	-	-	-	-	fʒij. M.

Sig. A teaspoonful three or four times a day to a child two years old. Digitalis is an excellent cardiac stimulant; it is a tonic as well as a mild diuretic. If the urine is scanty we must use more powerful remedies, such as the hydragogue cathartics. The mineral waters or a solution of the citrate of magnesia will be useful in such cases.

Let us act upon the skin by diaphoretics; and we may use in this connection the sweet spirit of nitre or spirit of Mindererus. Here is a point to which I desire to direct your attention: the sweet spirit of nitre is a powerful diaphoretic; it is a cardiac and cerebral stimulant; it stimulates the secretions of the stomach, salivary glands, and pancreas when administered internally. If you administer it and at the same time keep the surface of the body warm, it will act as a diaphoretic; but if the surface be kept cool, then it will act as a diuretic instead. If the urine is nearly suppressed and there are premonitory symptoms of uræmic convulsions, you may use pilocarpine (the active principle of jaborandi). It may be given hypodermically or by the mouth. It is a powerful diaphoretic; it increases salivation, and is eliminated by the skin. It is a useful remedy to employ in urgent cases. We may also prompt the bowels by the use of podophyllin, and add to it the mild chloride of mercury. You may use croton oil, one-half or even one

drop for a child three or four years of age. It will have a marvellous hydragogue effect in cases of uræmic convulsions.

To recapitulate : Let us not endeavor to break up an attack of scarlet fever ; but rather be content with enforcing rigid preventive, hygienic treatment, using mild measures in mild cases ; simply controlling the febrile action and temperature ; supporting the patient ; preventing complications, and curing them when they occur.

ARTIFICIAL SULPHUR WATER AS A SUBSTITUTE FOR BERGEON'S TREATMENT OF PHTHISIS (Dr. H. C. Wood, in the *Medical and Surgical Reporter*.)—It will be remembered that when Bergeon inaugurated the system of rectal injections, which has created so much excitement in the treatment of phthisis, the main agent which he employed was natural sulphur water. The carbonic acid bubbling through this carried over with it an uncertain amount of sulphuretted hydrogen, which was undoubtedly the active agent. Both in France and in this country artificial solutions have been substituted with advantage for the natural sulphur waters used by Bergeon, such artificial solutions yielding the sulphuretted hydrogen more freely than did the natural waters. I think it may be considered as established, that in many cases of consumption Bergeon's treatment has yielded very extraordinary results. That these results are not achieved by any specific action upon the tubercle bacillus is shown by the fact that the bacillus does not disappear from the sputa, and especially by the fact that bronchorrhœa and other pulmonic catarrhs not dependent upon the presence of the tubercle bacillus, are affected even more pronouncedly for good by the sulphuretted hydrogen than are the cases of true phthisis. It would seem, indeed, that the experience with the Bergeon's method is precisely in accord with that obtained at the various sulphur springs, namely, that sulphuretted hydrogen is a valuable remedy in the treatment of pulmonic catarrhs. The disadvantage of the Bergeon's method is the cost of the apparatus, the time and assistance required for the administration of the injection, and the colicky pains which are not rarely produced. The advantages of the method over the administration of the gas by the mouth are not clear. It is simply absurd to suppose that it can make any difference in the action of sulphuretted hydrogen upon the general system or the pulmonic mucous membrane, whether it is absorbed through the colon or through the small intestine. In either case the gas, as soon as absorbed, enters the portal circulation and passes by exactly the same route to the lungs. A further objection which might well be urged against the rectal administration is the impossibility of judging of the amount of sulphuretted hydrogen which is introduced into the bowels.

Led by these considerations, I, some weeks ago, commenced the administration of sulphuretted hydrogen water by the mouth in pulmonic catarrhs, phthisis, etc., and have found that it yields precisely the same results as does the Bergeon's method of treatment. In a few instances the water disagrees with the stomach, but this is unusual ; in such cases

the rectal injections may be employed. Water saturated at ordinary temperatures by sulphuretted hydrogen should contain between two and three times its bulk of gas. If allowed to stand, chemical decomposition occurs, with the deposition of sulphur and a marked reduction in the strength of the solution. The solution should therefore always be freshly prepared, not more than two, or at the most three days old. Its odor is of course excessively unpleasant, but its taste is not correspondingly disagreeable, and given in carbonic acid water, few of my patients have objected to it. At my suggestion, Dr. John Marshall, of the Chemical Laboratory of the University of Pennsylvania, has prepared an apparatus which is so simple that any one, by means of it, can manufacture at an entirely nominal cost, a water which is saturated both with carbonic acid and sulphuretted hydrogen, and which affords an excellent method of administration. Of this water one to two ounces may be given three or four times a day. The cost of the apparatus, boxed for shipment, is only \$5.00, so that it is within the means of almost any patient. This artificial sulphur water will probably be found efficient in all affections in which the natural sulphur waters do good. I have tried it with good results in one case of chronic gout.

LAPAROTOMY AND INTESTINAL SUTURE. (Dr. J. A. Wyeth in the *N. Y. Medical Journal*).—The treatment of strangulated hernia with gangrene of the intestine may be considered under three methods:

1. Establishing a permanent fæcal fistula at the seat of gangrene.
2. Immediate exsection of the gangrenous portion of the gut, reunion of the ends by suture, and return of the loop.
3. Temporary fistula, followed, after an interval of some days, by laparotomy, excision, and suture.

To the first method may be consigned subjects so feeble that no operative procedure is justifiable. As to whether exsection should be made at once or postponed after a free discharge through the fistula has been established must be determined by the condition of the individual at the time of operation. If the patient is well nourished, and if the anæsthetic is well borne, it will be advisable to relieve the strangulation, and through the hernial opening draw out the gut until five or six inches of sound intestine above and below the gangrenous spot are in sight, remove the dead portion, and unite the ends at once. This is a much simpler operation than when an additional opening through the abdominal wall is required. In most cases, however, it will be found that the condition of the patient is not favorable for immediate exsection. Shock is almost always severe, and not infrequently fatal, when the constriction has been so severe or lasted long enough to produce gangrene. In such cases the plan carried out in the case just detailed should be followed.

Finally, the subject of intestinal suture is one of such vast importance that too much stress can not be laid upon the necessity for a

thorough preparation for the operation. In the careful application of this procedure to penetrating wounds of the intestines, to exsection of gangrenous portions of the canal as the result of hernia, volvulus, intussusception, and in the removal of malignant neoplasms and strictures, many lives may be saved which, under the teaching of former years, were left to die without surgical interference. The difficulties of the operation are great, and the time required in exsection dangerously long, unless the surgeon has had sufficient practice to enable him to work rapidly and safely. I would advise those who are willing to undertake this procedure to perfect themselves in the various sutures upon the cadaver, or preferably upon living animals. I was deeply impressed with the importance of this in my own case, for, notwithstanding that I had done this operation upon the cadaver about ten times, four hours were occupied in the case which forms the subject of this paper.

In penetrating wounds of the abdominal wall, the argument in favor of operative interference may be briefly stated as follows: 1. The enlargement of a wound sufficiently to demonstrate that it does or does not open into the cavity of the peritoneum is a similar procedure, and practically without danger. 2. A wound of the peritoneal cavity left without surgical interference is always attended with great danger, either from hemorrhage immediately or from peritonitis at a later period. 3. If the alimentary canal is opened, death is almost inevitable; the few recorded cases of recovery form such an infinitesimal proportion of the whole that they should carry no weight against interference.

ANTISEPTIC SURGERY IN PRIVATE PRACTICE (Dr. Sollace Mitchell in the *Alabama Medical and Surgical Journal*).—And now let me tell you how I make a simple matter of the terrible bugbear of antiseptis. In my instrument bag I carry a small bottle of carbolic acid, a bottle of bichloride tablets, sponges, gauze, and bandages. Upon arriving at the patient's house I ask for pitchers of hot and cold water, basins, and towels. With the hot water the carbolic solution is prepared in a moment by adding three tablespoonfuls of the acid to a pint of warm water, this making a 1 to 40 solution approximately. In this the instruments are put to soak. Instruments must never be put in bichloride solution, which speedily destroys their polish and edge. Then a bichloride tablet of 7.7 grains is dropped into a basin containing a pint of water, thus making a 1 to 1,000 solution, and into this the gauze for the dressings is put; also the towels which are to be used in isolating the parts. I now scrub my hands and nails with soap and water, and after rinsing with bichloride solution am ready for any operation. Although I use an irrigator with bichloride in operations at my office, and whenever I have time to make full preparations, still I often find it necessary to operate at short notice, and I do not consider the cumbersome irrigator an absolute necessity, but content myself with an occasional washing of the wound, and rinsing my hands in bichloride solution throughout the operation.

The naphthaline gauze is very easily made by putting into a saturated solution of naphthaline in alcohol a piece of ordinary gauze, or cheesecloth, which has been soaked in 1 to 1,000 bichloride solution previously, and then dried before being immersed in the alcohol and naphthaline. After thoroughly wetting the gauze in this naphthaline solution, wring the gauze quite dry, shake out, fold up in convenient amounts, and pack away in paraffine paper, or in anything that will exclude the air. It will thus keep for years. I can prepare enough in one hour to last me six months. Naphthaline is especially protective against erysipelas. The tablet is the most convenient form in which to carry bichloride. These tablets are very soluble, and are of such a strength that one dropped into a pint of water makes a solution of 1 to 1,000. They are prepared by John Wyeth & Bro., Philadelphia, who will send a sample bottle to any one sending a postal card, with address, and the request for sample. These tablets can be absolutely relied upon. I have used them for many months, and prepare all of my solutions with them. Indeed, I carry some in my pocket all the time, just as I do my pocket case, and make an antiseptic solution for the most trivial wounds, for I do not care to have even a scratch suppurate.

The plain gauze can be obtained for six and a half cents a yard of Seabury & Johnson, No. 21 Platt Street, New York City. This gauze is nothing more than the ordinary cheesecloth, which can be bought at any country store. The only preparation it receives is bleaching and the removal of the sizing. The bleaching is unnecessary, except for elegance of appearance, and the sizing can be removed by washing. I find these simple dressings as efficient as the more formidable ones, and their cost is but slight.

For drainage tubes I use the imperfect red rubber catheters, which can be bought, in all sizes, for ten cents each, of Stohmann, Pfarre & Co., No. 107 East Twenty-eighth Street, New York City. These tubes can be made aseptic by immersion for a few hours in 1 to 500 bichloride solution. A small vial of these tubes, together with a few aseptic safety pins, I carry in my instrument bag. The safety pins are to fasten in the external ends of the tubes to prevent them from slipping entirely into the wound. Sponges must never be used but once until again rendered aseptic. It is not necessary to bleach them again. They can be easily rendered aseptic by boiling in ordinary water, and then packing away in a bottle of 1 to 40 carbolic, and kept there until required for use.

Upon these details depend the success of our efforts. If pus appears try to find the cause, for it will surely be found in the neglect of some of these seemingly little things. To any one who has never made use of antiseptics I would give the advice to begin by thoroughly cleansing scalp wounds, which are usually prone to suppurate, with 1 to 2,000 bichloride solution, and, wetting a piece of cloth in the same solution, apply it with a bandage. Even with this rough use of antiseptics you will be surprised at the improvement in your results, and

feel encouraged to go on with the work. An operation conducted with antiseptic precautions occupies more time, to be sure, but the time is more than saved when you remember that you have but two dressings to make, and that your patient will be up and about two weeks after an amputation. I confess that I am enthusiastic over antiseptic surgery in private practice, but I think that my results bear me out in my enthusiasm.

MICROSCOPY AND PATHOLOGY.

THE GENESIS OF "BRIGHT'S DISEASE." By J. Milner Fothergill, M. D.

"Old age is not an entity, but a set of conditions predisposing to what we call chronic Bright's disease. And though to most this comes in natural course when the prime of life is run, yet to some old age is no matter of years and of averages, but the running down of a spring set for an individual." Such is the happy expression of Dr. Goodhart in his well-known Bradshawe Lecture before the Royal College of Physicians of London in August, 1885. It is a slow, gradual growth of the lowly connective tissue of the kidney, at the expense of the higher kidney tissues. But the kidney-mischief is only a part of the morbid change. A like growth of lowly tissue is going on in the walls of the arteries—atheroma—rendering them inelastic and brittle. But what calls out the growth of the lowly connective tissue in kidney and artery? The irritation set up by the presence of uric acid (possibly accompanied by other forms of albumen-metamorphosis) in excess in the blood. In order to grasp the matter firmly we must look a little beyond mere clinical facts, so as to read these last aright. We see, in the gradual evolution of life, the reptile, the cold-blooded inhabitant of tropical swamps, casting out its excrementitious matter in solid form—i. e., urates. The uric acid formation still continues in the warm-blooded bird, which also possesses a solid urine. When the mammalia appear, they are found to have a fluid urine, and their form of excretion is the soluble urea. But vestiges of the earlier formation still cling with the tenacity of original sin; and a certain, if small, quantity of uric acid is daily voided by man himself. So that we still carry with us traces of our descent in other forms than the branchial arches—the gills of foetal life. Indeed, the circulation of the foetus is that of the higher reptile, and the uric acid formation is distinctly seen in intra-uterine existence. We have long been familiar with the fact that under given circumstances the human body reverts to the early primitive form of urine-stuff. As to gout, we have recognized its association with good eating, especially when accompanied by a lack of exercise. The sensuous monk of old, lazy, fond of good living, and addicted to wine-bibbing, was the typical gouty man. Now it is the country squire, whose habits were active till gout in his feet cripples him, and then its fell clutch becomes

tighter and harder ; or the plethoric publican, whose pleasures are those of the palate. This was the gout which came of good living. "Gout is the disease of those who will have it," said Meade. But a number of cases of distinct gout were found under widely different circumstances. They occurred in spare beings, small, fastidious feeders, whose trencher performances were conspicuous by their temperance. To this class the term "poor man's gout" was applied. It did not explain the apparent paradox, and this inability to explain it was regarded as an opprobrium to the medical profession. Doubtless, a large proportion of the sufferers from poor man's gout were descendants of gouty ancestors ; and only by the strictest regimen, as to meat and drink, could they elude the visitations of their hereditary foe. But the gouty ancestry was not present in all cases.

The late Dr. Budd held that sundry persons came into the world with what he called "insufficient" livers ; and Dr. Murchison endorsed this view. Such livers revert to the uric acid formation very readily ; and now poor man's gout stands revealed before us. Indulgence in animal food in excess reduced a normal liver to the uric acid formation. A congenitally insufficient liver reverts to the uric acid formation under an ordinary or even meagre dietary. The result is the same in each case. When the uric acid formation is established we find one of two consequences : either (1) the uric acid is gradually deposited in the body, in the articular cartilages by preference ; or (2) is cast out by the kidneys, which, being constructed to excrete the soluble urea, are irritated by the presence of uric acid in excess ; with the result of interstitial nephritis, or chronic Bright's disease. Often both are found. Renal changes are by no means the sole morbid outcome of the uric acid formation. The cardio-vascular system feels its malign touch. A tight artery is the consequence of the blood condition, and, with that, changes in the arteries and the heart. The high blood pressure in the arterial system leads to hypertrophy of the left ventricle, and that, again, to secondary valvulitis of a progressive nature—probably due to the forcible closure of the valves ; the mitral by the large ventricle ; in the aortic by the recoil of the highly distended artery. Possibly in the latter there is a tendency to gouty deposits, as in the joints. The distension of the arteries leads to a growth of connective tissue in their walls, which lose their elasticity and become brittle—the atheromatous change—and from these we get apoplexy and aneurism ; while angina pectoris vaso-motoria is called out by occasional spasm of the periphera arterioles. Sooner or later the growth of connective tissue within the coronary arteries themselves cuts down the nutrition of the large heart, and fatty degeneration spreads throughout its structure. The failing heart leads, in its turn, to dropsy, albuminuria, and death. Indeed, we get a vast number of morbid outcomes in this widespread vaso-renal change, beyond the interstitial nephritis, which is spoken of as "chronic Bright's disease," or "renal cirrhosis," or "the gouty kidney," as it is variously termed. But the consideration here is restricted to what is truly "chronic

Bright's disease," a renal change started by an impure blood, as Professor Hayles Walshe asserted in 1849.* The uric acid (and possibly other excrementitious matter of nitrogenized character, the products of albumen metamorphosis) irritates the kidney structure, and starts up a rank growth of the lowly connective tissue, or packing material, at the expense of the higher true structures of the kidney. Here and there in minute foci, scattered throughout its mass, mainly in the cortex at the outset, we find the destructive action at work. The lowly invader is preying upon the higher structures, as the Tartar Turk spread himself over the population of the Balkan peninsula, and with the same result—destruction. Slowly and steadily one minute portion of the kidney after another is caught within the light touch of some soft growth of connective tissue; but as the latter dries up and hardens, it contracts, and the true tissue within its clutch is ruined—squeezed out of (functional) life and (anatomical) form. Bit by bit, and often very slowly, the process goes on, until the kidneys are rendered inadequate as depurative organs, and the blood is rendered toxic by being surcharged with waste of albuminoid origin. Then follow secondary inflammation set up by the toxic blood, or other truly uræmic complications, often desperate attempts on the part of the body to cleanse its blood. To call this widespread change a "kidney disease" is as much a misnomer as to apply "Pimlico" to the whole metropolitan area; and to seek for evidence of it in the renal secretion solely is as imperfect as would be an inquiry into the sanitary arrangement of Lambeth, however carefully conducted, as to the state of the whole area which discharges its sewage at Barking Creek. Casts of the renal tubules are truly the infallible evidence of renal destruction as to existence, if not as to extent. The character of the urine tells much: when it is copious and of low specific gravity we have only too good reason to decide that the injury is extensive and widespread. Sometimes albumen is present in the urine, but its significance depends upon its associations. Dr. Richard Bright found that when albuminuria coexisted with dropsy the kidneys were the seat of disease. But in the diagnosis of several practitioners the dropsy factor drops out of the calculation, and the diagnosis is made in its absence. Albuminuria and "chronic Bright's disease" are, however, not convertible terms by any means, nor the equivalent of each other, as is not unfrequently assumed.

Chronic interstitial nephritis is but one of the numerous morbid progeny of the uric acid formation, albeit an important unit. We are all familiar with this vaso-renal change, as it runs its course in the mesoblastic structures of the men of Norse type, large-boned and florid, giving joint-gout, eczema, and secondary valvular disease in the large heart. That is one aspect of the vaso-renal change. But this is by no means the only aspect of this change. It may sometimes commence with primary kidney mischief, and consequent imperfect blood depura-

* No wonder Bright's disease is so prevalent among the hard-working inhabitants of the United States of America.

tion. Far more frequently it starts from a congenitally "insufficient" liver. In persons of the neurosal diathesis or Arab type (to whom the term "neurotic" aptly applies), the phenomena are widely different. The mesoblastic tissues are comparatively untouched; while the hypoblastic and epiblastic tissues are the seat of suffering. These persons are of spare habit and complain of indigestion, acidity, and flatulence—matters of the hypoblast; of migraine, accompanied by vesical irritability, of palpitation, of failure of the heart's action, resembling syncope, except that they do not lose consciousness, and realize the horror of their condition—matters of the epiblast. In many cases cardio-vascular change is also present, and the migrainous neurotic is as liable to apoplexy as the red-faced, short-necked gouty man; the urine of the last is usually copious and clear, while in the neurotic the urine is often charged with lithates.

The migrainous neurotic of the uric acid formation is growing more and more common. Town populations have a tendency to grow smaller and darker, as anyone can see by comparing the living crowd with the worthies in effigy at Madame Tussaud's. They have a tendency to revert to an earlier and lowlier ethnic form, and are smaller in the bone. They are precocious, and the early development of the nervous system is accompanied by a deficiency or backwardness in the assimilative organs. There is an insufficient liver, which readily reverts to the uric acid formation; and this is aggravated by the fact that town dwellers eat more animal food than rustic populations of the wage class, while the latter have the advantage of plenty of oxygen. The town dweller works in ill-ventilated rooms, and his amusements are in-door in a vitiated atmosphere. With an insufficient liver, a meat dietary, and insufficient oxidation, the town dweller is the subject, more than all others, of the uric acid formation, with all its varied consequences. At Victoria-park Hospital I have under care at the present time a mite of a girl, not yet thirteen years of age, in whom all the phenomena of the migrainous neurotic are already present. The effect of town life is to produce a distinct retrogression to a smaller, darker, precocious race of less potentialities than the rustic population. Precocity is seen in early puberty, but reproduction is impaired; and Hayles Walshe, Mr. Cantlie, and others have shown that it is well-nigh impossible to find a true Cockney of the fourth generation. Dr. Ralfe informs me that of 800 inquiries made at the London Hospital only four resulted in genuine Cockneys of the fourth generation. The retrocedent race perishes either by sterility in the females, or their sparse progeny succumb to the diseases of childhood. These urban dwellers, the progeny of town-born parents, this retrocedent race, are the possessors of congenitally insufficient livers, and as a consequence are the victims of the uric acid formation. This liver reversion is the microcosm within the macrocosm. And Bright's disease is especially the disease of this urban race. Teetotalism and vegetarianism are no matters of mere caprice or fashion, but are the unconscious submission to an unseen law ruling the choice. The urban dwellers cannot

tolerate the beef and ale of their rural forefathers. No doubt in many cases alcohol and syphilis play their part, and too often an important part. But these are only accessories to the great fact that the descendants of town dwellers die prematurely old of Bright's disease, and that the spring runs down at a much earlier period with them than with rural populations.

Many persons are remarking how common gout is becoming amidst us at the present time. Such is certainly my personal experience; though articular gout is by no means the common outcome of the uric acid formation in town dwellers. Sufferers from articular gout are comparatively infrequent among the crowd of persons who are undergoing that vaso-renal change to which "chronic Bright's disease" is the term most commonly applied. In other cases neurotics are found with the uric acid formation, who seem to owe their "insufficient" liver to hard intellectual toil on the part of their fathers. Nearly every American lady of this class has given me a history of the long and usually successful efforts of her father. "The fathers have eaten sour grapes, and the children's teeth are set on edge." There seems some law of antagonism betwixt the tissues of the epiblast and those of the hypoblast. Long-sustained demand upon the brain as "the organ of mind" tells upon the viscera. The liver suffers therefrom; and the progeny of the hard-working brain-toiler comes into this world with an insufficient liver. Clifford Albutt, F.R.S., some years ago pointed out clearly the mental causes of Bright's disease, in an address which attracted much attention at the time and since. Not only does my experience fall in with his as to the individual, but it seems to teach a further lesson—viz., that hard, sustained brain toil has its Nemesis in an insufficient liver, which reverts to the uric acid formation. The bright, high-souled migrainous-neurotic, one of the most charming patients who enter the physician's consulting-room, owes her fortune and her liver alike to her father's toil, which is rather a hard nut to crack for those whose ambition it is to make a fortune. Thus we see there are many factors—and some of them little suspected—at work in the genesis of Bright's disease. Nor is it inaccurate to say that it is a disease becoming daily more common in "this madly striving age." More familiarity with its causal relations ought to develop definite preventive measures.—*Lancet*.

KOCH'S BACTERIAL WATER TEST.—From a series of investigations in regard to Koch's Water Test (see *Lancet*, August 29, 1885), G. Bischof, F.C.S., arrives at the following conclusions: 1. The total colonies found by culture in gelatine peptone do not represent the total actually present in a sample of water, but an indefinite aliquot part thereof. 2. The number of total colonies found does not, within a very wide range, justify the rejection of a sample; no more can a sample be relied on as safe if very few colonies only be indicated. 3. The test does not, as a rule, allow of distinction between pathogenic and harmless microphytes. 4. Pathogenic microphytes present in a

sample of water are apt to escape detection by being crowded out by the organisms ordinarily occurring in water. 5. The relative biological purification indicated by the test in samples of water after filtration through sand is at variance with other well-known facts, and should be accepted with caution.—*Lancet*, April 9, 1887.

SANITARY.

DISINFECTANTS AND THEIR USES.—Dr. Alfred Carpenter delivered an address at the last monthly meeting of the Association of Public Sanitary Inspectors, on “Theory and Practice as to Disinfection.” He urged that sanitary inspectors, who have very great power if they use it carefully, should reason out the grounds of the application of any particular mode of disinfection, rather than give a blind obedience to a written order. With regard to small-pox, he pointed out that germs of living protoplasm in the breath of a patient will take root if immediately transplanted to the membrane of a susceptible person, but if floated about in the air for 100 yards they will lose their vitality. Isolation, with ventilation, as rapidly as possible, is necessary in such cases. For disinfecting the furniture of a house after infectious disease steam is preferable, and he advised all local authorities to provide themselves with the means of applying steam heat. Dr. Carpenter did not recommend carbolic acid as a disinfectant in cases of disease, for it has been found that the acid preserves the dormant germ from decay. This also holds good of alcohol; the use of spirituous liquors as a protection against the evils of impure water is no protection at all. The same argument applies, though in a minor degree, to sulphurous acid. The best disinfectant is a solution of bichloride of mercury. It requires to be used with care, but it is rapid in its action, and so powerful that a solution of 1 part in 5000 of water will in fifteen minutes destroy every living germ, dormant or otherwise, with which it comes in contact. The best disinfectant for sewers is sulphate of iron. Dr. Carpenter concluded by saying that the lines on which disinfection should be carried out are: Ventilation, aerial disinfection by chlorine or steam, lime washing, washing floors and furniture with solutions of mercuric chloride; steam heat for clothing, furniture, etc.; and sulphate of iron or chloride of lime in adequate quantities for flushing. If these means are effectively applied infectious disease will be completely banished from our midst, and any local authority which now allows of their continuance is doing defective work.—*British Medical Journal*, April 9, 1887.

SIMPLE TEST FOR WALL-PAPER.—A simple and easily applied test for wall-papers has been devised by Mr. F. F. Grensted. No apparatus is needed beyond an ordinary gas-jet, which is turned down to quite a pin-point, until the flame is wholly blue; when this has been done, a strip of the paper suspected to contain arsenic is cut one-sixteenth of

an inch wide and an inch or two long. Directly the edge of this paper is brought into contact with the outer edge of the gas-flame a gray coloration, due to arsenic, will be seen in the flame (test No. 1). The paper is burned a little, and the fumes that are given off will be found to have a strong, garlic-like odor, due to the vapor of arsenic acid (test No. 2). Take the paper away from the flames and look at the charred end—the carbon will be colored a bronze-red; this is a copper reduced by the carbon (test No. 3); being now away from the flame in a fine state of division, the copper is slightly oxidized by the air, and on placing the charred end, a second time, not too far into the flame, the flame will now be colored green by copper (test No. 4). By this simple means it is possible to form an opinion, without apparatus and without leaving the room, as to whether any wall-paper contains arsenic, for copper arseniate is commonly used in preparing wall-papers. Tests one and two would be yielded by any paper containing arsenic in considerable quantities.—*British Medical Journal*.

BIOGRAPHY.

ALFRED MEADOWS, M.D., LONDON, F.R.C.P.

[*Unavoidably omitted from the June number.*]

The news of the sudden death of this well-known obstetrician on Tuesday morning, April 19 caused a great sensation amongst members of the profession in London. Dr. Meadows was born in 1832, so that he died at the relatively early age of 55. He was a native of Ipswich, and he commenced the study of his profession as apprentice to Mr. Elliston in that town. He studied at King's College after matriculating at the University of London in 1853. In 1856 he became a Member of the College of Surgeons, and a licentiate in Midwifery of the same College. In 1857 he became Bachelor, and in 1858 Doctor, of Medicine, of the University of London.

He was destined to hold a large number of appointments, and achieved a degree of celebrity as an obstetrician which earned for him a long list of honorary memberships of foreign societies. He commenced practice in 1858, when he was appointed Physician Accoucheur to the St. George's and St. James's Dispensary. In 1860 he became Assistant-Physician for the Diseases of Women and Children at King's College Hospital, in 1865 Physician to the Hospital for Women. In company with Drs. Edis, Squarey, Mr. Christopher Heath, and other members of the staff, he severed his connection with that institution in 1874. He was also Physician-Accoucheur to the General Lying-in Hospital. His most important appointment was that of Physician-Accoucheur to St Mary's Hospital, and Lecturer on Midwifery and the Diseases of Women and Children to that hospital, in succession to Dr. Tyler Smith, which appointments he held from 1871 till his death

Dr. Meadows at one period was an active Fellow of the Obstetrical Society, holding several of the various appointments on the Council. He was very assiduous in the performance of his duties as secretary, to the great satisfaction of Dr. Barnes, who was at that time (1865-7) president. Dr. Meadows edited the *Catalogue and Report of Obstetrical and other Instruments*, exhibited at the *conversazione* of the Obstetrical Society of London, held by permission at the Royal College of Physicians on March 28 1886. In conjunction with Dr. Braxton Hicks he played the most active part in arranging the exhibition of instruments. In December, 1884, when the British Gynæcological Society was founded, he was unanimously elected first President. He held the chair during 1885, and was succeeded in 1886 by Mr. Lawson Tait. Dr. Meadows was President of the Section of Obstetric Medicine at the annual meeting of the Association held at Brighton last year. The sectional meetings were highly successful, and the distinguished American obstetricians and gynæcologists in particular were much impressed by the manner in which he discharged his presidential duties, and were much gratified by his courtesy and hospitality.

Dr. Meadows was the author of a "Manual of Midwifery" well-known to a generation of students and teachers, and compiled "The Prescriber's Pharmacopœia," a useful work which went through many editions. He took a share in Dr. Tanner's well-known text-book on the "Diseases of Children." One of his most useful literary undertakings was the translation of Bernutz and Goupil's "Clinical Memoirs on the Diseases of Women," for the New Sydenham Society. The accomplishment of this task made available for a large section of the profession who cannot read French with facility one of the most valuable contemporary works on inflammatory and other diseases of the pelvic peritoneum and connective tissue in the female. Dr. Meadows was actively engaged in professional work last week, and was present at the last meeting of the Gynæcological Society on Wednesday, April 13. On that occasion he exhibited a specimen of fibroid tumor of the uterus, which he had successfully removed. He contributed a paper on Nursing to a volume of essays edited by Mr. Orby Shipley, which made some noise in its day; and he was for some years Provost of the Guild of St. Luke's, a confraternity of medical men. Getting early into lucrative practice, he was able to afford the luxury of a country house, Poyle Manor, near Colnbrook, where he hospitably entertained his friends, and especially his brother Masons—for he was an active Freemason—and took a leading part in founding the University of London Lodge.

Actively engaged in practice, and with his leisure time fully occupied in various pursuits, Dr. Meadows' health had for some time been failing. On Sunday evening, April 17 after attending All Saints, Margaret Street, he was seized with abdominal pain, which became so acute that Sir Edward Sieveking was summoned early on Monday morning. His strength rapidly gave way under the strain of the agony of the colic, and his heart, which had shown signs of weakness before, failed to respond to treatment. Sir W. Jenner saw him

late on Monday, with Sir E. Sieveking, and he died at 6.30 on Tuesday morning. Dr. Meadow leaves a widow and one daughter.—*British Medical Journal*.

WILSON FOX, M.D., F.R.C.P., F.R.S.

The sudden and premature death of Dr. Wilson Fox deprives the College of Physicians of one of its most eminent, accomplished, and beloved Fellows, and the English profession of one of its chief ornaments. In Dr. Wilson Fox were united most of the qualities and characteristics which make up the highest type of a teacher and a practicing physician. His personal bearing and physical endowments were markedly indicative of refinement, culture, and good breeding. Tall, spare, and erect, with features finely cut in thoughtful lines, sympathetic in expression and eager of gaze, he produced at the first glance the impression of intellectuality and earnest kindness, which were the key to his character and the secret of his charm. He had attained a distinguished social as well as an eminent professional position. As Physician-in-Ordinary to the Queen, he won the confidence and regard of his Sovereign. By his professional colleagues Dr. Fox was much beloved and esteemed. A certain reserve, sometimes falling into stiffness of manner, did not ill become him; for it expressed naturally the caution of his mind, the fixed resolution to adhere to the highest standards of thought and practice, and the quiet dignity of his character. But at heart he was gentle, sympathetic, affectionate; easily moved to pity and to scorn, although slow to anger. He was deeply interested in advancing the power, influence, and usefulness of the London College of Physicians, of which he was a senior officer, and especially in promoting the extension of the diploma of Doctor of Medicine to its alumni, and the procuring of medical degrees on reasonable terms for English students.

Dr. Wilson Fox was in his fifty-seventh year. He was the son of an eminent manufacturer at Wellington, and was educated first at Bruce Castle, Tottenham, and afterwards at University College, London; he took the degree of B. A. in the University of London. After a distinguished career as a student, he took the degree of M. B. in 1854, and that of M.D. in the following year. He was House-Physician at University College Hospital, and subsequently held a similar appointment in the Edinburgh Royal Infirmary. He then went abroad and spent a considerable time in Berlin, Vienna, and other centres of German thought, where he had the advantage of studying under Virchow, Koelliker, and other eminent teachers. On his return he became physician to the North Staffordshire Infirmary, and soon acquired a considerable practice in Newcastle-under-Lyme. Ill-health induced him to resign his appointment, and to return to London, partly in order to place himself under medical care. From this indisposition he completely recovered, and was appointed Assistant-Physician to University College Hospital in 1861, at the same time succeeding Sir

William Jenner as Professor of Pathological Anatomy. In 1866 he was elected a Fellow of the College of Physicians, and, a few years afterwards, a Fellow of the Royal Society. In 1867 he exchanged the chair he held for that of Holme Professor of Clinical Medicine, the duties of which he performed up to the time of his death. In 1870 he was appointed Physician Extraordinary, and at a subsequent date he became Physician-in-Ordinary to Her Majesty.

Dr. Fox's contributions to scientific medicine were numerous and important. One of his earliest researches was on the development of muscular tissue, published in the *Philosophical Transactions*. Another was concerned with the origin and structure of cystic disease of the ovary. His attention was afterwards given specially to diseases of the stomach and of the lungs, and he wrote on both subjects for the "System of Medicine," edited by Dr. Russell Reynolds. His articles on diseases of the stomach were afterwards republished in an enlarged form as a separate work. The work, however, for which he was best known was his research into the nature of tubercle; to this he devoted the best energies of his life; for many years, even when he was almost alone among pathologists in this country, he stuck manfully to his thesis that tuberculosis was a peculiar and special process, and that it was not merely ordinary chronic inflammation, as was the popular German opinion, reflected in this country, until Koch's researches were published. Dr. Fox's experimental researches led him to believe that tuberculosis might be produced by the inoculation of indifferent material and he expressed this opinion in a lecture delivered before the Royal College of Physicians. The publication of Koch's results, while confirming the correctness of his views as to the special characters of the tubercular process, necessitated a remodelling of his views as to the etiology of the disease. It was owing to this cause that the publication of his great work on diseases of the lungs, at which he had worked with extraordinary industry for many years, was postponed. It may be hoped that the enormous mass of materials which he had brought together, and the large collection of drawings which he had prepared to illustrate it, may not be lost to the world.

As a clinical teacher, in which capacity Dr. Wilson Fox will be most vividly remembered by his many pupils, he had certain conspicuous excellences. For twenty years as Holme Professor of Clinical Medicine every student of medicine at University College passed through his hands, and the enthusiasm which he himself threw into his work infected the laziest and most indifferent. His method was characterized by extreme simplicity; every lecture was carefully prepared, the patient had previously been thoroughly examined, and the literature of the subject investigated. In the lecture itself, however, the erudition of the student of books was entirely subordinated to the practical wisdom of the experienced clinical physician. The care of the patient's comfort and the subordination of every other consideration to his welfare were not only characteristic of the lecturer, but conveyed a useful lesson in bedside treatment to the students who thronged the ward. The

student was led step by step to follow the process of his teacher's mind, and to appreciate for himself how each link in the chain of evidence was tested by all available methods of clinical research. By the general consent of his pupils, it was in the commoner diseases—phthisis, emphysema, heart disease, Bright's disease—that Dr. Wilson Fox showed to special advantage; the simplicity of the language, and the painstaking care with which every symptom and physical sign were discussed, brought them within the comprehension of the youngest hearer; but it was only the more advanced student, who had himself been compelled to treat such cases out of his own resources, who could fully appreciate the high value of the teaching. No detail was too minute if it concerned the comfort or well-being of the patient; no symptom so trivial that it might not be made to throw light on the diagnosis or suggest a line of treatment. A pathologist by early bent, Dr. Fox could afford to teach his pupils to treat symptoms. "The patient wants you to help him to get well, or at least to be as free from discomfort and pain as is possible," he would say. "You must understand the pathology of his disease in order to be successful in your efforts; but clinical medicine is more than pathology, as the greater includes the less." The singular quickness of his own mental processes sometimes made him appear impatient of dullness. Industry, however, in his eyes, compensated for many faults, and to mere ignorance he was ever merciful. Not so, however, when he suspected laziness or shirking, and students guilty of these faults were often made to suffer from the shafts of his sarcastic wit.

As a clinical physician he was extremely successful, and for many years enjoyed a very large consulting practice, his opinion being especially sought in the treatment of fevers and of the diseases of the lungs. A friend who knew him well from his early years as a student at University College, writes to us that "his most noticeable traits were the exceeding kindness and sympathy which he showed towards his patients, the happy cheerfulness and encouragement which his manner towards the patients imparted to them, and the extreme trouble which he took with every individual case; these qualities inspired remarkable feelings of personal affection towards him, which frequently found expression in word and deed. He was in the best sense of the word a gentleman, and, under all circumstances, put that fact in the first place, and made it his principle of action in every transaction."

Dr. Fox, who was twice married, leaves a family of six children, three sons and three daughters, by his first wife. His second wife, the widow of Captain Burgoyne, R. N., the commander of the ill-fated *Captain*, survives him.—*British Medical Journal*.

ORIGINAL CORRESPONDENCE.

LETTER FROM LEIPSIK.

MEETING OF THE GERMAN ANATOMICAL SOCIETY.

The Anatomical Society, founded in Berlin in September last, held a session in the Anatomical Institute of the University of Leipsic, in April. The meeting was, for so young a society, quite well attended and interesting. The programme was as follows: "The Asymmetry of the Face," Dr. C. Hasse, Breslau; "Observations on the Brain of Man," Dr. M. v. Lenhosek, of Pest; "The Mechanism of the Wrist Joint," Prof. Braune, of Leipsic; "Communication on Embryology," Prof. Ruckert, of Munich; "Glands," Dr. Stohor, of Wurtzburg; "The Development of the Pigment of the Skin and the Nourishment of the Epirdermis," Dr. Karg, of Leipsic; "A Chapter in Vertebral Spermatogenesis," Dr. Benda, of Berlin; "The Place of Most Acute Vision in Fish Eyes and Experiments with Hæmatoxylin Coloring Matter," by Dr. Schieferdecker, of Goettingen; "The Traces of Parietal Eyes in Man," Prof. Bardeleben, of Jena; "Morphological Contemplations," Dr. Albrecht, of Hamburg; "New Methods in the Field of Experimental Embryology," Dr. Gerlach, of Erlangen. Interesting demonstrations in great numbers were made by different members. Interesting reports were made by Professors Waldeyer and His, the former of Berlin, the latter of Leipsic. Prof. A. Koelliker, of Wurtzburg, was President.

The membership was 190, of whom 78 were foreigners: from Austro-Hungary 23, Russia 10, Great Britain 8, Switzerland 8, Netherlands, Belgium, Scandinavia, Italy, and America each 6, France 1. These consisted of 124 anatomists, histologists, and embryologists, 16 zoölogists, 14 pathological anatomists, 10 physiologists, and 10 practitioners.

One of the most interesting parts of the meeting, it can readily be conceived, was the social part. The evening before the first day a reception was given at the Russicher Hof. On the evening of the last day they returned again to the dining hall of the Hotel de Russie for their banquet.

Dr. Koelliker toasted Emperor Wilhelm and the Saxon Royal Family; also the Rector Magnificentissimus of the Leipsic University.

Dr. His, of Leipsic, gave the life and development of the new society *ab ovo*, and was followed by a number of other toasts which, kept the guests roaring with laughter.

E. S. MCK.

REVIEWS.

A TREATISE ON DIPHTHERIA, HISTORICALLY AND PRACTICALLY CONSIDERED; INCLUDING CROUP, TRACHEOTOMY AND INTUBATION. By A. Sanné, Docteur en Médecine, etc. Translated, Annotated, and the Surgical Anatomy added: Illustrated with a Full-page Colored Lithograph, and Many Wood Engravings. By Henry Z. Gill, A. M., M. D., LL. D., Late Professor of Operative and Clinical Surgery in the Medical Department of the University of Wooster, at Cleveland, O., etc. St. Louis, Mo: J. H. Chambers & Co., 1887. Pp. XXX—656. Price, cloth, \$5; leather, \$6.

The important and very comprehensive work of Sanné is well worthy of presentation to English-speaking readers, and the numerous additions made to the original text by the American translator and editor, who has done the work of translation in a very creditable manner, increase to a material extent the scope and value of the work.

In a volume of this size there is room for a very full discussion of many points which must necessarily be omitted, or only cursorily glanced at, in shorter treatises; and there is obviously considerable advantage in this. In his preface the translator quotes the following passage from Jacobi's article in Pepper's System of Medicine: "It is a matter of regret that the limited space allotted to this subject should exclude much historical detail of the etiology, pathology, and therapeutics of diphtheria. If history of any disease is interesting and the neglect of its study has ever punished itself, it is diphtheria. Particularly would the treatment have been more successful if the knowledge of former times had been available and more heeded." He then goes on to say: "In this volume that regret may not arise, if the reader will have the industry to read and exercise the intelligence to analyze the material herein presented. Both theory and practice, may we not confidently hope; will be greatly advanced, and as the result many lives be saved." In the multiplicity of plans of treatment referred to in the work, however, there would appear to be a certain amount of risk that the young practitioner may be somewhat at a loss to know which to adopt.

In the chapter on treatment, so far as a pretty careful examination reveals, no mention whatever is made of the internal treatment by bichloride of mercury, which has of late been regarded by a number of careful observers as the most successful yet introduced. The only allusion to this agent seems to be on page 407, where, in a report quoted of 296 cases of diphtheria treated in a children's hospital at St. Petersburg, by Dr. N. Lunin, it is stated that the throat was pencilled with a 1 per cent. solution and washed with a solution of 1 to 5,000 of the bi-chloride in 57 cases. It might perhaps have also been expected that some reference would be made to trypsin and papayotin, which from the published reports would appear to deserve further trial as solvents.

The chapters on tracheotomy and its sequelæ are excellent and full, comprising more than two hundred pages, besides a section at the beginning of the work on the surgical anatomy of the pre-tracheal region, with special reference to tracheotomy in children, which includes the illustrations and much of the text of Dr. Pilcher's admirable article published in the *Annals of Surgery* in 1881. It is to be noted with much satisfaction that Dr. Gill refers with commendation to intubation of the larynx, a description of which is given, together with the statistics from it reported up to the time the volume went to press. The results thus far obtained from this procedure already indicate that it should invariably be employed, if possible, before resorting to tracheotomy. The book is handsomely printed, and is in every way deserving of a warm reception at the hands of the profession.

EARTH AS A TOPICAL APPLICATION IN SURGERY. Being a Full Exposition of Its Use in All the Cases Requiring Topical Applications Admitted in the Men's and Women's Surgical Wards of the Pennsylvania Hospital During a Period of Six Months in 1869. By Addinell Hewson, M.D. Second Edition, with Four Photo-Relief Illustrations. Philadelphia: The Medical Register Co., 1887. Price \$1.00, postage prepaid.

Dr. Hewson has long been recognized as the special apostle of the earth treatment, and the record of cases here presented, with results obtained, is in many respects remarkable, and one which is deserving of careful study. Whether equally good or better results could have been secured by other methods of treatment is, however, a question which some, less enthusiastic than the author, may perhaps be disposed to answer in the affirmative. Still, the fact remains that in a considerable number of cases many good surgeons have found earth an excellent remedy.

In the preface to the second edition Dr. Hewson states that it has been issued to meet the demands constantly made for the work, and that as the desire is for the book as it was originally produced in 1872, he has not seen fit to alter it in any respect. There was the less reason to make changes because its pages contain the results of clinical work done nearly three years before the first edition was published, the delay in their publication being made for the double purpose of weighing them by subsequent experiences, and of interpreting their meaning by careful study of the various subjects involved in them.

Since then, he states, the continued pursuit of such clinical work and purposes in private practice has been of the most gratifying character; and in 1880 he presented to the American Medical Association a paper on the treatment of fibroids of the uterus which contained most of his experiences for ten years. The method of making outline tracings of the changes effected by the earth has, he says, been faithfully followed in all cases of the fibroid up to the present time. Besides other classes of special cases in which he has constantly used earth, he refers to those of glandular tumors of the neck, of which he has

had quite a large number; some of which, he says, were of such size that many famed operators had refused to attempt their removal. It is to be regretted that this edition was issued without either table of contents or index.

BOOKS AND PAMPHLETS RECEIVED.

“Public Health:” The Lomb Prize Essays of the American Public Health Association. Second Edition. Concord, N. H.—“Athotis;” A Satire on Modern Medicine. By Thomas C. Minor. Cincinnati: Robert Clarke & Co. 1887.—“Elementary Microscopical Technology.” A Manual For Students of Microscopy. Part I. By Frank L. Jones, Ph. D., M.D. St. Louis, Mo.: St. Louis *Med. and Surg. Journal* Co. 1887.—“The Uses of Massage in Medical Practice.” Translated from the German of Reibmeyer, with Notes, by Benjamim Lee, A.M., M.D., Ph.D.—“Congenital Occlusion of the Posterior Nares.” By Alvin A. Hubbell, M.D., Buffalo. Reprinted from the *Buffalo Med. and Surg. Journal*.—“Nomenclature in Psychiatry. Monomania or Oligomania, Which? Paranoia, What?” By Ralph L. Parsons, M.D., Reprinted from the *Journal of Nervous and Mental Diseases*.—“Post-Graduate Instruction in Gynæcology,” by Henry C. Coe, M.D., M.R.C.S. Reprinted from the *N. Y. Med. Journal*.—“Baked Beans:” A Serio-Humorous Medical Paper, by Ephraim Cutter, A.M., M.D. Reprinted from the *Albany Medical Annals*.—“The Influence of Maternal Impressions on the Fœtus,” by Fordyce Barker, M.D., LL.D. Reprinted from Vol. XI. *Gynæcological Transactions*.—“A Novel System of Operating for the Correction of the Deflected Septum,” by W. C. Jarvis, M.D. Reprinted from *The Medical Record*.—“Oration Delivered before the Alumni Association of the Medico-Chirurgical College of Philadelphia,” by Dudley S. Reynolds, A.M., M.D., Louisville, Ky.—“A Statistical Contribution and a Comparison of Methods in the Treatment of Tuberculosis of the Joints.” Translated from the Danish by Robt. T. Morris, M.D., New York. Reprinted from the *New England Medical Monthly*.—“Persistent Pain after Abdominal Section,” by Jas. B. Hunter, M.D. Reprinted from Vol. XI. *Gynæcological Transactions*.—“Feeding Patients Against the Appetite,” by Ephraim Cutter, M.D. Reprinted from the *Medical Register*.—“Ergot after Labor,” by John Goodman, M.D., Louisville, Ky.—“A Further Study of the Therapeutic Value of Oxygen, with Cases Treated,” by S. S. Wallian, A.M., M.D., New York. Reprinted from the *Journal of the Amer. Med. Association*.—“Practical Examples in Prescription Writing,” by Charles H. May, M.D. Issued for the Use of His Quiz Classes.—“Transplantation of a Rabbit’s Eye into the Human Orbit,” by Charles H. May, M.D. Reprinted from the *Archives of Ophthalmology*.—“A Case of Broncho-Pulmonary Mycosis,” by Wm. F. Waugh, M.D. Reprinted from the *Philadelphia Medical Times*.—“Pelvic Inflammations: or Cellulitis versus Peritonitis,” by Thos. Addis Emmet, M.D. Reprinted from Vol. XI. *Gynæcological Transactions*.—“Report of

the Committee on Disinfectants," Presented at the Fourteenth Annual Meeting of the American Public Health Association.—"Long Island College Hospital, Brooklyn, 29th Annual Announcement, 1887."—"Memorial of the N. Y. Ladies' Health Protective Association to the Mayor of New York, on the Subject of Street-Cleaning."—"The Vest-Pocket Anatomist" (Founded upon "Gray"), by C. Henri Leonard, A.M., M.D., 13th Revised Edition, Detroit.—"Report of 125 Laparotomies; with Observations on the Use of Hot Water within the Peritoneal Cavity During and after Laparotomy to Prevent Shock; Treatment of Septic Peritonitis and Intestinal Obstruction by the Use of Purgatives, etc.," by W. Gill Wylie, M.D., reprinted from *The Medical Record*.—"Granular Conjunctivitis, with and without Pannus," by W. Cheatham, M.D., Reprinted from the *Atlanta Med. and Surg. Journal*.—"Uterine Fibro-Myoma Complicating Delivery: Tumor Enucleated; Child Living; Mother Recovered," by E. J. Beall, M.D., Fort Worth, Texas, Reprinted from *Daniel's Texas Med. Journal*.—"Twenty-sixth, Twenty-seventh, and Twenty-eighth Annual Reports of the Cooper Union for the Advancement of Science and Art."

MISCELLANEOUS.

YELLOW FEVER INOCULATION.—Putting all theories of bacteriology aside, we must come down to the bald facts of experiment in judging of the protection afforded by this process of inoculation with the cultured virus of small-pox. These data have been accumulating and the impression has been seen in renewed efforts to attain the end in view. In various quarters of the globe observations have been made confirmatory of the inoculability of yellow fever and its protective effects. This final expression of a firm conviction that preventive inoculation against yellow fever is trustworthy sustains the claim made six years ago by Dr. Domingos Friere in Rio de Janeiro. He has had to contend with difficulties which would have proved insurmountable to one who had not the courage of his convictions to urge him forward in his investigations. Like the lion-hearted Jenner, who struggled against the assaults of his own countrymen in bringing the results of vaccination against small-pox before the public, Friere has met opposition at home, as well as abroad, in prosecuting his experiments. But, fortunately for humanity and for the cause of science, all the world has not proved deaf and blind to the demonstrations of the success of yellow fever inoculation presented by Domingos Friere in Rio de Janeiro; and I take this occasion to congratulate the people of the United States upon the appointment of Dr. Sternberg to verify the correctness of the reports presented in due form to the Brazilian government touching its protective influence upon the population. It matters not how the result may be explained if the fact is clearly established that inoculation prevents the access of yellow fever. The question for

solution is in regard to protection, and if people are rendered invulnerable by it, that settles the whole matter for us satisfactorily. The outcome of all these efforts has been a provision of \$10,000 in the civil service bill for investigating the subject of yellow fever inoculation in Mexico and Brazil, and I trust we may soon realize the good results which the development of the last few years in various localities warrants us to expect.—*Dr. J. McF. Gaston in the Atlanta Med. and Surg. Journal.*

MEDICAL EXAMINING BOARD OF VIRGINIA.—The official report of the recent proceedings of this Board shows that the questions asked in examination were practical and for the most part such as should be answered correctly by any practitioner. If to the older practitioner the chemistry questions seem to be unduly hard, it should be remembered that when he graduated he was supposed to be fresh from the laboratory, and familiar with details he has now forgotten. But if the questions are really severe tests of one's chemical knowledge, we will state that the markings by the Chemical Section of the Board were extremely liberal. In regard to other departments, a number of such answers as these were given: "The duodenum empties itself into the ilium;" in dengue, "the fever does not come on till three days after the bones break;" "iodine is sometimes dug up out of the ground in lumps as big as your fist;" "the renal artery enters into the formation of the portal circulation;" "atheroma is a cystic tumor," etc., etc. And yet each of these and many like answers were given by fresh graduates from colleges that claim a standard of requirements of from 75 to 80 per cent.—*Virginia Med. Monthly.*

THE TREATMENT OF INJURIES OF THE INTESTINE.—A TRIBUTE TO AMERICAN SURGERY.—Sir William MacCormac is certainly to be congratulated upon his choice of the subject of his Oration at the Medical Society on Monday last. "Abdominal Surgery" is fast losing the charm of novelty, and the marvellous results attained in this branch of the surgeon's art are familiar to all, and cease to excite the wonder with which they were first received. Sir William MacCormac wisely devoted himself to a consideration of one branch of this great subject, which has been the last to receive its meed of notice at the hands of surgeons, and has indeed only been opened up by the large experience now gained in the removal of abdominal tumors, and of the many contingencies attending it. "The Treatment of Injuries of the Intestine" was the theme of the Oration, and it is one well worthy of the attention of English surgeons. Our American brethren at present bear the palm in this region of operative surgery, and it is to Bull, Dennis, and Senn, among many others, that we are indebted for the best recent papers on this subject, and the best cases illustrating the line of practice they advocate.—*Lancet.*

OVER-FEEDING OF ARTIFICIALLY NURSED INFANTS.—The most frequent mistake in the artificial nourishment of newborn infants is giving them the quantity of food which the infant at six months, for

example, requires; disorder of the digestive organs quickly follows this constant overloading the stomach, the child soon loses its plumpness, then becomes rapidly emaciated, gastric catarrh and diarrhœa set in, and the poor creature dies starved to death by over-feeding. The proper remedy, the true way to prevent this evil in public institutions, and often in private practice, is to have nursing-bottles which will hold only the quantity of food needed; for example, instead of using a bottle which holds four to six ounces, as that generally used does, employ one which will hold only two ounces, for an infant during at least the first two months of its life. We believe, if this rule be observed, the mortality of hand-fed infants would be materially lessened.—*Med. News.*

THE LAST HOURS OF THE LATE DR. WILSON FOX.—On the next morning, when obviously and consciously dying, and after his eyes had been fixed for a few minutes on the angle of the room, and as some grey streaks of dawn were entering it, he said suddenly—"There is a great light, a great glare of light . . . I feel so strange . . . a glare of light. What is it, Reynolds?" The reply was—"It is the peace of God." He grasped his friend's hand firmly and said, "God bless you," and in a few minutes after this

"His soul to Him who gave it rose,
God led him to his long repose,
His glorious rest.
And though the warrior's sun has set,
Its light shall linger round us yet,
Bright, radiant, blest."

Yes, dear Wilson Fox has gone into that light in which he trusted all his life through; the light that knows nor cloud nor shadow. This world is greatly poorer, but the higher world is richer in receiving, with bright welcome, a soul so strong, so loving, so good, so tender, and so true.—*Lancet.*

A SURGEON REFUSED HIS FEE.—The newspapers give prominence to a dispute between Dr. H. Marion Sims and Nat. Goodwin, the husband of the late Eliza Weathersby, the actress. Payment is refused on the old ground that "the treatment did no good." Dr. Sims was called in consultation by the attending physician, Dr. T. S. Robertson, who was in doubt as to the nature of an abdominal tumor from which his patient suffered. The result of the consultation, that an operation afforded the only hope of cure, being communicated to the patient, she earnestly requested its performance. The outcome being fatal, the husband claims that the operation did no good and should not be paid for! Under this extraordinary theory surgeons would soon have to abandon their work. Such actions as those indicated above are particularly unjust. Many surgeons undertake desperate operations against their own inclination and even interest, solely to give the patient an only chance. In such cases the attempt to escape the payment of the fee by claiming that "treatment did no good," furnishes an illustration of colossal meanness beyond the power of dramatic art to exaggerate or even burlesque.—*N. Y. Med. Record.*

DOES IT FAVOR SAM?—The following is vouched for by a well-known South Carolina physician, who says it came under his personal observation in the "piney woods" of that State: "A certain girl was known to have been pretty 'thick' with a fellow named Sam. After a reasonable time, experiencing some pains which she had reasons to believe, and did verily believe, were the precursors of maternity, she sent for an old midwife who, upon examination, found *something* presenting, and proceeded with due formality to deliver, at the same time holding her peace. As soon as the young patient felt the relief of delivery, in a husky, tremulous voice she inquired, 'Does it favor Sam?' She had only been relieved of an enormous fœcal accumulation. Thus her secret got away from her."—*Atlanta Med. and Surg. Journal.*

A REMARKABLE BOTTLE OF CAMPHOR.—A young lady in Alabama was rendered speechless for a week by smelling a bottle of camphor. The married men in that community are all looking for that bottle.—*Fort Worth Gazette.*

THE ANNUAL DINNER OF THE ICHTHYOPHAGOUS CLUB.—When the small boy opens a book the first thing his eyes light upon is the word "Preface," and then he smiles a gentle smile as he repeats to himself the old, old words:

"Peter Rogers eats fish and catches eels;
Eels catches alligators; father eats rawr potatoes."

There is a whole-souled voracity about these remarks which touches the soul of a well-made boy. If, however, he could see the Ichthyophagous Club at its annual dinner at the Murray Hill Hotel, as it was last night, he would be filled with a deep and abiding joy. Eels may catch alligators and father may banquet upon potatoes *au naturel*, but the Ichthyophagous Club is like Peter Rogers. Live or die, it eats fish, and it eats them without distinction as to age, rankness, or previous condition of total depravity. In fact the ranker and more totally depraved a fish is the more certain is the Ichthyophagous Club to mark him for its own. The only fish the club has not yet been known to tackle is a Wall-Street shark; the digestion of the members has not been educated quite up to that point yet. Last night about fifty of them sat at three tables in the Murray Hill Hotel and dallied with the following dainty dishes: Bisque of crabs, bouchées of squid, sheepshead farci, with portwine sauce, skate à la Hollandaise, turban of filet of sole, sea robin, sauce râmoulade; German carp, with horseradish sauce; capon à l'Arthur, cold asparagus, ichthyophagous punch, salmon braisé, nesselrode pudding, coffee, cakes, and colic. The last-mentioned dainty was not on the bill of fare, but it got there just the same.—*N. Y. Times.*

WHAT THE SWEET GIRL GRADUATES EAT.—During the college year just closed the young women of Vassar are reported to have consumed 84,000 pounds of meat, 95,000 quarts of milk, 32,000 clams, and 100,000 buckwheat cakes.

MEDICAL NEWS.

AMERICAN MEDICAL ASSOCIATION.—The thirty-eighth annual meeting of the American Medical Association was held in Chicago, Ill., June 7, 8, 9, and 10. The address of welcome was made by Mayor Roche, and Dr. Chas. Gilman Smith, Chairman of the Committee of Arrangements, introduced the President of the Association, Dr. E. H. Gregory. The annual address by the President was on "Cell-Antagonism," and at its close Dr. Gregory spoke in feeling words of the death of Dr. W. O. Baldwin, ex-President of the Association, and referred to the now assured success of the approaching International Medical Congress. By an amendment to the by-laws a section on dermatology and syphilography was created. The report of the board of trustees for the publication of the journal of the Association included that of the editor, Dr. N. S. Davis, which showed that the affairs of the *Journal* are in a flourishing condition, the number of paying subscribers being now over 3,000, and the annual receipts amounting to \$20,000. The total expense of publishing the journal during the year had been \$15,921.

Certain changes in the constitution, embodied in regulations which have been in operation for the past four years, under resolutions adopted in 1882 and 1883, were ordered to be laid upon the table, subject to ratification at the next annual meeting, as well as amendments to the by-laws to the effect that the chairmen of sections shall be required to prepare addresses on the recent advancement in their departments, which shall not occupy more than forty minutes in their delivery, and that three members of the profession shall be elected by the Association to deliver addresses in the general sessions of the Association which shall not exceed one hour in their delivery.

A resolution was adopted tendering the aid and co-operation of the Association to the American Pharmaceutical Association in promoting the prescribing of officinal medicines only, or of such preparations as have published formulas in preference to others.

The address in Practice of Medicine was delivered by J. S. Lynch, Baltimore; in Dental and Oral Surgery, by Dr. J. S. Marshall, of Chicago; in State Medicine, by Dr. G. H. Rohe, of Baltimore; in Diseases of Children, by Dr. G. S. Knox, of Chicago; in Medical Jurisprudence, by Dr. J. M. Quimby, of Jersey City; and in Obstetrics and Diseases of Women, by Dr. F. M. Johnson, of Kansas City.

The following resolution, proposed by Dr. J. McF. Gaston, of Atlanta, was adopted: *Resolved*, That it is the sense of this Association that it is desirable that two other members of the medical profession be associated with the Committee on Inoculation of Yellow Fever already appointed, and that a committee of three be appointed to communicate this action to President Cleveland. This action was afterwards rescinded.

One thousand dollars was appropriated for the expenses of the In-

ternational Medical Congress, and the hope was expressed that every member of the Association would make immediate and liberal contributions, besides the amount required for membership in the Congress.

Dr. N. S. Davis made a report concerning the collective investigation of disease in co-operation with the committee of the British Medical Association. The following resolutions, prepared by Dr. Davis, were adopted :

First, That regular graduates of dental and oral schools and colleges which require of their students a standard of preliminary or general education to the term of professional study be recognized as members of the regular profession of medicine and eligible to membership in this Association on the same conditions and subject to the same regulations as other members.

Second, That the Committee of Arrangements are hereafter directed, at each annual meeting of this Association, to so arrange the programme regarding entertainments and receptions that the evening of the third day be reserved for the regular annual dinner under such regulations that the members may dine with or without wine, according to choice, and pay only for what they elect to have furnished, and that that be the entire cost of the dinner, leaving no part to be paid either by the local profession or the treasurer of the Association.

The following officers were elected for the ensuing year :

President—A. Y. P. Garnett, of Washington.

First Vice-President—Duncan Eve, Nashville, Tenn.

Second Vice-President—Darwin Colvin, Clyde, N. Y.

Third Vice-President—Charles J. O. Hagan, North Carolina.

Fourth Vice-President—A. Stedman, Colorado.

Librarian—C. H. A. Kleinschmidt, Washington.

Treasurer—R. J. Dungleison, Philadelphia.

Permanent Secretary—W. B. Atkinson, Philadelphia.

Assistant Secretary—Joseph Ransohoff, Cincinnati.

Trustees of the Journal—Leartus Connor, Detroit; E. O. Shakespeare, Philadelphia; W. T. Briggs, Tennessee.

Judicial Council—J. H. Murphy, St. Paul; J. M. Toner, Washington; J. K. Bartlett, Milwaukee; A. B. Sloane, Missouri; X. C. Scott, Cleveland; A. W. McLuer, Iowa; D. W. Stormont, Kansas; J. H. Hibberd, Indiana.

Committee on Necrology—J. M. Toner, Chairman.

Committee on State Medicine—R. G. Jennings, Little Rock, Chairman.

The officers elected by the Sections were as follows :

Surgery—Donald McLean, Ann Arbor, Chairman; B. A. Watson, Jersey City, N. J., Secretary.

Medicine—A. B. Palmer, Ann Arbor, Chairman; N. S. Davis, Jr., Chicago, Secretary.

State Medicine—H. B. Baker, Lansing, Mich., Chairman; S. T. Armstrong, Tennessee, Secretary.

Children—F. E. Waxham, Chicago, Chairman; W. B. Lawrence, Batesville, Ark., Secretary.

Dental and Oral Surgery—J. Tafft, Cincinnati, Chairman; E. S. Talbot, Chicago, Secretary.

Ophthalmology and Otology—F. E. Hotz, Chicago, Chairman; H. H. Jackson, Philadelphia, Secretary.

Dermatology and Syphilography—L. Duncan Bulkley, New York, Chairman; T. Fayette Dunlap, Secretary.

Medical Jurisprudence—E. M. Reid, Baltimore, Chairman; Dr. Belt, Boston, Secretary.

The following were appointed to deliver the addresses in the general meetings next year: *On Medicine*, R. Beverley Cole, of California; *Surgery*, E. M. Moore, of New York; *State Medicine*, J. S. Cabell, of Virginia.

The next annual meeting will be held at Cincinnati, on the second Tuesday in May, 1888, and the chairman of the committee of arrangements is Dr. W. W. Dawson.

AMERICAN MEDICAL EDITORS' ASSOCIATION.—This Association held its annual meeting and banquet at the Palmer House, Chicago, Monday evening, June 6. The address by the President, Dr. J. V. Shoemaker, of Philadelphia, was on "Some Thoughts on the Abuses of Medical Journalism," and Dr. Wm. Porter, of St. Louis, was elected President for the ensuing year.

NEW YORK STATE MEDICAL ASSOCIATION, FIFTH DISTRICT BRANCH.—The Third Annual Meeting of the Fifth District Branch of the New York State Medical Association was held at Remsen Hall, Brooklyn, on Tuesday, May 24, 1887. The meeting was called to order by the president, Dr. Isaac E. Taylor, at 11:35 A.M. The morning session was devoted to the annual address of the President, the business of the Branch, and a scientific paper, "Therapeutic Effects of Ammonium Salicylate, with Cases,"* by Dr. J. D. Sullivan, of Brooklyn, which was discussed by Drs. Geo. Wieber, A. L. Carroll, T. M. Lloyd, and E. H. Squibb.

The afternoon session was opened at 2:30 P. M., with a very interesting paper on "Trephining in Gun-shot Injuries of the Skull,"† by Dr. Frederic S. Dennis, of New York City. The paper gave marked evidences of a large amount of work and careful study. The author illustrated his remarks by a number of skulls marked to show the localities to be avoided when operating, and he also presented actual specimens of 114 operations performed. The paper was discussed by Drs. Garrish, Carroll, and the author, and was unanimously ordered to be published. The other paper of the afternoon was on "The Abortive Treatment in Acute Diseases," by Dr. R. C. Van Wyck, of Hope-well Junction, Dutchess County. After the report of the nominating committee had been received, the meeting adjourned at 4 P. M.

* See page 16,

† This paper, as well as Dr. Van Wyck's, will be published in the JOURNAL.

The President's address was as follows: I was not aware, Fellows of the Fifth District Branch of the New York State Medical Association, at the time of my elevation to the presidency of that Association, that it carried with it the presidency of this Branch. I find, however, that it is a dual office, and I must, therefore, conform to the by-laws, although I would have much preferred that some other Fellow of the Branch should have been elected President.

It is not necessary for me to assure you that I esteem it an honor which any Fellow of this Branch ought to be gratified with. I doubt not, gentlemen, that you will accord to me the desire to have you aid me in every way to fulfil the duties incident to the position, which it shall be my pleasure, as well as obligation, to faithfully perform to the best of my ability. The same interest which has always been felt in our body I trust will animate the members of all the other Branches.

There should be no ordinary efforts made in behalf of our State Association, especially in consideration of its youthfulness, as it is now of only four years' growth. It will, I feel assured, claim all the attention that your duties and the many demands upon your time will permit you to give it, and I doubt not that the interest which you have hitherto felt in it will be steadily maintained.

Every new scientific medical enterprise, based on solid, just, and honorable principles, should be the object of an active, working interest, if it hopes to attain success and continue in that prosperity which its usefulness ought to command.

The failure on the part of the Fellows of a Branch to fulfil the obligations they are under to advance and maintain its objects must necessarily reflect on the parent body, and this, I know, none of us would willingly have occur.

The work this Branch has already undertaken and accomplished through its able and active membership is an earnest of the zeal of our Fellows for the future, and cannot but stimulate us to engage in yet more extensive spheres of labor hereafter. Great as has been the success of the State Association—and it has certainly been a most admirable one—it is destined to advance steadily to a still more commanding position, and there is, therefore, much encouragement for increased activity and interest.

I will not, gentlemen, trespass further on your valuable time, as there are important scientific papers to be read and discussed, and the regular business of the annual meeting of the Branch must also claim your careful attention.

NINTH INTERNATIONAL MEDICAL CONGRESS—*Section in Psychological Medicine and Nervous Diseases.*—It is proposed to give one of the sessions of the Section in Psychological Medicine and Nervous Diseases during the meeting of the Medical Congress to a discussion on syphilis and its relations to insanity. The discussion will be opened by Dr. George H. Savage, senior physician Bethlehem

Royal Hospital, London, England, and will embrace the following division: 1. Idiocy, imbecility, moral perversions due to inherited syphilis. 2. Insanity associated with acute syphilis, (*A*) physical, (*B*) moral. 3. Syphilis producing epilepsy, with or without insanity. 4. Syphilis producing mental weakness, (*A*) with, (*B*) without paralysis. 5. Syphilis as associated with general paralysis of the insane. 6. Pathology, as represented by coarse changes like gummata, or slighter ones as seen in arterial disease. Several of our English confrères have already arranged to take part in the above.

Those who intend to engage in the discussion of one or more of the above "questions" should send notice to the secretary. The time allowed for each paper in discussion is ten minutes. Tabular and bibliographical material can appear in the printed paper, but it is respectfully suggested that the matter prepared for reading be as illustrative and pointed as possible. Clinical observations, post-mortem appearances, and conclusions will be specially applicable. Papers relating to syphilis and nervous diseases will also be read during the same session. E. D. FERGUSON, M.D., Troy, N. Y., *Sec'y, &c.*

Section 9 of Pathology: Microscopical and Pathological Exhibit.—Drs. A. B. Palmer and E. M. Schaeffer, president of the section of pathology and chairman of the committee on the exhibit respectively, announce that in connection with the section of pathology there will be an exhibit of objects relating to microscopical anatomy and pathology, including bacteriology, and illustrations of ptomaines and leucomaines, and whatever else may throw light upon intimate pathological processes. All persons willing to contribute to the exhibit are requested to forward a list of the objects they propose to display at as early a date as possible to the address of Edward M. Schaeffer, M.D., Washington, D. C.

The president and other officers of the section of pathology request further contributions to the section on any pathological subjects, but are particularly desirous of articles on the pathological relations of ptomaines and leucomaines, the morbid anatomy and pathology of alcoholism, the etiology and pathology of cholera and yellow fever, the pathology of tubercle and tuberculosis, the influence of inhibition in inducing and modifying pathological processes; and, in connection with the exhibits, descriptions, and essays which may go into the records of the section.

15th Section: Public and International Hygiene—Dr. P. Brynberg Porter, of New York, has been appointed one of the Vice-Presidents of this section.

Appropriations.—The Illinois State Medical Society has appropriated \$750, and the Nebraska State Medical Society \$50, towards defraying the expenses of the Congress.

AMERICAN SURGICAL ASSOCIATION.—The annual meeting of this society was held at Washington, D. C., May 11, 12, and 13, 1887, the President, Dr. Hunter McGuire, of Richmond, Va., in the chair.

The President delivered the annual address, the subject of which was, "The Need and Value of Co-operative Work in Surgery." Papers were read by Dr. F. S. Dennis, of New York, "On the Exploration of the Bladder by the Supra-Pelvic Method"; Dr. J. H. Packard, of Philadelphia, "On Supra-Pelvic Cystotomy for Purposes Other Than the Extraction of Calculus"; Dr. A. Vanderveer, of Albany, N. Y., "On the Classification of Vesical Calculi for Operations, with Report of Cases and Remarks on the Different Methods Employed"; Dr. C. B. Nancrede, of Philadelphia, "On Laparotomy for Penetrating Wounds of the Abdomen Involving Viscera"; Dr. R. A. Kinloch, of South Carolina, "On a Case of Gunshot Wound Treated by Laparotomy"; Dr. W. W. Keen, of Philadelphia, "On Pistol-shot Wound of the Abdomen: Laparotomy, Nephrectomy, Death"; Dr. J. Collins Warren, of Boston, "On a Study of the Process of Repair after Resection of the Intestine, and Some of the Complications Which May Occur"; Dr. J. E. Michael, "On a Case of Ventral Hernia Successfully Treated by Operation"; Dr. D. Hayes Agnew, of Philadelphia, "On the Medico-Legal Aspect of Cranial and Heart Wounds"; Dr. L. McL. Tiffany, of Baltimore, "On Surgical Diseases of the White and Colored Races Compared"; Dr. B. A. Watson, of Jersey City, "On an Experimental Study of the Effects of Puncture of the Heart in Cases of Chloroform Narcosis"; T. G. Richardson, of New Orleans, "On a Case of Femoral Aneurism Cured by Elevation and Flexion of the Limb"; Dr. T. J. Dunott, of Harrisburgh, Pa., "On Hypertrophy of the Tongue"; Dr. J. F. Thompson, of Washington, D. C., "On Two Cases of Vaginal Hysterectomy"; Dr. James McCann, of Pittsburgh, Pa., "On Splenectomy."

Resolutions approving of the formation of a Congress of American Physicians and Surgeons were adopted, and Dr. C. H. Mastin, of Mobile, was appointed as representative on the proposed executive committee to make arrangements for the meeting of the Congress. The following officers were elected for the ensuing year: President, Dr. D. Hayes Agnew, Philadelphia; Vice-Presidents, Drs. N. Senn, Milwaukee, and F. S. Dennis, of New York; Secretary, Dr. J. R. Weist, Richmond, Ind.; Recorder, Dr. J. Ewing Mears, Philadelphia; Treasurer, Dr. P. S. Conner, Cincinnati; Member of the Council, Dr. J. S. Billings, Washington, D. C. The following surgeons were elected to membership: Drs. C. B. Porter, Boston; W. M. Mastin, Mobile; and M. H. Richardson, Boston.

TEXAS STATE MEDICAL ASSOCIATION.—The nineteenth annual meeting of this society was held at Austin April 26, 27, 28, and 29, Dr. T. H. Nott presiding. The attendance was large, there being about three hundred members present, and many papers of interest were presented. The Committee on Collection of Surgical Cases, Dr. George Cupples, Chairman, submitted their annual report for 1886, comprising 1,046 operations, which, added to 4,293 operations included in the report presented at the last meeting, made an aggregate of 5,339 operations reported. The Secretary, Dr. F. E. Daniel, was

fully exonerated by the Judicial Council from certain charges brought against him by Dr. J. R. Briggs, and was re-elected Secretary for a term of five years. The other officers elected were as follows: President, Sam. R. Burroughs; First Vice-President, R. T. Knox; Second Vice-President, A. M. Douglass; Third Vice-President, A. A. Terhune; Treasurer, J. Larendon, of Houston; Judicial Council: P. C. Coleman, R. Rutherford, M. Knox, R. C. Nettles (New Members); Section on Practice, C. M. Ramsdell, Chairman; Section on Obstetrics, J. J. Dial, Chairman; Section on Surgery and Anatomy, A. W. Fly, Chairman; Section on Medical Jurisprudence, etc., H. A. West, Chairman; Section on State Medicine, S. M. Swearingen, Chairman; Section on Gynæcology, G. W. Christian, Chairman; Section on Ophthalmology, B. A. Pope, Chairman; Section on Dermatology, H. W. Dudley, Chairman; Section on Electro-Therapeutics, R. W. Knox, Chairman. Galveston was fixed upon as the next place of meeting. During the session fifty-two new members were admitted.

THE RECENT MEETING OF THE TENNESSEE STATE MEDICAL SOCIETY.—The proceedings of the Fifty-fourth Annual Meeting of the Tennessee State Medical Society will be found unusually full and interesting. The meeting was the largest held for a number of years, every section of the State being represented. Harmonious action and good feeling prevailed throughout the entire meeting, and every member seemed actuated with the desire to make the proceedings interesting. Work was the order of the day, and good work was done, as may be inferred from the fact that the society did not find time to accept any of the numerous invitations extended to it. The character of the papers presented was of the highest order, and the discussions were unusually free and interesting. Among other important matters transacted, none was more creditable than the collection by subscription of a sum of money to be donated to the International Medical Congress.—*Nashville Journal of Medicine and Surgery*.

ASSOCIATION OF GENITO-URINARY SURGEONS.—The first annual meeting of this society was held at the Laurel House, Lakewood, N. J., May 17 and 18, 1887. Dr. E. L. Keyes, of New York, was elected President, and Dr. R. W. Taylor, of New York, Secretary and Treasurer. Among the papers read and discussed were the following: "On Chancroid," by Dr. F. B. Greenough, of Boston; "On Horny Growth of the Penis, with Exhibition of a Remarkable Case," by Dr. J. H. Brinton, of Philadelphia; "Supra-Pubic Cystotomy for Vesical Tumor and Large Calculus, with Comments upon Suture and a Suggestion for Drainage," by Dr. E. L. Keyes; "Case of Hysterectomy for the Relief of Pyelitis from Obstruction," by Dr. A. T. Cabot, of Boston; "On the Choice of Operation for the Removal of Vesical Calculus in Cases Complicated by Prostatic Obstruction," by Dr. J. P. Bryson, of St. Louis; "Idiosyncrasy as Affecting the Specific Treatment of Syphilis," by Dr. P. A. Morrow, of New York; "Observations on the Use of Oil of Wintergreen in the Treatment of Gonorrhœal Rheuma-

tism," by Dr. R. W. Taylor; "Practical Observations on the Treatment of Late Neoplasms of Syphilis," by Dr. A. S. Garnet; "Some Cases of Pyelitis in which Frequent and Painful Micturition was the Chief Symptom," by Dr. George Chismore, of San Francisco; "On Temporary Overstrain of the Bladder Producing Chronic Retention of Urine," by Dr. F. N. Otis, of New York; "Early Syphilitic Epididymitis," by Dr. J. N. Hyde, of Chicago; "Prostatotomy for Obstruction: Two Cases," by Dr. A. T. Cabot; "A Plea for the More General Use of Nitrate of Silver in the Deep Urethra, with an Improved Instrument for its Application," by Dr. E. L. Keyes; "A Rare Form of Septicæmia, Following Operation for Urethral Stricture: Septicémie Foudroyante Gazeuse," by Dr. R. W. Taylor; "Exhibition of Sections of Tubercular Testes with Bacilli, and of the Coexistent Bacilli in the Sputum," by Dr. R. W. Taylor.

STATE MEDICAL ASSOCIATION OF ALABAMA.—The annual meeting of this Association was held in Tuscaloosa, April 12th to 16th. The original papers read before the Association are on the increase as to number and value, compared with previous sessions of the Association. The omnibus discussion, led by Dr. Searcy, of Tuscaloosa, was lengthy, yet interesting. Fourteen years ago this Association was organized with the present constitution, and though much doubt was expressed as to its successful future the Association has triumphed, and to-day stands a living ornament to the glory of the profession of Alabama. The machinery of the Association is almost without a friction, and as near perfect as could be expected from one brain. We say one brain, for it is the result of one man's brain. The entire ritualistic working of the Association was conceived and formulated by Dr. Jerome Cochrane. This Association should be the pride of every physician in the State. Support your medical association and it will support you. Its glory will be your exaltation.—*Alabama Med. and Surg. Journal.*

THE LATE SESSION OF THE NORTH CAROLINA MEDICAL SOCIETY.—The *Journal* again congratulates the North Carolina Medical Society after the adjournment of another successful session. The increasing roll of the organization has brought into the membership a determination to make these meetings a gathering of doctors who have assembled with the single purpose of mutual improvement. And this laudable object has been persistently, patiently followed, with an earnestness that impresses not only the visitors whom we have had the pleasure to welcome in our midst, but also the older members, who have watched with pride and affection the growth of the Society year by year. It is no reflection upon the the men who have made the meetings in the past years to say that there is a change for the better, for this is observable to any one; nor is such a conclusion construable into any reflection upon the former days of the Society.—*N. C. Med. Journal.*

THE MICHIGAN STATE MEDICAL SOCIETY held its twenty-second annual meeting on May 12th and 13th inst., at Lansing. The following were elected officers for the ensuing year: President, Dr. T. A. McGraw, of Detroit; Vice-Presidents, Drs. G. V. Tyler, of Bay City; W. J. Herdman, of Ann Arbor; G. L. Rose, of Decatur; F. J. Gronn, of Big Rapids; Secretary, Dr. George Duffield, of Detroit; Treasurer, Dr. A. B. Hemenway, of Kalamazoo.

THE SOUTHWESTERN KENTUCKY MEDICAL ASSOCIATION, Dr. R. T. Hocher, President, and Dr. B. F. O'Daniel, Secretary, met at Paducah, June 14.

THE ST. CHARLES CO. (MO.) MEDICAL SOCIETY was organized at Wentzville, Mo., on May 17. The following were chosen officers for the ensuing year: President, J. A. Talley; Vice-President, J. C. Edwards; Secretary, H. H. Vinke; Treasurer, M. D. Carter.

The most interesting part of the proceedings was a report by Dr. Edward Talley, of Wentzville, "On the Treatment of Tuberculosis by Bergeon's Method." Dr. Talley is unfortunately suffering from phthisis himself, but stated that since the employment of Bergeon's treatment cough, expectoration, night sweats and other distressing symptoms have been materially improved, and that he is in hopes of being perfectly cured.—*Journal of Amer. Med. Association.*

AN INTERNATIONAL CONGRESS OF INEBRIETY is to be held in London on the 5th and 6th of July, under the Presidency of Dr. Norman Kerr. Among the American gentlemen whose names are included in the list of Vice-Presidents are Dr. T. D. Crothers, Dr. N. S. Davis, Dr. J. H. Blanchard, Dr. L. D. Mason, Dr. C. H. Hughes, Dr. J. B. Mattison, Dr. Joseph Parish, Dr. T. L. Wright, Dr. E. C. Mann, and Albert Day. Dr. Crothers is the chairman of the American committee.

DR. WM. GOODELL, of Philadelphia, has changed his residence to 1418 Spruce Street.

MORTALITY IN THE STATE OF NEW YORK.—The bulletin of the State Board of Health announces that the total reported mortality for the month of April was 7,967; of which 30.6 per cent. were under five years of age. From zymotic diseases there were 1,089 deaths, a ratio of 136.20 per 1,000 total mortality (211.11 in March). From consumption the ratio of mortality is 143.25 and 207.46 per 1,000 above the age of five years. The combined death-ratio per 1,000 from zymotic diseases, consumption, and puerperal diseases is 292.00. From acute respiratory diseases there were 167.62 deaths per 1,000 total mortality.

NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.—At a meeting of the Board of Directors of this institution held May 31, Dr. Charles Carroll Lee was elected Professor of the Diseases of Women. Associate Professor J. R. Nilsen was also elected professor

in the same department, to fill the vacancy caused by the resignation of Dr. A. J. C. Skene. Several new instructors were appointed, among them Dr. Joseph O'Dwyer. The last year's sessions of the school have been attended by more than two hundred matriculates.

THE BALTIMORE ACADEMY OF MEDICINE.—The following-named gentlemen have been elected officers for the ensuing year: Dr. W. C. Van Bibber, President; Dr. B. B. Browne, Vice-President; Dr. C. C. Bombaugh, Secretary; Dr. G. L. Taneyhill, Treasurer; Dr. W. B. Canfield, Reporting Secretary; and Dr. T. A. Ashby, Dr. R. T. Wilson, and Dr. Hiram Woods, members of the Executive Committee.

YELLOW FEVER AT KEY WEST.—Up to June 19 there were reported 34 cases in all, with 13 deaths.

DR. HUNTER MCGUIRE received the degree of LL.D. at the recent commencement of the University of North Carolina.

THE TEXAS COURIER-RECORD OF MEDICINE with its May number passed into the hands of the Texas Medical Publishing Company, a corporation recently organized, and is for the present under the editorial management of Drs. H. K. Leake and S. D. Thruston. The prospects of the journal under the new *régime* appear to be flattering, and it has our best wishes for its continued prosperity.

STILL ANOTHER NEW TREATMENT FOR PHTHISIS.—Dr. Kolischer, a Vienna physician, is said to have been successful in curing tuberculous patients by producing artificial calcification of the diseased lung tissue by means of hypodermic injections of what he calls calcium phosphoricum.

THE ASSOCIATION OF AMERICAN PHYSICIANS held its second annual meeting in Washington, D. C., June 2 and 3, with the President, Dr. S. Weir Mitchell, of Philadelphia, in the chair. Among the papers read were the following: "Cirrhosis of the Liver in Children," by Dr. R. P. Howard, of Montreal; "Obstructive Safety-Valve Action in the Heart, and Direct Functional Murmurs," by Dr. John Guitéras, of Charleston; "Pneumatic Differentiation," by Dr. H. A. Johnson, of Chicago; "Methods of Literary Research," by Dr. J. S. Billings, U. S. A.; "The Antipyretic Treatment of Fever," by Dr. H. C. Wood, of Philadelphia; "The Treatment of Typhoid Fever by Antipyrin and Thallin," by Dr. Francis Minot, of Boston; "Hemorrhagic Infarction," by Dr. W. H. Welch, of Baltimore; "Bergeon's Method of Treating Phthisis," by Dr. E. T. Bruen, of Philadelphia; "Clinical Notes on Bergeon's Treatment," by Dr. F. C. Shattuck, of Boston; "Atrophy of the Gastric Tubules—Its Relation to Pernicious Anæmia," by Dr. F. P. Kinnicutt, of New York; "A Third Contribution to the Study of Localized Cerebral Lesions," by Dr. E. C. Seguin, of New York; "Forms of Typhoid Fever Simulating Remittent Malarial Fever," by Dr. I. E. Atkinson, of Baltimore.

The report of the Committee on the Congress of American Physicians and Surgeons was received and adopted, and Dr. Wm. Pepper, of Philadelphia, appointed as the representative of the Association. The following officers were elected for the ensuing year: President, W. H. Draper, New York; Vice-Presidents, Francis Minot, Boston, and J. P. Palmer, Montreal; Recorder, Wm. Osler, Philadelphia; Secretary, Henry Hun, Albany; Treasurer, W. W. Johnston, Washington.

PORRO'S OPERATION.—This modern modification of, or addition to, the old operation known as the Cæsarean section, was performed by Sir Spencer Wells in London on Wednesday morning, May 11 on a patient of Mr. Scattergood's, of Leeds, who was present at the operation. Mother and child were both going on well twenty-four hours after operation. The uterus, both ovaries, and a fibroma weighing nine pounds, which had rendered delivery *per vias naturales* impossible, were all removed.—*British Med. Journal.*

A TRAINING SCHOOL FOR MALE NURSES.—A building designed as a training school for male nurses is to be erected by Dr. D. O. Mills, in the grounds of Bellevue Hospital, at an estimated cost of \$80,000. It is to be organized on the same general plan as the schools for female nurses now in such general operation. The architectural plans have been approved by the Commissioners of Charities and Correction, and the James R. Wood anatomical and pathological collection is to be placed in a large apartment at the top of the building which will be separated from the rest of it by a fire-proof wall. On the floor below, quarters will be provided for the house-staff of the hospital. Part of the second floor will be given up to the sleeping rooms of the male nurses, and the rest devoted to lecture-rooms, while the general offices of the institution will be on the ground floor. By a happy coincidence, on the very day that the Commissioners were ordered to tear down the old museum building which has contained the Wood collection for many years the generous offer of Mr. Mills was made through his friend, Mr. W. H. Osborn, whose wife presented the noble Sturgis pavilion to Bellevue Hospital.

THE ATLANTA UNIVERSITY for colored people has established a training school for nurses, which we learn is doing a good work.—*Atlanta Med. and Surg. Journal.*

THE BILL TO REGULATE THE PRACTICE OF MEDICINE IN NEW YORK STATE passed the Legislature on May 23.

THE AMERICAN CLIMATOLOGICAL ASSOCIATION held its fourth annual meeting at Baltimore May 31 and June 1. The President, Dr. Frank Donaldson, Sr., of Baltimore, delivered an address "On the Prophylactic Treatment of Those Who Inherit a Predisposition to Phthisis," and among the other papers read were the following: "The Philosophy of Climatic Treatment of Diseases of the Chest," by Dr.

J. R. Leaming, New York; "The Influence of Sea Air on Syphilitic Phthisis," by Dr. R. G. Curtin, Philadelphia; "The Causes of Cardiac Failure in High Altitudes," by Dr. F. Donaldson, Jr., Baltimore; "The Local Treatment of Diseases of the Respiratory Organs," by Dr. B. F. Westbrook, Brooklyn.

THE MASSACHUSETTS STATE MEDICAL ASSOCIATION held its one hundred and sixth annual meeting June 7 and 8, in Boston. The following officers were elected: President, Dr. T. H. Gage; Vice-President, W. G. Buck; Corresponding Secretary, C. W. Swan; Recording Secretary, F. W. Goss; Treasurer, F. W. Draper; Orator, Dr. B. J. Jeffries. The annual banquet was served in the Clarendon Street Rink, and was attended by upwards of nine hundred of the Fellows.

THE CONNECTICUT STATE MEDICAL SOCIETY held its ninety-ninth annual meeting in Hartford May 25 and 26. The following officers were elected: President, Francis Bacon; Vice-President, G. L. Porter; Treasurer, E. P. Swasey; Secretary, S. B. St. John; Dissertator, W. H. Carmalt.

THE AMERICAN LARYNGOLOGICAL ASSOCIATION held its ninth annual meeting in New York May 26, 27, and 28. The President, Dr. E. F. Ingalls, of Chicago, delivered an address on "Intubation of the Larynx," and among the other papers read were the following: "A Study of Some of the Objectionable Features of Intubation," by Dr. C. E. Sajous, Philadelphia; "Description of a Modified Laryngectomy," by Dr. J. Solis-Cohen, Philadelphia; "The Pathological Nasal Reflex," by Dr. J. N. Mackenzie, Baltimore; "The Treatment of Atrophic Rhinitis by Applications of the Galvano-Cautery," by Dr. D. B. Delavan, New York; "Further Remarks upon the Function of the Recurrent Laryngeal Nerve," by Dr. F. Donaldson, Jr., Baltimore; "The Galvano-Cautery in the Treatment of Hypertrophied Tonsils," by Dr. C. H. Knight, New York; "Stenosis of the Larynx," by M. J. Asch, New York; "The Etiology of Deflections of the Nasal Septum," by D. B. Delavan, New York; "Recurrent Naso-Pharyngeal Tumor Cured by Electrolysis," by Dr. R. P. Lincoln, New York; "A Comparative Study of Some of the Methods of Treatment Best Adapted to the Relief of Occlusion of the Posterior Nares," by Dr. A. W. McCoy, Philadelphia; "Plaster-of-Paris Dressing for Fracture of the Nose," by Dr. J. W. Robertson, of Detroit. The following officers were elected for the ensuing year: President, R. P. Lincoln, New York; Vice-Presidents, J. N. Mackenzie, Baltimore, and S. W. Langmaid, Boston; Secretary and Treasurer, D. B. Delavan, New York. Drs. A. Gougenheim, of Paris, and J. Moure, of Bordeaux, were elected Corresponding Fellows.

A SUIT GAINED BY THE NEW YORK HOSPITAL.—In a recent suit for \$30,000 damages against the New York Hospital a verdict was

awarded against the plaintiff, who claimed that impotence had resulted from injury of both ejaculatory ducts and the rectum in a cystotomy performed by Dr. W. T. Bull, surgeon to the institution, for the relief of cystitis, in consequence of which all the semen escaped into the bladder. At the trial Drs. Bull, Shrady, and Bangs testified that such an injury was impossible under the circumstances.

BELLEVUE HOSPITAL, NEW YORK.—Dr. George B. Fowler has been appointed visiting physician in the place of Dr. E. D. Hudson, deceased.

PRACTITIONERS' SOCIETY OF NEW YORK.—Dr. George F. Shrady has been re-elected President, and Dr. C. L. Dana Secretary of this society.

GERMAN HOSPITAL, NEW YORK.—Drs. A. Caillé and Wm. Balser have been appointed visiting physicians to this hospital.

DEATH OF DR. ROCHESTER.—Dr. Thomas F. Rochester, one of the leading physicians of Buffalo and Western New York, died May 24, of Bright's disease. He was born in Rochester in 1823, and graduated from Geneva College in 1845. He received the degree of M.D. from the University of Pennsylvania in 1848, and afterwards continued his medical studies in the principal European cities for some time. In 1858 he established himself in New York, but two years later left the city to accept the chair of Principles and Practice of Medicine and Clinical Medicine in the University of Buffalo. Dr. Rochester was a prominent medical writer and consultant, and during the late war was appointed by President Lincoln to inspect the Union field hospitals. In 1875 he was elected President of the Medical Society of the State of New York, and up to the time of his last illness he was a leading Fellow of the New York State Medical Association, of which he was one of the founders.

DEATH OF PROFESSOR GOSSELIN.—Leon Gosselin, the distinguished French surgeon who succeeded Velpeau as Professor of Clinical Surgery, died in April, after a long and painful illness. At the time of his death he was President of the Academy of Sciences.

DEATH OF DR. FULTON.—Dr. John Fulton, of Toronto, for seventeen years editor of the *Canada Lancet*, died in May at the age of fifty years.

THE DEATH OF DR. CARL FRIEDLÄNDER, the eminent Berlin pathologist, is announced.

DR. JOHN Q. BIRD, for three years President of the Police Board of Jersey City, and recently appointed on the visiting staff of the Jersey City Hospital, died on June 17, of septicæmia, contracted from a

slight wound received while making an autopsy at the hospital. Violent inflammation set in, and in spite of the most active exertions on the part of Dr. T. R. Varich, the attending surgeon, fatal blood-poisoning resulted. Dr. Bird was about forty years of age, and for seventeen years was connected with the Jersey City Police Department, either as police surgeon or as a member of the governing board.

DEATH OF DR. WOOLSEY JOHNSON.—Dr. Woolsey Johnson, lately one of the Health Commissioners of this city, died of Bright's disease June 21, in the 46th year of his age. He had devoted himself with much success to diseases of the throat, and was extremely popular in general society, as well as in the profession.

EDITORIALS.

THE MEETING OF THE AMERICAN MEDICAL ASSOCIATION.—The recent meeting in Chicago was a very successful one both as regards members and scientific interest, while socially no gathering could have well been more attractive. The address of the President, Dr. Gregory; on "Cell Antagonism," was most scholarly and able, and eminently worthy of the occasion; and the work done in the sections was for the most part also of a high scientific order. Much enthusiasm was displayed throughout the meeting, and although the attendance was extremely large—there being between twelve and thirteen hundred names on the register—nothing occurred to mar its harmony. The selection of Dr. Garnett, of Washington, as the next President was a happy one, and the appointment of Dr. W. W. Dawson as Chairman of the Committee of Arrangements gives assurance of a successful and agreeable meeting at Cincinnati in 1888. Chicago well maintained its reputation for hospitality, and on the first evening four, and on the third evening three, private receptions were given, while a most enjoyable public reception occupied the second evening, and the festivities were brought to a close by a pleasant excursion on the Illinois Central Railroad to Pullman. Both the *Journal and Examiner* and the *Standard* published excellent daily editions during the session.

THE YELLOW FEVER COMMISSION.—The rescinding of the resolutions offered by Dr. Gaston at the Association, providing for a committee to request the President to appoint two additional members on the commission sent out by the Government to investigate the subject of yellow fever inoculation, which were duly passed on the third day of the meeting, is in many respects to be regretted. The appointment of such additional members would not, in Dr. Gaston's opinion, imply any reflection on the ability of Dr. Sternberg, the present commissioner, or dissatisfaction with his appointment. In the memorial which he

prepared for presentation to President Cleveland he states that while Dr. Sternberg meets most satisfactorily all the requirements which could be filled by one individual for the prosecution of this important inquiry, it would be advantageous to have others associated with him who may relieve him of the labor of scrutinizing the statistics and analyzing the evidence afforded by the results of inoculation in Mexico and Brazil. The names of Drs. J. L. Guiteras and H. M. Lane are suggested, the former being familiar with the Spanish and the latter with the Portuguese language, and each having a knowledge of the habits and customs of the people in the respective localities. There are many points, it is claimed, for the investigation of this commission requiring much care and discrimination in the sifting of testimony which could be accomplished more effectively by three persons than by one or two.

"It would seem desirable", the memorial goes on to say, "to repeat the application of the culture virus used by Dr. Domingos Freire and the deposits from the urine of patients employed by Cremona. The summer of the northern hemisphere being suited to this exploration in Mexico, the present season seems to this committee as appropriate for studying this phase of the inquiry in that country, while in Brazil there is no scope for such observation at this time, but the months corresponding to our winter afford the climatic conditions favorable to the development of yellow fever, which would enable the commission to test the use of inoculation in Rio de Janeiro. It is only by actual experiment with the yellow fever as it prevails in these localities that the Government commission can arrive at a final conclusion as to its efficiency, and the committee trust it may not be transcending the powers entrusted to it to respectfully invite your careful attention to these considerations as good and sufficient reasons for making the addition of two members to your commission. The essential element of microbial origin devolves necessarily upon one acquainted with bacteriology, and skilled in the examination with the microscope, as all are ready to allow belong in an eminent degree to Dr. Sternberg. But the conclusion to be reached in regard to the reality in the matter of protection by inoculation requires familiarity with the language and habits of the people subjected to this scrutiny and practical discrimination as to the nature of the prevailing disease, with rigid observation of all the rules in taking testimony that shall rule out any deception. In these special departments, Drs. Guiteras and Lane have the requisite qualifications. The great desideratum in all experimental developments is to get at the facts, and if it is made to appear that the yellow fever may be prevented entirely, or so far modified as to rid it of its terrors by inoculation with the cultivated virus, there can be no longer any doubt of its efficacy. There are so many conditions involved in the verification of experiments among different classes of people as to necessitate the varied processes of investigation contemplated by making additional appointments on the commission."

INTUBATION OF THE LARYNX.—Sufficient experience has now been gained in various parts of the country with this procedure to fully substantiate its claim as a satisfactory substitute for tracheotomy in the vast majority of instances, and it would seem to be at the present day an accepted fact that it should always be primarily resorted to, if possible, in preference to the cutting operation. Two of the strongest points in its favor are the very much smaller mortality resulting from it than from tracheotomy in children under two years of age, and the fact that it can be employed in many instances where it would be impossible to secure permission to perform the latter.

Intubation has as yet received but little attention in Europe; but this is perhaps not to be wondered at when one reflects how recently it has come into vogue here. As lately as the publication of the third volume of Pepper's System of Medicine, Jacobi, who is now heartily in favor of intubation, ridiculed Bouchurt's assertions, and stated that it was not very probable that a larynx which admitted of no air, because of its being clogged with firm pseudo-membrane, should be willing to admit and endure the pressure of a tube. In referring to this statement, Dr. Huber, in his recent paper before the New York Academy of Medicine, says very truly: "Such was the almost universal teaching up to within a short time. Physiology, theory, and practice were against the new method." Probably the chief reason why intubation has not received earlier recognition among the profession has been the extreme modesty which Dr. O'Dwyer has shown in making known the results of his most important discovery, which has been rightly characterized as "one of the great advances in this age of medical discoveries." Dr. Huber well says of him: "The patient, painstaking, and unostentatious manner in which he has conducted his experiments and investigations deserves due recognition at our hands. The perseverance, ingenuity, and originality shown in perfecting the method merit our admiration. The disinterestedness, candor, and modesty, so characteristic of the man, and which stamp his references to this invaluable addition to our resources in the treatment of croup, cannot be extolled too highly."

The discussion at the Academy of Medicine last month, to which Dr. Huber's paper was the opening contribution, will doubtless have the effect of enforcing attention to the subject abroad. Dr. Dillon Brown, of this city, has now collected statistics of about one thousand cases of intubation, nearly one hundred of which were operated on by himself, and the results have been for the most part such as to ensure a growing appreciation of the procedure in the future.

THE AMERICAN ORTHOPÆDIC ASSOCIATION was inaugurated under auspicious circumstances on the 15th of June in this city. Among those who were present or signified their acceptance of the invitation to join the association were the following representative orthopædic surgeons: Drs. Shaffer, Gibney, L. H. Sayre, R. H. Sayre, Judson, Ketch, Ridlon, Stillman, Berg, Knickerlocker, H. L. Taylor,

Develin, C. W. Stimson, and Dillon Brown, of New York; Bradford, Lovett, and Buckminster Brown, of Boston; Morton, Willard, Lee, and A. S. Roberts, of Philadelphia; Whitehead, of Denver; Andrews, of Chicago; Park, of Buffalo; Packard, of Hartford; Vance, of Louisville; and Ryan, of Cincinnati. All honor is due to the Organization Committee, Drs. Gibney, Shaffer, and L. H. Sayre, for their efforts in arranging the meeting, and especially for their generous hospitality to the Association and its guests. There were sessions on the afternoons of the 15th and 16th, and while the proceedings were entirely informal, no set programme having been made out, they were full of scientific interest; a number of valuable communications being presented, while the discussions were animated and practical, and several novel appliances were exhibited. Dr. Gibney acted as Provisional Chairman, and Dr. L. H. Sayre as Secretary. The officers elected for the next year were as follows: President, Dr. Shaffer, of New York; Vice-Presidents, Dr. Bradford, of Boston, and A. S. Roberts, of Philadelphia; Secretary and Treasurer, Dr. L. H. Sayre, of New York.

On the evening of the 15th, three boxes were secured at the Casino, where the popular opera of "Erminie" is now in its second year, and on the 16th there was an elaborate and thoroughly enjoyable dinner at the St. Nicholas Club, at which informal speeches were made by Drs. Lewis A. Sayre, Bradford, Gibney, A. S. Roberts, Stillman, and Shaffer. At its conclusion, the members of the Association and their friends went in a body to the reception tendered to the Academy of Medicine by its President, Dr. A. Jacobi, on the termination of the scientific session of 1886 and 1887.

THE HEALTH OFFICER OF THE PORT OF NEW YORK.—As was to have been anticipated, the Legislature adjourned without confirming the nomination of Dr. Phelps as Health Officer, the influence of ex-Senator Platt, the leader of the Quarantine ring, over the majority of the State Senate, being sufficiently strong to prevent the confirmation, as was the case last year, when the Governor nominated Dr. Phelps before for the position. Consequently, much to the dissatisfaction of the better part of the community, irrespective of party, the present incumbent, who, although the jury disagreed as to the proving of the recent charges brought against him, now occupies a position as discreditable as that of General Shaler in the city Board of Health. previous to his removal, still remains in office.

GAILLARD'S MEDICAL JOURNAL.

VOL. XLV.

NEW YORK, AUGUST, 1887.

No. 2.

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ORIGINAL ARTICLES.

ARTICLE I.

THE PREVENTION OF CHRONIC DISEASE AMONG THE CHILDREN OF NEW YORK CITY. By CHARLES A. LEALE, M.D., Ex-President of the New York County Medical Association. Chairman of the Executive Committee, and Chairman of the Sea-side Nursery, Committee of St. John's Guild for the Care of the Sick Children of New York City. Read before the New York County Medical Association, June 20, 1887.

For many years past the sick children of the poor of New York City have been cared for by the public authorities, and to the Health

Department annual appropriations have been granted for the purpose of providing means for a corps of physicians to visit the crowded tenement districts during the hot months of July and August. No such special appropriation could be secured for the summer of 1886, and the Health Department decided that this service would have to be abandoned. Such was the information received one day at the regular meeting of the Board of Trustees of a charitable institution whose object is the care of the sick and needy children of this metropolitan city, irrespective of color, nationality, or religion. As one of the members present, I confirmed the importance of the matter, and strongly stated the reasons why a failure to attend to this important duty would entail much suffering, misery, and death; also that a neglect in this service to the crippled, deformed, and helpless during mid-summer, would greatly add to the indebtedness of the city by a corresponding increase in pauperism and crime. Our Board, therefore, unanimously agreed to make an appropriation for this purpose. Three members of the Board of Trustees gratuitously volunteered to give their summer vacations for this object, and devote the time to the furtherance of this new work.

The members of the committee were: Mr. John P. Faure, Dr. B. V. Tompkins, and Dr. Charles A. Leale. The committee immediately organized and began work. Dr. Leale was chosen chairman, and Mr. Faure secretary.

To accomplish the most good six physicians among those best fitted to perform the duties were chosen from a long list of those familiar with the English, French, German, Italian, Spanish, and Hebrew languages, so that all the sick children might be as much benefited as possible, and, at the same time, maintain the cosmopolitan position of the Guild. The most densely populated parts of the city were selected as those requiring our most urgent attention. They were divided into six districts, and to each a physician was assigned. To each physician was given a badge which was to be worn at all times while on duty. These six physicians worked in the name of the Summer Corps of Physicians of the St. John's Guild.

This work began on the 3d of August and ended on the 13th of September. During this time 3,659 families were visited, representing 7,146 adults and 10,086 children; of these there were found 217 sick adults, and 3,376 sick children. The most prevailing diseases were measles, diphtheria, scarlet fever, scrofula, and syphilis, and, in nearly every case, these 3,376 sick children were not only without

proper medical care, but were living in places rendering complete recovery to the large majority almost impossible.

Recognizing, therefore, the vast importance of improving the sanitary surroundings of so many helpless poor, the summer corps of physicians were directed to make special investigations in regard to the sanitary condition of all visited, and, as a result, they reported in writing on the printed blanks furnished them, that 699 premises were in good sanitary condition, and 2,097 in a fair sanitary condition, and that 863 families were surrounded by bad sanitary conditions, or were living in illegal places unfit for human habitation. These were immediately reported to the Health Department for official correction. To give these sick children the benefit of as much fresh air as was possible, 6,312 free tickets were distributed for excursions on our Floating Hospital, where the children were given a sufficient quantity of food, and a hearty meal furnished to their mothers. To twenty-four very sick and deserving children were given tickets to admit them and their guardians for a week or two at the hospital at Cedar Grove, where, from direct observation, we found they were greatly benefited, and where they were given a happy time at the sea beach, or in the grove at the rear of the Hospital.

The very large number of children left with organic heart disease, following scarlet fever, was particularly noticed. During the entire service the Summer Corps of Physicians devoted, on an average, four hours daily to their work, and one evening of the week met together with members of the Special Committee, to report verbally the results of their observations, mutually compare notes, and seek counsel in difficult cases. All cases of special importance were referred to the Committee for investigation and consultation. Some of these were of such a character as required prompt action for the protection of themselves and neighbors. A little girl was found to be suffering from syphilitic ulceration of both eyes, and otherwise poisoned, as the result of a rape. When visited she was living in two rooms with her father, mother, and grandmother, all of whom were in such a drunken condition that they were helpless. Another child, a boy, was found selling fish, with his fingers, mouth, and other parts in a syphilitic ulcerating condition. This boy had contracted the disease in a neighboring city and returned home, giving it to his grandmother, mother, and two sisters, and to two infants. All such cases were the subjects of special reports by the visiting physicians, and were verified by myself. The difficulty in securing the syphilitic boy and gaining his consent to enter a proper institution, where he might not further spread the

disease and be cured, is a subject of medico-legal importance, as the Commissioner at the Health Department of New York City told Dr. Shufelt and myself that he was powerless in such cases.

At the termination of the service final reports were made by the physicians. The first of them writes :

During my term of service I inspected the district east of the Bowery, between Grand and Houston Streets. The time being limited, I confined my attention chiefly to the most densely populated localities. While I did not meet with very many cases of contagious diseases, I noticed much suffering, especially among infants. For these, in case of poverty, I prescribed, and, if it were necessary, provided them with passes to admit them to the Floating Hospital or Sea-side Nursery.

I have seen children whose emaciated bodies, anæmic faces, and sunken eyes indicated that in their struggles with life they had almost yielded to death ; when, after subsequent visits, I was agreeably surprised to observe the new vigor and life which the salt-water air had infused into their systems.

The cause of the great death-rate among children under five years of age I found to be attributable to overcrowding, to filth, filthy habits, and bad drainage. The greatest portion of my district is inhabited by Hebrews who have lately emigrated from Austria, Hungary, Poland, Roumania, and Prussia ; people upon whom the rays of civilization have not as yet fallen. Upon a hot summer's day to enter a room of a rear house, whose walls are cracked and besmeared by refuse, and perhaps dead vermin, occupied by a family of six or eight, harboring three or four boarders, upon the floor of which might be seen soiled linen, particles of food, children, and a mother standing about the red-hot stove, washing and cooking, and perhaps attending to a sick child, lying in a dark bed-room, suffering with cholera infantum or diphtheria or scarlet or typhoid fever, was indeed a spectacle frequently brought to my attention.

To such a mode of living, however, a stop could and should be put. Were a law enforced which would guarantee every human being a certain number of cubic feet physiologically necessary, such filth would be a matter of impossibility. Were the subject of drainage properly attended to, our cemeteries would reap less victims. Were these people made to understand something about hygiene, no such scenes would have to be recorded, and no fear of an epidemic would be manifested by the people of our city every summer.

The second physician writes :

The district assigned to me lies south of Grand Street, bounded

east and west by East River and Bowery. It is densely crowded with a foreign population, who are, as a rule, of a very ignorant class. A portion of the district that is particularly bad, and in a very unsanitary condition, is found in that part of the city between Grand and Canal, bounded east and west by Allen and Clinton Streets. Certain portions of this district are hardly fit for human beings to live in, yet have a class of people who appear to thrive, notwithstanding the bad surroundings. There has been no severe epidemic of contagious disease, except measles. This disease prevailed quite extensively in the lower part of the district, but without fatal results in most cases.

I noticed a great number of cases of diseases of the eye and ear among the younger children. These diseases I noticed to be quite prevalent among those that were subjected to especially bad hygienic influences. In very many of these old houses the drainage and sewerage are faulty, judging from the offensive smells that greet one as he enters the yards connected with these houses. All these houses, without any exception, are overcrowded, and are in a frightfully filthy condition; the rear houses, in addition, being dark and badly ventilated.

Here you find as many as twelve to fourteen people occupying one apartment—this apartment consisting, as a rule, of three rooms. One house visited by me in Hester Street, I was told, contained at least fifty children. The crowding together of this mass of human beings in one house, it being an ordinary four-story house, is enough to cause an epidemic, without a thorough and oft-repeated inspection is made. In some of these apartments you find the father, mother, and grown-up sons and daughters all sleeping; you might say, in one room, without any regard for delicacy or decency. The mortality among the very young children in these houses is of the very highest percentage. If they are overtaken by sickness, their vitality being in such a low state, it almost always results fatally, unless removal to some location where they may be able to breathe fresh air can be secured. Even one excursion on the salt water, or in the country, will act like a charm in some cases, and with better results than all the medicine that they might take. The cases that are especially benefited are general debility and marasmus.

In my opinion there ought to be a law preventing the occupying of any room, as a sleeping apartment, that does not have free ventilation by means of at least one window opening into the external air. The water-closets and their drainage should be frequently and thoroughly examined, and the law enforced where it is violated. The only

remedy that I could suggest would be to tear them all down. Then replace these rookeries by houses that are fit for human beings to live in. The diseases that I found most prevalent were those of the abdominal system, such as enteritis, gastro-enteritis, diarrhœal in character, and also whooping cough.

The third physician writes :

As one of the physicians of the Special Summer Visiting Corps, I inspected the district west of Bleecker, between Houston and Fourteenth Streets. I was welcomed by nearly every family visited, many of them remembering the aid they have received from the Guild in former years. From what I learned during the few weeks I had for observation, I am convinced that to the children of the poorer classes the Floating Hospital has proved an inestimable boon, not only in affording relief to those suffering from acute disease, but in fortifying others against the terrible effects of overcrowding and bad ventilation.

At the request of Secretary Faure I inspected the Sea-side Nursery, and was much pleased with that institution, where I found everything provided for the comfort of those requiring hospital treatment and fresh sea air.

I feel it my duty to draw the attention of the committee to the unsanitary condition of many of the houses occupied by the poor in my district. In Washington and Greenwich Streets the cellars of once respectable houses are occupied by families who are obliged to sleep in rooms never reached by sunlight, and whose walls and floors are continually damp. The plumbing arrangements in many of these houses are much neglected, and in one instance the sewage had contaminated the water supply of the house.

In Downing, Houston, Gansevoort, and other streets, I found much overcrowding, as well as bad ventilation. In the small yard of a rear tenement groups of sickly children were seen playing around an almost open cesspool, or so-called "school-sink." These children have characteristic appearances; they are stunted in growth, pale, and, as a rule, have some form of ophthalmia. Rheumatism is also a frequent visitor to these miserable abodes, and leaves in many of those who survive some form of heart disease. Out of more than thirty children found in one of these small yards only one could be said to be in vigorous health. In another rear tenement, occupied by twenty families, the school-sink, which was situated in a very small yard, was but five feet from the door-step. Is it to be wondered at that these unfortunate beings seek the saloons and other low resorts where, at least, good clothes are not requisite for admission? Not a few sick.

persons were found actually suffering for the necessaries of life, and where practicable their wants were supplied.

The fourth physician writes: My district included from Fourteenth Street to Twenty-eighth Street, west of Sixth Avenue; Canal to Broome Street, west of South Fifth Avenue. All tenements, rear buildings, and houses where a large number of families were known to live were visited, and with few exceptions found in fair condition. For description I will divide them into three classes.

First.—The more recently constructed houses, where the present building laws have been enforced, were occupied by families who were hard working and industrious. These people could not afford to go themselves or send their children from the city during the warm weather, and welcomed the opportunity to enjoy the sea-breeze on the Floating Hospital.

Second.—The houses were similar to the preceding class, but the people living therein so disregarded all laws of ventilation, cleanliness and sobriety, that the apartments as well as the individuals themselves were perfectly filthy. In these houses were found the greatest number of children sick with summer diarrhœa and like complaints, which were entirely due to improper ventilation, neglect, and unsanitary conditions. The water-closets situated in the yard were of the "school-sink" variety, no more or less than open cesspools, and seldom had the proper care. The emanations from these rendered the air most foul, and, added to the already existing surroundings, materially increased the death-rate among the children. Where the mother could be induced to take the little sufferer on the Floating Hospital it would be followed by the most beneficial results—actual resurrection in some cases. These houses were frequently revisited, and the above observations noted.

Third.—The old style of houses, built some fifty or sixty years ago or longer. Some were frame structures, others partly brick and wood. Attempts have been made to modernize them in some instances; but in the majority the buildings were in a tumble-down condition, badly ventilated, and with walls broken, and in some cases families were living in the cellars. In several such houses I found a family of seven living in two small rooms in a back basement (more properly a cellar, for the ceiling was below the level of the street); one room was 14x16 feet, and the other a dark bedroom 10x8 feet, the floor of which was rotten and very damp. Every member of this family was ill, and one of the children subsequently died. There have been three deaths in this house during the month of July.

All very ill persons were prescribed for or sent to some hospital. At the latter end of the season some of the worst localities where I had met very sick children were revisited. I was greeted by thankful mothers who had enjoyed with their children the benefits of the Floating Hospital and Sea-side Nursery, and were living testimonials of the great and good work the Guild is doing.

In very few cases did I meet with extreme poverty and distress where rum was not one of the principal causes.

The fifth physician writes: My district included the streets between Houston and Twenty-third Streets, east of the Bowery and Third Avenue to the river. I made numerous visits in every street, selecting such houses in each block as betrayed externally the misery and destitution they harbored. Although I am by no means a follower of Malthus, his doctrines appealed to me when I found that "poverty" and "large family" were synonymous.

It was my very pleasant duty to visit between forty and fifty families every day, finding sickness in some form or other in 75 per cent. of the families visited. The great majority lacked medical attendance, proper food, proper attention, yea, decent bedding. In all, I prescribed for 512 patients, many of whom were unable to pay for their medicine, the St. John's Guild paying for the same.

Each day I distributed twenty to forty tickets for the Floating Hospital; directed the attention of the Board of Health to non-reported and unsuspected cases of contagious disease; gave much advice in regard to infant feeding and hygienic measures; informed the St. John's Guild about poor children, in whom parental depravity manifested itself in many ways; examined into the neglected sanitary arrangements of houses, reporting criminal landlords; obtained admission to hospitals for many dangerous cases, and endeavored to fulfill my duty as a conscientious physician and servant of St. John's Guild.

The sixth physician writes: I have visited and inspected the downtown district bounded by Bleeker Street, north to Eighth Street, and Sixth Avenue to the Bowery; and up-town district, Twenty-eighth Street to Thirty-fourth Street, Sixth Avenue to North River. I found it in fair condition as to sanitary surroundings, with the exception of three or four rear tenements, and that the health generally among children was also fair, due principally, in my opinion, to the mildness of the summer. I am sorry to have to state, however, that misery, poverty, and ignorance still prevail to a great extent.

My down-town district included what is generally known to New Yorkers as the French quarters, and I have observed that these peo-

ple, mostly of the poorer class, dislike our system of tenement-house living, especially because they are reluctant to associate with people of other nationalities, which prevents their becoming accustomed to that way of living. Their apartments are generally in a disorderly and partly filthy condition.

My up-town district was occupied mostly by the Irish. In it I found considerable sickness, principally gastric and intestinal complaints, with measles and whooping cough, which have been rather epidemic. I attribute a great amount of sickness, in the latter district, to unsanitary conditions, i. e., privies, school-sinks, house drainage, etc., and bad condition in general. Many of the houses I have reported to the Health Board through our honorable Secretary, but, in my estimation, their condition is beyond improvement.

Reinspection.—During the month of December the Board of Trustees of St. John's Guild, desiring to obtain further information in regard to the sanitary condition of the places visited by the Special Summer Corps of Physicians, made a request that a reinspection of the worst places be made, and the following is selected as embodying the changes noted by the members of the corps:

NEW YORK, Dec. 13, 1886.

JOHN P. FAURE, ESQ., *Secretary.*

DEAR SIR: Not often have I been so agreeably disappointed as I was last Friday and Saturday, when I re-visited the "pest-holes" which have been changed to human dwellings. While there is still room for improvement, it shows what can be done to better the condition of the poor. I firmly believe the work done by the Guild during the last two weeks exceeded that of the entire season, for "an ounce of prevention is worth a pound of cure," and your noble institution surely prevented a vast amount of sickness by its attention to sanitary inspection. I have, sir, the honor to remain,

Your obedient servant,

H. L. BIENENFELD, M.D.

Summary of the Work of the Special Summer Corps of Physicians.

No. of Families Visited.	No. in Family.			No. Sick in Family.			Sanitary Condition of Premises.			No. of Tickets Issued.	
	Adults	Children	Total.	Adults	Children.	Total.	Good.	Fair.	Bad.	Float'g Hos-pital.	Sea-side Nurs'y
3,659	7,146	10,086	17,232	217	3,376	3,593	669	2,097	863	6,288	24

On May 24, 1887, I wrote the following: The Trustees of the St. John's Guild take pleasure in announcing that they are now preparing to resume their summer work in providing relief and fresh air to the destitute sick children of New York City, and sincerely hope that their efforts will be heartily encouraged by those who may desire to assist in this worthy charity.

The St. John's Guild having the only complete equipment for such purpose has carried 318,596 sick children and mothers on their excursions without a single accident. The "Floating Hospital" is in excellent repair, and can safely carry 1,200 mothers and sick children on each of the daily excursions to the ocean. The Sea-side Nursery on Staten Island is being thoroughly renovated for the reception of poor children, with their mothers, who may be considered worthy of a longer stay at the sea-side, where they may recover sufficient strength to renew the struggle for life.

During the past summer 18,647 sick children and mothers received the benefits of these fresh-air excursions without an accident or death, and the Sea-side Nursery during the months of July and August admitted to the wards 307 sick children with their mothers, giving a total of 5,628 hospital days' benefit.

The medical care and nursing that all these helpless infants received need no further commendation than the statement that they came from the most unhealthful homes, where poverty and vice frequently prevailed, and they were often far advanced in disease, yet only four were lost by death during the entire summer. Where can a better record be found, even in the care of a corresponding number of well children, among the more prosperous? But these results are not attained without much labor and anxiety on the part of the trustees.

Yours,

CHARLES A. LEALE, M.D.,

Chairman of the Executive Committee.

Such was a portion of the reports that I made to the trustees of an institution that had had over a quarter of a million of sick and crippled children under its care and, with its unique opportunities, had probably done more than any other to prevent disease among children. No child is received without a physician's certificate stating that the child is sick, naming the diseases, and excluding all those of a contagious character, to entitle the bearer either to the benefits of our floating hospital, which feeds and takes the children with their mothers on daily excursions to the ocean during the heated term, or to a permit

for a stay of two weeks at our Sea-side Nursery, which has an ocean beach on one side and a beautiful grove of shade trees on the other.

It is unnecessary to ask what such work does towards the prevention of disease and premature death, as a single visit will demonstrate. At one of my visits there were over 1,300 sick children with their guardians on one of the daily excursions, and I saw numbers under five years of age with chronic diseases. There were many epileptics, idiots, and deformed. Several had curvature of the spine or hip-joint disease, bow legs or club foot; while tuberculosis, syphilis, and scrofula claimed a large share. The great number of cases of neglected eye, ear, and throat diseases only too plainly told the story of the necessity of prevention in early life of permanent disability.

New York City abounds in charitable institutions for the sick and helpless children, and millions of dollars are annually donated from the public funds or by private charities and generous individuals; quite sufficient, if properly applied, to relieve all their pressing wants and to place those who are willing and are able, in positions where they may be taught in a few years to become independent and self-sustaining; after which a small minority would be left of the infirm, weak-minded, and criminal to be guarded, controlled, fed and clothed at the expense of the State, or to be assisted by the generous citizen.

The prevention of disease and deformity is more worthy, far reaching and beneficent than the cure of the sick or the most brilliant operations of heroic surgery. The quiet, persuasive advice of the physician who detects sanitary defects, teaches the importance of having pure air, nutritious food, and proper raiment, or the surgeon who supplies the necessary mechanical apparatus to prevent deformity and check disease, will do far more good than the one who battles against disease alone. I have known practitioners to enter the room of the sick when the polluted atmosphere compelled them to hurriedly escape, yet repeat such visits daily without ever considering that their duties extended beyond those of the medicine giver. They do as little good as those who recommend a stimulating liniment for the relief of the pain of curvature of the spine, or a lotion to straighten the bones of a bow-legged child.

In making a thorough physical examination of their patients, physicians, in discovering defects of constitution and seeking the original cause, often trace back to early childhood the source of the trouble. An attack of scarlatina may have left organic changes in the kidneys, rheumatism may have left valvular insufficiency of the heart, and dropsy may have over-distended the affected parts to such an extent

that they can never resume again their normal symmetry. Within the past year I was requested to examine a boy aged eighteen years, who had not been examined by a physician for over ten years. Up to the age of seven he had been perfectly healthful. He then had an attack of scarlet fever which, although not severe, left a chronic eczema for which he was successfully treated. He was never the same boy either physically or mentally after his scarlet fever, and although he had no glandular trouble, was what his parents and friends termed lazy. He did only fairly well at school, but at the age of sixteen years was removed and placed in an office where he might have light duties to attend to. He did not increase in brightness, yet nothing specially was thought amiss, until one day last December he found it impossible to add a column of simple figures, for which he was scolded on account of his supposed stupidity. He, however, continued to attend to his daily duties until about two weeks afterward, when he awoke his mother one morning by a scream; she rushed to his bed and found him in a violent convulsion (which both father and mother thought to be epileptic). In a few minutes he was nearly well, but in the same evening had another violent convulsion. I examined him, found the remaining evidences of the fits, and drew his urine by catheter for the purpose of making an examination. It contained fifty per cent. albumen, (almost solid on boiling), had an abundance of waxy casts, and presented all the appearances incident to far advanced, chronic, interstitial, degenerative kidney change. His general appearance was that of one suffering from the effects of long-continued kidney disease. Yet it had never even been suspected by his parents or friends. The uræmic convulsions continued at short intervals, and the boy rapidly sank, and died in coma. At the necropsy far advancing cystic degeneration of the kidneys was found, with almost an entire destruction of the parenchymatous tissue of both kidneys; clearly showing that he had lived until the last remaining portion of the kidneys had been consumed, and he was practically at the time of death in the condition of one whose kidneys had been removed.

A number of years ago a child was brought to my office for a physical examination, and for advice in regard to what was supposed to be heart disease. His history is not an uncommon one, and illustrated the terrible disadvantages and restraints under which some of the children of families in fashionable society exist. He was the only child to perpetuate an honored name, and was the idol of his grand-parents, who through their own superior mental attainments and indomitable energy had been able to attain a position in life approaching that of their

ancestors of the third previous generation, who through a national calamity had lost position, fame and fortune. The grandfather of this boy had started in life with the definite object of restoring his family name to its previously honored place ; and I may be permitted to say in passing that this worthy object has been implanted upon the mind of the child by many a dejected parent whose family misfortunes have continued for one, two, or three generations. An extensive experience of over a fifth of a century in the practice of my profession in this vast cosmopolitan city convinces me that "blood will tell." It may skip a generation or two, but if the seeds are preserved they will just so surely bear similar fruit when placed under advantageous surroundings as the desiccated seed of wheat, raspberries and flowers recently discovered in the tombs and gastro-intestinal canals of the Egyptians who lived and died before the time of Moses, some of which when planted have germinated and reproduced similar plants from which they came.

Several years ago I was requested by the attending physician to hurriedly go to the residence of a child in the suffocative stage of diphtheria. I immediately went, prepared to perform tracheotomy, if necessary, but what did I see on entering the sick room ? I found a pale and disheartened father and exhausted and weak mother caring for their only remaining child, who was then in the comatose stage of the most malignant diphtheria, and evidently dying. Their story was, that while prospering in their country village, with four healthful children they came to New York, with a desire to improve their fortune. Although they received more than double their former wages, they found that they had to live in a crowded part of the city, in a house with an open sink in the room used as their kitchen and general sitting room, where daily they were breathing an atmosphere highly charged with sewer gas. This once healthful and prosperous family very soon were convinced of their error, and constantly longed for the pure, fresh air of their country home. The poor mother was the first to feel the effects of the change, then the father, and lastly the children, who contracted a malignant disease from the poisonous atmosphere, and all died ; after which, disconsolate and childless, the father and mother returned to their former residence bowed down for life.

A physician in visiting the larger civilized cities of the world may receive much practical instruction by observing the different methods of caring for the sick children coming under his observation as he walks through the public parks or passes along the boulevards or narrow crowded streets, or by the shore at the seaside, or the banks of the rivers, or wherever families congregate for the purpose of rest.

and recreation and to secure the daylight and fresh air so often excluded from their daily habitations. Again, if he visits these people in their homes and beholds the squalid misery, filth and disease surrounding them, and for a few moments inspires the foul atmosphere they are compelled to breath, and examines the coarse food they eat, and the scanty raiment they wear, he will wonder at the very large proportion of those delicate little ones who overcome all such obstructions to their existence, and not only live but thrive and grow to vigorous adult life, and with constitutions which in the future enable them to perform acts of arduous toil and labor in the ranks of the army, as artizans, or common workers in the sphere of unskilled labor, where automatically they perform surprising feats of endurance, and demonstrate great physical power.

Again, in the same cities we may visit the large foundling asylums, orphanages and institutions where the poor sick children are domiciled, where restraint often suppresses their infantile emotions, but where they may be surrounded by as nearly perfect sanitary arrangements as possible, where their food may be found to be at least nutritious, and their raiment sufficient, where they have the daily attention of devoted nurses and skillful physicians, and where at the suitable age they secure a preliminary education to fit them for the ordinary affairs of life. Yet with all these apparent advantages, given at very great expense to the public authorities and private charitable institutions, as well as alms-giving prosperous people in their neighborhoods, we find that such children grow up far less vigorous, either physically or mentally, than those of the independent honest poor who strive in their oftentimes degraded hovels to keep their little ones from starvation.

A few years ago a merchant of New York erected in a good neighborhood of the city a magnificent building with perfect sanitary arrangements, with elegant rooms all comfortably heated and lighted, beautiful dining, sitting and music rooms, and magnificent halls and libraries, for the benefit of the shop girls of New York City. He had considered this idea as the greatest charitable object of his life, to endeavor to elevate the thousands of industrious women and girls employed in the busy shops of this crowded commercial city. For over half a century he had been one of the largest employers of intelligent girls in the world, and therefore supposed that he knew their wants, desires and ambitions. He had heard of and had seen many of the miserable homes from which came the bright, cheerful girls, clean and neat in appearance, tasteful in dress, quick at mathematics, diligent at work, honest and virtuous, who were daily doing their utmost to assist him. Seeing

them at his magnificent place of business surrounded by the finest of silks and velvets and satins, then visiting them an hour after in their homes, changed in dress, changed in appearance, and living in rooms frequently indicative of want and destitution, in his business way he proposed to remedy this condition of affairs ; and he therefore erected a magnificent pile of buildings called the Working Woman's Home. Did he succeed ? Yes, so far as the expenditure of money was concerned ; but so far as the attainment of his object went, No. Why ? because he placed restrictions and made business rules impossible to be conformed with by those who feel that desire for liberty dear to every human being, even the youngest child.

The girls preferred the freedom of a garret to the sense of restraint in the palace, and therefore the great philanthropic attempt made by the richest merchant and one of the most methodical business men the world has known proved an absolute failure. Just so we sometimes see many other abortive attempts, as when parade and display are made over delicate and sick infants in institutions ostensibly devoted to their care.

We are making a great mistake, and doing the present and future generations great wrongs by erecting such expensive and enormous hospitals for the sick, asylums for the insane, and foundling asylums, which nearly all that enter die ; to say nothing of the other charitable institutions that encourage mendicity, and the mammoth prisons and jails for the unfortunates. If one-half the amount of work were done to prevent disease and crime, and to reform the erring, our future would be much brighter.

Next to a vitiated atmosphere, improper and insufficient food are the causes of sickness among children. Fortunately very few in New York City suffer from too little food, but unfortunately very many die from the effects of eating absolutely bad food. From my personal observations I can attest that one of the most important services performed by the New York Health Department has been in preventing deleterious adulterations and the sale of diseased milk and meats, or unripe and rotten vegetables and fruit.

To the rich of New York no anxiety is necessary in regard to the purity and wholesomeness of their food supply, dealing as they do with men of integrity, who alone can command their patronage ; but with the poor the case is far otherwise. At a recent meeting of the New York Society of Medical Jurisprudence and State Medicine we were shown candy made of sweetened plaster or terra alba, colored imitations of spices, dyed coffee and teas, measly pork, bob veal,

fowl that had died with cholera, and several illustrations of parasitic diseased meats that had been seized by the vigilant inspectors early in the morning as they had been sent to the markets for sale. The sight was a terrible one, and the thought fearful that greedy man should for slight gain foister such disease-generating food upon the ignorant poor; but such is the fact, and such meats at two or three cents a pound find a ready sale. Imagine the desolating doom of those who subsist on such parasitic diet. Surely prevention here is far easier and does far more good than the attempt at cure.

Dr. Dunglison in his "History of Medicine" tells us that the regimen of the people of Egypt, although not so much restricted as that of the priests, was nevertheless subjected to certain rules, from which they were not permitted to wander, and which were always intended for the preservation of health. "Even to the kings, according to Diodorus," he states "a fixed quantity of meat and drink was prescribed, beyond which it was not permitted for them to pass. On the temple at Thebes was placed an inscription filled with imprecations against King Menes, who first led the people from their simple and frugal life and introduced amongst them the luxury of the table. Diodorus informs us that almost every function, even the act of generation, was regulated, and had a time assigned for its performance. The education of the children tended to fortify them against fatigue and to accustom them to frugality. They always ran about barefooted, and almost wholly subsisted on fruits, roots, and the pith of the papyrus. Until manhood the food was never suffered to exceed twenty drachms a day, and gymnastic exercises were proscribed from a belief that they occasioned but a momentary vigor. Each Egyptian, according to Herodotus and Diodorus, was expected every month to make use of emetics, purgatives, and clysters, for it was imagined that the majority of diseases originated from intemperance and crudities in the alimentary apparatus. Herodotus asserts that in his time there was in Egypt a particular physician for each disease, one occupying himself with diseases of the eyes, a second with affection of the teeth, a third with those of the stomach."

Not long ago I was present at the birth of a child representing a typical example of healthful vigor. His father was an educated gentleman with an excellent manly constitution, and the mother a brilliant lady with form and physique rarely equalled. Both were graduates of classical colleges, had had good training and were very desirous of having their children superior in every respect to themselves. They therefore conformed to hygienic rules, lived in a sanitary home, and

even regulated the time of conception, to have the child born at the most desirable season of the year. During the entire pregnancy the mother was carefully shielded, was properly fed, took the necessary exercise, and had an abundance of pleasant recreation. She was delivered on the exact day, in accordance with the previous calculation, of a magnificent boy weighing nine pounds. She was properly and tenderly cared for. She nursed her child without trouble, and during the first seven days, when the temperature was taken daily, it never varied one half of a degree.

As to the diet for children, milk from the healthful, vigorous mother is the proper food for the infant during the first six months of its existence, with the addition at times of pure water, which greatly assists digestion. If the mother's milk cannot be procured, then come in rotation that from the healthful wet-nurse, the milk from the goat properly fed, the milk from healthful cows, and last but not always least for the city fed infant, properly diluted condensed milk which has been prepared without the addition of sugar, being simply evaporated to five times its original strength by a process where only moderate heat is used. Dr. William Thurman, who for many years past has generously devoted his summers to the promotion of the welfare of over three hundred thousand sick children of New York, and organized the first sea-side nursery where the worst cases reside for two or three weeks at a time, after many trials and almost unprecedented experience, finds that this milk is far more reliable and safer as a food than any other known substance. This evaporating milk with ease may be hermetically sealed and kept unchanged for a long time. All the artificial articles of infant's diet are of secondary importance, and in time become nauseating to the little one; at the end of six months a judiciously mixed diet should be given. Imagine a sick or convalescent adult kept without change on an artificially prepared diet of the vaunted peptones or nauseating half digested meat mixtures, but often so repulsive to the sense of smell and taste as to be revolting; and yet the poor infant is forced to subsist on articles for which oftentimes it has no relish. You may say that the stomachs of the sick little ones are incapable of digesting the proper nutriment. That may be the case temporarily, when artificial substances may find their proper place; but the rule should be to return to a savory nutritious diet capable of being safely digested as early as possible, and thereby to prepare the entire gastro-intestinal canal to do its full duty. The infant that only eats prepared and half digested food, the child that is never taught to rely upon itself, the pupil depending upon the tutor for assistance with all difficult

problems, and the adult relying upon the guardian to advise and guide in the daily occupation, never reach full ideal manhood or womanhood.

Ophthalmia in its various forms is another scourge to the children of the poor of New York City, and is caused by want of cleanliness, bad air, and constitutional and acute diseases. The large number of these helpless little ones groping about the dark rooms and habitations of the poor call for our most energetic aid, as the reports of the Summer Corps of Physicians referred to fully testify. Among the reports of such cases made to me during the past mid-summer, was the following, which I verified by an immediate visit with the physician to the miserable and filthy abode of a little girl of six years. Her father, a good fresco painter only six months previous, lived with the mother and this their only child, with the latter's grandmother. All were prosperous and happy, and this little girl with her flaxen curls was the acknowledged beauty and pride of the neighborhood. In an evil hour the father began drinking. He lost his position, and became a car conductor. This place also he soon lost, and when I visited the family he simply did an occasional day's work to keep from starvation. The family had to move from their former residence, as it was impossible to pay the rent, and went to live in two rooms in a horridly crowded tenement house. While here, and while the three adults were intoxicated, the little girl strayed to the common hall, where she was raped and given syphilis. The poor little one returned to the desolate rooms in pain and crying bitterly, but met with no comforter. General constitutional symptoms soon followed, and when I saw her she had extensive syphilitic ulcerations, adenitis, and eye disease. There was such intolerance of light that with difficulty could she be removed from a dark corner where she was crouching to avoid the irritating effects of ordinary light. The eyes were found to be so badly ulcerated that permanent blindness would soon have followed if they had been left to themselves. At the time of our visit I found all three adults, the father, mother, and grandmother, in a degraded and utterly helpless state of intoxication.

But while "the poor ye have always with you" may be as truthfully quoted to-day as when Christianity was first founded, how many of our fine American families are gradually becoming exterminated by the false notions of the young fashionables; and as illustrations I will only ask you to follow me into some of the sepulchral palaces of the rich, where fresh air and light are so constantly excluded. The physician can easily explain the unpleasant problem of the decay in the

old family stock. I have known of instances where an only child, the heir to large estates, and the one apparently on whom the thoughts for the future must be concentrated, left during its infancy to an ignorant, immoral, and diseased wet-nurse, subsequently to be placed under the care of an exacting governess, and living in its isolated, cheerless room, always eating alone of specially prepared food, driven or taken daily to the park in the most uncomfortable dress, and in the evening paraded in the drawing-room as an object of amusement and admiration. I have known such a one, when suffering from insufficient bone in its soft legs, to be cruelly circumcised, and in a few more years to have both tonsils excised for strumous adenitis, to be fretted almost to death by anxious guardians, and changed from a magnificent infant into a listless, badly developed, yet precocious boy. Why was it that this American family with good ancestry was found to be approaching the time of total extinction? The answer is a plain and easy one.

Again, one day last summer while examining the newly admitted children at our Sea-side Nursery the resident physician drew my attention to three pretty, flaxen-haired Swedish children that day received from the Floating Hospital. On examination I found each of these three children with organic heart disease. Their mother, an intelligent, fine-looking woman, said that all her children at birth were perfectly healthy had excellent constitutions, and grew well until about three years ago, when they lived in a house where the cellar nearly all winter had wet floors and damp walls, so that all the children had severe attacks of rheumatism, followed by dropsies, which left them all permanent invalids. I found these children otherwise physically well-developed and bright, but they all had such extensive organic heart changes that their only future could be a few years of weary disease, followed by an early death. These are not infrequent cases, and even those less severely affected have in the future to refrain from ordinary athletic exercises or any severe muscular strain, while they very frequently succumb to a pneumonia or an eruptive disease, when otherwise complete recovery would result.

Heart disease, the result of rheumatism, is one of the most prevalent causes of permanent invalidism among the sick poor children of this city, and manifests itself by endocardial and pericardial inflammatory changes, frequently leaving structural valvular insufficiencies, atrophies, dilatations, and occasionally enlargements. Within a year I have seen illustrations of each of these chronic disorders, and only a short time ago I was requested by the family attending physician to

visit in consultation a young lady suffering with the intense headache following the convulsions of Bright's disease, and found that she had been a sufferer from organic heart trouble for years. She was living with her father and mother and two younger sisters, and her father, aged forty-five years, was a chronic invalid, with hands and feet very much deformed from the results of old rheumatic disease. The two younger sisters each had structural heart trouble, resulting from the rheumatism of childhood, and the mother was the only member of the family with a sound heart. The elder sister, who had been the principal support of the family since the father had been totally unable to work, soon died of dropsy, and the prognosis for the remaining two sisters is that kidney disease, followed by general dropsy, will in a few years end their lives.

During the summer of 1871, when very much exhausted from long-continued professional work, I started alone for a short vacation to the Falls of Niagara, and while reading my guide-book, about mid-day, found that our next stopping station would be Oneida, and that a peculiar community was located there, one of the principal objects of which was the improvement of the human race, so that their children were the objects of the greatest solicitude. A delightful drive of four miles, through a part of the most fertile lands of the State of New York, early set apart by the authorities as an Indian reservation, soon brought me to the headquarters of the community, where I was surprised to be called by name by the leader, Dr. Noyes, Jr., who told me that he had often sat by me while attending the clinics of Bellevue Hospital. It is needless to say that I received a most cordial reception, and I then passed several hours in examining the children of the community.

The Oneida Community then contained a total of 270, 129 males and 141 females. There were 53 under 21 years and 34 under 13 years of age. They advocated temperance and did not use tea or coffee, ate very little animal food, and lived principally on fruit and vegetables. Tobacco in all forms was excluded. The women had short hair and wore short dresses (Bloomer costume). After having been shown to every part of the establishment, I was taken to the children's rooms. They were at their daily exercises and they looked healthy and happy. My examination revealed none of the traces, as seen in the usual manifestations, of hereditary predisposition to certain diseases. They were under the charge of a kind woman, who appeared to delight in children. The children did not know their fathers. I freely asked many questions, and in nearly every instance

received direct answers. The children's names were simply Johnny Charlie, Susie, Mamie, etc., and their clothing and little stalls were marked accordingly. I looked at their caps and bonnets and saw these names painted over each respective place. They had an abundance of fresh air, nutritious food, and good clothing, and I learned that there were very few deaths among them. It was a wholesale attempt to prevent chronic disease and improve the human stock.

The different "fresh-air funds" recently organized in New York City demonstrate the willingness of the prosperous to aid the children of the poor to secure a change from the hot city to the country, by giving many thousands of them two weeks' vacation in the green fields or among the hills and mountains. Last summer, while taking my own children to the country, I observed in the railway car four pretty little girls, under ten years of age apparently, travelling alone. After they had gone over a hundred miles on their journey, all the while quietly acting as perfect little ladies, I went to them and spoke a few words of encouragement, and explained a part of the grand scenery we were passing. I found that they were neatly dressed, and as happy as could be. Each of these little girls had a tag fastened near the shoulder, stating her destination and the institution from whence she came. They were from the Sisters of Charity, of Houston Street, New York, and their destination was a pleasant country resort. Each prosperous congregation in New York City now has its fresh-air fund, and strives to do all possible, by this most efficient method, to elevate the poor children to nobler aspirations. To the "New York *Tribune's* Fresh-Air Fund" subscribers much credit is also due. Through this agency last year 8,336 children were sent into the country for a fortnight's vacation at an outlay of \$24,092.09, or an average cost of \$2.89 for an average distance from the city of 260 miles. The children travelled last year, in going and returning, 4,334,720 miles, making in round numbers 200 circuits of the world. This was cheap transportation, the average cost per child being less than \$3, railroad corporations making great reductions for the benefit of the Fund.

Mrs. Astor and Mrs. Vanderbilt, during the past twenty years, have sent several thousands of homeless children to the West and distributed them among the childless industrial classes, where they have been adopted and have received the blessings of a home. When we recall the places from which those innocent children came, and their poverty and criminal surroundings, we may easily comprehend the vast amount of good these noble ladies have accomplished during their own lives, not

only in the prevention of much disease, suffering, and crime, but in seeing these children brought up to be independent and honest citizens, and thereby relieving the State from the care of a large number of those who otherwise would inevitably have remained throughout their lives a public burden.

The prevention of disease is far more easy than its cure, the prevention of crime infinitely less expensive than its punishment, and the prevention of inebriety and insanity far more considerate than its cure. Within a year I visited a public institution in this State where I saw the very old, the demented, the idiotic, the criminal, and the honest poor huddled together in the same building with young children, fed and clothed at the lowest possible expense. The last half century has taught us very much in regard to the prevention of diseases, and that very much may be done to improve health and lengthen life. A long experience has taught me that children require very little medicine, and that the rules of hygiene to them are very important. We know that such diseases as scarlet fever, measles, chicken-pox, etc., are self-limited, and all we have to do is to guide to a termination, guarding against complications, and preventing exhaustion. What we have to do in fact is to eliminate and sustain. If the kidneys present evidences of over-work, diminish their labor by making the gastro-intestinal organs more active. If the lungs are congested, attend particularly to the skin, and if the heart shows signs of debility, stimulate. In such diseases as diphtheria avoid all possible local irritations. I have seen a diphtheritic patch extend from ear to ear, and chin to sternum, as a result of the irritation from a piece of salt pork externally applied to the throat. Freely open, drain and purify all collections of pus or putrid matter, and do not allow destructive ulcerations to continue. Immediately correct all deformities. Be particular with the diet of a growing child; personal observations have taught that very much may be done by proper food and fresh air to prevent a dyscrasia otherwise leading to its special disease. Proper change of climate has also a wonderful influence in preventing chronic diseases. Abundant out-door exercise at the sea-side is best for some, while others live longest by an active occupation in the mountains.

ARTICLE II.

TUBERCULOSIS OF THE JOINTS. By IRA B. READ, M.D., New York.

Read before the New York County Medical Association, May 16, 1887.

The subject of tuberculosis of the joints is one that invites the attention of every medical man, be he surgeon or physician, general practitioner or specialist. It requires in its early stage a careful and accurate diagnosis, and unable to be as cheering in our prognosis as we could wish, we shall, ere the contest is ended, find both our patients and ourselves weary of the struggle. The disease is peculiar to childhood, and yet, as there are exceptions to all other rules, so there are to this, to which I shall, later on, call your attention.

By tuberculosis of the joints we mean a diseased condition wherein there has been inflammation, destruction of tissue, consequent supuration, and also more or less deposit of tuberculous matter. Before considering the causes, conditions, and methods of treatment, let us present a typical case, in order that we may the more easily keep in view our text for the evening. At first the patient experiences but little or no suffering; complains of slight pain, stiffness or soreness in the joints when exercised—which he, and perhaps his physician, refers to a cold or to rheumatism. The general health and appearance will be good, except in those cases where there is a marked strumous diathesis. But gradually the pain becomes more severe, the stiffness more marked, attended with swelling. With these local changes the general condition also changes: loss of appetite and sleep, fever, emaciation, and a generally disordered condition. This condition may last for months, gradually increasing in severity till the skin gives way before the destructive process; and with the discharge of the accumulated pus and fluids the pain gradually diminishes.

But with this evacuation of pus the healing process does not begin. Week after week, month after month, perhaps for years, the discharge continues through the small sinuses. At this point nature may, with the help we have been able to give, assert her powers and gradually lead on to recovery; or the constitution may have been so undermined that one joint after another becomes affected, one abscess follows another. Thinner and weaker grows our patient, till at last the little that is left is almost willingly, after the long, tiresome struggle, surrendered to the enemy.

And now let us consider a moment what can cause such a condition of things. Being a strumous disease and attended with the

strumous diathesis, does it follow that the sufferer must have always been a victim of the strumous diathesis, any more than it follows that he who dies of phthisis pulmonalis must have inherited it? On the other hand, does it necessarily follow that some injury must have been sustained to produce this condition? Let us be careful not to assert too positively that he who suffers from this disease *must* have a scrofulous origin on the one hand, or *must* have received an injury on the other.

I hold that each of these causes may claim its victims, but neither belongs the sole claim. Call the one predisposing, the other exciting; either may, I believe, act without the other, or both may act in conjunction.

If we early recognize the trouble we may give our patient reasonable assurance of a cure; but if it is only at the second or third stage of the disease, we can only say that, after a long and tedious confinement, he *may* be well again.

The treatment is both constitutional and local. In the first stage we have an ordinary inflammation to treat locally, but instead of depleting our patient, as we might if otherwise well, we must nourish and sustain him with nutritious food and tonic remedies. One thing must be insisted upon, and that is perfect rest and repose. Do not accept the responsibility of such a charge unless this condition will be complied with. There is already an overtaxed system, and nature must have an opportunity if you would succeed in your endeavors. It is unnecessary to mention remedies in detail. The indications are to soothe pain, quiet spasmodic action, give rest to the part, and build up the constitution. Should there be a detached piece of necrosed bone, it should be removed. The sinuses should be kept free as possible, and frequent injections of antiseptic solutions are required. Ankylosis must be guarded against, the same as in any other condition that threatens it. Whatever will give rest and comfort to the affected part—bandages, splints, or extension—should be employed. But bear in mind continually that behind this swollen, or open and discharging joint, there is your *patient*, emaciated, weak, weary, nervous, who is to be unceasingly watched and sustained. The best is not too good for him, and without it your attentions to the affected joint will be of no avail. If compelled to choose the one to the exclusion of the other, you would not hesitate to say, "I will take care of my patient, and the joint will take care of itself."

I have said that the disease is one peculiar to childhood, but that there are exceptions to this as to every general rule. I am led to

make this statement because of a case which for some months I have had under my observation, and to which I ask your attention. The history of the case is as follows:

W. K. M., aged 62. Up to the autumn of 1882 had always been a well, hearty, active man. Had never had any severe illness or injury. Has four healthy sons, all grown up to manhood. His occupation has been for years bookkeeper.

In the autumn of 1882 he complained of lameness in the left shoulder, which gave him trouble in putting on or off his coat. He thought it a slight rheumatic attack and paid but little attention to it. The lameness and soreness increased, and in May, 1883, there was a discharge of pus and blood from an abscess formed in the shoulder joints. In July he had considerable fever. The abscess opened on the posterior aspect of the joint, and subsequently in the anterior surface of the arm, about three inches below the joint. These abscesses were open and discharging for eight months, when they healed. There was no exfoliation of bone, and but little, if any, impaired motion of the joint. In the winter of 1884 the ankles began to be sore and lame. In about two months this feeling passed away, but he had a "general bad feeling," as he described it, and a great deal of headache. There was loss of appetite, and it was with a feeling of effort and exertion that he attended to any of his duties. This general condition continued through the year, and in the winter of 1885 the ankles again began to swell and pain him; abscesses formed in both, and in May, 1885, discharged pus and blood. In the summer of 1885 an abscess formed on the great toe, which discharged for some weeks. The right ankle healed in about six months, with the exception of two small openings, through which there is occasionally a discharge of thin, purulent fluid. The left ankle is still open and discharging pus, although not very freely. The rough surface of diseased bone can be detected by means of the probe, but there has been no exfoliation. In the fall of 1886 the knee began to swell and become painful, so that he could not walk. Up to this time he had attended to his business daily with few interruptions. Since the beginning of the knee trouble he has been confined to the house. This is the history of the case as given me by the patient himself. The latter part of February I was asked to take charge of the case, and have had it under observation since. The affected knee was at this time nineteen and a half inches in circumference; the other knee fourteen inches. The skin was tense and glistening, the patella forced considerably outward. The swelling is marked on the internal and external aspects of the knee, and for five

or six inches above and below the patella. It is soft and yielding to the touch without perceptible fluctuation. There are one or two painful spots, but pressure is generally well borne. Up to this time he had been sitting up every day, and on taking charge of the case I insisted on his going to bed and remaining there. A gentle pressure by means of a woollen bandage was applied to the limb from the toes to the lower third of the thigh, and he was kept in bed. The opening in the ankle was dressed with iodoform and a covering of oakum, and *absolute rest* insisted on and obtained. Syr. of iodide of iron and cod liver oil were given, but the cod liver oil had to be discontinued as it was not well borne by the stomach. Having no appetite, milk, milk punch, eggs, and everything that would tempt him to eat was ordered. After two and one-half months his present condition is as follows: He has a good appetite, and his food digests well; he feels stronger and more hopeful; sleeps better. The leg can be kept perfectly straight in bed, and there is much less spasmodic jerking, which has been a painful and troublesome symptom. Circumference of knee, eighteen inches. Such is the condensed history of this interesting case. To us but a page, read and considered in this hour, but to him a volume of nearly five years of pain, of depression, of discouragements, of hopes and fears. Is it or is not in our power to make the story end well? Have we in this man, now sixty-two years old, who, up to five years ago had never had any serious illness, who gives no history of strumous diathesis, who received no injury, a case of tuberculosis of the joints? One joint after another has succumbed to some subtle undermining influence. It seems as if the forces of nature were inadequate to protect the whole man, but that while concentrated to repair a breach already made, some other point was attacked and gave way.

It seems to me that here is a case of tuberculosis of the joints, calling for its treatment. If we have not discovered the causes which usually lead up to this condition, we yet have the condition itself. In regard to the medical treatment, there can be but one opinion—alterative, tonic, sustaining, with such medicines and food as will secure these results. Surgically I would say, rest and extension, thorough drainage, antisepsis, removal of necrosed bone after the opening of the abscess. I would not use the scalpel upon the knee unless I saw that I was simply facilitating the egress of pus which might be working its way to the surface. On these conclusions and opinions I invite your criticism. We are not a mutual admiration society, but we seek the truth even at the sacrifice of our individual opinions, and I trust I may learn more from your discussion than from my cursory remarks.

ARTICLE III.

TWO CASES OF OVARIOTOMY, WITH REMARKS ON THE IMPORTANCE OF POSITION IN THIS OPERATION, AND ON THE SIMULTANEOUS AND RAPID DEVELOPMENT OF PELVIC ABSCESS AND OVARIAN CYST IN IMMEDIATE PROXIMITY. By A. PALMER DUDLEY, M.D., New York, Gynæcologist to the Northeastern Dispensary.

In reporting these cases my object is not so much to swell the number of such operations reported as to point out what I now consider my mistakes in them, and also to call attention to some points which might be of benefit to those of the profession who do not have the privilege of visiting the institutions of this city where ovariectomy is of almost daily occurrence.

Case I.—The patient was twenty-eight years of age, and first menstruated at fourteen. The period was irregular in return and always attended with some pain. She married at eighteen, and thirteen months later was delivered of a still-born child. It was a breach presentation, with which she was in labor several days. Instruments were not used, and the child had been dead about half an hour when delivered. The patient remained an invalid, and was confined to her room for three months afterwards. Her menses did not return for four years, and then recurred irregularly. At the time she became my patient it was her habit to flow moderately for three months, and then cease from three to six months. Four years after the birth of her child, and about two years before I saw her, she first felt an enlargement in the right inguinal region. Its growth was gradual, and had been attended with very severe headaches, and occasionally nausea and vomiting. It was irregular in shape, easily movable, and seemed to be a multilocular cyst, with thick walls. To make a correct diagnosis was a difficult matter, in consequence of her continued menorrhagia. The latter, however, was relieved by thoroughly curetting the uterus, and she improved in general health for some months. But the increase of the tumor, with its attending constitutional symptoms, soon required surgical treatment, and an operation was performed for its removal. An incision three inches in length was made through the median line of the abdomen, and the patient was then turned upon her side and a Spencer Wells's trocar introduced. The growth proved to be a multilocular ovarian cyst with thick walls. Its colloid contents were so adhesive that the trocar was of little use, and I at once opened the sac sufficiently to admit my hand, and with my fingers broke up cyst after cyst within the main sac. This occupied considerable time, and as the

patient failed quite rapidly, she was turned upon her back and the operation finished with her in that position. And, notwithstanding the extreme care taken to avoid it, some of the contents of the tumor escaped into the abdominal cavity. The growth had no adhesions except to the omentum for about half an inch, and this was ligated with catgut. The pedicle was long and slender, and was quilted with catgut, cut short and dropped back. The uterus and opposite ovary were, to all appearances, perfectly healthy; and after thoroughly cleansing the abdominal cavity, I closed the external incision with interrupted silver sutures. The patient did not bear the operation very well, showing marked signs of exhaustion, and reacted slowly with the aid of hypodermic injections of brandy, hot applications, etc. By the next morning, however, she had thoroughly reacted, and from that time her recovery was uninterrupted. Peritonitis did not follow, nor was there a sufficient rise of temperature to make it worthy of note. Aided by Dr. Whitmore, of Boston, under whose care she was subsequently placed, I was able to follow her case in its after stages, and will herein mention its most prominent features.

The operation was performed in November, and in the following January she was taken with cramp-like pains in the pelvis, extending into the thigh. About the same time an induration appeared behind, and to the right of the uterus, attended by some fever and increase of pulse. This was at first thought to be pelvic cellulitis, but its steady increase and attending constitutional symptoms soon evidenced a far graver malady. In March, in consultation with Dr. Whitmore, I saw her again, and, after a careful examination, made the diagnosis of malignant disease. Tonics and stimulants, with opiates sufficient to relieve pain were given her; but the disease seemed to involve so much of the abdominal viscera that further operative measures were deemed unjustifiable. She died the following May, seven months after the operation. I made a *post mortem* examination three hours after her death, and found the abdomen very much distended with fluid, of which I removed a large pailful. This disclosed the growth to be as large as a man's head and involving not only the pelvic viscera but the omentum and small intestines as well. The latter were so matted together that I did not attempt to trace them through the growth. The left ovary was about the size of a foetal head at term, and contained a fluid of varying consistency, together with several pus cavities. This I removed and had examined by a specialist in microscopical work, who pronounced it sarcoma of the round cell type.

The points in this case to which I desire to call attention are:

First, the slow, steady development of the tumor, covering a period of nearly five years; also its long, slender pedicle, absence of adhesion, and its apparently benign contents. (I say benign, because, although I did not have the contents microscopically examined, I have since seen many of the same character that had been examined by the pathologist of the Woman's Hospital and pronounced benign.) Also that the uterus, opposite ovary, and Douglas's *cul-de-sac* were perfectly normal at the time of the operation.

Nevertheless, within two months, malignant disease developed in the *cul-de-sac* and to the right of the uterus, in consequence of which this question presented itself to my mind: How much might I, by my method of operation, have been to blame for this unfortunate result? The patient had been turned upon her back before the tumor was entirely removed, and some of the contents had escaped into the abdominal cavity. This could and should have been prevented by keeping the patient upon her side until the sac had been completely drawn through the abdominal incision, a temporary ligature applied to the pedicle, and the wound cleansed with antiseptic solution. So far as I am able to learn, Dr. T. G. Thomas was the first to practice this method in this country. It is true that surgeons *now* frequently operate for the removal of ovarian growths with the patient upon her back during the whole time occupied. This practice, however, should be condemned, since it does not give the patient the best chance for recovery. It is next to impossible to drain and remove a cyst (and particularly a multilocular cyst) with the patient in that position, without some of the fluid making its way into the abdominal cavity. While this fluid might appear to be of a non-malignant character, it might, when brought in contact with a freshly-congested peritoneum, transplant itself and reproduce disease of a malignant type. The surgeon's duty, therefore, should be to pay the utmost attention to the minor points in these operations. One of the most important of these should be to prevent even the smallest possible quantity of the contents of any growth from entering the peritoneal cavity. This may be accomplished by keeping the patient upon her side until the tumor is removed, the pedicle temporarily ligated, and the external wound thoroughly cleansed with carbolyzed water. Until then the patient cannot, with safety, be turned upon her back for the purpose of completing the operation.

Case II.—The patient was thirty-nine years of age when she first came under my care; at which time she gave the following history: She matured at the age of thirteen, with regular returns every three

weeks, lasting from two to seven days. The flow was scanty and unaccompanied by pain. She had been married eleven years, but had never been pregnant. About six weeks before she came to me she had strained her back, she thought, while lifting a heavy tub, as she had experienced pain at the time. One week later she had taken a severe cold, and suffered with general neuralgic pains seemingly all over the body. Soon after her physician had been called in, and discovered a slight enlargement on the right side, which had rapidly increased in size until she came to me, three weeks later, at which time she presented the following symptoms: General health, poor; no appetite; a pale, anxious expression; some elevation of temperature and pulse, and pain in the right side. Local examination revealed an enlargement in the right side, low down, the size of a foetal head. Vaginal roof hard and tender, uterus fixed. Her surroundings were such that she could not have proper care at home, and she was sent to the hospital. Further examination after admittance showed the enlargement to be, apparently, a simple cyst of the right ovary, with some form of pelvic complication. She was put upon tonic treatment, with hot vaginal injections, and applications of compound tincture of iodine to the pelvic roof, daily. These applications were made as she lay upon her back in bed, with Sims's speculum used over the pubes. I avoided, as far as possible, causing any traction upon the pelvic organs or giving her pain. Eight days after entering the hospital she was taken with violent cramp-like pains in the lower part of the abdomen, accompanied by a severe chill, which lasted half an hour. She recovered slowly from the chill, but still continued to have the pain, for the relief of which morphia had to be given. From that time till the day of the operation she failed, having constant elevation of temperature and pulse, loss of appetite, and sleeplessness, except under opiates. She could take but little nourishment and had become very weak. The abdominal growth had rapidly increased in size, and the vaginal roof still remained very tender to the touch. Her condition had become so grave, and she showed such evident signs of suppuration either in the cyst or pelvic tissue, that I brought her to the operating room for the purpose of exploring the vaginal roof with an aspirating needle. After further examination both by Dr. Scott and myself, I decided to wait a few days more, hoping for some improvement in her condition in the meantime. None occurred, but rather the reverse became apparent, and she was prepared for operation. She was placed under the influence of an anæsthetic and an incision was made through the external abdominal walls. The growth proved to be a simple cyst of the

right ovary, without attachment anteriorly, but it was so attached in the pelvis that it had pushed the uterus over against the left pelvic brim. The uterus had several small sub-peritoneal fibroids on its superior and posterior surfaces.

The patient was placed upon her right side, a large Emmet's trocar introduced into the sac, and the contents—a clear, limpid fluid—drawn off. I incised the sac sufficiently to admit my hand, and on passing the latter into the pelvis, my fingers at once came into contact with the pelvic roof. This, instead of being concave, presented an extensive convex surface, which gave a sensation of fluctuation. The apex of this convex surface seemed to be directly beneath the cyst pedicle, which had become somewhat spread out by distention from below. I selected this as the most favorable point for tapping, and passing a long curved trocar into the cyst sac, and guiding it by my fingers (I could not see the parts), I plunged it into the roof of the pelvis, and drew off through the canula fully a quart of extremely fetid pus. Still keeping the patient upon her side and the canula in position, I injected and reinjected the pus cavity with a warm solution of bichloride of mercury, 1 to 3,000, until it came back clear. I then withdrew the canula, and enlarged the opening sufficiently to admit my finger, with which I could feel several bands of necrotic tissue stretching in different directions across the pus cavity. These were easily broken up, and the cavity again washed out. The ovarian sac was then drawn through the external abdominal opening, and the patient placed upon her back.

None of the contents of either the cyst or abscess had escaped into the abdominal cavity. (The pelvic peritoneum was not inflamed.) The pedicle of the sac was, as I have already mentioned, spread out, and was attached to the pelvic floor. Under the circumstances this was very fortunate, for through it I was able to drain the abscess, without danger of the pus getting into the general peritoneal cavity. I made the drainage by drawing the pedicle up, and without ligating it. I cut away all the sac (except enough to make a funnel for the drainage of the abscess), and stitched the cyst walls to each side of the external abdominal incision with catgut sutures. A Tait's drainage-tube was inserted into the pus cavity, the external wound closed with silk sutures and dressed antiseptically, and the patient was put to bed. The operation lasted sixty-five minutes, during which time half an ounce of brandy was given hypodermically. The reaction was very slow, but her recovery was uninterrupted. Her temperature, which was 99.2° at the time of the operation, did not rise above

100.2°; and the pulse, which was 120, came down to normal in a few days.

The pus cavity was washed out every six hours with a solution of bichloride of mercury, 1 to 3,000. The drainage-tube was removed on the fifth day, having remained long enough to prevent a too early closure of the opening between the two cavities. The sutures were removed on the eighth day. Union by first intention had taken place, with the exception of the part where the drainage-tube had been inserted. Twenty days after the operation the patient sat up, the sinus still remaining open. (A probe could be passed to a depth of three and one-half inches.) This was then injected with a solution of equal parts of tincture of iodine and alcohol, repeated as often as required, until the sinus healed. The patient remained in the hospital forty days after the operation, and was then discharged cured. She was requested to report occasionally at the out-door department, and eighteen months after the operation reported herself well; since which time nothing has been heard from her.

The most important point in the interesting features of this case is the simultaneous, rapid development of an ovarian cyst and a pelvic abscess, so closely united that, although all the symptoms indicated the formation of pus, it was almost impossible to tell whether it proceeded from the ovarian sac or pelvic cellular tissue, for both the cyst sac and the abscess were so tense, and the pelvic roof so hard and unyielding, that, although a sense of fluctuation could be easily detected over the tumor, none could be obtained by bimanual examination. Again, as the woman had never been pregnant, the abdominal walls were tense, and as the abscess was behind and below the uterus, the latter being pressed up against the left pelvic brim, the spreading out of the pedicle of the tumor by the upward pressure of the abscess afforded an otherwise almost impossible medium for safe drainage. Considering the condition she was in at the time of the operation, to have subjected her to along-continued drainage per vaginam would have been hazarding grave chances for her recovery.

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LECTURES.

THE NERVOUS DISORDERS OF URÆMIA.

A Lecture Delivered by M. Lancereaux at the Hospital La Pitié,
Paris.

Translated from the *Union Médicale* for GAILLARD'S MEDICAL
JOURNAL by H. McS. Gamble, M.D., Moorefield, West Va.

PART II.

Contracture is observed likewise in the course of slow uræmia, almost always among arterio-sclerotic subjects affected with conjunctive nephritis; but then it is very difficult to determine whether the stiffness of the neck is owing to the renal insufficiency, or to the atheroma of the arteries of the base of the brain. In other cases the contracture is generalized in the four limbs. A case that we have recently noticed in ward Lorain demonstrates to us that in arterial nephritis itself even an extensive contracture may be the effect of uræmic poisoning. It was the case of a woman seventy-one years old, who was found unconscious upon the floor of her chamber, without any wound of the tongue, but with froth at the mouth. I saw her the next morning at the hospital in the following condition: Extended upon the back, this woman, whose face is calm and tranquil, seems to be sleeping. However, the respiration is noisy, stertorous, and affects the abdominal type. The four limbs are strongly contracted in semi-flexion. The patient is lifted up altogether; the head, the neck, and the trunk form, as it were, a rigid body. Sensibility is diminished, but not abolished, the reflexes but slightly modified. Examination of the urine having revealed the presence of a large proportion of albumen, an enema was at once prescribed; it provoked abundant evacuations. By the following day the contracture had disappeared; the patient had recovered consciousness, and was able to get up; but she still showed some agitation, and complained of an intense headache. The purgative treatment was continued, and the contracture reappeared no more.

An analogous case was offered to our observation a few weeks later. This time the autopsy came in to prove that it was really a question of uræmia. These examples, whilst showing that uræmia may assume the mask of meningitis, of tetanus, and of some forms of cerebral ischæmia, warn the clinician that he ought not to neglect the analysis of the urine in presence of certain more or less extended contractures. This examination will permit him, sometimes at least, to reform his diagnosis, and will put him in the way of the therapeutic indications. But nevertheless, if certain phenomena of uræmia have a great analogy with those of a meningitic affection, let us admit that the evolution of the symptoms does not allow us to confound two

states so different as to their origin. The stability and the progression of the symptoms of meningitis are in real opposition to the mobility of uræmic contracture. Similar reflections are applicable to the distinction that there is reason to establish between uræmic contracture on the one hand and tetanus and cerebral ischæmia on the other. These affections differ essentially in their march and their duration.

Convulsions represent the most common type of the motor disorders of uræmia. They are partial or general. Partial convulsions consist in twitching of the tendons and in convulsive shocks, analogous to electric shocks. The general convulsions have a great analogy with an attack of epilepsy; they are known under the name of *uræmic eclampsia*.

It is to be remarked that this eclampsia is the appanage of certain renal insufficiencies, to the exclusion of certain others. Thus it is observed very frequently in subjects of scarlatina, in lying-in women, and in those poisoned by lead. The grand convulsions are, on the contrary, exceptional in the common variety of interstitial nephritis which is associated with general atheroma, and yet the patients affected with this nephritis form the majority of uræmic subjects. Since 1878 I have encountered but one single case of eclampsia in the course of arterial nephritis, in a woman whom you have observed this very year in our ward.

The twitchings of the tendons are little shocks which the hand, applied along their course, readily perceives, especially in the upper extremities. Differing but little from the twitchings that supervene in grave fevers, they precede or accompany the convulsive shocks. The latter, brusque and sudden, rapid as lightning, bear upon a single limb, a few muscles of which contract, to fall again almost immediately into a state of repose; they are the ordinary precursory phenomena of the attack of eclampsia. This syndrome is produced sometimes suddenly, sometimes after attacks of migraine, of vertigo, of cephalalgia, or of somnolence. The attack, very similar to an epileptic seizure, commences ordinarily in a few muscles, to extend soon to the rest of the body. This partial clonismus of the commencement consists in slight motions of the lips and of the muscles of the face, strabismus, sudden lifting of a limb. Then the patient is seized with a tetanic stiffness, he throws himself backwards, his face is congested, and respiration is suspended. With the return of the inspiratory movements, clonic convulsions supervene that may assume all varieties, comprising the form of hemiplegic epilepsy. These convulsions are exhausted in a few moments and the patient falls into coma, from which he often recovers only to fall again into fresh paroxysms.

Thus, then, as in the common epileptic seizure, the convulsive movements, accompanied by loss of consciousness and general collapse, pass through two stages of tonic and of clonic contraction, to end in a state of somnolence, with stertorous respiration. Besides, even in the cases where they most resemble epileptic seizures, the convulsive

attacks of eclamptic uræmia are distinguished by the absence of the initial cry and of the cadaveric pallor of the commencement of the paroxysm; the predominance of the spasms on one side of the body is the rule in epilepsy, the exception in uræmia. Let us add, moreover, that in certain cases cerebral collapse is absent and the convulsions alone exist.

True epilepsy is besides, as is well-known, an affection that shows itself in early life, and that differs essentially in its course from the convulsive paroxysms of uræmia. It is also erroneously that some have called by the name of *epilepsy* the convulsive symptoms which supervene at an advanced stage of saturnism, when the kidneys, as we have sought to show for a long time, are sclerosed, granular and profoundly modified in their structure.

Uræmic convulsions have, under some circumstances, been confounded with the disorders engendered by a neoplasm of the meninges or of the periphery of the brain; the error is the more readily made from the fact that sometimes albuminuria is symptomatic of a lesion of this kind. The quantity and the quality of the urine voided in the twenty-four hours will enable one to ascertain whether the albuminuria is primary or secondary; besides, the character of the convulsive symptoms is always more pronounced on one side of the body when there exists a material lesion of the brain. The march of these symptoms would serve for the most part to differentiate them from uræmic phenomena.

Convulsive uræmia always offers a serious prognosis, for death may supervene in the course of an attack, as I witnessed in 1869 at the hospital La Charité in the case of one of my patients attacked with saturnine nephritis, and who succumbed almost instantly during an eclamptic paroxysm. In the presence of such emergencies, the physician ought to preserve his sang-froid, provoke energetic excitations and revulsions to the region of the heart and epigastrium, to practice artificial respiration, and to avail himself even of the services of electricity, in order to arouse the cardiac contractions.

Uræmic Paralyses affect in general a large number of muscles, and are habitually located in one entire half of the body. They show themselves almost always in the course of nephritis associated with arterio-sclerosis. Patients in pretty good health, apparently, and having no other trouble than frequent calls to urinate during the night, a marked tendency to vertigo and dizziness, a momentary embarrassment of speech, or even sometimes a veritable transitory aphasia, are suddenly seized with apoplexy. Death is the usual result of this attack; but, in some cases, the coma ceases, the patient recovers consciousness, and a hemiplegia either with relaxation or contracture is observed. This hemiplegia invades at the same time both the trunk and the limbs, or attacks the limbs alone; it co-exists sometimes with a partial or complete hemianæsthesia, and is most frequently accompanied by the abolition of the reflexes.

What distinguishes it from hemiplegia connected with a material

lesion of the brain is that, after a variable duration, it disappears in part or in whole. Later a new attack supervenes with hemiplegia of the same or of the opposite side. The brother of one of our most distinguished confrères, whom I saw upon several occasions in consultation, was thus attacked in the first place with a right hemiplegia, which disappeared after a few days; then with a left hemiplegia, which likewise ceased; finally he succumbed to uræmic dyspnœa. He was gouty and the subject of albuminuria.

Cases of this kind, which we have already described in the article KIDNEY of the *Encyclopædic Dictionary*, and which we have since then met with many times, are not rare among aged persons attacked with arterial nephritis. In the presence of such symptoms one most frequently diagnosticates a hemorrhage or a cerebral *ramollissement*, and one is surprised to find, at the autopsy, only atheroma of the vessels of the brain. Similar cases have been seen by Raymond, then by Chantemesse and Tenneson; they form the subject of interesting memoirs published in the *Revue de Médecine*. Then again, it concerns old, albuminuric subjects who, after slight prodromes, were seized with apoplexy, hemiplegia of the limbs with participation of the face, and with elevation of the temperature.

In the cases published by these authors, as in those belonging to myself, it is the absence of gross encephalic lesions, such as hemorrhage or softening, that lead us to place the paralytic phenomena to the account of the alteration of the kidneys. The ventricular dropsy and cerebral œdema are, for Raymond, who attributes them to the renal lesion, the principal cause of the apoplexy and paralysis. Some experiments, performed with the view of supporting this interpretation, have appeared to us to leave something to be desired, and have failed to convince us. There are so many subjects of asystolism who combine this double condition of cerebral œdema and atheroma, without presenting any manifest disorder of the encephalic functions, that there is reason to doubt that these lesions are, in this instance, the cause of the paralysis. We are inclined to attribute this latter, as all the other uræmic disorders, to the retention of the excrementitious matters of the urine. The elevation of temperature invoked in favor of a local cause, of a meningeal or cerebral lesion, appears to us an argument without value, for if there are some excrementitious matters of the urine that lower the temperature, there are also others that may elevate it, and several times we have seen symptoms manifestly uræmic coincide with a thermometric ascension, in young persons, without arterial atheroma and without cerebral œdema. Finally, if it is true that uræmic paralyzes show themselves most frequently in the course of the nephritis of arterio-sclerotic patients, this is not an absolute rule. A man fifty years of age, confined in No. 12 of ward Piorry, had for a long time been affected with polyuria, with discoloration of the urine and albuminuria, when he was taken, after a few uræmic prodromes, with a complete hemiplegia of the left side. At the autopsy not only was it impossible to discover any lesion of the cerebral substance, but

even the least vascular alteration. The kidneys were atrophied to an extreme degree ; together they weighed seventy-five grammes.

It would be very desirable to know how to recognize uræmic paralysis clinically, because of the immediate indication that would result for the treatment. Unfortunately, in the old man, this diagnosis is one of great difficulty, by reason of the almost perfect resemblance of the symptoms to those of hemorrhage and softening of the brain, affections so common at this time of life. However the antecedents of the patients, the variability and the mobility of the paralysis, the albuminuria and the feeble density of the urine, are so many signs that plead in favor of an uræmic origin.

In the adult the diagnosis is not so difficult. Confusion may still arise with certain affections, generally syphilitic, of the meninges or of the cerebral cortex. It will be remembered that uræmic apoplexy is rarely preceded or accompanied by unilateral convulsive attacks and circumscribed paralysis of the muscles of the eye. However, the error is possible, and the following example shows well the whole extent of the difficulties.

A woman thirty years old, admitted for the first time into our service for a left hemiplegia preceded by an intense cephalalgia and convulsive attacks, was considered by us to be the subject of a circumscribed lesion of the periphery of the encephalon, probably of a gumma of the meninges. A specific treatment was prescribed, and three weeks later this patient left the service in spite of us, although still preserving a slight degree of weakness in the left limbs. Eight days later she was again seized with apoplexy and brought back to the hospital. She had froth upon her lips, and convulsions ; than she fell into profound coma with hemiplegia and hemianæsthesia of the right side, deviation of the head, and of the eyes to the right. The respiration was stertorous and irregular, and the temperature arose to 39°. A *bruit de galop* at the heart was observed, and an abundant albuminuria. The return of the symptoms when the patient appeared to us almost entirely cured, the persistence of the coma, the albuminuria and the cardiac *bruit de galop*, modified our first diagnosis. It seemed to us to be a case of uræmia, but perhaps also, at the same time, of cerebral hemorrhage. The autopsy confirmed this diagnosis. Notwithstanding the age (thirty years) of the patient, the arterial system was diseased in its greatest extent and the heart notably hypertrophied ; the kidneys small, granular, and largely sclerosed, presented histologically the most accentuated features of conjunctive nephritis of arterial origin, with intense endo-peri-arteritis of the labyrinthine vessels. The transitory left hemiplegia was explained by a hemorrhagic focus, already in process of encystment, which had destroyed the external capsule and the lenticular nucleus and a portion of the caudate nucleus, and finally had hollowed out the sensitive fasciculus.

In closing this chapter I ought finally to point out to you the fact that, in old men affected with relaxed hemiplegia, a crisis of uræmia may cause convulsions and contractures of the paralyzed limbs to appear.

Aphasia very rarely accompanies uræmia; it has also up to the present time escaped the attention of authors who have written upon renal insufficiency. With all the disorders of uræmia, it partakes of the character of being essentially transitory, and of appearing at irregular or periodical intervals. A patient, recently dead in our wards, has furnished us the opportunity of studying at leisure this symptom in its various modalities. Besides the pure, verbal aphasia, it was easy, in effect, to recognize in his case also agraphia and verbal cecity. He was a man thirty-one years of age, with amyloid degeneration of the kidneys, associated with genital and articular tuberculosis, and who, for two years, presented upon different occasions several of the symptoms of cerebral uræmia, notably eclamptic and comatose paroxysms. Aphasia showed itself at an early hour and preceded the other uræmic phenomena. Near the close of the year 1884, the patient, a man of highly developed intelligence, discovered that momentarily he was unable to express his thoughts in words appropriate to the idea conceived; he is arrested sometimes in the midst of a conversation.

If he seeks to write during this fits of abstraction, he does not find, although possessing the idea, the assemblage of letters intended to form the word. He was sent one day to carry a commission to a laboratory of the Faculty; upon his arrival he could not find a word to explain his presence, and he was taken for a lunatic. For long months this patient was affected every evening, about the same hour, with attacks of aphasia, though to a variable degree. In the morning he feels well, his intellect is clear, speech facile; but after the four o'clock meal his speech is confused, he uses one word for another, and generally he abstains voluntarily from speaking to avoid provoking laughter. Upon certain days, when he has rested, the aphasia is hardly perceptible. When he has fatigued himself by drawing, and above all when he has not made use of diuretics, the aphemia is absolute; he can scarcely pronounce a few words, and these without connection and without meaning. He is equally incapable of writing, and, if a paper is handed him, his gestures clearly indicate that reading is impossible for him; his sight, however, remains very clear. Often, at the same time as the aphasia, a little quiet delirium is manifested, and, if chloral is prescribed, for a half hour nearly the patient continues to mutter incoherent words, then he goes to sleep, and when he wakes all the symptoms have disappeared. The administration of a purgative enema, or of a few diuretic pills, suffices equally to moderate these phenomena, or even suppresses them momentarily.

The examination of the brain of this patient proved that it was a question in this case of disorders independent of a material lesion of the cortex. The clinical features of this aphasia besides indicated it sufficiently.

Uræmic coma is relatively common; for the most part it is associated with other uræmic manifestations. We have seen that it succeeds to the convulsions, and that it frequently accompanies the paralysis. But in certain cases it remains isolated and constitutes in itself alone

the whole cerebral disorder. Sometimes it is a matter of a simple state of somnolence that lasts whole days, and from which the patient, still half conscious, may be drawn by an interpellation or a somewhat lively excitation. Seated upon his chair or upon his bed, generally a prey to a painful dyspnœa, the patient gives utterance to complaints or groans, as soon as he awakes, and soon falls again into hebetude, with or without *subsultus tendinum*.

At other times this trouble supervenes suddenly; the coma is then much more accentuated. The patient is stricken with an *apoplectic attack*, he becomes insensible to all excitations, his face pales, his pupils are immobile, his pulse becomes slow, his respiration is irregular, sibilant or stertorous, and, in certain cases, he smokes his pipe. Muscular resolution is then general, the elevated limbs fall relaxed as if they were paralyzed. Death may be the result of a first attack of this kind. Œdema of the brain is sometimes discovered at the autopsy, but it may likewise be wanting. This is altogether a contingent lesion, and it is unjust to identify uræmic coma with *serous apoplexy*.

When the collapse disappears, which is the rule, the patient comes to himself, preserving a certain degree of hebetude and the obtusion of his sensitive faculties; then after an interval of a few hours, of a day or two, or even after a longer respite, he falls again into abjection, and one may see several similar alternations precede a final attack.

The patient of whom we have spoken already *à propos* of uræmic aphasia, presented upon different occasions attacks of profound coma. The first time, ignorant of the fact that this man was albuminuric, I had diagnosticated a cerebral hemorrhage, and had given a very grave prognosis; so when the next morning I found that my patient had recovered consciousness, I was somewhat surprised, and it was then that the idea of uræmia recurred to my mind, and that I had the urine examined.

The diagnosis is always difficult in cases of this kind. The absence of reflexes, observed in the preceding case as well as in another that we have recently witnessed, may be interpreted in favor of uræmia. The examination of the urine and the state of the temperature have here a great semicological importance, and a real value from the standpoint of the prognostic and therapeutic indications.

Uræmic delirium or insanity rarely forms a part of the symptomatic ensemble of renal insufficiency. When it intervenes, it is rather in the course of interstitial nephritis, especially of those cases of it which are associated with arterio-sclerosis, than in epithelial nephritis. However, it has been observed in the acute uræmia of scarlatina, and it is even probable that many cases of puerperal mania come within this morbid form.

When uræmic delirium is associated with other troubles, nervous or digestive, it is habitually moderate, tranquil, mild and transitory, rather than noisy and durable; so it may pass unnoticed, and most frequently it has but a secondary importance. If, on the contrary, this symptom is the predominant phenomenon, and sums up in itself the

whole uræmic disorder, it is more pronounced, and presents peculiar features which it is absolutely necessary to know well. In effect, it does not suffice that there be a coincidence of delirium and of a renal lesion in order that there should be *uræmic madness*; it is important also that this delirium have a special manner which distinguishes it from other forms of delirium.

Rarely it breaks out all at once; almost always it is preceded by insomnia, by a change of character, by sadness or impatience, by cephalalgia, by dyspnœa, or by some other sign of urinary insufficiency. It is active, noisy, rather than depressing, and its type approaches more frequently to acute mania.

A patient sixty-three years of age, observed by myself in the clinique of the city, had been treated upon several occasions for uræmic dyspnœa supervening in the course of an interstitial nephritis. After some days of insomnia he ceases to reply with precision to the questions propounded to him; he has hallucinations, fits of abstraction; he is like one lost; then one night he gets up, goes to bed in another bed, and in the morning he wishes to go out to purchase bibelots; he pretends that he has been robbed of objects of value, and as his going out is opposed, he insists, he holds absolutely to the idea of going out to walk. Finally he seizes the sister who has charge of him, and whom up to that time he had loved very much, then his *valet de chambre*, and he even has but moderate regard for his physician. The next day, and the days following, the delirium is accentuated, the excitation becomes more lively, the patient wishes absolutely to go out, he abuses those who guard him; his family call in specialists, who advise sending him to an insane asylum. I had been absent for a day, but my interne, M. Gilson, who took my place, knowing what the trouble was, formally opposed this ill-advised action, administered several pills of croton oil, as I had counselled him, and upon my return, three days later, this patient was calm, and the day after his delirium ceased completely.

Another of my patients, an old man 75 years of age, attacked with the same affection, was taken with a similar delirium. In effect, it was difficult to keep him at home; he wished to go out, to fight; he said all sorts of disagreeable things, and was constantly agitated. At the end of a few days of this delirium, sometimes accompanied by hallucinations, and which was not without analogy with certain forms of alcoholic delirium, although the patient was one of the most sober of men, there supervened depression, somnolence, and finally death in coma.

The hallucinations, when they exist, affect the hearing or the sight, and are rather terrifying than gay. The patients believe that one wishes to injure them, to poison them, and, in certain cases, they refuse all food.

Uræmic delirium has remissions and paroxysms, rarely a uniform and continuous march. It may persist for months; but its ordinary duration is shorter, a few days or a few weeks, and, like the convulsions

and the coma, it kills pretty generally if it is not combatted by appropriate treatment. Several times patients who were the subjects of it have been shut up in asylums for the insane, and we have had, in some cases, to oppose the sequestration of a uræmic patient whom his family considered a lunatic. This symptom is thus of the most serious nature, and, besides, it is frequently followed by a profound depression or even an ultimate coma. Uræmic delirium is not without offering serious diagnostic difficulties, arising above all from the morbid predispositions which, in the case of a subject of Bright's disease, as in every other person, may be aroused by some incident or other. One conceives how an alcoholic subject having a renal lesion may be taken with a delirium absolutely foreign to this lesion. It is the same with an individual who has antecedents of insanity in his family; so, it is important to be well fixed upon the characteristics of uræmic delirium, if one wishes to be able to recognize them surely. These characteristics we sum up as follows: appearance of the delirium generally after well-known uræmic phenomena, maniacal exaltation with general incoherence, capable of disappearing after the lapse of a few days, or of approaching dementia of short duration, coma, and finally death. It is, in fact, a grave symptom which it is important to know how to diagnosticate in order to treat it properly and to avoid placing among the insane the unfortunates who are attacked by it.

Such are the nervous disorders of uræmia. These disorders, whether isolated or simultaneous, coexist quite frequently with other uræmic symptoms; it is of the utmost importance to know them, as much from the standpoint of the prognosis as of the therapeutic indications.

SELECTIONS.

THE NATURE AND TREATMENT OF CHOLERA INFANTUM. By VICTOR C. VAUGHAN, M.D., Ph.D., Professor of Physiological Chemistry in the University of Michigan.

Probably a more correct title for this paper would be the nature and treatment of summer diarrhœa; for cholera infantum is now regarded by some of the best authorities as differing in degree only from the milder diarrhœa of infancy. The importance of this class of diseases is well understood by physicians generally. It is estimated that in the hospitals of New York City there are treated each summer not less than 25,000 cases of diarrhœal disease among children. Add to this those that are seen in private practice, and the number must be very large. It certainly would be safe to say that the average number of cases of summer diarrhœa in children coming under treatment annually in the United States is not less than a quarter of a million.

The causes usually enumerated by writers on these diseases are heat, atmospheric conditions, and changes in the food. Of these causes,

great stress has been placed upon the first two. However, heat should affect young children more than older ones; but Holt states that, of 431 of his cases, only 12.8 per cent. were under six months, while 59.5 per cent. of the cases occurred between the ages of six months and two years. Holt says, "The explanation is obvious. Under six months the great majority of the children of the poorer classes receive breast milk either exclusively or principally, while from that time on they are accustomed to be fed from the table, or on articles totally unfitted for infantile digestion. It is a striking fact that Hope, of Liverpool, brings out in his statistics of 591 fatal cases of summer diarrhœa in children under two years of age that only 28 had the breast exclusively; while Ballard states that of 341 fatal cases occurring in Leicester, only 2 per cent. of the children had no food, but the breast." (*New York Medical Journal*, January 29, 1887.)

Now there is no reason why heat and miasmatic influences should not affect those that feed at the breast as well as those that are brought up by artificial feeding, if the food has nothing to do with the production of the disease, as some few contend. That heat and atmospheric impurities have much to do with the causation of the diarrhœa I am ready to admit; but their chief evil effects are upon the food of the child. The demonstration of this now amounts almost or quite to a certainty. Three years ago the writer discovered in poisonous cheese a ptomaine which produced nausea, vomiting, and diarrhœa. Later the same poison was found in ice-cream and in milk. The poison has now been isolated by as many as five chemists, and its chemistry and the conditions under which it develops, as well as its action, are fairly well understood. Chemically, the poison is diazobenzol (Since the preliminary report on the chemistry of tyrotoxinon—*The Medical News*, April 2, 1887—the writer has made an ultimate analysis of the salt obtained by the action of potassium hydrate on tyrotoxinon, and found it to be identical with the double hydrate of potassium and diazobenzol.), which may be made artificially by the action of nitrous acid gas at a low temperature upon the nitrate, butyrate, or other salt of anilin. It is decomposed when heated with water to near the boiling-point. It is developed in milk by the growth of a germ, which multiplies very rapidly when the conditions are favorable. These favorable conditions consist principally of exclusion of air, or the presence of a limited supply of air, and a comparatively warm temperature, the germ developing most rapidly at about 98° F. If milk be placed in cans, and tightly closed as soon as it is drawn from the animal, and then be kept warm, the conditions for the development of the poison are favorable. A nice illustration of this was furnished by a case occurring at Long Branch, N. J., and reported by Drs. Newton and Wallace. A number of persons at the hotels were poisoned by milk. Investigation showed that the cows were healthy, their food good, and their pasture and stables all in good sanitary condition. The milking was done at the usual hours of midnight and noon. The milk drawn at midnight was cooled by being left in cans surrounded by water until morning,

when it was sent to the hotels. This milk never produced any unpleasant effects. The noon milk was placed in closed cans as soon as drawn, with all the animal heat still in it, and carted a distance of eight miles during the very hot days of August. This milk was poisonous, and from it Drs. Newton and Wallace separated tyrotoxon. Of course, uncleanliness would increase the tendency of the milk to decompose, and it might afford the means of introducing the germ into the milk. Feeding the cow upon improper food, such as swill and refuse from breweries, would also render putrefactive changes more likely to occur.

Comparatively large doses of this poison, from one to one and a half grains, administered to cats, cause violent retching and purging, with death within from one-half to two hours. With these large doses vomiting is impossible, on account of the great constriction of the throat; but the retching is so violent that severe congestion of the lungs results. With smaller doses, about one-third of a grain, severe vomiting and purging are induced. The first stools are fecal; but the subsequent ones consist of clear serum, are rice water-like in appearance, and alkaline in reaction. The administration of small doses each day keeps up the vomiting and diarrhœa, leads to rapid emaciation and death from exhaustion. In other words, it establishes a cholera infantum condition. The similarity to cholera infantum does not cease with the symptoms induced and the death of the animal; but the post-mortem condition agrees exactly with that observed in children after death from cholera infantum. The mucous membrane of the stomach and small intestine is soft and blanched. We would expect, after so much vomiting and purging, to find this mucous membrane congested, or at least reddened; but that such is not the case I have demonstrated by repeated post-mortem examinations of cats, dogs, and guinea-pigs poisoned with tyrotoxon. Ehrenhaus says of the pathological anatomy of cholera infantum, "Generally the mucous membrane of the alimentary canal is pale and free from blood."

Here we have the evidence for believing that this poison is an important factor in the causation of cholera infantum and similar diarrhœas of children, the violence of the attack varying with the amount of the poison present. When we remember that these diseases are most prevalent among the poor classes of our large cities, where fresh milk is almost unknown, we can readily understand their frequency. By such people milk is often not obtained until it has begun to sour; then it is kept at a high temperature, and often in a most foul atmosphere, and we all know something of the readiness with which milk takes up bad odors. This milk is then eaten by the little ones, who are weakened by poverty and everything that poverty means; insufficient food generally, and that of the poorest quality; insufficient clothing, insufficient and vitiated air. With these facts before us, it is not surprising that in all our large cities thousands of children die annually from the summer diarrhœas. Moreover, in our country places, how little attention is given to the food of children we all know from

actual observation. Cows stand and are milked in filthy barns and yards. The udders are generally, so far as my observation goes, not washed before the milking; the vessels for the milk are frequently found not as clean as they should be. Then there are the thousands of children that must draw their sustenance from bottles, the cleansing of which is in many cases not properly attended to. Crusts of decomposing milk form around the neck of the bottle, in the tube and nipple, and lead to the rapid decomposition of the entire contents of the bottle. I think that one of the most important advantages to be secured to breast-fed children arises from the lessened danger of infection of the milk with germs which may produce poisonous ptomaines. I would not claim that decomposed milk is the sole cause of the summer diarrhœas of children; nor would I claim that tyrotoxin is the only poison that may be developed in milk. It is *only one of a large class of bodies which are produced* by putrefaction, and many of these are cathartic in action.

But will this knowledge concerning the development of poisons in milk and other foods aid us in the prevention and treatment of these diseases? Preventive measures will consist for the most part in attention to diet, and especially to milk. I have drawn up the following rules concerning the care of milk:

1. The cows should be healthy, and the milk of any animal which seems indisposed should not be mixed with that from the perfectly healthy animals.
2. Cows must not be fed upon swill, or the refuse of breweries, or glucose factories, or any other fermented food.
3. Cows must not be allowed to drink stagnant water; but must have free access to pure, fresh water.
4. Cows must not be heated and worried before being milked.
5. The pasture must be free from noxious weeds, and the barn and yard must be kept clean.
6. The udder should be washed, if at all dirty, before the milking.
7. The milk must be at once thoroughly cooled. This is best done by placing the milk can in a tank of cold spring water or ice-water, the water being of the same depth as the milk in the can. It would be well if the water in the tank could be kept flowing; indeed, this will be necessary, unless ice-water is used. The tank should be thoroughly cleaned every day, to prevent bad odors. The can should remain uncovered during the cooling, and the milk should be gently stirred. The temperature should be reduced to 60° F. within an hour. The can should remain in the cold water until ready for delivery.
8. In summer, when ready for delivery, the top should be placed on the can and a cloth wet in cold water should be spread over the can, or refrigerator cans may be used. At no season should the milk be frozen; but no buyer should receive milk which has a temperature higher than 65° F.
9. After the milk has been received by the consumer, it should be kept in a perfectly clean place free from dust, at a temperature not

exceeding 60° F. Milk should not be allowed to stand uncovered, even for a short time, in sleeping or living rooms. In many of the better houses in the country, and villages, and occasionally in the cities, the drain from the refrigerator leads into a cesspool or kitchen-drain. This is highly dangerous; there should be no connection between the refrigerator and any receptacle of filth.

10. The only vessels in which milk should be kept are tin, glass, or porcelain. After using the vessel it should be scalded, and then, if possible, exposed to the air.

With the attention demanded by these rules given to milk, it will become more valuable as a food, and the development of poisons in it before its introduction into the body will certainly be prevented.

But in the prevention of summer diarrhoeas, attention to the food must not stop with its introduction into the body. The ferment which produces tyrotoxin is widely distributed, and it only awaits conditions suitable for its development. We do not know exactly what germ it is that produces this poison; but it is either the butyric acid ferment, or some ferment which is frequently developed along with the bacillus butyricus; because I have found that if some butyric acid ferment be prepared according to the method usually followed in making butyric acid, and milk be inoculated with this and allowed to stand at the temperature of the body for a few hours or at the ordinary temperature of the room for several days, the poison will appear. Moreover, as is well known, the bacillus butyricus grows best in the absence of air; we have already seen that the exclusion of air favors the development of tyrotoxin. We are aware of the fact that the butyric acid ferment frequently does develop in the stomach. Therefore, I think that the prevention of these diseases necessitates some attention to digestion. If the food lies in the stomach or intestine undigested, putrefactive changes will occur there. During the hot months children which are allowed to take food at will often drink large quantities of milk simply for the purpose of quenching thirst. Especially is this true when the parent forgets that a child would sometimes relish a drink of good water. I feel that this overloading of the stomach with milk, caused by thirst, often is of no little detriment. It is hardly necessary to specify in regard to other ways in which attention should be given to the digestive organs of children. Those that partake of other foods with their milk should be allowed only the most wholesome articles, and these should be in perfect condition. Moreover, the depressing effects of extreme heat upon the nervous system, and its consequent injury to digestion, should always be borne in mind.

Now we come to the discussion of the curative treatment of these diseases. The first thing to do is to stop the administration of milk in any form. The ferment is present in the alimentary canal, and giving the best of milk would simply be supplying the germ with material for the manufacturing of the poison. This no-milk treatment is not by any means a new idea. It has been taught for some years by a few of the best authorities; but it has not been sufficiently insisted upon.

Moreover, the reason for it has not been hitherto understood. It was believed in somewhat of a vague way that the digestive organs lose their capability of digesting milk, and experience showed that the exclusion of milk led to improved results. But now that we know that a powerful poison is formed from the putrefaction of milk, the necessity of its exclusion must become apparent to all. I reported last year a case which is so applicable here that I must be pardoned for quoting it in full. If the child had been an animal upon which I wished to experiment, I could hardly have selected conditions more favorable.

“July 30, 1886, about 1 P.M., I was called to see the seven months' old babe of Mr. B. I found that the child had been vomiting quite constantly for some three hours. It had also passed watery stools some six or seven times. The eyes were sunken, skin cold and clammy, and pulse rapid and small. I diagnosed cholera infantum. During the preceding night the child had seemed as well as usual, and had taken nourishment freely from the mother's breast. Early in the morning it had been given a bottle of cow's milk, and soon thereafter the nausea and vomiting began. Later, as stated above, the child began to purge. The mother furnishing an insufficient supply of milk, it had been the habit to give the child cow's milk several times a day. I prohibited the further use of milk, both that from the mother and from the bottle, and substituted meat preparations and rice water as foods. I also prescribed pepsin, bismuth subnitrate, chalk mixture, and camphorated tincture of opium. The cow's milk which had been furnished the child was from an animal kept by one of the neighbors. On the evening of the same day that the child was taken sick I obtained two quarts of the morning's milk of this animal. The milk had the appearance of very rich cream, being of a yellow tint throughout. This milk was allowed to stand through the night of the 30th in the ice-box of a refrigerator. On the morning of the 31st I began the analysis. After pouring the milk from the pitcher, there remained in the vessel about two ounces of a fluid the color of port wine. Microscopical examination of this fluid showed the presence of pus and blood corpuscles. The blood was also detected by obtaining the characteristic bands of oxyhæmoglobine with the spectroscope. The milk, which had already coagulated, was filtered. The strongly acid filtrate was rendered feebly alkaline with potassium hydrate, and then agitated with absolute ether. After separation, the ether was removed with a pipette, and allowed to evaporate spontaneously. This residue was dissolved in distilled water, and again agitated with ether. This ethereal solution left, after spontaneous evaporation, a residue which had a slightly brownish tint. I did not obtain the crystals of tyrotoxin, doubtlessly owing to this trace of impurity; but the residue had the odor and taste of tyrotoxin. This residue, dissolved in distilled water and given to a cat, produced retching and vomiting. That tyrotoxin was present in the milk taken by the child shortly before the beginning of illness there now could be no doubt. It is true that the milk was abnormal in

other respects also, inasmuch as it contained pus and blood. After the withdrawal of all milk and the use of the medicinal agents mentioned above, the child began to improve, and by the afternoon of August 1st it seemed so well that it was allowed a bottle of good cow's milk (from another animal); but soon after taking this milk it again began to vomit and purge. Milk was again withheld, and the same medicinal treatment resorted to. This attack was slight, and after it the child continued to improve until the night of August 4th, when the grandmother, who 'knew more about raising babies than the doctor,' fed the child bountifully upon milk. Again the vomiting and purging began, and it was more than a week before all symptoms of gastro-intestinal irritation had disappeared. About the 15th of August milk was again allowed, at first in small quantity, and this, seeming to have no harmful effect, more liberal quantities were given. The child has continued well since." (Proceedings of the Michigan State Board of Health, October, 1886.)

That my experience in this is not unique will be made evident by the following quotation from a recent paper by Dr. L. Emmett Holt, physician to the New York Infant Asylum, who writes as follows: "In children under two years of age, not fed at the breast, it is better to withhold milk entirely. This has been a subject of careful investigation during the past summer at the New York Infant Asylum, and both the resident physicians and myself have had this proved to our satisfaction by a large number of cases. Peptonized milk is very much less likely to disagree than either condensed milk or fresh cow's milk. But in many even this caused an aggravation in the intestinal symptoms, particularly in severe and protracted cases. Again and again have I seen relapses brought on when milk was added to the diet in cases where the stools had been practically normal for two or three days." (New York Medical Journal, January 29, 1887.)

The food used may consist of chicken and mutton broths, beef juice, and rice or barley water. With this list, no difficulty will be experienced in giving the child sufficient nourishment. In the medicinal treatment the first thing to do is to cleanse the alimentary tract as thoroughly as possible. In the first stages of the diseases there is no better agent for this purpose than castor oil. But if there have already been several serious discharges, copious enemata of water will be more suitable. These injections may contain either an astringent or a disinfectant, or both. For the latter Holt recommends benzoate or salicylate or sodium, and for the former nitrate of silver or tannic acid.

The next thing to be done is to arrest the growth of the germ. This germ has been found so far to develop only in acid media. Therefore, I think it wise to administer some antacid. Probably there is nothing better in this line than the old chalk mixture. In the preparation of the chalk mixture the druggist should be requested to use glycerine, as many druggists still use syrup in this preparation. The presence of the sugar leads to rapid decomposition during

hot weather. It has been said that the use of the antacid is irrational, because the discharges are often alkaline. Of course the serous discharges are often alkaline, because they consist of blood serum, and will be alkaline unless they have remained in the intestine long enough to ferment; but the reaction of such discharges does not prove that the contents of the stomach and small intestine are alkaline.

As to the use of germicides, much is yet doubtlessly to be learned. No doubt the chief effect of subnitrate of bismuth in this disease may be due to its effect upon the germ. Holt makes an excellent showing for the salicylate of sodium, but since he has been using this drug he has followed the no-milk diet, and doubtlessly his lessened mortality has been due to the exclusion of milk quite as much as to the salicylate. He uses this drug in doses of from one to three grains every two hours.

I am now making some experiments with the object of ascertaining the effect of certain germicides on the development of this poison. The results I will give in some future paper, but I may state here what my success has been in a few experiments with mercuric chloride. The method of conducting the experiments was as follows: Four-ounce bottles were filled with milk, milk and ferment, and milk and ferment with mercuric chloride, closed with glass stoppers and kept in an air-bath at the temperature of the body for six hours. Then the milk was tested for tyrotoxin with the following results: No. 1. Bottle containing pure milk only. Result, no poison. No. 2. Bottle containing pure milk only. Result, no poison. No. 3. Bottle containing milk and ferment. Result, the poison present. No. 4. Bottle containing milk and ferment. Result, the poison present. No. 5. Bottle containing milk, ferment, and one-hundredth grain mercuric chloride. Result, the poison present. No. 6. Bottle containing milk, ferment, and one-fiftieth grain mercuric chloride. Result, the poison present.—*Medical News*.

THE PROPER EMPLOYMENT OF PREPARED FOODS FOR INFANTS.—By Victor C. Vaughan, M.D., Ph.D.

The feeding of infants, which for any reason are denied the mother's breast, has been, and continues to be a question of great interest. Even the matter of the selection of a wet-nurse, where both money and opportunity are abundant, is one of the greatest importance, and, as all know, this method of securing nourishment for the child is not free from danger. First, there is often the dread that the nurse will convey to the child some constitutional disease. Then the nurse can hardly be expected to have that watchful solicitude for the child's health which is the peculiar characteristic of its own mother; and the most trusted servants have been found quieting the baby with opiates and even narcotizing it with alcohol. Again, the nurse who offers herself only on account of the demands of poverty, must often leave her own child to be fed artificially, and the question of the importance of infant

feeding is only transferred in its application from the child of the mistress to that of the servant. Lastly, in a large number of cases, from want of a wet-nurse, obtainable at any price, or from want of money, the child must be fed artificially.

When the artificial feeding becomes necessary, of what shall the food consist? In this country, at least, we cannot obtain the milk of the ass or even that of the goat, in quantities sufficient to be used by many. I think that all will agree that cow's milk must continue to be the chief source of nourishment for children, and in a recent article in this journal I endeavored to formulate certain rules for the better care of milk. As soon as the consumer demands it, the dealer in milk will conform to those or similar rules. The result of the application of the rules will not be to injure the trade of the dairyman; but the reverse will be true, inasmuch as his milk will be greatly improved in quality and will command a better price. In the article referred to I urged that no milk should be given to the child sick with cholera infantum, or other summer diarrhœas. This prohibition applies to all prepared foods containing milk or to which milk must be added. Recently I obtained all the infant foods I could find in the market, prepared them according to the directions accompanying them, placed them in four-ounce bottles, making a duplicate test for each food, added some of the ferment which I had found would produce tyrotoxin in milk, and kept the tightly stoppered bottles at a temperature of 38° C. for six hours, then tested the contents of each bottle for the poison, and found it present in every one of them. It should be clearly understood here that the poisonous ferment was added to the foods. This experiment fulfills the conditions which would exist were a child sick with cholera infantum to be fed with one of these foods; provided always, of course, that my theory as to the causation of this and kindred diseases in children is true. Some preparations of peptonoids and peptones treated in the same manner as the infant foods, failed to develop the poison, at least, in quantities sufficient to be recognized by any chemical test. I may add here, that a similar experiment was made with milk which had been boiled, and in this also the poison was developed. But in the boiled milk to which no ferment was added, as well as in the unboiled milk to which no ferment was added, the poison did not appear, at least within the six hours.

Now, from these experiments I conclude that foods prepared from milk or to which milk must be added, are not suitable for children who are suffering from the summer diarrhœas. Just why the poison should appear in the milk preparations and not in the peptonoids, I cannot say. There are several possible explanations. The growth of the germ may simply be more rapid in one than in the other, and the difference in the development may be only one of time; but a difference of this kind is sufficient for all practical purposes. Then have the prepared milk foods no legitimate use? I think they have, and desire to point out what I consider to be their proper employment. Even under the most favorable conditions milk can be kept unchanged only

for a short time in summer. There is the same reason for the drying of milk and the preservation of its solids that there is for the curing of meat or the canning of fruit. The dried milk solids may be transported any distance and kept for any reasonable length of time, if properly prepared, without undergoing putrefactive changes. But they are to be used with children free from the summer diarrhœas rather than with those suffering from those complaints. Where the source of the milk supply is doubtful, a properly prepared milk food would be much more reliable than the raw milk. Besides, with any dilution or addition that may be made, cow's milk cannot be rendered identical with the milk of woman.

Can the milk of the cow be rendered more nearly identical with that of woman than it is by the simple dilution with water and the addition of milk sugar? All chemists, I think, agree that woman's milk contains more peptone than does the milk of the cow. Kirchner, who has given much attention to this subject, and has experimented largely, believes that the difference in the digestibility of milk from the cow and that from woman is wholly due to the larger amount of peptone in the latter. (*Beitrag zur Kenntniss der Kuhmilch und ihre Bestandtheile*, S. 42, et seq.) I cannot see, therefore, why the casein of the cow's milk should not be partially digested. That it should not be completely digested, I think there can be no question. It is certainly unscientific to feed any one for any length of time upon peptones altogether; especially is this true of children. To relieve the gastric juice altogether is to diminish its secretion. The muscle of the arm, the brain, and, indeed, every part of the body, is weakened by inactivity. The stomach can be no exception to this rule. It must have something to do, or it will soon be unable to do anything. There may be, and doubtless are, exceptional cases, in which the temporary administration of peptones exclusively is desirable. But these are exceptional cases and the administration of the completely digested food should be only temporary. Certainly these cases do not include healthy children. For these reasons I generally prefer the partially digested meat preparations to the peptones.

If this be true, will it not be sufficient for the nurse to digest partially the cow's milk as it is fed to the child? There are these objections to giving advice of this kind. 1. If the source of the milk is doubtful, or if it has become contaminated by unclean vessels, or if putrefactive changes have already begun in it the process of artificial digestion will not destroy the poisonous ferment. Indeed, the temperature at which the milk is kept during the artificial digestion will only favor the development of the poison. We have Dr. Holt's evidence that the use of peptonized milk is not to be recommended in summer diarrhœas. (*New York Medical Journal*, January 29, 1887.) 2. The artificial digestion, as carried out by the nurse, is not likely to be scientifically done. It will probably be neglected or amount to only a form, or it may be overdone and the taste of the milk spoiled, and too great a proportion of the casein converted into peptone. If partial

artificial digestion is to be practiced at all, and I see no reason why it should not be, it should be done under competent directions and when the milk is perfectly fresh. Let us see what some of the most important properties of this prepared milk food should be. It should not contain any vegetable matter which is difficult of digestion. This prepared milk food should be sufficiently nutritious in itself, and, consequently, should not require the addition of milk. In the use of all those prepared foods to which the addition of milk is necessary, the same danger of introducing the poisonous ferment into the alimentary canal exists as in the use of the raw milk. Many of the prepared foods contain such small amounts of proteids that the addition of milk becomes necessary. They should contain a larger per cent. of milk solids, obtained by the evaporation of milk in vacuo.

Attention should be given to the amount of inorganic salts, especially of lime and phosphoric acid, in a prepared food. A proper amount of these substances is as necessary to the health and growth of the child as are fats, proteids, and carbohydrates. The carbohydrates present in such a food should not be in the form of grape-sugar, but as milk sugar and dextrine. The grape-sugar is not supposed to have any specially injurious or poisonous properties; but it ferments too rapidly and for this reason is objectionable. By roasting wheat flour its starch is converted into dextrine, and this roasted flour mixed with milk solids, obtained by the evaporation of milk in vacuo, forms a food sufficiently nutritious and one which may be kept indefinitely without putrefactive changes occurring in it. Prof. J. Lewis Smith, in his excellent work on *Diseases of Infancy and Childhood*, speaks well of the roasted flour; and this, added to milk solids, makes the best infant food known to the writer.—*Medical News*.

A NEW OPERATION FOR HEPATIC ABSCESS. By George Zancarol, M.D., Paris, Surgeon to the Greek Hospital, Alexandria, Egypt.

The following operation has been performed by me with excellent results for more than two years. I therefore think that a short account of my method may be of interest to surgeons and practitioners who may have cases under their care. The operation consists in making a large opening sufficient to expose the whole cavity of the abscess, and in thoroughly cleansing it of all pus and *débris* of sloughing hepatic tissue. It may be divided into three stages: 1. Exploration of the liver; 2. Opening the abscess; 3. Cleansing the abscess-cavity.

1. *Exploration of the Liver*.—After having well washed the skin with a brush and soap and water and a 2 per cent. solution of carbolic acid, an exploring trocar is plunged into the liver to find the abscess; this exploratory puncture may have to be repeated several times, so that a good idea may be formed of the size and direction of the abscess.

2. *Opening the Abscess*.—An opening is made with the thermo-cautery into the lower third of the abscess, five to seven centimetres (two to nearly three inches) long, according to the size of the abscess,

and as much as possible in the direction of its greatest diameter. This opening must be sufficiently large to enable the surgeon to see the whole cavity with ease when the edges of the opening are held well apart by retractors. To obtain this result in abscesses of the left lobe an opening in the soft parts will suffice; but if the abscess is in the right lobe, resection of one or two ribs will be necessary. This resection is also performed with the thermo-cautery, using an elevator to detach the periosteum, and Liston's bone forceps, care being taken not to wound the intercostal artery; should this, however, happen, the hemorrhage will cease as soon as the abscess is opened. After resection of the bone, the abscess is opened with the thermo-cautery, keeping always in the direction of the resected rib, and with the aid of two strong retractors held by an assistant, while the margins of the incision are kept open, they are pressed against the liver, and kept in close contact with the abdominal and thoracic walls, so as to prevent either pus, or the liquids used for washing out the abscess, from finding their way into the abdominal or pleural cavities. If this precaution be observed no harm will result, even should there be no adhesion between the wall of the abscess and the parietal peritoneum; for when once the abscess has been thoroughly washed and cleansed, adhesions will be established before fresh pus can accumulate. In fifty such operations performed by me during the last two years, no purulent matter has ever escaped into the pleural or peritoneal cavities. Although cases were operated upon in which no adhesions existed.

3. *Cleansing the Abscess Cavity.*—The retractors being still held in the position already described by an assistant, a strong current of warm distilled water is allowed to play within the abscess-cavity by means of a siphon; every particle of adherent pus and necrosed tissue is removed with the fingers, or with sponges fitted to proper holders, and the washing-out is continued until the walls of the cavity look perfectly clean, often granulating, and the water returns clear. The retractors are then withdrawn, two drainage-tubes of large calibre are inserted in the cavity, and the dressings applied, which are left undisturbed for twenty-four hours; the cavity is then washed out again with warm distilled water, as above described, and the current kept on until the water returns perfectly clear.

As a rule, the temperature becomes normal immediately after the first washing, but if fever should re-appear, or if the pus is abundant, the washing-out should be repeated every twelve hours; if, in spite of all this, the fever persists, or diarrhœa sets in, this would indicate that other abscesses exist in the liver, and such cases are invariably fatal.—*British Medical Journal.*

A CONTRIBUTION TO HEPATO-PHLEBOTOMY. By HOWARD A. KELLY. M.D.

My experience in abdominal surgery has occasionally brought to my notice cases in which the existence of a tumor was suspected because of the general enlargement of the abdomen, which, however, upon ex-

amination has proved to be due to tympany, or ascites, depending frequently for its cause upon diseases of liver or mesentery. The ascitic cases have always proved more or less disappointing and unsatisfactory subjects for treatment, and it is with a desire to make some small contribution to an exacter knowledge and possibly better therapy of this difficult subject that I have written the following, describing two of my cases which are most valuable suggestively. The first stands as a type of many others, in which the sole effective treatment consists in a series of tappings more or less frequent. In the second I have detailed my effort to deal more directly with the disease by a short incision—abdominal section—rapid and thorough evacuation, careful inspection, with the end in view of abstracting blood directly from a diseased liver.

Case I.—J. N., ropemaker, aged thirty-nine, of good habits, with the exception of inordinate tobacco-chewing. He has long been a chronic dyspeptic, but otherwise in good health, until his abdomen began to enlarge. The swelling continued until his girth was fifty-two inches, and he weighed two hundred and twenty pounds in August, 1884, when he came to me for treatment. He then complained most of frequent belching, constipation, discomfort from the extreme distention, and orthopnoea. The skin was muddy and the conjunctivæ slightly yellow. I drew four bucketfuls of fluid from his abdomen, when a violent cough set in and stopped the tapping. He was tapped a second time in nine weeks, and once more after several months, the last time through a capillary tube, which emptied the peritoneal sac completely, drop by drop, in thirty hours, without any discomfort to the patient. He weighed after tapping one hundred and sixty pounds. Medical treatment did not at any time affect his condition. He took large doses of ammonium chloride, iodide of potash in large and small doses, arsenic, diuretics, diaphoretics, and purgatives, and mineral waters. After tapping, a greatly enlarged liver could be felt almost filling the right side of the abdomen. The free border and smooth convexity were readily palpable following a greater curve concentric with the smaller normal curve. The diagnosis made was enlargement of the liver due to interstitial hepatitis. He still lives, but is no longer under my care. The futility of my efforts here led me to adopt a bolder plan in the next case, cited below.

I had long since convinced myself that the simple exploratory incision into the peritoneum was absolutely free from danger, when surrounded by those precautions which every prudent surgeon now understands. Observation had also shown me that when supposed abscesses were hunted for by plunging a large size aspirating trocar into the liver no bad results ever followed the injury. The largest trocar I had seen thus used was two and a half millimetres in diameter. Combining these two factors of experience, the suggestion was a natural one that it would be safe to open the abdomen in a case of disease of the liver due to chronic congestion or an acute enlargement, and draw off a considerable amount of blood, and in cases of coexisting ascites to

secure at the same time a thorough evacuation of the fluid, even to dryness. Indeed, the dangers of such a procedure, properly performed, are, I am sure, less than those of tapping in the hands of many, to whom it is merely a matter of plunging an unprepared trocar into the abdomen at any seemingly convenient point, and after an evacuation covering the hole with a bit of sticking plaster. My determination was, in the next case similar to the one detailed, to make a short but fair trial of the usual resources, and then, in event of failure, to open the peritoneum promptly, thoroughly evacuate the fluid, examine the liver by touch and inspection, and in case of congestion, or any acute enlargement, to plunge a suitable trocar into its substance, and draw off a sufficient amount of blood.

In the meantime Dr. George Harley delivered an admirable address upon this subject before the British Medical Association at Brighton last summer. I had the satisfaction of hearing this paper read, and thus felt more assured in my first attempt in having with me the weight of so eminent an authority. Dr. Harley's method was different from my own, but the result aimed at was the same. This will be discussed later.

Case II.—J. D., aged forty-three, had been a gin-drinker, although he stoutly denied it, all his life. He stated that he had always been well until a recent fall from a dummy car, when the abdomen began to swell, and it had continued to enlarge until he measured thirty-nine inches in the girth, when I saw him. His frame was much emaciated, the eyes slightly jaundiced, and his belly greatly distended. He had had a fair trial of appropriate medical treatment at the Episcopal Hospital, without benefit; I also tried the usual remedies without helping him. On the twenty-ninth of October, 1886, Dr. T. B. Bradford etherized him, and, assisted by Dr. W. J. Freeman, Dr. R. P. Harris being present, I made a small incision through the thin abdominal walls in the linea alba. The fluid welled out, and by elevating the shoulders and hips, and at the same time rolling him on his side, a perfect evacuation of the fluid contents was secured. I was then able to catch the liver between two fingers, and with the assistance of a little pressure from without it was brought fully into view at the incision. It was pale, hob-nailed, and contracted, and as no possible benefit could reasonably have been expected from puncture and an attempt at bloodletting—if, indeed, any blood would flow from such a gristly structure—the incision was closed. It healed quickly; the patient died forty-seven days after the exploration, in the natural course of his disease.

Thus by a simple operation which may be described, so long as it is confined to a small incision quickly closed, as a modification of the puncture method, I secured a quick, complete evacuation of fluid, and had the liver in my fingers and under my eyes, determining the exact nature and the exact extent of the morbid process. The nature of the disease in this particular instance could have been as readily determined after an ordinary tapping, but I was acting under the conviction

that the safety of my incision was equally great, and I determined at once the *extent* of the disease, although my *expectation* had been of finding the liver enlarged. The further procedure would then have been to plunge a trocar three millimetres in diameter into the liver substance, guided by eyes and fingers to the elected point, avoiding gall-bladder, intestines, greater blood-vessels, or the possible simple transfixion of a lobe, and through this draw off a sufficient quantity of blood.

It is for this procedure, which Dr. Harley calls hepato-phlebotomy, that I ask a fair trial, insisting that a diagnostic incision of this sort, with the attendant advantages of inspection and immediate palpation, is far preferable to weeks and even months of protracted treatment in obscure cases. I would especially urge in it ascitic cases where some operation is necessary to remove the fluid. Dr. Harley's method is, different from my own, as he taps the liver (from without) through skin-fasciæ, muscles, and peritoneal reflections; he also extends the indication to include puncture of the tense capsule in chronic hepatitis, mostly malarial. He has found in these latter cases that, just as puncture of the tunica of a swelled testis, or of the sheath of an inflamed sciatic nerve, gives relief, so multiple punctures of the painful liver in these cases are valuable. He has made as many as six punctures in one case, using a trocar eight inches long, which enters from right to left up to its hilt; it is then a little withdrawn, allowing a channel for the accumulation of the blood, which now flows readily into the aspirator. He justifies his procedure by the statement that cupping, leeching, or any abstraction of blood from the hypochondrium, has no more effect than so much general depletion; he has also observed for thirty years past that, owing to the elasticity of the liver, no extravasation of blood follows simple puncture of the liver. Thus he was led to adopt the plan he so ably advocated at the Congress. Out of several cases reported all were relieved, and the first was cured. A lady who had an enlarged liver and anasarca, following an attack of acute hepatitis a month before, was tapped in the manner described, and twenty ounces of blood withdrawn. Remedies before inefficient now acted, and after two and a half months the patient was out walking, and at a later date the dulness in the nipple line measured but four and a half inches.

My own method possesses the following distinct advantages over that advocated by Dr. Harley. In the first place, where ascites co-exists, a simultaneous complete evacuation of the fluid is made through the incision. This can not be secured by tapping high up in the hypochondrium. Again, diagnosis, often uncertain as to the exact nature of the disease, and always conjectural as to its extent, is made precise by touch and inspection. Implication of neighboring organs is also detected at the same time. Thirdly, in those cases in which there is a prospect of relief from tapping the liver for blood, the procedure is conducted with a degree of safety and certainty otherwise unattainable. Under full direction of eyes, and fingers grasping the organ, the trocar is guided to the elected spot and the blood withdrawn. Fourthly, any tendency to ooze after withdrawal of the catheter is at once noticed and

checked, either by catching up the lips of the puncture in a suture or plugging the opening with strands of gut. The amount of blood drawn will vary with the plethoric condition of either patient or liver, and where sufficient is withdrawn to make a decided impression persistent oozing will hardly occur. Lastly, all those cases which Dr. Harley has shown may be best treated by multiple puncture to relieve a compressed organ will, without doubt, be better treated by free *incisions* through the capsule. In puncturing from without it is impossible to say that the trocar has pierced the capsule and gone no deeper; while under control of eyes and fingers free slits may be safely made, extending several inches on the surface, and numerous enough to be *seen* to produce the desired effect.

The points of election for the incision in the abdominal wall are the right hypochondrium, parallel to the lower border of the liver, or the median line above the umbilicus. Thin walls are readily closed by one set of sutures including everything from skin to peritoneum. Fat walls are best closed by including the peritoneum and subperitoneal fat in a separate series of buried gut sutures.

I am aware, in closing, that there is much obscurity in the diagnosis and pathology of diseases of this class, that while we might rationally hope for relief by free depletion in cases of chronic congestion, in enlargement due to cirrhotic process the chances are against the possibility of arrest even by free depletion. Clinically, however, distinctions are not so clearly made, and even in hypertrophic cirrhosis, in the absence of an exacter knowledge of the true essence of the disease, its primary cause and *modus operandi*, we cannot predict what result might follow a method calculated to produce a local impression so powerful as this. Dr. Harley's successful case, with the favorable results reported in the other instances, gives us good ground for hope, and warrants a further trail.—*Med. News*.

THE ELASTIC ANTE-PARTUM BANDAGE. By Henry V. Gray, M.D.

“Meddlesome midwifery is bad,” said Rudolph Wagner long years ago; the force of which the conservative physician of the present day fully recognizes. In a case of labor, to be constantly pressing and squeezing over the bowels and obstetrically sheathing and unsheathing the hand, is entirely useless, and well calculated to do your patient much harm. Unless you apply equable, continuous, and reasonable pressure, you will invite a spasmodic action of the uterine muscles or a breach in co-ordination, which will retard labor and increase the danger, both to mother and child. Better for the patient that her physician be paralyzed in both arms than such mischievous meddling.

If you will take a peep at the anatomical relations of the uterine muscles, you will more readily appreciate my meaning. But every one will agree that our patient can be assisted, and this ante-partum bandage is just what is needful. By using it, say from the sixth to the ninth month, you will gain many advantages. If there should be any obliquity of the womb, which is so frequently the cause of shoulder

and arm presentations, you will have a good chance to correct them before the time of labor. By its equable pressure there will be much less danger of miscarriage, and the patient will suffer less with nervousness. Used at or near the time of labor, it will act as a tonic; and should a portion of the waters escape before the regular pains of labor it will give the necessary pressure. After regular labor pains come on it will prevent recession of the presenting part of the child, causing fixation and bring about more rapid dilatation of the os uteri and delivery. The forceps can be more easily applied, and it will lessen the danger to perineal rupture, as the pressure will be regular and continuous. There will also be less danger of hemorrhage, fainting, or convulsions. After delivery of the child it will cause a natural extrusion of the placenta, without resorting to Credé's or other methods. Should the after-birth (placenta, clear the womb and pass into the vagina, slight traction or elevation of the patient upon a chamber will release it. The elevation of the patient upon a chamber is very necessary to clear the mother of all clots, which is one great cause of blood poison. I can honestly say that, after an experience of upwards of twenty years, with a reasonable share of practice, I have never lost a parturient patient, nor have I ever had to contend with any serious cases of puerperal fever; yet I have never used intrauterine or vaginal injections, antiseptic or otherwise, which are now so foolishly and, in many instances, detrimentally used by the fashionable physician. Clear the womb and vagina of clots by a suitable bandage applied before labor, and let your patient stool when occasion calls, and all will be well.

The material required for the bandage is simply an elastic (open meshed) front piece, and an ordinary cotton cloth band for back, with straps and buckles to tighten or renew when soiled.—*Virginia Medical Monthly.*

A FEW FRAGMENTARY REMARKS ON THE RADICAL RELIEF OF INFLESHED TOENAIL. By B. E. COTTING, M.D. (Read before the Roxbury Society for Medical Improvement.)

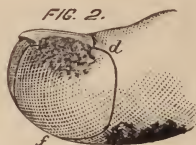
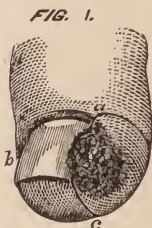
In January last I operated for radical relief of infleshed toenail, in the presence of several members of this Society. The patient was a young woman, on whom I had performed the same operation on the other great toe four years before. At that time a brother, older than herself, received the same treatment for a like ailment. Indeed, some sixteen years ago I performed four operations simultaneously (on the two sides of the two great toes) for the mother of these patients, making in all seven similar operations in the same family.

In each of these seven cases the result was successful in the fullest sense of the term. The ailment was completely eradicated, never to return. The nails were not injured by the process. They afterwards grew naturally, without pain or hindrance of any kind, soon acquiring normal usefulness. The toes, as usual after the peculiar method employed, were greatly improved in shape and general appearance. Walking also became easy and agreeable, in any kind of boot or shoe.

The method resorted to in all these cases was one devised by myself more than forty years ago; and, although faithfully followed by myself and others here and elsewhere, has never, to my knowledge, failed to effect a radical cure.

It is a very simple procedure: Etherize the patient, unless he object. Remove with the knife the diseased fleshy parts, *together with a large and thick slice* of the healthy adjoining side of the toe, Figure

1, *a c*. Let the cut begin or go well back, as at *d e*, Figure 2, (The woodcuts have been kindly lent by their owner. See *Boston Medical and Surgical Journal*, May 8, 1879, page 361, where they illustrate a very good article on the subject of this paper) and let it be guided by the edge of the nail, which should be exposed, but need not, nor its



matrix, be involved or injured thereby. Dress the wound with lint or absorbent cotton, firmly compressed upon it by a narrow roller-bandage, and cover the whole with a good sized piece of oiled muslin or silk, neatly secured, in order to prevent any extra oozing of blood. (Usually the bleeding is readily controlled, during the operation and dressing, by an assistant holding the toe, and compressing the lateral arteries between his thumb and index finger. But in the case now reported, Dr. Garceau, in a procedure original with himself, adroitly wound the toe with small rubber tubing, Esmarch fashion, and thus rendered the operation absolutely bloodless till the dressings could be applied.) This is the whole of it. The patient lies abed for a few days, or immediately sits up, or hobbles about, as he pleases, even going to his work at once, if necessary. From the moment of the operation there remains only a clean-cut wound, to heal as other wounds of like dimensions, with less pain and annoyance in it than previously in the disease, while such as there is, rapidly decreasing, soon departs altogether.

This operation, one of the simplest ever devised for this affection, differs from all others in its fundamental principle and purpose, namely, the producing of a radical cure by *cicatricial contraction*, and that by means of a wound of sufficiently large extent, in healthy as well as diseased parts. For, as such a wound heals, the remnants of the lateral fleshy nail-furrow, if any remain, together with the soft parts adjoining, are drawn in by the contraction, and in this manner are kept away from the edge of the nail. Thus the nail thence after, in its ordinary growth, has nothing to imbed itself in, or even to impinge upon. A return of the affection is thereby put entirely out of the question.

Such was the method pursued in the case now reported. Those present and assisting can bear witness to its simplicity and ease in performance, as well as to the complete success and radical cure, then shown to them, of the previous operation on the same patient.

Though a minor operation* in surgery, one may deem himself fortunate if able to suggest an easy and radical remedy for an often-met affection so exquisitely painful and disabling as this frequently becomes, or so intractable as this has hitherto proved to be. To this end unnumbered attempts have been made, without satisfactory results. Beauclerc states ("Dictionnaire de Médecine," Vol. II., p. 552) that Velpeau counted up nearly a hundred such. "This large number," he says, "attests the importance of this little malady and the difficulty of its cure." Velpeau himself always adhered to the evulsion of the nail, which procedure he greatly ameliorated. Some, perhaps, may be still reluctant to give up the old ways, "barbarous methods," Dr. Gross called them, but evidences that our procedure meets with ever-increasing approval are continuously coming in; and, if it be the *good thing* we contend that it is, this may be a sufficient apology for often urging its general adoption, and for again bringing the subject before this Society.

DISCUSSION.

Dr. Goss said that he had often seen this operation performed, and in some very desperate cases. He remembered the instance of a young gentleman, who had been quite crippled for a long time by the disease, and had submitted to many and various kinds of treatment, some quite severe, without avail. At the time when seen he was completely laid up. Both great toes were hugely swollen and intolerably painful, with foul, open, fungoid ulcerations on the sides of each. Four very large and thick slices were removed at the same time. Relief was immediate, and the result entirely successful. The toes became symmetrical and shapely, so much so that when, a year or two after, he underwent a thorough, from head to foot, examination for a Naval Commission, the examiners apparently failed to detect that he had ever been subject to the malady. He subsequently reported that he had found that he had as good-shaped and as useful toes as any other officer in the service. Dr. Goss also recalled another case, also cured by this method, where the ailment had recurred after the evulsion of the nail. He never knew of a case of failure by Dr. Cotting's method.

Dr. Withington spoke of the cicatrix he had examined in one of Dr. Cotting's old operations as having drawn all the soft parts so thoroughly away from the edge of the nail as to preclude any possibility of the lesion ever being reproduced. The shape of the toe was good, and, apparently, had been essentially improved by the operation.

Dr. Seaverns asked Dr. Cotting if he had not formerly advised the including of a slip of the nail in the slicing off of the side of the toe.

Dr. Cotting replied that he had not, but that he had said that,

* Ait Sydenham . . . "ratus quantulumcunque in hoc scientiæ genere accessionem, etsi nihil magnificentius quam odontalgia aut clavorem pedibus innascentium curationem edoecat, longe maximi faciendam esse præ inani subtilium speculationum pompa." Obs. Md. II., Cap. II., § 47.

while not necessary, if, in attempting to secure quite enough, the edge of the nail should by chance happen to be included in the cut, no harm would arise therefrom. It is better to remove too much than too little. By force of habit he generally operated by one continuous rapid stroke of the knife—an important point in his first cases before the discovery of anæsthesia. Now some operators, in order to secure the exact amount predetermined on, pass a double-edged knife midway by the side of the nail and downward through the toe very deliberately (the patient being under ether) cutting out both ways, forward and back. By so doing the nail is not put to any risk whatever. Nevertheless, the edge of the nail should be completely exposed throughout its whole length.

Dr. Seaverns asked also if the wounds were not sometimes very slow in healing. He had had one patient who was greatly annoyed because of long delay in this respect.

Dr. Cotting replied that he had never known of any tedious delay; that, in his experience, the healing was as rapid usually as in other wounds of similar gravity. Besides, the tendency of the wound is always towards healing; that of the disease seldom if ever.

Dr. Garceau, who had performed this operation many times, now employs as a tourniquet a small rubber tube (such as usually comes with nursing bottles). After compression is effected, he removes the tube in part, from below, leaving the other portion on until the operation is over and the dressings applied. He touches the surface of the wound with the perchloride of iron. Patients thus treated have been able to walk about at once in soft slippers, and some have gone to their business the day after the operation. With him Dr. Cotting's method has always succeeded. He had operated on persons, half a dozen at least of over seventy years of age, without a failure or an accident.—*Boston Med. and Surg. Journal.*

ABSTRACTS.

THE TEN INCH OPTOMETER: A VALUABLE INSTRUMENT TO THE PHYSICIAN (Abstract of a paper read before the Medical and Chirurgical Faculty of Maryland at their late annual meeting, by J. J. Chisolm, M.D., Chairman of the Section on Ophthalmology).—The purport of the paper was to show that by means of a ten-inch focal lens, attached to a two-foot rule, or rather two-thirds of a yard stick reduced in thickness for convenient handling with all the inch marks retained, an instrument was prepared by which not only could a physician say with positiveness that a patient consulting him concerning deficient eye-sight could or could not be benefited by spectacles, but at the same time could make a diagnosis as to the variety of an error of refraction, and the degree. Upon this two-foot rule slides a ferrule sustaining a frame work which holds a card upon which is printed

matter in large, medium and fine type. Such an instrument Dr. Chisolm found in use at the Royal Ophthalmic Hospital, London, many years ago, before ophthalmoscopic investigations had attained their present development. This simple instrument seemed to give valuable information in the adjustment of spectacles. He has not discarded it for other improvements, but continues to find it a means of rapidly, easily and correctly determining many points in refractive work. In the adjustment of spectacles in dispensary work, where economy of time is an object, he can by this measure find the proper glass, for old, flat, or long eyes, while by the trial case the first lens of a series is being tested.

The instrument illustrates a few of the fundamental laws of optics. *The first law of optics* is, that a well grounded lens will focus distant, considered parallel rays of light, at a fixed point. A ten-inch lens always at ten inches. The reverse of this law necessarily must be that if a bright point of light be placed at ten inches before a ten-inch lens, the light from this source of illumination, passing through the lens, must go away as parallel rays, or as if they had come from a great distance. Should a well shaped, well seeing eye, be placed behind the ten-inch lens to catch these outgoing parallel rays, and refocus them through the crystalline lens upon the retina, this eye would be doing the same work as if it had taken the very distant parallel rays, without a preparation by a lens, and focussed the same. Therefore when an eye can see clearly fine print through a ten-inch lens at the distance of ten inches the eye must possess good distant vision. The ten-inch point of this ten-inch optometer therefore becomes a standard for good distant sight. Any one who can read clearly and easily fine print at this point through the optometer needs no kinds of lens to help him to see distant objects.

The second law of optics is, that if the lens be fixed, the focal point of condensed light will vary in distance from the face of the lens as the source of illumination approaches; and if it be desirable to exhibit the brilliant condensed point of light on a screen placed behind the lens, this screen will have to be moved backward as the source of illumination approaches. These varying points for condensation are called the conjugate foci of the lens. In connection with this law comes another, viz.: that if the lens be fixed, and also the screen, then the only way by which the focus of light can be continuously shown on the screen from advancing rays of light, is by continuously increasing the strength of the lens for each advance of the light source. The human eye is made in accordance with this last law. The eye ball has stout resisting walls against the interior, of which the retina is firmly fixed, so that the sensitive nerve screen for the reception of visual images shall always be in place. The crystalline lens is equally fixed in its position behind the iris, so that it cannot move away from its binding ligaments. Yet we know that we can see distinctly far as well as near objects, objects producing constantly varying foci from their varied positions which necessitates a change in the form of the

lens for each advance of the object. The muscles within the eye ball and the well known elastic properties of the crystalline lens allow these lens changes. This function is called that of accommodation. Useful near vision is represented in the reading of fine print placed at one foot from the face. The reading of fine print, and the seeing of very distant objects, and of course all visible intervening objects, is called the range of one's accommodations, and it ought to be possessed by every good eye. When the fine printed matter on the ten-inch optometer card is still clearly seen by the eye placed behind the lens, and when it is made to advance from ten inches forward to nine, eight, seven, six, and to five of the optometer stick, it means that the lens within the eye is continuously changing its shape with corresponding increase of focal power for each advance of the card. When the five-inch point is reached the crystalline lens is doing the same degree of work as when the eye reads fine print at one foot from the face, as in book reading or any other near work. Hence the five-inch point of the ten-inch optometer becomes the standard for good, easy, near work. Anyone therefore who can read the fine print on the card at ten inches of the optometer and at all intervening points, up to five inches, possesses all the accommodation needful by good eyes for seeing at all distances; such persons have no need for spectacles.

Any deviations from these two fixed points indicate an effort at seeing, and also indicate that glasses are required. Should the vision exceed the 10 point of the optometer, and extend to 12, 14, 16, 18 or 20 inches for the finely printed matter, it is an evidence that the crystalline lens is relaxing as the card recedes, and the extent of the withdrawal shows the amount of muscular or accommodative work needed by the lens for the ten-inch optometer reading. In a good eye the lens is passive for ten inches optometer reading, which we have seen is the equivalent for seeing clearly distant objects; then it retains all of its accommodation or muscular power for near work. If much of this accommodation is used up, when the eye is supposed to be at rest, in distant seeing, there is but little left when near work has to be done, and such eyes soon become tired. The difference between the 10-inch point, the standard for perfect distant sight, and the receding point for clear vision of the card, say to 15 inches, will give the magnifying glass the equivalent to the effort being made by the eye. It is the one needful for all use, to do away with over-exertion of the eye. If these figures be reduced to fractions the calculation is soon made $\frac{1}{10} - \frac{1}{15} = \frac{15}{150} - \frac{10}{150} = \frac{5}{150}$ reduced to $\frac{1}{30}$. A 30-inch convex spectacle is the one required. Should the eye read clearly as far out as 20 inches of the optometer the difference between $\frac{1}{10} - \frac{1}{20} = \frac{20}{200} - \frac{10}{200} = \frac{10}{200}$ reduced to $\frac{1}{20}$ shows that a 20-inch convex lens is needful for distant vision. For any intervening point the same calculation is to be made.

All overseeing eyes are flat by nature in the antero-posterior diameter and are called *hyperopic*. They are variations or deviations from the round eye which is the normal type, and require magnifying glasses to make eye work easy. If we accept the five-inch point of

the optometer for comfortable near work, reading, writing, or sewing, should any eye, whether the flat eye of the hyperopic or the flattening lens of those advancing in years, called *presbyopic*, not be able to read clearly the fine print of card as far in as five inches, but can only make it out clearly at 6, 7, 8, 9 or even 10 inches, such persons have lost the ability to do near work, and must use magnifying spectacles if they desire to regain the privilege of reading fine print. The five-inch point of the optometer, the equivalent for near work, must be kept, and the sight brought back to it from the 10, 9, 8, 7 or 6 by the addition of a convex glass. The difference between these figures reduced to fractions denotes the strength of the spectacle. $\frac{1}{6}$ is what the patient can do, $\frac{1}{5}$ is what he ought to do, $\frac{1}{5} - \frac{1}{6} = \frac{6}{30} - \frac{5}{30} = \frac{1}{30}$ or a No. 30-inch convex spectacle. $\frac{1}{5} - \frac{1}{6} = \frac{7}{35} - \frac{5}{35} = \frac{2}{35}$ or $\frac{1}{17\frac{1}{2}}$ discarding the fraction, number 17 inch convex spectacle is the one required. $\frac{1}{5} - \frac{1}{8} = \frac{8}{40} - \frac{5}{40} = \frac{3}{40}$ or $\frac{1}{13\frac{1}{3}}$; 13-inch convex spectacle is the reading glass wanted. By this method it is very easy for the family physician to find out what kind of spectacles any of his older patients require.

In a similar manner calculations can be made for near sighted, *myopic* eyes. The ten inch of the optometer is the point equivalent to good distant vision, and is the point to be sustained. If instead of reading the fine type of the card clearly at ten inches the individual only reads it at 8, 7, 6 or 5 inches, the difference between $\frac{1}{10}$, the point at which he ought to read, and the $\frac{1}{5}$, the most distant point on the optometer at which he can read clearly the type gives the necessary near sighted glass. $\frac{1}{5} - \frac{1}{10} = \frac{10}{50} - \frac{5}{50} = \frac{5}{50}$ or $\frac{1}{10}$. A 10-inch concave lens will restore vision to the 10 point of the optometer, and will therefore enable him to see distant objects clearly. If the person be so very near sighted as to read only at the 3-inch point of the optometer, with no range of accommodation for nearer or further points, such a person must hold the book too near to the face for comfortable reading, and will require different glasses for both far and near work. For reading or writing the glass needed will be the difference between $\frac{1}{3}$ the point at which they read and $\frac{1}{5}$ the point at which they ought to read $\frac{1}{3} - \frac{1}{5} = \frac{5}{15} - \frac{3}{15} = \frac{2}{15}$ or $\frac{1}{7\frac{1}{2}}$, which gives No. 7-inch concave spectacle for reading. This glass will not, however, give also good distant vision. The ten-inch point is always the basis for distant calculations. $\frac{1}{10}$ what the eye should do, to see distant objects, $\frac{1}{3}$ what the eye can only do, $\frac{1}{3} - \frac{1}{10} = \frac{10}{30} - \frac{3}{30} = \frac{7}{30}$ or $\frac{1}{4\frac{1}{2}}$ a No. 4 concave glass is the one needful for seeing at a distance.

As the varying positions on the stick of this ten-inch optometer represents all the glasses used for improving eye-sight, persons who can be benefited by spectacles must be able to read clearly the fine type at some point of the instrument. Should only the coarse heading of the optometer card be made out and none of the fine text, then no glass can be found to restore the reading power to the person. Such a case is one of *amblyopia*, and ophthalmoscopic investigations must be made to determine the cause of lost vision.

With a little study, this simple instrument can be made a very valuable one to the physician who has no oculist friend at his elbow for consultation, and yet is expected by his patients to determine for them many points of optics, and also many serious questions in ophthalmic practice. A patient advancing in years who heretofore has had good sight, has lost the ability to read. It is very desirable for his future good to know the cause. This optometer will show promptly whether it be an error of accommodation, and whether a change of spectacles is all that is necessary. Should no point of the optometer be clear it then becomes a question not of glasses, but of much more serious import. It may be glaucoma, cataract, retinal changes, hemorrhage in the choroid, or some intra-ocular disease that requires more than ordinary professional care, and clearly a case for prompt special treatment. The family physician protects his reputation, and saves the eye-sight of his confiding patient by acting accordingly.—*Maryland Medical Journal*.

A SPEEDY AND SOMETIMES SUCCESSFUL METHOD OF TREATING HAY FEVER.—Sir Andrew Clark concluded his recent Cavendish Lecture on this subject, before the West London Medico-Chirurgical Society, as follows: The object of this plan, which does not exclude constitutional treatment, is to subdue the irritability of the nasal mucous membrane to such an extent that it shall no longer react to special or common irritants, whether pollen or dust, in a pathogenic manner. In the first place the patient is put upon such a regimen as will conduce most to the improvement of his general health. He is instructed to have a simple but liberal dietary, to be extremely moderate in the use of alcoholic stimulants, to have daily exercise, to follow early hours, and to continue, if that be possible, even at the cost of suffering his ordinary occupations. If the patient is very weak, he is instructed to take with meals drachm doses of Easton's syrup with three or more drops of the solution of arsenic hydrochloric. If he is nervous as well as weak I prescribe for him in their full respective doses tartarized iron, ammonium, bromide, tincture of nux vomica, and a solution of arseniate of soda. In some cases I think that I have seen great benefit follow the use, thrice a day, of five grains of sulphate of quinine, dissolved in citric acid and given effervescence with carbonate of ammonia.

For the strictly local treatment there are required a common laryngeal brush and a carbolic mixture. This mixture is composed of glycerine of carbolic acid one ounce, hydrochlorate of quinine one drachm, and a thousandth part of perchloride of mercury. Heat will be required in order to dissolve the whole of the quinine, for without heat Mr. Martindale informs me that the glycerine of carbolic acid will dissolve only half the quantity prescribed.

Let me now describe the method of procedure to be followed in applying the carbolic acid mixture to the mucous membrane of the nasal cavities. If there is much mucus in the nostrils, cleanse them by

means of a douche of warm water containing boroglyceride, (before the introduction of boroglyceride I employed a five-grain solution of chlorate of potash, which was less efficient) in the proportion of an ounce to the pint. Dip the laryngeal brush in the carbolic acid mixture, and see that the brush is full but not overflowing. Place the left hand on the left side of the forehead, and the thumb on the tip of the nose, with the shank of the brush between the thumb and two forefingers of the right hand, and the brush itself directed upwards, push it gently but firmly into one of the nostrils, carry it as high as you can without inflicting injury, move it about so as to bring the mixture in contact with as much as possible of the interior of the upper part of the nostril, and then withdraw it. With another brush filled with the carbolic acid mixture, or with the same brush washed, dried, and replenished, you complete in the manner following the two operations required for each nostril. Having the left hand in the position already described, and the right hand holding the laryngeal brush with the hair pencil directed forward from the body of the operator, push the brush along the floor of the nostril into the pharynx, and after insuring free contact with the adjacent parts, withdraw it. If during the operation the brush is over-full, some of the carbolic mixture will fall into the throat and excite coughing or some other discomfort. When you have thus finished the treatment of one nostril, and carefully removed any of the carbolic acid mixture which may have been spilt upon the nose or lips, you will proceed to treat the second nostril in exactly the same manner as you have dealt with the first. During the performance of these manœuvres great assistance will be obtained from the left hand of the operator being placed over the left side of the forehead and face of the patient. With this hand the operator can adjust the patient's head to the various movements of the laryngeal brush, and with the same hand placed on the tip of the patient's nose the opening of the patient's nostrils can be adjusted to a convenient size and shape. When the local effects of a paroxysm are severe, and have extended to the back part of the soft palate, it will be desirable to introduce through the mouth into the pharynx the laryngeal brush moderately filled with the carbolic acid mixture, and there, by a manœuvre easily acquired and practiced, to brush the posterior surface of the soft palate and the adjacent parts. The immediate effects of these manœuvres differ in different persons, and in the same person at different times. In all cases the effects are more or less disagreeable, and last from half an hour to half a day. Sometimes a little blood-stained mucus is discharged from the nose and throat; sometimes there is a slight frontal headache; sometimes there is a trivial cough, and occasionally you will have developed all the local phenomena of a paroxysm of hay fever.

When advising a patient with hay fever to submit to this plan of treatment for its relief, I have found it expedient to warn him beforehand of the disagreeable effects which sometimes follow the application of the carbolic mixture, and to assure him that they are both brief in duration and devoid of danger. When this warning is withheld, some

patients will grossly exaggerate their sufferings, ascribe all sorts of injurious consequences to the application, and cover the physician with undeserved reproaches. Sometimes a single application of the carbolic acid mixture is sufficient to prevent for a whole season the return of the hay fever paroxysm and four times within my own knowledge it has never reappeared. Usually two or three applications are necessary to ensure a full chance of success. The length of the interval between the applications must be determined by the character of the immediate effects. If these are mild, the application may be renewed on alternate days; but if severe at least three days should elapse between succeeding applications.

Of the measure of success which has followed this treatment of hay fever, now practiced over twenty years, I am unable to speak with exactitude. Patients when relieved seldom, and when unrelieved never, return to record their experience, and I have been unable to get at the subsequent histories of more than a third of the number of persons whom I have treated. It is, however, my conviction that of this roughly estimated third whose cases I have been able to follow, a half has been cured for the season, and four persons have been cured "for good." This, you will say justly, is not a success of which to boast. Quite so. But if you will compare the results of this treatment with the results of every other treatment, not excepting the cocaine treatment which is its closest rival, you will have to confess that, however small the measure of success, it is not one which you can afford to despise. At any rate a communication of this kind is entitled to your indulgence, inasmuch as it is an honest, although a very humble, endeavor to press pathology into practice, and to take away the reproach which has been cast upon us of ignoring or of repudiating the natural and just alliance which should unite in closest relationships the science with the art of medicine.

MICROSCOPY AND PATHOLOGY.

SCARLATINA CONVEYED BY MILK.

That scarlatina is occasionally transmitted through the medium of cow's milk is a fact which, of recent years, has been gradually assuming certainty in the minds of sanitary authorities. In view of the fact that other substances, when infected through diseased persons, were capable of carrying the infection, it was naturally supposed that milk acted in a similar way with other fomites receiving its infection from some human being. In 1881, Mr. Ernest Hart presented to the International Medical Congress the tabulated facts concerning all the milk epidemics which had been reported up to that time. Many of these had been investigated by the local Government Board. In most of Mr. Hart's cases the facts seemed to show that the origin of the infection, carried through the milk, had been in the human body, and in none was that possible origin disproved!

A class of cases began, however, to accumulate, in which the possibility of a directly human origin of the infection was not excluded, yet a careful study of the date of the outbreaks made it difficult to reconcile this view of a human origin to the disease with what is known of the period of incubation of scarlet fever. For instance, an epidemic of scarlet fever and sore throat occurred at Oxford, England, in 1882, among the persons supplied with milk from a dairy of three cows. The earliest cases of the outbreak occurred March 10, and most of them developed several days later. The dairyman's child had had scarlet fever, and a young woman had had diphtheria, but the latter had been removed March 1, and the former March 3, and with the latter date all chance of direct infection from these or any other *persons* ceased. The period of incubation of scarlet fever is, as a rule, less than seven days, yet almost all the cases developed from eight to twelve days after the patients were taken away and the cows put into new hands. The suspicion arising in this case that the cows themselves may have been at fault was not confirmed by any actual evidence of such disease.

We have already laid before our readers (Vol. CXIV, p. 601. Vol. CXV, p. 115.) the particulars of two epidemics of scarlatina, investigated by the British Local Government Board, one in 1882, at St. Giles and St. Pancras, and the other in 1885, at Marylebone, from a dairy at Hendon, both cases showing a very strong presumption that scarlatina had been conveyed to human beings through the channel of milk, from a disease in cows, itself analogous, if not identical, with scarlet fever. As we remarked at that time, there was still lacking the evidence of inoculation into the human subject of a milk sub-culture, or of feeding of calves with such milk-cultures as appear to have been fed to children. The first of these proofs can hardly be expected, but the second has now been offered with considerable detail and conclusiveness by Dr. E. Klein, F.R.S., who has worked upon the matter at the instance of the Board, and who has given the result of his inquiry in a recent address before the Royal Institution. He finds that a microbe, the *micrococcus scarlatinæ*, is the cause of human scarlet fever. Further, that it produces in bovine animals a disease identical with the Hendon disease and human scarlet fever, and that, consequently, while the cow is susceptible to infection with human scarlet fever, it can, in its turn, be the source of contagium for the human species, as was, no doubt, the case in the milk epidemic from the Hendon farm. These conclusions are reached by Dr. Klein from observations and experiments showing that, in the blood and tissues of persons affected with scarlet fever, there occurs the same micrococcus that was present in the cow, both being identical in microscopical and in cultural characters. In the second place, it was found that the action of this microbe on animals is exactly the same as the micrococcus found in the Hendon cows. Calves and mice, after inoculation or feeding with a trace of the growth of both sets of micrococci, become affected with cutaneous and visceral disease, similar to human scarlet fever. In

calves the disease was of the same mild type as in the Hendon cows. Further, it was shown that from the blood and the tissues of these animals infected with one or the other set of cultivations, the same micrococcus was recovered.

Dr. Klein, furthermore, adds that he has found the micrococcus of scarlatina in several cans of a cheap brand of condensed milk, which was supposed to have given rise to scarlatina in persons who partook of it. The microbe is identical, he claims, with that obtained from the Hendon cows and from human scarlet fever, and inoculation experiments with it in calves and mice produced the same disease that arose from inoculation with the microbe, as obtained from the cow and from the human patient. This brand of condensed milk, it should be said, was not raised in the manufacture to a temperature high enough to destroy the micrococcus. Again, there occurred during the beginning of this year a severe epidemic of scarlet fever in Wimbledon. This epidemic was also traced to milk coming from a particular farm. In one of the houses supplied with this milk there occurred cases of scarlet fever among human beings, and at the same time a pet monkey, which also consumed a good deal of the milk, became ill; it died after five days. Dr. Klein made a post-mortem examination of this animal, and had no doubt about its having died of scarlet fever. From the blood of the monkey he obtained, by cultivation, the same micrococcus as was obtained from human scarlet fever, from the Hendon cows, and from the condensed milk. Experiments made on animals with this micrococcus of the Wimbledon monkey showed that the same disease was produced both by inoculation and by feeding.

It will readily be seen that the corner-stone of Dr. Klein's demonstration of the production of scarlet fever in the human subject from disease in the cow consists in the validity of his *micrococcus scarlatinae* as the cause of true scarlet fever in the human subject. On this point we must await the final verdict of the micro-biologists. It is to be said that most of the previous discoverers who have described the micro-organism of scarlatina have found it to be a micrococcus, among them Klebs, Coze and Feltz, Babes and Cornil. Eklund, of Stockholm, described in detail the microbe as a micrococcus, multiplying by fission, and named it *Plax Scindens*. Yet, on the other hand, the germ has been said by other authorities to be a bacillus, and even coincidentally with the announcement by Klein two observers of the University of Edinburgh, Drs. Jamieson and Edington, have completed a series of observations, showing, to their satisfaction, a bacillus in the tissues of scarlatinous patients capable of cultivation, and inoculable in calves and other animals, with the result of producing true scarlatina in them.

The British Dairy Farmers' Association naturally felt somewhat disturbed by the report of Drs. Powers and Klein on the Hendon epidemic, and employed Professor Axe to investigate the subject. His report was published by the Agricultural Department of the Privy Council Office. He confesses to not having seen the affected cows

until the characteristic eruption had, in almost all cases, disappeared. Nevertheless, he appears, as we judge from comments on his report, the document itself not being at hand, to have assumed that the disease was identical with another disease having a vesicular eruption, which latter did not convey scarlatina. His conclusions are evidently of small value in comparison with the observations of the officers of the Local Government Board, and their chief value would appear to be in illustrating the need of more careful study by the veterinaries of the various eruptive diseases of the cow.

Dr. Klein believes that the milk of scarlatinous cows may convey the infection in two ways: both as a secretion of a diseased animal, and from the mingling in it of contagious particles brought off from the udder by the hands of the milker. He finds that a temperature of 85° C. (185° F.) will destroy the micrococcus of scarlatina, and hence recommends that the milk be heated to that point, though not necessarily that it be boiled, before it is consumed.—*Boston Med. and Surg. Journal.*

PROFESSOR GAYET ON OPHTHALMIA NEONATORUM.

Dr. Gayet, Professor of Ophthalmic Surgery in Lyons, urges his pupils, in a clinical lecture on Ophthalmia Neonatorum, published in *La Province Médicale*, to search diligently for the gonococcus of blenorragia in all cases of ophthalmia occurring in very young infants. It does not, he says, require any extraordinary skill, and can be accomplished in as short a time as the ordinary examination of urine for albumen. A particle of the pus is placed on a glass slide and spread out by means of a second slide; the two are then separated, furnishing two preparations. They are stained by dropping a mixture of an alcoholic solution of methyl blue with an equal volume of water on them, allowing it to remain for two minutes. They are then washed with plenty of water. On microscopic examination each of the leucocytes will be seen to have two, three, or four nuclei, this being a special character of the disease, the increase in the number of nuclei heralding the approach of the gonococci, which will be observed as intensely blue spherical bodies in the interior of some of the leucocytes. If only one leucocyte so invaded is discovered, the diagnosis of blenorragic inflammation is rendered certain. With regard to treatment, the child must be watched "like milk on the fire," the visits being more than one per diem. Three indications present themselves: 1. To clear away the agent of infection. 2. To prevent its development. 3. To destroy it where it is. To fulfil the first, frequent and careful washing out is requisite. The eyelids should be everted, the mucous membrane stretched, and all the folds of the conjunctival sac thoroughly syringed out with a ball syringe; the eyelids should then be replaced, well rubbed on the outside, again everted, and the syringing repeated. In this way all the pus will be removed, but it is a somewhat difficult and tedious operation. In order to destroy the microbes which have already penetrated into the substance of the conjunctival mucous

membrane, they must be pursued and attacked by the solid mitigated nitrate of silver, a solution of common salt being afterwards employed to neutralize any superabundance of caustic. The mother should be directed to wash the eyes with a solution of corrosive sublimate (1 to 6,000), and to keep small compresses wet with iced water on them. When the disease appears to be cured it is necessary to be on the look-out for a return; the microscope should therefore be in constant requisition in order to detect microbes, even after all apparent discharge has ceased. The most favored prophylactic measure by Dr. Gayet is the employment of a vaginal douche with a 1 to 6,000 corrosive sublimate solution at the commencement of all labors, especially when the woman suffers from leucorrhœa, in which case the child should not be allowed to remain too long in the passage.—*Lancet*.

HOSPITAL NOTES.

GUY'S HOSPITAL.

POPLITEAL ANEURISM TREATED BY DIGITAL COMPRESSION FOR TWENTY-TWO HOURS; CURE AFTER PREVIOUS FAILURE OF ESMARCH'S BANDAGE AND ELECTROLYSIS BEFORE ADMISSION. (Under the care of Mr. Bryant.) The case is an example of the value of digital compression of the femoral artery in popliteal aneurism. The great advantage which it presents over other methods in the majority of instances is so well known that few surgeons fail to avail themselves of its use when the patient can be treated under conditions favorable to its successful employment. It would be interesting to have fuller details of the methods employed before the patient came under the care of Mr Bryant.

John E—, aged thirty, was admitted into hospital on September 26th. The family history was good. The patient broke his arm about ten years ago; he has also had yellow fever; with these exceptions he has always enjoyed good health. He first noticed the aneurism about six months ago; it was a little painful. He does not remember having hurt himself in any way. He has had a great many appliances used, but without success. He had a pad put over his femoral artery, and a weight suspended (partly) over it; finding this did no good, an Esmarch's bandage was tried, but this had no effect. Two needles, attached to an electric battery, were run (across one another) into the aneurismal sac, and an electric current kept running through; but this had no better effect than the other appliances, so the patient came to the hospital to see if anything could be done for him.

On admission the patient had a swelling on the outer side of the popliteal space of the left leg, which pulsated, but the pulsation ceased when pressure was applied to the femoral artery.

Sept. 28th.—Mr. Clement Lucas saw the patient this afternoon, and

ordered digital pressure to be applied to the femoral artery, and the pressure was commenced at 4 o'clock this afternoon.

29th.—The pressure has been kept up all night, and is still going on (1 P. M.). The swelling, which was before soft and pulsating, has become smaller and hard. The patient had an injection of morphia last night.

30th.—The pressure was discontinued yesterday at 2:30 P. M. No pulsation can be felt in the aneurism.

Oct. 1st.—There is no pulsation to be felt this morning in the popliteal artery; a slight pulsation can be felt in the posterior tibial artery. The patient's leg is kept still by means of sand-bags, which are placed on either side of the leg. His temperature is normal.

3d.—There is still no pulsation in the aneurism, which has decreased in size, but pulsation in the dorsalis pedis can be plainly felt.

16th.—The patient got up for a short time this evening. The aneurism has become very hard, and has much decreased in size.

31st.—Patient left the hospital to-day; he is quite well. The aneurismal sac has become very small and hard. The patient has still a little pain round about his knee when walking.--*Lancet*.

PROCEEDINGS OF SOCIETIES.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting May 19, 1887.

DISCUSSION ON EMPYEMA.

Dr. L. Emmett Holt read a paper on *Spontaneous Absorption in Empyema in Children, and the Relative Advantage in Children of Aspiration and Early Incision*. He said that more than one-half of all cases of empyema occur in subjects under ten years of age. The prognosis, however, is better at this than any other period of life, there being different causes in the different classes of cases. Spontaneous absorption may possibly occur, but it is exceedingly rare, and he had been able to find but two cases of this on record in which the diagnosis was verified by the test of the hypodermatic syringe. Formerly, evacuation through a bronchus and an external opening had been regarded as the most favorable termination of the condition, but he had not succeeded in finding much definite information in regard to its frequency or results. Pneumothorax, he believed, is very rarely produced in children. On the whole, it is evident that the chances of recovery, by means of nature's unaided efforts, are extremely small. Having remarked that empyema is in reality nothing but an abscess with the peculiarity of having its outer wall rigid and its inner wall yielding, he said that the indication for treatment is to try to get rid

of the pus in the easiest and safest manner possible, and that the only methods which he should discuss were those of aspiration and free incision. The advantages claimed for aspiration are: (1) simplicity; (2) freedom from danger; (3) that it does not remove the fluid rapidly; (4) that it does not require general anæsthesia; (5) that it does not require the confinement of the patient to bed; and (6) that many cases are cured by aspiration alone. As a matter of fact, he said, these alleged advantages, with the exception of the last, are not superior to those possessed by incision. Of 121 cases of aspiration collated by him, 23 cases, or 19 per cent., were cured, and 6 died. The remainder were subjected to other methods of treatment. In all but one of the 21 successful cases the empyema was localized, and in 8 a single aspiration was sufficient to effect a cure.

Aspiration has many obvious objections, and among them are the following: (1) The entire quantity of fluid cannot be removed by this means. (2) Where septa exist in the pleural cavity, but one division of the latter may be evacuated. (3) The terror excited in children, especially when the aspiration has to be repeated a number of times, constitutes a serious obstacle to its success. (4) There are certain cases in which aspiration is not available, and if the case is allowed to go on for a considerable time without evacuation, septicæmia and other dangerous consequences are likely to ensue.

Among the advantages of incision are, first, its universal applicability, and, secondly, the fact that it enables the surgeon to explore the pleural cavity thoroughly. While the exposure of the cavity and the admission of air were formerly well-founded objections, since the introduction of antiseptics this is no longer the case. As to the use of general anæsthetics, Dr. Holt said that in two instances he had seen death result from this cause, in consequence of the rupture into a bronchus. He had never known of this untoward result to occur in children, but these cases ought to be sufficient to warn us against the employment of general anæsthetics when emphysema is present. He did not know whether local anæsthesia by cocaine had been resorted to in this connection, but he should suppose that this would answer every purpose.

Considering the results that were met with, it was no wonder that a low estimate was entertained of the operation by the older surgeons, and Dr. Holt quoted the opinion of Sir Astley Cooper and others, whose experience led them to regard it as almost necessarily fatal. He had collected 59 cases in children, performed at a later period, but before antiseptics had come into as general use as at present, in which there were only 8 deaths. Out of 63 cases in which the operation was performed with strict antiseptic precautions, however, there were but two deaths, and he thought that no more complete evidence could be furnished of the advantage of antiseptics than this. As to duration, out of 80 cases in which antiseptics were used 5 cases lasted four months or more, and in the remaining 75 the average duration was six weeks. In 21 the duration was one month or less. In cases in

which antiseptics were not employed, the average duration was six months.

The conclusions at which he had arrived were as follows: (1) All methods yield better results than non-interference. (2) A case should never be left to the unaided efforts of nature. (3) Aspiration holds out a possible chance of cure. (4) If, after two aspirations, the fluid continues to accumulate, this method should not be persisted in. (5) In large effusions it is well to make one aspiration before resorting to incision. (6) In all other cases a free incision should be made, preferably under local anæsthesia.

Finally, he said, no better guide could be observed than that contained in the words of Wagner: "Early incision, perfect drainage, and complete antiseptis."

Dr. F. Huber read a paper on *Acute Empyema in Children*. He claimed that no medicinal agent has any effect in producing absorption, but symptomatic and palliative remedies are of service, and it is important that the patient should be placed in the best hygienic surroundings possible. As regards surgical interference, the more promptly this is made, in general, the better will be the results obtained, provided it is not during the first few days of the attack. As a rule he had found it better to wait until a week or ten days had passed, so as to allow the acute febrile symptoms to subside and give the patient a chance to rally. After this judicious delay, aspiration might be tried first, the hypodermatic needle having been previously inserted at the point where the aspiration was to be made, in order to be sure of the presence of pus in this situation. Anæsthetics are not required in this operation. If, after aspiration, the pus is found to be laudable and inodorous, and if it does not accumulate very rapidly again, aspiration may be repeated; but, as a rule, more radical measures are called for. Incision should not be longer delayed, because the disease is characterized by fibrinous deposits as well as purulent effusion, and the fibrin is liable to become decomposed and infectious. The incision should be from an inch to an inch and a half in length, and a drainage-tube inserted, after which the cavity should be washed out with antiseptic fluid and an antiseptic dressing applied. He had found local anæsthesia by cocaine to be all that was required for this operation. Of thirteen cases in which he had performed it, three had proved fatal, one of the children dying from exhaustion, one from gastro-intestinal catarrh, and one from erysipelas. All but two of the remainder had made perfect recoveries, and the average duration of the trouble was seven weeks. He had used injections of bichloride solution (1: 5000) in all his cases, and for the final injection a solution of 1 to 10,000. A good rubber tube is essential, and he is in the habit of employing the plan proposed by Baxter for preventing it from slipping into the cavity. The retraction of the chest remaining on the affected side he had found could readily be overcome by suitable gymnastics and exercise in the open air.

Dr. Robert Abbe then read a paper on *General Consideration of*

the Surgical Treatment of Empyema. In the treatment of empyema, he said, it is necessary to abandon all idea of securing absorption, and the first thought should be how to rid the patient's chest of the accumulated pus most promptly. Aspiration may be repeated a number of times, and in a certain number of simple cases it is competent to secure recovery. As a rule it is of more service in children than in adults. It is somewhat repugnant to the surgical mind, however, to leave even a small amount of pus in such a place as the pleural cavity, and if the trouble continued for any length of time after aspiration complete evacuation should be practiced. By far the best results have thus far been obtained with free incision, followed by drainage; and experience shows that the eighth or seventh intercostal space is, as a rule, the best position for the incision. Two large drainage-tubes, of the thickness of the little finger, are usually advisable. In performing this operation he uses a spray of carbolyzed solution of three per cent. strength, produced by means of a simple hand-bulb. As soon as the flow ceases on aspiration he dresses the wound with sublimate gauze and iodoform.

What we want, first and last, said Dr. Abbe, is a thorough outlet, and the purity of the wound is the other important factor. In the great majority of cases, he thought, there is no need of injecting the cavity. When there is a hectic condition, however, antiseptic injections, followed by hot water ones, should be employed; and bichloride solution (1 : 8000), or a weak iodine solution, might be used for the purpose. Two serious results have been observed from injections, viz., toxic symptoms from the agents employed, and sudden death due probably to either thrombosis or reflexes from the pleura. The presence of the drainage occasionally causes denudation of the periosteum of a rib, which has been erroneously called necrosis. When this occurs, it is necessary to perform resection, but he considered it unjustifiable to resort to this procedure at first. As regards anæsthetics, a few whiffs of chloroform will answer perfectly well for children, but in adults local anæsthesia with cocaine is preferable. A four per cent. solution should be injected into the tissues, and the incision not made until about fifteen minutes afterward, when the anæsthetic effect has reached its maximum intensity. When there is decomposing fibrin, resection of a piece of rib is sometimes necessary in order to secure free irrigation; and occasionally, in cases where a suppurating cavity remains after empyema, Estlander's operation of resecting several ribs proves very satisfactory. Dr. Abbe also alluded to "through drainage" and Hewitt's method of "perflation," the latter of which, he thought, could never supplant free drainage.

Dr. T. H. Burchard had operated in eleven cases of empyema, all of which were of chronic character. The shortest duration up to the time of incision was two months and the longest thirteen months, the average time being six or eight months. The youngest patient was three years of age. In all the cases the operation was identical, and all were cases which had previously been aspirated either by himself or

some other physician. He made a free incision from one and a half to two and a half inches in length, along the eighth rib. The amount of purulent fluid evacuated varied greatly. As to the results of his cases, he has followed up seven of them for at least one year. Three entirely recovered; two developed phthisis and died, and a third, a year and a half after the operation, now had phthisis; one died of dysentery, of tubercular origin, fourteen months after the operation. In two cases he had observed in children, one of which was among his own cases and the other of which he had seen in consultation with Dr. J. Lewis Smith, hemorrhage sufficient to cause death had resulted from the operation; and it seemed to him that this accident is analogous in character to that which sometimes happens in the case of old men where too sudden and complete evacuation of the bladder is made, resulting in capillary extravasation. In these cases no artery was cut and no hemorrhage occurred from the wound, and he thought the matter is one worthy of serious consideration, especially as he has been able to find no reference to such an occurrence in medical literature. As to the time of performing the operation, he thought it should be done early. If delayed too long, the patient is liable to die either of phthisis or tubercular disease of the bowels.

Dr. H. N. Heineman said that empyema in children and empyema in adults are two entirely different affections, and in the former, when it is on the left side, it is very apt to be complicated with pericarditis. Having referred to the differences in the physical signs in the two classes of cases, he said that in children especially, on account of the gurgling met with, the affection is liable to be mistaken for phthisis. The use of the hypodermatic needle is always desirable for diagnosis. As regards treatment, the indications had been very well stated by the previous speakers. If after aspiration the pus remained sweet, he thought it well to resort to this procedure a second time: after which incision should be practiced. In the last ten years he has made use of only one form of incision, and that is the one known as "thorough drainage." This had been well described by Chassaignac as early as 1857, and he wondered that it had not received more attention than was the case, since it was, as a rule, followed by the best results.

Dr. E. G. Janeway having stated that in his own practice, if one aspiration failed to produce relief, he resorted, with very few exceptions, to immediate incision, spoke of some comparatively rare conditions which had not been alluded to in the discussion. He thought it a good rule always to insert a hypodermatic needle at the point where the incision is to be made immediately before operating.

Dr. A. L. Loomis had been accustomed to regard the pleurisies of children as very different from those of adults. Thus, acute suppurative pleurisy is very common in children; and, indeed, whenever he found that a child's chest filled rapidly he felt pretty confident that empyema was present. The treatment which he adopted in such cases was such as had been described here to-night, and he had found it very satisfactory. But acute suppurative pleurisy in adults is a very

different affair. It is a dangerous affection, and often rapidly fatal. He had come to regard it as infectious, and it is usually associated with some acute pneumonia in the other lung. We have, therefore, to contend with an acute disease, which cannot be cut short by removing the products of inflammation. After the acute stage had passed, however, he believed that incision did good, and was called for.

In his opinion these cases are fibrinous pleurisies at the beginning, and after this condition has continued for about twenty-four hours the chest rapidly fills with pus. Chronic empyema is not a simple pleurisy. We have not simply the pleural cavity to deal with, but a constitutional condition, and it is necessary to seek for the cause of the pus. It is not enough to operate; but, in addition, the physician is called upon to sustain the patient's vital powers in every possible way.

Dr. J. West Roosevelt took exception to the use of the carbolic spray, as advocated by Dr. Abbe, since it was confessedly inefficient in destroying germs, and he also thought that antiseptic injections are entirely useless, on the ground that no solution that can be employed can have any possible effect on the wall of the pleural cavity on account of the thick covering of fibrinous exudation with which they are coated. As to the proposed method of "inflation," he thought that if a good way of producing perforation of the lung is desired, this procedure should be adopted.

Dr. Caille objected to the use of carbolized injections in children, on account of the danger of producing toxic constitutional effects.

Dr. J. E. Winters said that he had careful records of ninety cases of pleurisy in children, and in only four of these was there empyema. In the latter, this condition existed when the patients were first seen, and of the remaining eighty-six cases, not a single one terminated in purulent effusion. It was also a fact that not one of these cases had been lost sight of. Owing to the results thus met with in his experience, he felt obliged to take exception to the statements made here to-night in regard to the frequency of purulent effusion in children. In the simple pleurisies commonly met with he had often seen the temperature go up to 103° and 104° , but under the employment of rest, hot applications, and sedatives, the cases almost all terminated in resolution in the course of a week or so. In no instance under his care had empyema resulted. Two cases were operated on account of the mechanical pressure produced by the large effusion present, and while they both proved fatal, at the autopsy no pus was found in either case. He had never seen a case of empyema in a child in which there was not an abundance of serum, and he, therefore, considered that the fluid in such cases was capable of absorption. Hence the condition was very different from that existing in empyema in adults, and he should not deem it advisable to resort to surgical interference except to relieve the effects of mechanical pressure upon the viscera. Children with empyema invariably lay upon the effected side, and, therefore, in order to facilitate absorption he encouraged them to sit up in bed as much as possible. Dr. Winters decidedly objected to the use of the hypoder-

matic syringe or the aspirator until such procedures were absolutely necessary, as he believed that the entrance of the needle into the pleural cavity directly tended to produce pus; and Dr. Francis Delafield, he said, had expressed the same opinion to him. The termination in empyema, as he had said, is naturally very rare in children; but when it did occur, and operative procedure was called for, he was decidedly in favor of free incision in preference to aspiration.

Dr. Heineman related a case in which there were symptoms of collapse due to hemorrhage, produced, no doubt in the same way as in the cases mentioned by Dr. Burchard, in which the child was apparently saved by the injection of a certain amount of fluid which was allowed to remain in the cavity.

The President, Dr. A. Jacobi, stated that he had frequently observed severe coughing to be set up by the removal of the fluid from the pleural cavity, and that this could only be arrested by partially filling the cavity again by injection. This seemed to him to be due to the irritation caused by the sudden filling up of the bloodvessels in consequence of the bronchial dilatation resulting from the evacuation.

Dr. Abbe said that in his opinion the phenomena sometimes noted after the withdrawal of the fluid were of reflex origin; and he mentioned a case in which there resulted aphonia, disorders of vision, and reflex hemiplegic symptoms.

The President thought that the symptoms mentioned might probably be explained by sudden hyperæmia of the larynx, with temporary anæmia of the brain.

REVIEWS.

ATHOTHIS: A Satire on Modern Medicine. By Thomas C. Minor. Cincinnati: Robert Clarke & Co. 1887.

This work is very cleverly written, and, under the guise of satire, contains much that is valuable and instructive. The title, "A Satire on Modern Medicine," is perhaps not sufficiently comprehensive, as it aims also at exposing modern foibles and deceptions which are only remotely, if at all, connected with the subject of medicine. That the author is occasionally too harsh and sweeping in his strictures can scarcely be doubted, as, for instance, where he describes an uncalled-for tracheotomy that terminates fatally. "I suppose these modern practitioners would scorn an emetic," says Athothis, "and prefer to cut the baby's throat in the interest of science and self-glory, in order to report the result of the operation at the next meeting of the Philautian Medical Society. * * * * * As it is, these scientific butchers will fill a once happy household with sorrow, and break a mother's heart." Certainly no one at all deserving of the honored name of

physician would ever think of performing so hazardous an operation as tracheotomy until after all milder measures had proved powerless to save the patient.

The book contains the record of a kind of Asmodeus tour of observation made by the disembodied spirit of a modern medical man, Dr. Paulus Androcydes, in company with a resurrected ancient Egyptian physician, astrologer and magician by the name of Athothis; and the greater part of it is made up of dialogue between these two in regard to the various scenes and personages met with in the course of their journeyings. It is a production which will, no doubt, be very widely appreciated by the medical profession, and a few passages are appended in order to show the admirable character of many of the sketches contained in it.

The fifth chapter describes a modern consultation: "The tall man, sitting at the table examining a clinical thermometer, is Professor Billem, one of the oracles of our faculty; he lives in finer style than any physician in the city. His brown-stone front is a perfect palace, and the consultation rooms therein are grandly fitted up. There all the modern instruments of precision are conspicuously displayed, and produce a sublime moral effect on his clients. His silver-plated galvanic battery, mounted as handsomely as a concert piano, is always open, and his curious visitors are never weary of casting admiring glances at the mysterious cabalistic symbols on the key-board. A brass-mounted microscope, made in London, regardless of cost, serves as a shining ornament to the expansive bay-window. His walls are adorned with sphygmographic tracings taken directly from the pulses of great statesmen, renowned generals, eminent divines, and the nabobs of the land. Bright colored charts of diseased brains and spinal columns are likewise used for decorative purposes, and entrance the vision of his morbid patrons, who anxiously await their turns for medical consultation. Indeed, Billem's office is a veritable museum to the uninitiated, and the credulous public is impressed with a firm belief that he is one of the most learned men of the age. His library contains over seven thousand volumes in all languages, including Hebrew, Greek, Latin, French, Spanish, Portuguese, German, and English, and he is now studying Russian. He keeps six horses constantly employed in carrying him around to visit patients. He never looks at a client's tongue for less than a ten dollar note, while an extra charge of five dollars is required if he soils his fingers by touching a pulse. His usual compensation for a written diagnosis is fifty dollars, and special consultations, as in this case, at least one hundred. He is greatly envied by his less fortunate professional brothers, who are nevertheless forced to make a virtue of necessity and admit that he has a strong hold on the affections of the community, for in desperate cases people of wealth insist on having the celebrated Billem in consultation, and no fashionable death-bed is complete unless sanctified by his august presence. It is considered the thing in high-toned social circles to have the morning newspapers announce: 'Dr. Billem was

consulting physician.' This suffices to convince the public that everything possible was done to save the deceased; it also serves to protect the regular attending physician from unjust criticism on the part of relatives or jealous outside practitioners, for if Dr. Billem cannot save life, who can?

"The smaller individual so wisely stroking his forehead with the index finger of his left hand is another fashionable and extremely erudite physician, Professor Pillem. He likewise has elegantly equipped offices, and is much given to plate-glass mirrors, crystal test tubes, and green retorts; he includes the laboratory idea in the decoration of his consultation room, and has produced a sensation among business men about town; for Pillem is probably better acquainted with fashionable kidneys than any other doctor in the city, and he is also famed for giving new and expensive remedies; at present he is running chloride of gold, carbonate of diamond, and acetate of pearl. Pillem has attained great popularity, and does an enormous business; he works four horses constantly.

"The cadaveric physician whom we saw administer the hypodermic injection is Professor Killem, an extremely retiring but very learned man. He has acquired a large practice by frequenting a fashionable uptown church; he is of a sweet, gentle, confiding disposition, and never misses attending the funerals of his many patients. Like Billem and Pillem, he is a voluminous author, and his latest work, 'A Treatise on the Use of Bananas in Infantile Colic,' has had a large sale. However, he has only arrived at the dignity of owning two horses, and boasts of twelve thousand dollars income per annum."

"* * * But see! Killem is standing in the centre of the room, preparing another hypodermic of morphia for his suffering client. And you remarked that this eminent practitioner was a strict member of an orthodox church; nevertheless, he is now preparing to violate, though ignorant of the fact, the sixth commandment."

"What!" cried Paulus Androcydes, in amazement. "Can it be that the patient will die? Indigestion rarely kills."

"But medicine often does," replied Athothis, dryly. "My prognosis is, crape on the front door-knob in twenty-four hours. For when three consulting physicians diagnose as many different diseases, and prescribe morphia, hot baths, lithia, strychnia, and quinine, poor humanity needs order a shroud and prepare for the grave."

"Dr. Moonshine," a homœopathic brother, having been described, Athothis says: "I am glad to see one genuine disciple of Hahnemann, for such practitioners are rare. If your statements regarding his ignorance are true, he is nevertheless an honest man, for know that the founder of the system he follows was one of the first to teach that a knowledge of anatomy, physiology, and pathology was not needed to make a good doctor, for Hahnemann declaims against those physicians who base their treatment on conclusions derived from such branches of knowledge; *ergo*, ignorance on the subjects mentioned implies a true insight into the system of the author of the Organon. Besides,

your true practitioner of homœopathy need never vex his mind for a diagnosis. He should not say, for instance, that a child has scarlet fever, measles, whooping-cough, or diphtheria; for the father of Moonshine's system distinctly maintains that any expression denoting a collection of symptoms is not applicable to disease, and should be omitted in the discussion of medicine, which merely consists of therapeutics. As all disorders of mankind, except one, are the result of a deadly psoric miasm, which evidences itself in a multitude of symptoms, it is an easy matter to understand what disease really is. As for your true homœopathic treatment, it can do no harm if it doth no good. Mothers of families can safely prescribe for the symptoms of this psoric miasm by following simple text-books, and as the remedies are innocent little pellets, the school must be very popular. Why people who profess to understand this system of medicine employ any doctor is one of the mysteries of the century."

Next appears a musical physician. "What is that object lying on the carriage seat?" inquired Athothis. "Can it be that he is driving around with a child's coffin?"

Paulus Androcydes indulged in a spiritual smile, and answered: "The object you notice is a violin case, and only contains the remains of a Stradivarius. This is young Doctor Symphony, a man of infinite genius and remarkable intellect, whose soul is wrapped up in a deep contemplation of music and medicine. Doctor Symphony has an enormous practice among musically inclined people, and is much employed by fathers who have marriageable daughters, and believe with Erasmus, '*Musicam docet amor et poesin.*' He is now on his way to visit a hysterical woman, who is devoted to the piano, and practices, much to the annoyance of the neighbors. Presently Symphony will accompany the lady in a duet. Thus musical instruction is combined with medicine, and the young woman's father will ask for no discount on the bill. But permit me to assure you that Symphony is really a gentleman of no mean ability, and hath much culture, for he reads many interesting papers before the Philauthian Medical Society, among which may be mentioned, 'The Musical Qualities of the Umbilical Chord,' 'Notes on the Sphincter,' 'Essay on the Drum of the Ear,' 'Maladies of the Digestive Organs,' etc. Yes, Symphony is a man of genius, and is rapidly accumulating a fortune."

A few of the headings of the chapters are as follows: "Paulus Androcydes extols the modern method of medical teaching, while Athothis insists that the so-called charitable institution known as a hospital is run in the interest of the doctor, and not for the benefit of the sick." "Athothis, to his surprise, re-discovers one of the lost arts." (Venesection.) "Chapter XVIII. In which the spirits visit a modern pharmacy, and Paulus Androcydes discovers that the label on a bottle is no sure indication of the contents."

PUBLIC HEALTH. The Lomb Prize Essays. Award Made at the Thirteenth Annual Meeting of the American Public Health Association, Washington, D. C., Dec. 10, 1885. With an Appendix. (Second Edition.) Concord, N. H. 1886.

The essays are four in number, and are as follows: I. Healthy Homes and Food for the Working Classes, by Victor C. Vaughan, M.D., Professor in University of Michigan. II. The Sanitary Conditions and Necessities of School Houses and School Life, by D. F. Lincoln, M.D., Boston, Mass. III. Disinfection and Individual Prophylaxis Against Infectious Diseases, by George M. Sternberg, M.D., Major and Surgeon U. S. Army. IV. Preventable Causes of Disease, Injury, and Death in American Manufactories and Workshops, and the Best Means and Appliances for Preventing and Avoiding Them, by George H. Ireland, Springfield, Mass.

These admirable essays by such distinguished authors, and so eminently practical in character, should certainly be in the hands not only of every physician, but of every family in the land, and in order that this may as far as possible be accomplished, the Public Health Association has placed them on sale at cost price. The volume, printed on heavy paper and beautifully bound in cloth, with a complete index, may be obtained for \$1.00, and a cheaper edition, also bound in cloth, for sixty-five cents. All four of the essays (four pamphlets) are offered at thirty cents, and any two of them at fifteen cents, while single essays are furnished at ten cents. Orders should be addressed to Dr. Irving A. Watson, Secretary, Concord, N. H.

PHARMACY AND THERAPEUTICS.

ANTIFEBRIN.

The dose is from 8 to 12 grains. In larger amounts it is not poisonous, though it is advisable not to exceed 30 grains in the day. Usually 8 grains will be found an effective dose. It is conveniently given in spirits and water, or in whiskey, or, for children, in warm sweetened water. During the past three months I have used it in my wards at the Philadelphia Hospital and at the Hospital of the University of Pennsylvania in the following 29 cases: typhoid fever, 7; pneumonia, 6; phthisis, 8; erysipelas, 4; pleurisy, 1; peritonitis, 1; rheumatism, 1; intermittent fever, 1. As a rule, 8 grains were given when the temperature rose above $103\frac{2}{3}^{\circ}$, and hourly observations were made for six or eight hours. In several cases of phthisis 4 grains were given four or five times a day. The maximum amount given in one day was 32 grains (Case II.). For brevity, the effects of the drug may be noted under the following heads:

1. *Reduction of Temperature.*—This is the most marked and characteristic action, beginning usually within an hour. In eighteen ad-

ministrations the fall was over 2° in this time; in three instances a fall of 3° , on two occasions a fall of 4° . In thirteen instances the temperature was reduced 4° in two hours, in 16 administrations 3° , and on four occasions 5° . The greatest drop within this time was in Case XXIV., in which the fall was $6\frac{2}{3}^{\circ}$. The greatest reductions were in the following: Case I., 8° in five hours; Case X., $6\frac{2}{3}^{\circ}$ in five and a half hours; Case XVIII., $7\frac{2}{3}^{\circ}$ in two and a half hours; Case XX., 7° in seven hours: Case XIX., $7\frac{2}{3}^{\circ}$ in three hours. In seven administrations the temperature was unaffected by the eight grains: Cases VII. and XIII., both of pneumonia; Case XXIII., peritonitis; and Cases IX., and XVIII., erysipelas. The duration of the reduction was variable; usually from three to six hours.

In several cases the dose of gr. viii. did not seem sufficient. In seven administrations little or no effect followed. This was particularly noticeable in the pneumonia cases. In Case XIII., with almost complete involvement of the right lung and affection of the left base, the temperature from the 5th to the 10th ranged from 102° to 105° . Antifebrin was given six times, thrice without effect, and on three occasions it only reduced the fever a degree or a degree and a half. Thallin, gr. iv., twice brought the temperature down 3° and 4° ; but the most effective agent in this case seemed to be the cold-pack, which reduced the temperature from 105° to $98\frac{2}{3}^{\circ}$. This patient had delayed resolution, and the fever did not subside until the thirty-ninth day from the initial chill. In other instances a second dose, repeated an hour or more after the first, produced the full effect, as in Cases XI. and XIII. In typhoid fever the action was usually prompt and satisfactory. In Case II., a young man, aged twenty-five, with persistently high temperature and marked nervous symptoms, the drug was given on fourteen occasions, and after each dose there was a drop of from 3° to 5° . In the milder cases the effect was more striking, as in Case IV.

In the erysipelas cases the action was in each instance most decided. In phthisis, with high fever, the drug was usually given in a single powder of grain $10\frac{2}{3}^{\circ}$, but in three cases the plan was tried of giving gr. iv. four or five times a day. This did not seem very successful, and the patients did not feel so comfortable as with the single dose. In a remarkable case of quartan ague antifebrin in 8-grain doses, given before or during the paroxysm, seemed to be without effect. One curious circumstance, however, is worth mentioning. The lad had always with the fever the most intense urticaria, which the antifebrin seemed to prevent, much to the patient's comfort.

2. *Action on the Circulatory System.*—Usually with the reduction of the fever the pulse would fall, and a drop of twenty to thirty beats in two or three hours was frequently noted. Thus, in Case II., with a pulse-rate of 112 per minute, and the temperature at 105° , the pulse fell to eighty-four in four hours. In another case the pulse fell from 130 to 90 in four hours. A marked increase in the pulse-tension was observed in several cases. Even with a rapid fall of from 5° to 7° in

two or three hours, there was no evidence of heart weakness. Slight cyanosis, which is mentioned by one or two German writers, did not occur in any instance.

3. *Sweating*.—As with thallin and antipyrin, the action of antifebrin is almost invariably accompanied with profuse perspiration, which is often the first effect of the drug. Repeatedly I have seen the forehead beaded with sweat half an hour after the administration of eight grains. This is sometimes a most unpleasant feature in the employment of the drug, and is the only one of which the patients have complained. In several instances the drug was combined with atropine, but without much effect. It does not seem to increase the night-sweats in cases of phthisis; indeed, under its use one patient, who sweated much with the afternoon dose, had drier and, in consequence, more comfortable nights. In the severe typhoid case already referred to, I stopped its use, as the sweating seemed to weaken the patient.

4. *On the urine*.—The only change noted was a marked increase in the amount in some of the cases. This is probably a direct result of the increased arterial tension.

5. The effect on the general condition seemed usually beneficial. A quiet sleep often followed an hour or so after its ministration. The phthisical patients expressed themselves more positively than the others in this matter.

There were none of the disagreeable effects which we sometimes see follow the use of antipyrin and thallin. There was no instance of vomiting, and, with the exception of Case IV., there was no shivering or chilliness, such as is so common after antipyrin.

These limited observations confirm those of Cahn, and Hepp, and others, and I think that we have in antifebrin a prompt and powerful antifebrile agent, easy to take and free from unpleasant effects. It has the advantage also of cheapness. Merck's article, which I have used, is only sixty cents an ounce, wholesale.—*Prof. Wm. Osler in the Therapeutic Gazette.*

CORYZA AND ITS TREATMENT.—Dr. D. B. Frontis, of Wadesboro, N. C., believes, with Dr. Lees, that acute coryza is essentially a vaso-motor neurosis. Cold or application of direct irritants to the sensory fibres of the fifth pair of nerves distributed in the nasal mucous membrane reflexly excite the vaso-motor nerves, and congestion and hyperæsthesia result from the vaso-motor paresis. He divides the *treatment* of coryza as to (1) the stage of congestion and hyperæsthesia, and (2) that of secretion and exudation.

In the *first* stage give of potassium or sodium bromide gr. xxv or xxx, to quiet the reflex excitation and relieve the hyperæsthesia. In neurotic females the local application to the nasal membrane of a two per cent. solution of cocaine, with an ordinary drop-tube, will have the happiest result, and repeat every half hour or hour. Dr. Krakauer inserts in each nostril, with good results, a small tampon, three or four

cm. long, saturated with a five to ten per cent. solution of cocaine, or ten per cent. solution of menthol, and allows it to remain four or five hours. To relieve the congestion, belladonna or atropia is almost a specific. Bartholow begins with five drops of the tincture of belladonna, to be followed by one or two drops every hour until atropinism is produced. Brunton uses one drop of tincture of aconite to two of belladonna every hour. Atropia is better, but never begin with more than 1-120th grain, to be repeated every four to six hours for three or four doses. Give first dose at bed-time, and the second in early morning. This aborts a cold when used within the first day or thirty-six hours. To combine quinine, from grs. iij to grs. v, with the atropia, prevents much of the uncomfortable dryness of the throat. A pinch of common salt, or holding a small piece of ice in the mouth, increases the moisture of the throat. If the case is not seen until forty-eight hours, give the bromide, followed with a pill of opium, gr. ss, and camphor, gr. iij, repeated every three hours for three or four doses.

In the *second* stage favor secretion, and let the congested mucous membrane empty itself. For this give quinine, gr. ij to v, with Dover's powder, gr. j to ij., and repeat every three or four hours. Occasional inhalations of hartshorn favor secretion. In late cases give salicylate of ammonia, one scruple, every four to six hours. If the nose is obstructed, use douches of warm water, half a pint, impregnated with a tablespoonful of common salt.—*New Orleans Medical and Surgical Journal*.

THE TREATMENT OF INTERNAL HÆMORRHOIDS BY INJECTION.
 —(Dr. Q. A. Shuford, of Tyler, Tex., in the *Medical Record*): "In the treatment of internal hæmorrhoids by submucous injection it is necessary, in the first place, to have an instrument that can be introduced with the least amount of pain, and so constructed as to expose as much of the mucous membrane as possible. When a tumor is discovered the speculum should be manipulated so as to bring the centre of the tumor into plain view, and the needle should puncture the pile at this spot, as it is here less sensitive than elsewhere. This requires a long needle, which should have a guard near the point, so as to prevent it from entering too deeply. For small tumors I inject from three to five drops, and for larger ones from five to eight drops of the following mixture: Rub well together one drachm of salicylic acid and one and one-half drachms of glycerine, and add two drachms of carbolic acid; then rub together one drachm of borax and one and one-half drachms of glycerine, and mix the two thoroughly, allowing the mixture to stand until clear. The chemical changes and *modus operandi* of this combination I do not know; but I do know that internal hæmorrhoids treated in this way become atrophied, shrink up, and peel off without pain, inflammation, or suppuration. I have never had any trouble nor heard any complaints from patients so treated. The two essential points in the treatment of internal

hæmorrhoids are : First, an instrument that will bring the parts to be treated into view, and that without pain ; and, second, a remedy that will completely destroy the pile, while leaving the mucous membrane in a healthy condition. An interval of from eight to ten days should be allowed to elapse between the injections, so as to give the mucous membrane time to become toughened. The injections cause almost no pain, and do not prevent the patient from pursuing his ordinary avocations." Dr. Shuford reports several cases treated after this method, and adds that he has treated nearly one hundred, of varying degrees of severity, and in none has he seen any inflammation or suppuration following the injections.

A SUGGESTED ALTERATION IN THE COMPOUND LICORICE POWDER.—Having found that the above preparation produced very severe griping in many instances where he had ordered it, the griping being particularly severe in some of his younger patients, Dr. Martin Oxley (*Lancet*) has ordered the following formula for some time past, in which anise fruit is substituted instead of the fennel, and one-fourth part of ginger is added. The altered formula runs thus: Senna and licorice root, of each two parts ; anise fruit and sulphur, of each one part ; sugar, five and three-fourths parts ; ginger, one-fourth part. This altered preparation is quite as satisfactory in its laxative properties, is less liable to gripe, and is as pleasant to take as the official powder, and he would suggest its trial in cases where the powder as now prepared produces the disagreeable effects to which he has referred.—*Medical and Surgical Reporter*.

AGARICIN AS USED IN BELLEVUE HOSPITAL.—Agaricin (the active principle of agaricus albus) gives uniform results in checking excessive perspiration in phthisical and fever patients. The following formula is used at Bellevue Hospital :

℞.—Agaricini (Merck),	-	-	-	gr. x.
Atrop. sulph.,	-	-	-	gr. j.
Acidi sulph. arom.,	-	-	-	<i>m</i> 1200.

Dissolve and filter.

Dose—*m* x, containing 1-12 gr. agaricini, 1-120 gr. atrop. sulph., and *m* x arom. sulph. acid. To be administered in syrup or simple elixir.

It may also be advantageously given in pill form, combined with Dover's powder. Thus:

℞.—Agaricini,	-	-	-	-	gr. ij.
Pulv. Doveri,	-	-	-	-	gr. xxv.—M.

Ft. pil. No. xx.

Sig.—One pill five or six hours before retiring or sweat comes on. Its action is slow, hence the necessity for giving it early.—*Quarterly Bulletin*.

NITRO-GLYCERINE IN THE TREATMENT OF EPILEPSY.—Dr. W. C. Dabney writes to *The Medical Record*: In the interesting discussion on the pathology and treatment of epilepsy, at the meeting of the New York Academy of Medicine, on March 3d, I was surprised

to see no mention made of nitro-glycerine as a medical agent in this intractable affection. My own experience with it is limited to a few cases, but the reports as to its value have been quite numerous, and are of such a character as to render further trials of it advisable. In one of my own cases the result was most gratifying. A girl, fifteen years of age, of bad family history—her mother and grandmother having died insane—had been a sufferer from epilepsy for two years. Her general health was good and her menstrual functions properly performed. I saw her first in consultation with Dr. Newman, of Orange County, Va., on November 1st, 1885; she was then having convulsions almost every day, and sometimes twice in twenty-four hours. The bromides had been faithfully tried with but partial relief. She was at once placed upon nitro-glycerine, one drop of a one per cent. solution being given her three times a day. She had a convulsion on November 9, 1885, and did not have another until about November 1, 1886—the nitro-glycerine having been continued without intermission during the whole of this time. On November 13, 1886, I saw this young lady again; she had then had two slight convulsive seizures and had on several occasions been “dazed,” as she expressed it. One dose of nitro-glycerine was increased to one drop and a half three times a day, and she has had no return of either the convulsions or the “dazed feelings” since. In view of the fact that the *hygienic* management was precisely the same before and during the administration of the nitro-glycerine, it seems fair to attribute the benefit in this case to its use. In another case the convulsive seizures were kept under control for some weeks; but it was impossible to induce the parents of the patient in this case to persist in the use of the remedy, they having been taught that epilepsy was incurable. In several other cases which have fallen under my observation there has been a sufficient interval of time since the treatment was commenced to say what the ultimate result will be. As is well known, nitro-glycerine produces a disagreeable flushing of the face when it is first taken, but this effect is very transient, and the slight headache which sometimes accompanies it is equally so.

READING NOTICE.

DR. W. H. MAY, of New York, says: “I have had very successful results in the administration of Bromidia in cases having their origin in disorders of the nervous system, such as cholera infantum, paralysis, insomnia, etc. *But I find it to be of special value in treatment of delirium tremens and the results of debauch*, it being retained upon the stomach, and speedily controlling the most dangerous symptoms, and producing the desired calmness and sleep necessary when morphia and other soporifics have failed to do so, and thus rendering the disorder amenable to further treatment. Have also prescribed it successfully in the terrible state of nervous exhaustion due to opium habitues endeavoring to relinquish the habit. And, finally, as result of experience, I pronounce it the “Hypnotic *par excellence*.”

MISCELLANEOUS.

THE INFLUENCE OF PROFESSOR SAYRE'S TEACHINGS IN COPENHAGEN.—Dr. S. Levy, of Copenhagen; has recently sent to Prof. Lewis A. Sayre, of this city, a photograph of a case of lateral curvature of the spine, showing marked improvement, the treatment of which Dr. Sayre began while attending the International Medical Congress in that city three years ago. It is accompanied by a letter in which Dr. Levy states that he has employed the plaster jacket treatment, which he considers constitutes one of the greatest advances ever made in orthopædic surgery, in thousands of cases, and that it is now generally adopted by his colleagues in Denmark. He also states that they likewise adhere to Dr. Sayre's maxims with regard to the treatment of club foot in all essential points, and that Danish orthopædics now rest to a large extent on the "conceptions and proposals emanating from Dr. Sayre and his school."

POISONING BY PENNYROYAL.—Dr. J. Girling writes to the *British Medical Journal*: The rarity of poisoning by pennyroyal or oleum pulegii is emphasized by the fact that standard works on toxicology, like Guy and Taylor, contain no account of the toxic symptoms produced by this drug, nor any indications as to appropriate treatment. Moreover, I find on inquiry that recurrence to pennyroyal is very common when menstruation has ceased suddenly, and that it can be procured with the utmost facility. These considerations have led me to describe the symptoms and the treatment employed in the following case. About an hour after the drug had been taken I found the patient (a woman aged 40) in an extremely collapsed condition. The face was pale, cold, and bedewed with beaded sweat, and the hands and feet were cold and clammy. She lay apparently unconscious, but could at first be roused by shaking and shouting to her, rapidly sinking, however, into a state of profound coma. The pupils were normal in size, and responded to light. The action of the heart was exceedingly weak, irregular, and fluttering, the pulse at the wrist being scarcely perceptible. The first cardiac sound was almost inaudible, while there was distinct reduplication of the pulmonary second sound. There was jactitation and feeble retching, with much salivation, but no vomiting and no purging; temperature 97° F. The breath smelt very like peppermint. The treatment adopted was as follows: First I gave her three-quarters of a tumblerful of water, followed immediately by a hypodermic injection containing one-fifth of a grain of apomorphine. This latter quickly produced the desired effect, the vomited matters having a strong peppermint-like odor. After the vomiting the patient seemed about to die, and having no ether with me I administered brandy hypodermically. The result of this was excellent; the heart-sounds at once began to improve in tone, and the pulse in force, and in twenty-four hours the patient was practically

well. Thus the symptoms taken together seem to point to severe cardiac depression approaching to paralysis, and appear to indicate that pennyroyal should be classed among the narcotic heart poisons. It transpired afterwards that the woman had taken ℥j of the essence of pennyroyal (which she obtained from a chemist), and which is composed of ℥j olei pulegii to ℥vii of spirit.

POISONOUS PERAMBULATORS.—Dr. J. Turnbull Smith writes to the *British Medical Journal*: The greater the number the conveniences we acquire in domestic life, especially where stability is sacrificed to show, the more likely shall we be subjects to accidents of obscure origin. Take the following case as an example. Mrs. A.—consulted me, on June 7, about her baby, aged four months. It had been out on the previous day in a perambulator under a very hot sun. After getting home it commenced to be sick, and vomited a green-colored fluid. The napkins were stained with blood. Upon inquiry I found the child was wholly breast-fed; and on naked eye examination of this fluid I detected no cause for the vomiting. Upon further inquiries I was told that the child was seen to suck the green strap of the perambulator. I then suspected the mischief to be due, at least in greatest measure, to arsenic, and gave the following mixture: ℞ Liq. ferri dialysat. ℥ij; Ruspini's styptic ℥iij; glycerini ℥ss; aq. chlor. ad ℥ij. Sig. A teaspoonful every three hours. This had the effect of entirely restraining the hemorrhage from the bowels, which has mixed with mucus. I regret to say that the child gradually sank from exhaustion. Mr. Sharples, analytical chemist, has been kind enough to examine the strap, and has found arsenic in abundance.

SURGERY OF THE SPINAL CORD.—We understand that on Thursday, June 9, Mr. Victor Horsley removed a tumor in the dorsal region of the spinal cord from a patient under the care of Dr. Percy Kidd. The patient had been seen by Dr. Gowers, who diagnosed a localized neoplasm, and suggested operative interference. The tumor measured about one inch and a quarter by half an inch; it was situated within the dura mater, and apparently grew from the ligamentum denticulatum of the spinal cord. It compressed the latter severely, causing violent spasms, pain, and complete paraplegia. Although the operation was necessarily prolonged, the temperature has never reached 100°, and the wound is now practically healed. The patient has already recovered some power over the bladder, and the spasms and pain are rapidly diminishing. We believe this is the first case of the kind in which an operation has been attempted.—*British Medical Journal*.

WHEN DRINKING WATER FROM THE LEA.

I gulp down infusoriæ,
 And quarts of raw bacteriæ,
 And hideous rotatoriæ,
 And wriggling polygastricæ,
 And slimy diatomaceæ,

And hard-shelled ophryocercinæ,
 And double-barreled kolpodæ,
 Non-loricated ambædæ,
 And various animalculæ,
 Of middle, high, and low degree,
 For Nature just beats all creation,
 For multiplied adulteration.

—*Quoted by the Cincinnati Lancet-Clinic.*

NOVELISTS' MEDICINE.—Lady writers of fiction, as a rule, limit their literary eccentricities to excursions among amorphous elements of novelist's French and un-English grammar. They sometimes dose freely with poison and the dagger, but rarely venture on strictly anatomical details. The most unfortunate *lapsus calami*, however, which has come under my observation, is the following: The hero, with great difficulty, has succeeded in saving the heroine from falling over a precipice. The lady has fainted and is apparently lifeless, but the hero finds, to his intense relief, "by the pulse in her *femoral* artery," that her heart still beats.—*Bristol Medico-Chirurgical Journal.*

TAKE WARNING.

Full many a man, both old and young,
 Is sent to his sarcophagus,
 By pouring water icy cold
 Adown his warm œsophagus.

—*Journal of Reconstructives.*

MEDICAL NEWS.

PENNSYLVANIA STATE MEDICAL SOCIETY.—The Thirty-eighth Annual Meeting of this Society was held at Bedford Springs June 29 and 30 and July 1, 1887, with the President, Dr. R. Davis, of Wilkesbarre, in the chair. On the evening of June 29 the members and a number of invited guests were entertained at the Bedford Springs Hotel. The following officers were elected: President, Dr. R. J. Levis, Philadelphia; Vice-Presidents, Drs. J. T. Ullom, J. L. Seybert, W. T. Hughes, and A. W. Cooper; Permanent Secretary, Dr. W. B. Atkinson; Recording Secretary, Dr. C. W. Dulles; Corresponding Secretary, Dr. J. H. Musser; Treasurer, Dr. O. H. Allis. Place of next meeting, Philadelphia.

Before adjourning, the Society voted an appropriation of \$1,000 to the Ninth International Medical Congress.

NEW JERSEY STATE MEDICAL SOCIETY.—The One Hundred and Twenty-First Annual Meeting of this Society was held at Beach

Haven June 14 and 15, 1887, with the President, Dr. C. J. Kipp, of Newark, in the chair. The following officers were elected: President, J. D. Ward; Vice-Presidents, H. J. Taylor, B. A. Watson, and J. S. Green; Corresponding Secretary, William Elmer; Recording Secretary, William Pierson; Treasurer, W. L. Phillips. Place of next meeting, Lake Hopatcong.

NINTH INTERNATIONAL MEDICAL CONGRESS.—The rate upon all railroads, for those desiring to attend the Congress to be held at Washington in September next, has been made at one and one-third fare for the round trip, tickets to be issued on the certificate plan. We ascertain from the passenger department of the Baltimore and Ohio R.R. Co. that no pains will be spared by this company to afford all the comforts in their power to promote and enhance the pleasure of visitors to the Congress, and that the railrod rate from Chicago to Washington and return will be \$23.35. At the recent meeting of the Executive Committee a speedy completion of the programme of scientific and practical work was provided for, and the Committee of Arrangements at Washington have planned a liberal and appropriate series of entertainments, embracing an excursion to Mt. Vernon, a grand banquet, and a more grand excursion for the guests from other countries from Washington to Niagara Falls and return to the seaboard. Only one thing more is necessary to relieve the hard-working Committee of Arrangements at Washington from anxiety, and that is to have three or four more State Medical Societies in rich and populous States, like Ohio and Indiana, follow the example of Pennsylvania, Illinois, and Michigan, and send to the Treasurer of the Congress \$1,000, \$750, or \$500 each, and as many of the societies in the larger cities follow the example of St. Louis and Pittsburgh, or Alleghany Co., by sending \$200, or \$250 each, and thus make the entertainment fund good. But individuals who have plenty need not wait for societies to do all, but should send their contributions at once. It is important that all money, either from societies or by individuals, should be forwarded as early as possible to the Treasurer, Dr. E. S. F. Arnold, Newport, Rhode Island.—*Journal of Amer. Med. Association.*

MORTALITY IN THE STATE OF NEW YORK.—According to the State Board of Health's "Monthly Bulletin" for May, the whole number of deaths reported during the month was 7,528. In each thousand there were 18.85 from diarrhœal diseases, 5 from typhoid fever, and 71.70 from croup and diphtheria. Forty-two deaths from smallpox were reported, all in the Maritime District.

THE CROWN PRINCE OF GERMANY.—His Imperial Highness continues to make a steady improvement. We learn from Berlin that the piece last excised by Dr. Morell Mackenzie, and submitted to Prof. Virchow, is "shown even more clearly than the one removed by the previous operation to be a hard and composite wart, which had proceeded or grown out of a moderately irritated and thickened surface,

while its base has not shown the slightest ground for assuming the existence of a new growth penetrating into the tissue—*Lancet*.

AUTOBIOGRAPHY OF PROFESSOR GROSS.—The anxiously looked-for autobiography of the late Dr. Samuel D. Gross has just been issued from the press of George Barrie, in two very handsome octavo volumes, of over 400 pages each. The work treats of the men and times of Dr. Gross's long and active professional life, and cannot fail to prove of deep interest to a large circle of readers.—*Med. News*.

THE GROSS MEDICAL COLLEGE, named after the late Prof. S. D. Gross, and to be known as the Medical Department of the Rocky Mountain University, has just been organized at Denver, Colorado.

A DEATH FROM ANTIFEBRIN recently occurred in the practice of Dr. E. Von Quast, of Kansas City. A child with high fever was ordered a mixture containing antifebrin, with the instruction that one dose (containing four grains) be given in the morning, to be repeated in the evening if so ordered at the second visit of the doctor. The father of the child, believing that "if a little is good, a considerable must be better," in spite of the protests of the mother gave the medicine every two hours during the day. In the evening, upon the doctor's calling, he found the child cyanosed and in extreme collapse, and, notwithstanding all efforts, the child died from the overdose of antifebrin.—*Kansas City Medical Index*.

A SEXLESS BEING.—In the *Gazette Médicale de Paris*, Dr. Polailon describes a remarkable case of malformation in a patient aged 31, who died of hepatic abscess in the Hôpital de la Pitié. The patient had been a tailor, then a general dealer. He presented the external appearances of a woman, being completely beardless, and bearing small but distinct mammæ. His voice was feminine, his stature low, and he was a great coward, displaying much mental perturbation at the prospect of dressing his abscess, and shrieking during the process. The pelvis was broad, and quite of the female type. From a distinct and prominent mons veneris ran two cutaneous folds, corresponding precisely to labia majora; they joined posteriorly in front of the anus. The penis was hardly an inch and a half long, but perfectly formed, and the relations of the corpora cavernosa, glans, and urethra were normal. The prepuce was long, and formed a phimosis. The scrotum was small and perfectly empty, and there was no depression or cavity representing a vaginal or vulvar orifice. The most remarkable feature of the case was the entire absence of testes, spermaticcord, and vesiculæ seminales. The neck of the bladder was of the male type; no ovaries or uterus existed. The recto-vesical pouch was very deep.

REMOVAL OF TWENTY-SIX CALCULI BY LITHOTOMY.—At the meeting of the Imperial and Royal Society of Practitioners in Vienna, Dr. Dittel read notes of a remarkable case of lithotomy which he had performed. The presence of numerous calculi in the bladder was easily

discovered by the use of the sound. The patient looked sickly, but was rather fat. The urine was putrid, and gave evidence of diphtheritic inflammation of the bladder. The case did not seem suitable for any form of lithotripsy. Dr. Dittel considered that the suprapubic operation was unadvisable, owing to the corpulence of the subject and the difficulty of keeping the wound aseptic. He determined, therefore, upon performing perineal lithotomy. The operation was performed on May 29th. During the whole of its course a solution of salicylic acid was made to run into the bladder through the urethra. Twenty-six calculi, "which could not exactly be called small," were removed. The patient was progressing favorably on June 10th, and the temperature had been high only on one occasion.—*British Med. Journal*.

EMMET'S GYNÆCOLOGY has been translated into French by Dr. Adolphe Olivier, with a preface by M. Trélat.

GASEOUS ENEMATA IN PHTHISIS.—The use of these enemata, according to the *Medical Record*, has been entirely abandoned in the fourth division, Bellevue Hospital, where they have been earliest and longest tried.

DR. W. C. WILE.—At the recent commencement exercises of Center College, Kentucky, the honorary degree of Master of Arts was conferred on Dr. William C. Wile, of Philadelphia.

NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.—Dr. Seneca D. Powell has been elected Professor of Clinical Surgery.

APPOINTMENTS AT UNIVERSITY COLLEGE, LONDON.—Dr. Sydney Ringer has been elected to fill the Professorship of Clinical Medicine made vacant by the death of Wilson Fox. Mr. Victor Horsley succeeds Dr. Bastian as Professor of Pathology.

HOUSTON COUNTY MEDICAL SOCIETY, TEXAS.—A note from an esteemed friend and correspondent, Dr. A. D. Burroughs, of Lovelady, informs us of the organization (on the 14th of April), of the regular profession of Houston County, with a society, to be known as above. Dr. J. L. Lipscomb was elected President; Dr. Y. B. Smith, Vice-President, and Dr. J. L. Hall, Secretary. Meet quarterly at Crockett. Drs. W. C. Lipscomb and A. D. Burroughs were elected delegates to the State Association, but were prevented from attending by professional business. Thus, one by one, the counties are wheeling into line. Not less than ten new county societies were enrolled at the recent meeting of the State Association.—*Daniels' Texas Med. Journal*.

NEW YORK POLYCLINIC.—The New York Polyclinic closed the Session of 1885-'87 with a class of 301 physicians, making a total of more than 1100 since the opening of the school in November 1882. The large increase in the class has necessitated an enlargement of the facilities at the Polyclinic, and the needed alterations will be completed by September 20th, when the Session of 1887-'88 will begin. The

laboratory of Pathology and Histology will be doubled in size, and a school of bacteriology will be opened in October. Two new lecture room are in process of construction, capable of seating two hundred and four hundred persons respectively.

THE "JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION."—With the beginning of the current volume, the *Journal* was increased in size by the addition of four pages of reading matter, and the typography of the title page was decidedly improved. We are pleased to see these evidences of its prosperity, and of the continued carefulness with which its interests are looked after.—*N. Y. Medical Journal*.

THE YELLOW FEVER AT KEY WEST.—Up to July 10th there have been in all 83 cases with 27 deaths. Since then a considerable number of other cases, and several deaths have been reported.

MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT.—The 34th Annual Commencement of this institution was held at Burlington, July 18th, when a class of 53 was graduated.

POISONED BUNS.—Two bakers have been arrested in Philadelphia, on the charge of having caused a number of deaths by means of chrome yellow employed in coloring buns. The coroner's jury rendered a verdict in these cases "That the deaths, in their opinion, were undoubtedly due to chronic lead poisoning, and that the poisoning resulted from the use of chromate of lead as a coloring matter in buns and other breadstuffs."

COLLEGE OF PHYSICIANS AND SURGEONS, BALTIMORE.—The preliminary course of lectures will begin September 19th, and the regular Winter Session October 3d. The college has an able and energetic faculty, and is fully equipped with all the facilities for the most thorough prosecution of the study of medicine, both from a scientific and practical point of view. The Dean is Professor Thomas Opie.

THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE will hold its Annual Meeting in this city from the 10th to the 17th of August.

THE KENTUCKY STATE MEDICAL SOCIETY.—At the thirty-second annual meeting, lately held in Paducah, a number of practical papers were read, there was a satisfactory attendance, and twenty-one new members were elected. It appears that one of the members, Dr. Dudley S. Reynolds, a gentleman who is widely known and esteemed in the profession, had shortly before been subjected to a public attack upon his personal and professional character; and it is gratifying to observe that one of the acts of the meeting was the passage of certain resolutions, offered by Dr. McMurtrie, testifying to Dr. Reynolds's high professional and social standing, and to the fact of his having ranked for fifteen years among the Society's foremost members. The

annual address by the president, Dr. W. M. Wathen, was a learned and judicious exposition of the true status of specialism in medical study and practice.—*N. Y. Med. Journal.*

THE PHILADELPHIA MEDICO-CHIRURGICAL HOSPITAL.—The Legislature of Pennsylvania has given twenty-five thousand dollars to the hospital of the Medico-Chirurgical College of Philadelphia.

THE LONDON HOSPITAL SATURDAY FUND OF 1887 has thus far amounted to 34,000 pounds.

DEATH OF DR. JOSEPH C. HUTCHISON.—The news of the death of Dr. Joseph C. Hutchison, of Brooklyn, will be received with deep and universal sorrow. For many years he has stood in the front rank of American Surgeons, and he was no less esteemed for his noble character and general attainments, while his genial nature and many social qualities endeared him to all who knew him. Dr. Hutchison was born in Howard County, Mo., in 1827, and graduated from the Medical Department of the University of Pennsylvania in 1848. After practicing for four years in his native State he removed to Brooklyn, where he continued to reside up to the time of his death. In addition to a very large private practice, he was always actively engaged in hospital work. He founded the Brooklyn Orthopædic Infirmary, and was its chief surgeon for many years. In 1860 he was made Professor of Operative and Clinical Surgery in the Long Island College Hospital, a position which he held for seven years, and a few months ago he was elected President of the Collegiate Department of that institution in the place of the late Dr. Dudley. In his earlier years in Brooklyn he was the physician-in-charge of the Cholera Hospital, and for three years, beginning with 1875, he served as the Health Commissioner of the city. In 1880 he received the degree of LL.D. from the University of Missouri, and when the New York State Medical Association was organized he was elected as one of its Vice-Presidents and the Chairman of the 5th District Branch. He filled this position with distinguished ability, and his death is an irreparable loss to the Association. Dr. Hutchison leaves a widow and three children.

DR. JARED LINSLEY, one of the most venerable physicians of this city, died at his native place, Northford, Conn., on the 12th of July, at the age of 84. He was well-known to all old New Yorkers, and for many years had a large practice among the best classes. He was graduated at Yale in 1826, and at the College of Physicians and Surgeons of this city in 1829, and at the time of his death was one of the trustees of the latter institution. He always held a highly honored position in the community, and he was especially noted for his benefactions to the poor.

MARK HOPKINS, M.D., LL.D.,—It may not be generally known that the Rev. Dr. Hopkins, President of Williams College, who died

last month, was a doctor of medicine. But such is the case. Mark Hopkins graduated in medicine in New York, in 1829, and made an attempt to enter into practice by forming a partnership with Dr. Silas West, Binghamton, N. Y. At that time Dr. West could not accede to the wish of Dr. Hopkins, and three months later the young physician was called to the Professorship of Rhetoric and Moral Philosophy in Williams College. This event diverted him from the practice of his profession and led him into the career which has been so honorable to himself, and so useful to Williams College and to the world. Probably no college president has ever enjoyed more the love and respect of his students than did President Hopkins, whose example and teachings were of the noblest sort; and, although he was but a short time in the ranks of the active members of the medical profession, it is a pleasure to believe that some share of his success may have been due to the ideas received during the period of his medical studies and medical work.—*Med. and Surg. Reporter.*

DR. HENRY CARPENTER died at Lancaster, Penn., July 9, aged 67 years. Dr. Carpenter was born in the house in which he lived all his life and in which he died. After graduating in 1841 he began to practice medicine in Lancaster. He continued in active practice until his last illness, becoming one of the most prominent physicians and surgeons in the State. He was one of the founders and officers of the Lancaster County Medical Society, an officer of the State Society, and one of the Board of Censors for the Eastern District of Pennsylvania. Dr. Carpenter attended ex-President Buchanan and Thaddeus Stevens for many years. At times during the war he had charge of the Eckington Hospital at Washington, and the State Hospital at Hagerstown. Dr. Carpenter held numerous local municipal offices as a Democrat, and was interested in many manufacturing and other institutions. He was also prominent in Masonic circles. He was twice married, and leaves a widow and three daughters.

DR. PHILIP JAMES WINN died at his home, near Fork Union, Fluvanna County, Va., June 19, 1887, in his 67th year. He was a graduate of the Medical Department of the University of Virginia in 1843, and immediately afterwards began the practice of medicine, and developed a practice that is said by his biographer to have covered the population of an area of 150 square miles. He always maintained a sacred regard for the trusts confided to him—whether of a personal or public character, for he was several times chosen to fill county trusts. His great popularity as a Christian gentleman and physician is attested by the immense crowd—estimated at not less than 1,500—which attended his funeral at his country home. He was the father of the gifted editor of *Practice*, who has the heart-felt sympathies of the profession of this community.—*Virginia Med. Monthly.*

DR. JOHN C. GORDY, an eminent physician in Western Louisiana for many years, died July 11, at Franklin, La., aged 78 years.

Dr. Gordy was for 30 years Grand Lecturer of the Grand Lodge of Masons, and was one of the most conspicuous member of the fraternity in the Southwest.

EDITORIALS.

THE REPORT OF THE BRITISH COMMISSION OF INQUIRY INTO M. PASTEUR'S TREATMENT OF RABIES.—The report of the Commission appointed last year by the President of the Local Government Board to inquire into M. Pasteur's treatment of hydrophobia was presented to Parliament the last week in June. The Commission consisted of Sir James Paget (Chairman), Sir Joseph Lister, Sir Henry Roscoe, Dr. Richard Quain, Dr. Lauder Brunton, Professor Burdon Sanderson, Dr. George Fleming, and Mr. Victor Horsley (Secretary), and, in view of the importance of the matter, a somewhat extended abstract of the communication, for which acknowledgment should be made to the *Lancet*, will no doubt prove of interest.

The report commences by stating that it was found necessary that some of the members of the committee should, together with Mr. Victor Horsley, the secretary, visit Paris so as to obtain information from M. Pasteur himself, to observe his method of treatment, and investigate a considerable number of cases of persons inoculated by him; and, further, that a careful series of experiments should be made by Mr. Horsley on the effects of such inoculation on the lower animals. Mr. Horsley's experiments are stated to confirm entirely M. Pasteur's discovery of a method by which animals may be protected from the infection of rabies. If a dog, rabbit, or other animal be bitten by a rabid dog and die of rabies, a substance can be obtained from its spinal cord which, being inoculated into a healthy dog or other animal, will produce rabies similar to that which would have followed directly from the bite of a rabid animal, or differing only in that the period of incubation between the inoculation and the appearance of the characteristic symptoms of rabies may be altered. The rabies thus transmitted by inoculation may by similar inoculations be transmitted through a succession of rabies with marked increase of intensity. But the virus in the spinal cord of rabbits that have died of inoculated rabies may be gradually attenuated by drying the cords, so that after a certain number of days' drying it may be injected into healthy rabbits or other animals without any danger of producing rabies; and by using on each successive day the virus dried during a period shorter than that used on the previous day an animal may be made almost certainly secure against rabies, whether from a bite or from any method of subcutaneous inoculation; and this protection is proved by the fact that if animals so protected and others not thus protected be bitten by the same rabid animal none of the first set will die of rabies, and, with rare exceptions, all of the second set will succumb.

It may hence be deemed certain that M. Pasteur has discovered a method of protection from rabies comparable with that which vaccination affords against infection from smallpox. It would be difficult to overestimate the importance of the discovery, whether for its practical utility or for its application in general pathology. It shows a new method of inoculation, or, as M. Pasteur sometimes calls it, of vaccination, the like of which it may become possible to employ for protection of both men and domestic animals against others of the most intense kinds of virus. The duration of the immunity conferred by inoculation is not yet determined; but during the two years that have passed since it was first proved there have been no indications of its being limited. The preventive treatment adopted by M. Pasteur is based on the foregoing experience; but the determination of the success of the method is far from easy, owing to (1) the difficulty of determining whether the bites were really those of rabid animals; (2) the probability of hydrophobia in persons bitten by dogs that were certainly rabid depending very much on the number and character of the bites, whether they were on exposed parts or parts protected by clothing; and in all cases in the amount of bleeding; (3) in all cases the probability of infection may be affected by speedy cauterizing or excision of the wounded parts, or by various washings, or other methods of treatment; (4) the unequal danger of bites of different species of animals, and even different dogs. In some groups of cases the percentage of deaths among persons bitten by dogs believed to have been rabid has been estimated as only 5 per cent., in others at 60 per cent.; and the mortality from the bites of rabid wolves has been variously estimated at from 35 to 90 per cent.

By the courtesy of M. Pasteur the committee were enabled to investigate personally ninety cases treated by him, these being mostly those which had been earliest treated, in which the periods since inoculation were longest, and living within reach of Paris, Lyons, and St. Etienne. Among the ninety cases there were twenty-four in which the patients were bitten on naked parts by undoubtedly rabid dogs, and the wounds were not cauterized or treated in any way likely to have prevented the action of the virus; there were thirty-one in which there was no clear evidence that the dog was rabid; others in which the bite had been inflicted through clothes. It is estimated, from experience, of the results of bites in other cases, that, had they not been inoculated not less than eight among these ninety persons would have died. Not one of them has shown since the inoculation any signs of hydrophobia.

Since, in order to quiet fears, M. Pasteur has been obliged to inoculate many in whom there was no satisfactory evidence that the bite was that of a rabid animal, it might be unjust to estimate the total value of his treatment in the whole of his cases as being more than the rate of mortality observed in them compared with the lowest rate observed in any large number of cases not inoculated. This lowest rate may be taken at 5 per cent.; and as between October, 1885, and the end of December, 1886, M. Pasteur inoculated 2,682 persons (including

127 from this country), the mortality should have been 130. But at the end of 1886 the number of deaths was 31, including 7 bitten by wolves, in whom the symptoms of, hydrophobia appeared while they were under treatment; in fact, the actual percentage mortality was between 1 and 1.2, showing, on the lowest estimate, the saving of not less than 100 lives. Of 233 persons bitten by animals in which rabies was proved, only 4 died. Without inoculation at least 40 would have died. Among 186 bitten on the head or face by animals in which rabies was proved, only 9 died, instead of at least 40. Of 48 bitten by rabid wolves, only 9 died, instead of nearly 30. Between the end of last December and the end of March, M. Pasteur inoculated 509 persons bitten by animals proved to have been rabid; only 2 have died, one of these, bitten by a wolf a month before inoculation, dying after only three days' treatment. The committee think it therefore certain that the inoculations practiced by M. Pasteur have prevented the occurrence of hydrophobia in a large proportion of those who, if they had not been so inoculated, would have died of that disease. And his discovery shows that it may become possible to arrest by inoculation, even after infection, other diseases besides hydrophobia. His researches have also added very largely to the knowledge of the pathology of hydrophobia, and supplied a sure means of determining whether an animal which has died under suspicion of rabies was really affected with that disease or not.

The question whether the method itself entails risk to health or life is then discussed, the distinction between the ordinary method and the "intensive method" being pointed out. By the first method there is no evidence or probability of any danger to health at all; but after the intensive method, which is practiced in only the most urgent cases, deaths have occurred which might possibly be attributed to the inoculations rather than to the original infection. Yet in the worst cases the intensive method is relatively more efficacious than the ordinary method, nor is the rate of mortality greater after the former method than after the latter. Certain cases, one of which is detailed, have, however, excited suspicion from the mode of death. The case related is that of a man bitten by a rabid cat at the Brown Institution, treated by M. Pasteur the next day by the intensive method, continued for twenty-four days, and dying about a month later with symptoms of acute ascending paralysis. The man was very intemperate, and had been exposed to chill while crossing the Channel on his return home. Mr. Horsley proved that his death was due to the virus of rabies, by using a portion of his spinal cord for the inoculation of rabbits and dogs, which died with characteristic signs of paralytic rabies such as usually occurs in rabbits. Yet it is by no means certain that the fatal issue in this and in other cases treated by the intensive method was not due to the original infection. M. Pasteur has, however, greatly modified this plan of treatment, which he employs in none but the most urgent cases.

The final paragraphs in the report, embodying practical suggestions

are as follows: The consideration of the whole subject has naturally raised the question whether rabies and hydrophobia can be prevented in this country. If the protection by inoculation should prove permanent, the disease might be suppressed by thus inoculating all dogs; but it is not probable that such inoculation would be voluntarily adopted by all owners of dogs, or could be enforced on them. Police regulations would suffice if they could be rigidly enforced. But to make them effective it would be necessary (1) that they should order the destruction, under certain conditions, of all dogs having no owners and wandering in either town or country; (2) that the keeping of useless dogs should be discouraged by taxation or other means; (3) that the bringing of dogs from countries in which rabies is prevalent should be forbidden or subject to quarantine; (4) that in districts or countries in which rabies is prevalent the use of muzzles should be compulsory, and dogs out of doors, if not muzzled or led, should be taken by the police as "suspected." An exception might be made for sheep dogs and others while actually engaged in the purposes for which they are kept. There are examples sufficient to prove that by these or similar regulations rabies, and consequently hydrophobia, would be in this country "stamped out," or reduced to an amount very far less than has hitherto been known. If it be not thus reduced, it may be deemed certain that a large number of persons will, every year, require treatment by the method of M. Pasteur. The average annual number of deaths from hydrophobia during the ten years ending 1855 was, in all England, 43; in London alone, 8.5. If as in the estimates used for judging the utility of that method of treatment, these numbers are taken as representing only five per cent. of persons bitten, the preventive treatment will be required for 860 persons in all England; for 170 in London alone. For it will not be possible to say which among the whole number bitten are not in danger of hydrophobia, and the methods of prevention by cautery, excision, or other treatment, cannot be depended upon.

In commenting on the report the *Lancet* remarks: "The conclusion that the method has saved a considerable number of lives, and that it is at present, and probably will be for long, the only mode of saving from death those who have been bitten by a rabid dog, affords strong support to Pasteur's conclusions, and, we need hardly say, must have most important practical results. Nor is this all. By the opponents of Pasteur it has been alleged that the dangers of his inoculation are scarcely less than those of the bites of rabid animals. It has been stated that many deaths have occurred in consequence of the treatment, and that some of the patients have actually been affected with paralytic rabies in consequence of the inoculations. On this point also the verdict is in favor of Pasteur. It is, perhaps, doubtful whether this verdict rests on so firm a foundation as does that of the protective power of the treatment. The report confines itself to one of the cases of death after the treatment, the case of the man Goffi, who was bitten at the Brown Institute and died in St. Thomas's Hospital. On this case the report

throws a new and startling light. It will be remembered that the cause of death was spinal paralysis, and its connection with rabies was denied. Mr. Horsley proves that the disease was paralytic rabies; the results of inoculations make the fact unquestionable. The treatment was certainly unsuccessful, and it is suggested that almost continuous intoxication may have prevented the success. Was the malady due to the original infection or to the "preventive treatment?" The committee suggest the former as the probable cause, that paralytic rabies may be more common than is supposed, and that the disease known as acute ascending paralysis, or Landry's paralysis, may be, often at least, paralytic rabies. If this conclusion be correct, it is strange that paralytic rabies should not be observed more frequently as the distinct sequel to the known bite of a rabid animal. It seems more probable that, if the death of Goffi was the result of the bites he received, the form of the malady was determined by the influence of the inoculations. But the conclusion of the Committee seems to be that, although the strong virus formerly employed may have entailed some evil consequences, the method now employed is free from serious danger.

"We have said that the report of the Committee can hardly fail to have important practical results. The Government has ordered the inquiry in response to a public demand, and, the verdict being so clear and strong, the establishment of a Pasteur Institution in this country seems now to be their clear duty. Whatever other effect the report may have, it will certainly compel increasing numbers of persons who have been bitten by dogs, rabid or not rabid, to seek what is said to be a certain safeguard against a terrible possibility. That they should have to go to a foreign country for the treatment, which the Government Committee consider some at least of the bitten persons will require, will be intolerable. The inevitable result of the report must surely be the establishment of a Pasteur Institute in this country, and after such an answer as the Government has received to its inquiries the task can scarcely be left to private benevolence."

The definite character of the conclusion reached, as the *Lancet* remarks, will probably render the report a surprise to most members of the profession who have compared the divergent opinions that have been so freely expressed by men not ill qualified to judge, and have duly realized the difficulty of the investigation and the many sources of fallacy arising from the character of the facts themselves. It is certainly a matter of extreme gratification that all the members of a commission composed of authorities of so eminent distinction, whose positions and attainments are such as to give the greatest possible weight to those conclusions arrived at by them, and who are so well able to sift the evidence and observe the facts, after having had the fullest opportunity of investigating the results obtained at the Pasteur Institute, should have unanimously come to an opinion so precise. By the results of this investigation, therefore, new laurels are added to the splendid fame of the immortal Pasteur, for it cannot but be granted that the *Lancet* is correct in stating that the verdict of the commission is

without doubt the most important yet pronounced upon the subject, and that it must go far to decide the prophylactic value of his system of inoculation against rabies.

THE NEW YORK BOARD OF HEALTH.—The city, as well as Mayor Hewitt, is to be congratulated on the appointment by the latter of Professor Bryant, of Bellevue Hospital Medical College, to the vacant position among the Health Commissioners. The selection was an eminently fit one, and Dr. Bryant's former experience in the department as a sanitary inspector, and his general standing in the profession, as well as the conspicuous ability which he has shown for several years in the capacity of Surgeon-General of the State, all give assurance that the responsible duties of the post will be performed in an intelligent and thoroughly satisfactory manner. The city Board of Health, under the administration of its new president, Mr. Bayles, has lately shown evidences of increased activity, and with the counsel and energetic co-operation of Dr. Bryant there seems every reason to believe that it will now be rendered more efficient in many particulars than has been the case for a considerable period.

It is announced that a vigorous campaign is to be undertaken especially against contagious disease, the mortality from which, owing largely to carelessness and failure to appreciate the danger from infection on the part of the great mass of the people, has of late been unusually marked. In order to successfully accomplish the work designed, not only cases of smallpox and typhus fever, but also of scarlatina, diphtheria, measles, and other contagious diseases will be removed to the hospital in all instances where proper isolation of the patient cannot be secured; and the earnest co-operation of the general profession is invoked to aid in carrying out this end. Special pains will also be taken to secure the enforcement of the provisions of the Sanitary Code in regard to the burial of those dying of infectious disease. During the first six months of 1887 there were reported more than one thousand deaths from diphtheria alone, and there can be little doubt that one great cause of the prevalence of this disease has been the general disregard of the section of the Code requiring that the bodies of all persons dying from contagious diseases must be buried within twenty-four hours after death, and that the funeral must be private. Instances are known to the authorities in which wakes were held over children who had died of diphtheria, and one of these took place in a large apartment house, where it was attended by the servants of many of the families residing in it.

It is also a source of sincere congratulation that, by reason of a suitable appropriation, the Board has been enabled to resume the organization of a special corps of physicians for the systematic visitation of the tenement districts during the summer months. Owing to the lack of such an appropriation last year, it was obliged to discontinue this service, which had been maintained for a number of years previously, and which had been attended with very satisfactory results.

Not only have the summer corps been useful in securing the correction of sanitary abuses in the tenement houses and in reporting contagious affections, but especially in detecting cases of incipient disease in children, particularly of a diarrhœal character, which would otherwise have been allowed to run on until medical treatment would have offered but little hope of success. Under the circumstances, the St. John's Guild, which for many years has been carrying on such a noble work among the poor of New York, at the suggestion of Dr. Charles A. Leale, undertook to supply the deficiency as far as was in its power, and in the valuable paper which heads the present number of the JOURNAL, Dr. Leale, who, with two other members of the Board of Trustees of the Guild, generously gave up his accustomed vacation in order to attend to the work, gives an interesting account of the manner in which the latter was organized and carried out.

This season it is designed to make the summer service of the Board of Health more efficient in every way than ever before, and in order that this may be accomplished all the physicians selected for the corps are required to pass a civil service examination, while the most careful instructions in every department of their work are given them by different members of the Board specially qualified for the purpose. It is also announced that in making permanent appointments in the Health Department preference will be given to the summer corps, and especially to those who have shown the most fitness for the discharge of the duties required of them.

LARYNGITIS AS A RESULT OF INTUBATION.—Three cases of intubation of the larynx at the Bristol Royal Infirmary, with two recoveries and one death, were recently reported in the *Lancet*. In the fatal case extensive laryngeal inflammation, which was believed to have had considerable influence in determining the unfavorable result, was found *post mortem*, and in the others more or less hoarseness of voice persisted for some time after the removal of the tube. In one of the cases, it should also perhaps be stated, the tube was swallowed and afterwards successfully passed by the rectum. Accordingly, the physicians who had charge of the cases are disposed to think that in intubation there is a tendency to the occurrence of laryngitis, and that the procedure, although attended in some cases with perfectly satisfactory results, has dangers of a somewhat more serious character than some recent writers would lead us to suppose.

In this country, while a number of instances have been reported in which the tube was swallowed, so far as known laryngitis has by no means been a frequent result of intubation, although local ulcerations have occasionally been produced by the presence of the tube. But notwithstanding the occurrence of this condition in these English cases, the results obtained must be regarded as on the whole very favorable, since it is expressly stated in the report of their histories that it would have been absolutely necessary to perform tracheotomy had not the process of intubation been substituted.

GAILLARD'S MEDICAL JOURNAL.

VOL. XLV.

NEW YORK, SEPTEMBER, 1887.

No. 3.

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ORIGINAL ARTICLES.

ARTICLE I.

"THE RECOGNITION AND SIGNIFICANCE OF RENAL ALBUMINURIA."

By E. D. FERGUSON, M. D., Troy, N. Y. Read at the third Annual Meeting of the Second District Branch of the New York State Medical Association, held at Schenectady, N. Y., June 28, 1887.

For a long time following the publication of Bright's "Reports of Medical Cases" in 1827 the presence of albumen in the urine was

regarded as a sign of the gravest import, unless associated with such manifest source of contamination as a decidedly purulent deposit. In fact the usual prognosis was that a fatal result would ensue. This grave significance was gradually modified, and it came to be generally recognized that not every case of albuminuria, even when the albumen was evidently of renal origin, would progress to a fatal issue. Then came a reclassification of renal diseases more or less at variance with the pathological scheme of Bright, and an effort was made to classify the cases not only with a view to express the morbid process present, but that the pathological classification would also aid in the matter of prognosis.

This succession of pathological ideas may be briefly summarized: Bright regarded the morbid condition of the kidney present in albuminuria as a single process, but different stages of the process presented correspondingly different appearances. To him the disease appeared as a deposit of new material which in time was absorbed, and eventually resulted in a contracted and granular appearance of the organ—whence the term “granular degeneration.”

Virchow, however, espoused the idea of an inflammatory origin of the disease, and made three divisions accordingly, as the process was supposed to involve different anatomical elements, viz., parenchymatous, when the tubular epithelium bore the brunt of the process; interstitial, when scirrhus (sclerosis) resulted, and waxy degeneration, when the vessels were involved in that special morbid change.

Dr. George Johnson, of England, who published a treatise on diseases of the kidneys in 1852, was also an early advocate of the inflammatory doctrine, but he extended the plan of division in the morbid process so as to include the idea of desquamation and non-desquamation in parenchymatous nephritis. Probably the greatest service, however, which he rendered modern pathology was to point out the association of hypertrophic changes in the walls of the arterioles in connection with a hypertrophied left ventricle and the contracted granular kidney.

Traube in 1860 gave a new pathology, making four divisions of the morbid process into

1. Circum-capsular.
2. Intertubular (where the connective tissue was specially involved around the Malphigian bodies on the one hand and around the renal tubules on the other).
3. Cirrhosis (due to venous stasis, as in long standing cardiac disease).

4. Waxy degeneration of the renal vessels.

Then followed Dr. Dickinson's classification closely related to Virchow's, viz., tubular nephritis, granular degeneration (in which the interstitial tissue undergoes contraction) and depurative disease, equivalent to amyloid degeneration.

Dr. Grainger Stewart, of Edinburgh, also proposed a classification into the inflammatory form (which had three stages, viz., inflammation, fatty degeneration, atrophy) the non-inflammatory or cirrhotic form, and waxy or lardaceous degeneration.

These pathological ideas, with certain variations or refinements, have influenced the profession more or less; but at present the general idea seems to be to remove the amyloid degeneration entirely from the category of Bright's *diseases* (as Grainger Stewart termed the processes), making it an incident in chronic suppuration, while the remaining morbid conditions are to be considered as acute or chronic diffuse nephritis, involving in varying degrees, and from causes not yet fully known, different portions of the renal structure, the only essential process, however, being an inflammation.

This would give a somewhat different pathology from that set forth by Bright, but would return, in a measure, to the unity which he claimed. Rosenstein insisted that the essential idea of Bright's disease was a *diffuse* nephritis, and that there are not two or more distinct morbid processes present. This view has seemed to me the more simple, and at the same time it affords a working basis as satisfactory as the present state of renal pathology can offer.

The classification of renal affections characterized usually by the presence of albumen in the urine is satisfactorily set forth by Ralfe in his recent treatise on kidney diseases, and may be condensed and slightly modified as follows:

- | | | |
|--------------------------------|---|--|
| 1st. Acute diffuse nephritis. | { | (a) Tubal = parenchymatous, catarrhal, desquamative nephritis. |
| | { | (b) Interstitial = glomerular nephritis. |
| 2d. Chronic diffuse nephritis. | { | (a) Tubal = subacute interstitial, chronic parenchymatous, non-desquamative nephritis. There may be three stages: (1) the large white kidney, (2) the pale granular kidney, (3) the small fatty granular kidney. |
| | { | (b) Interstitial = renal cirrhosis (sclerosis), chronic desquamative nephritis. It is represented by the small red granular kidney. |

In addition to the foregoing renal albuminuria exists in cyanotic induration of the kidney (as in heart disease) and degenerative changes (as in febrile diseases and amyloid degeneration). New growths, infiltrations and parasites by producing local irritation or inflammation may cause renal albuminuria.

To these physical causes it is customary to add the class known as functional albuminuria, of which Ralfe makes four divisions :

1. In derangements of the nervous system.
2. In derangements of digestion.
3. In altered conditions of the blood.
4. The so-called physiological albuminuria.

The foregoing presents as fair and full a tabulation of the causes of renal albuminuria as the present state of renal pathology will justify, though some of them will call for criticism in this paper.

The subject is one of extreme difficulty, as may be readily appreciated in reading the experiments made to endeavor to settle the cause and locality of the escape of the albumen in renal disease. In this connection I wish to express my sense of the high value of the work done by one of the Fellows of our Association. The paper by Dr. Frank Grauer, of Carnegie Laboratory, on "The Pathology of Scarlatinal Nephritis," recently read before the New York County Medical Association, is an important brick in the structure of renal pathology.

Though often puzzled to decide as to the presence or absence of albumen in a given specimen of urine under examination, and again often in doubt, at least for some time, as to the significance of the albumen when found, I was more particularly incited to the preparation of this paper by an article in the *American Journal of Medical Sciences* for January, 1887, by Dr. J. Grainger Stewart, of Edinburgh, on "Some Forms of Albuminuria Not Dangerous to Life," in which it seems to me the effort is made to give an unduly favorable view of the significance of albuminuria through an improper classification of cases.

I will first give extracts from Stewart's paper, and then proceed to the consideration of the subject as indicated in the title on the programme, *i. e.*, the recognition and significance of renal albuminuria. He refers to a number of writers who have contributed more or less fully to the subject of "innocuous albuminuria," and quotes Sir William Gull as stating that in his experience "albuminuria is almost as common in young and growing boys as spermatorrhœa," and Dr. Clement Dukes who "on the basis of his experience as physician to Rugby pointed out that it (albuminuria) was extremely common."

While accepting that the albuminous reaction is found as Drs.

Gull and Dukes state, it remains to show that many of the cases probably were not, in fact, albuminuria, and certainly not renal albuminuria.

The cases of albuminuria (renal) not dangerous to life are divided by Dr. Stewart into four groups, viz. : 1. Paroxysmal albuminuria. 2. Dietetic albuminuria. 3. Albuminuria from muscular exertion. 4. Simple persistent albuminuria. As by his own concession the fourth group is of doubtful propriety, the cases quite probably passing into chronic nephritis, it will not be necessary to give attention to that division, but we will select an illustrative case for each of the first three groups.

“A young woman was admitted (into the hospital) on account of acute illness. She had general malaria, some degree of fever, and gastric catarrh, but on examination nothing further could be discovered amiss excepting that the urine was rather scanty, dark in color, and was loaded with albumen. The microscope showed tube casts in great number and of several varieties—epithelial, granular, and hyaline. There were also crystals of oxalate of lime. There was a degree of puffiness of the face, but no dropsy, and, notwithstanding the urgency of the renal symptoms, I ventured to express the opinion that the illness would prove transient and unimportant. My reasons for so doing were the suddenness of development of the renal symptoms, and the discrepancy between them and the general condition of the patient; and the opinion was further confirmed when it transpired that similar attacks had previously occurred and had speedily passed off. The next day the patient was much better; the albumen was disappearing, the tube casts were no longer numerous, and before many hours had elapsed she was quite well.”

I submit in relation to this case that it could readily, and I believe properly, be classed as an instance of acute nephritis, though the clinical history gives no reliable data as to its causation. Under the classification of acute nephritis, the rapid recovery, or the fact of relapses, or rather repetitions of the process, having occurred is not remarkable, any more that it would be remarkable if an acute rhinitis should subside in two or three days, or recur.

He adds, however, that “the characteristic features of this group of cases are easily recognized. The sudden and copious occurrence of albumen in the urine, with numerous casts, the process lasting only a short time, and recurring at intervals with or without a perceptible exciting cause, will justify you in diagnosing the condition.” This, certainly would hardly justify the opinion that the malady was not

dangerous to life, though it might aid in the diagnosis of acute nephritis, or lead to the supposition of unstable renal elements readily disturbed by slight exciting causes.

The second group (dietetic albuminuria) is illustrated by the following interesting case: "The patient, then a medical student, called upon me first in the autumn of 1881, complaining of headache and dyspepsia. The heart's action was not satisfactory, but gave no indications of structural change either in the organ itself or in the kidneys. There was a distinct, although not copious, albuminuria, unattended by tube casts or other token of organic renal disease. I ordered him a mixture containing chloride of ammonium and tincture of perchloride of iron. In the course of a week the albumen had diminished to a faint trace, and by the end of a fortnight it had disappeared entirely. It did not recur until the following summer, when his vigor was reduced owing to the work for final examination and to anxiety in connection with the death of his father. It was then observed that, although not present in the morning urine, there was a distinct trace directly after food entered the stomach. The rapidity of its onset was remarkable. As soon as food of any sort was taken albumen began to be discharged by the kidneys. Being by this time a well educated medical man, he was much interested in this circumstance, and found by experiment that if, after commencing a meal, he passed a little water, it was sure to be albuminous, although that passed a few minutes before was not. But in this case the symptom was influenced by the season of the year and the time of the day. It occurred only in summer, and while easily induced in the morning or at midday, it never occurred during the evening or at night. It had its special periods, but even during them the ingestion of food was the determining element. The breakfast and the midday meal always determined it, but never was a trace discoverable in the evening, whatever food was taken. The nature of the diet had at all times very little effect. If he lived upon rich food the albuminuria became no worse. If he made *Revalenta Arabica* and such like substances his diet, it appeared all the same. Even a milk diet seemed to produce no favorable effect; but he could not persevere in its use, as it did not suit him.

"The results of exercise were carefully tested. They were found distinct, but much less marked than those of food. If he fasted of a morning, no amount of exertion induced the albuminuria; but if, when the albuminuria had been induced by eating, he took exercise, its quantity at once greatly increased. On the other hand, as with

food, exertion failed to produce it during what I may call the non-albuminuric portion of the twenty-four hours.

“There never were any tube casts, but oxalatis were frequently present. The urine was occasionally high colored, never bloody, sometimes deposited uralis, but never uric acid. He never had a pain in the back or other local symptoms to draw attention to the renal functions. The albuminuria has recurred each summer till this year; but in 1885 it was very slight, and this year has passed as yet without its appearance. The last specimen of urine examined was natural in color, specific gravity while warm 1.020, distinctly acid, and contained no albumen or sugar. The condition of the heart is the same as in 1881. The state of the vessels is also the same as before, with perhaps a little increased tension. The walls of the radials are distinctly thickened. When the albumen was present there was always, he says, some intermission of pulse; but this has continued during the last year, although the albumen has been absent.”

The criticism on this interesting and notable case is that the duration of time, and particularly the condition of the circulatory apparatus, when we consider the duration of some cases of fibroid kidney, would hardly justify the creation of a class of cases not dangerous to life.

Proceeding to the third division, Dr. Stewart says: “I shall now illustrate *albuminuria following upon muscular exertion*, and shall describe its features by narrating a case now under my care. The patient is a girl, thirteen years old. A sample of her urine passed on rising at 7:30 A.M., when tested with nitric acid, is seen to contain no albumen, or only the very faintest trace. But the urine passed an hour later, after dressing and moving about the house, but before any food had been taken, is highly albuminous. Thus the getting up is followed by this extraordinary and marked albuminuria. The history of the case is as follows: Her previous health is reported to have been good. About last Christmas, while at a boarding-school, she had an attack of diphtheria, which is, like scarlatina, a not uncommon cause of albuminuria by the production of inflammatory Bright’s disease. She, however, did well, and went through the whole illness without a trace of albumen appearing in the urine. I can say so with confidence, as I know that particular care was taken in regard to its examination.

When, however, she was convalescent, and was getting up and going about the house (but not going out), albumen was detected. This does not correspond to the ordinary clinical history of albu-

minuria connected with diphtheria. As a rule, it appears during the attack, or on exposure to cold within a few days of its subsidence. My own experience in this matter is confirmed by that of others. * * * During January a few tube casts were found on two occasions, and sugar was present once or twice in small quantity. At first no peculiarity was observed as to the albuminuria, and so, of course, it was believed to be constant, and regarded as a result of renal disease due to diphtheria. It was only after some considerable time that it was discovered that the urine passed on getting up in the morning, and also that passed during the night, contained no albumen. This fact was noticed the first time the urine of these periods of the day was separately tested, and from inquiry I find that, although the peculiar periodicity was only then observed, it may have existed from the first, and I think the history and progress of the case make it most probable, in fact almost certain, that it did so. I have said that traces of sugar were sometimes discovered in the early period of the illness. No trace of it has ever been detected since the patient came under my care, nor have there been any casts. In a specimen passed on rising, however, we found for the first time a well marked layer of oxalates deposited on the top of the mucus, and under the microscope octahedral crystals of oxalate of lime were seen in very large numbers. Curiously, in another specimen passed an hour later, there was not a single oxalate crystal; the urine had become alkaline, and there was a pretty copious deposit of triple phosphates.

This patient has now been for a considerable time under my observation, and I can give some interesting details as to the features of her albuminuria, and as to some experiments which we have made regarding it. I have pointed out that the urine passed on rising—and the same has been true, except on one or two occasions, of that passed during the night—contains no albumen, or only the merest trace. Now, while she is up, the albumen is constant, though once or twice toward evening the quantity has been small. But facts as to the daily cycle of the albuminuria are that the quantity is, as a rule, largest in the morning in the urine passed before breakfast. I have many times examined samples passed forty-five minutes after she got up and before she had taken any food, and have found albumen in them to be very copious. It would appear, therefore, that the moment she gets up there is a sudden onset of albuminuria, so that this case forms, in this respect, an interesting parallel to that which I have described in the dietetic group, in respect to suddenness of onset, although due to a different cause. During the forenoon the albumen has several times been

observed to become distinctly diminished in amount. Sometimes, though not so often, it is in largest quantity later in the day—e. g., during the afternoon or the earlier part of the evening.

I have further tested the conditions of albuminuria by experiment. On one occasion she remained in bed a whole day and two nights, about thirty-six consecutive hours, keeping her ordinary diet during that time. The result was that the albumen scarcely appeared. Indeed there was in only one of the samples passed during that period anything more than a mere trace, and in that sample the quantity was small. Curiously, in the urine passed that night after she had been all day in bed, albumen appeared in small quantity. In that passed in the morning there was a mere trace. She then got up, and in the urine passed forty-five minutes after, the albumen was found to be present in large quantity—distinctly larger than it had usually been before. It was again present in small quantity the following night, and there was a distinct trace on rising the next morning. After that, the former cycle became re-established. Thus the rest in bed, though it greatly diminished, did not entirely prevent the albuminuria, and it was followed by an increased elimination of albumen when she got up, and a disturbance of the ordinary diurnal cycle. A corresponding result was elicited upon another occasion when the same experiment was tried.

On another occasion an experiment of an opposite kind was made. She was asked to rise at 5 A.M., dress, and walk about the house for three-quarters of an hour. The urine passed on rising was free from albumen, whereas that passed forty-five minutes later contained abundance of it. She then lay in bed till 7 A.M., and the urine passed at that time contained no albumen, or only a mere trace. She got up, and by 7:45 the albumen was again abundant.

On another morning she was asked to lie in bed and to move about the arms and legs, thus taking exercise in the recumbent position. This she did for twenty minutes, and the astonishing result was that the urine passed after the time of exertion was, like that passed before it, perfectly free from albumen.

The next morning she was subjected for twenty minutes to very efficient massage in bed, but neither before nor after it did albumen appear.

A warm bath proved equally inoperative. Experiments were also tried with different kinds of diet, and they turned out to have very little effect. She was fed for several days exclusively on milk. It had a marked diuretic effect; and so, the urine being increased, the albu-

men seemed diminished, but the diminution was merely relative, not absolute. The subsequent addition of an egg daily, and some bread and butter to the diet, did not produce any evident increase in the albumen. Nor did it increase when ordinary or even rich diet was prescribed.

* * * From these experiments it is obvious that the change from the recumbent to the erect posture is at least the main factor in the production of the albuminuria, remarkable as that may appear. Diet has only a very slight effect, and the condition contrasts strikingly with that seen in the dietetic case which I have described. This case also differs from most if not all the so-called cyclic cases which I have seen recorded in respect to the suddenness of the onset of the albuminuria. In them it commenced, as a rule, gradually, and increased during the earlier part of the day, then gradually diminishing toward night, flowing and ebbing like the quiet tide; whereas in our case, though the diminution is gradual, the onset is sudden and abrupt, like the tidal wave which is seen in certain rivers.

I have now related most of the facts of the case and will next discuss the question, What is the nature of the albuminuria from which she suffers? Is this young lady affected with, as was first assumed, a hopeless chronic Bright's disease which must almost inevitably send her to her grave before she is twenty, or has she merely an unimportant albuminuria without organic disease, which may, perhaps, disappear when she gets past her present critical period of life, and at all events gives no ground for anxiety? From a careful study of the case I am convinced that the latter is the correct diagnosis. The grounds upon which I have formed this opinion are:

1st.—That there is a period in every day in which the urine is free from albumen.

2d.—The quantity of urine and urea is normal.

3d.—That except on two occasions no tube casts have ever been found; and,

4th.—That there is no symptom, except the albuminuria, at all fitted to suggest the idea of organic renal disease."

This quotation is quite extended, but I did not see how I could fairly condense it. It will be recalled that since the case came under Dr. Stewart's observation no tube casts were found, and at one time he spoke of the presence of a large amount of oxalate of lime crystals "*on the top of the mucus.*" So far as the case is set forth it is perfectly fair to assume that the albuminous reaction was due to some irritation in the genito-urinary tract (possibly concretions in the pelvis of the kidney), and it

is not at all impossible that mucus caused mainly and even entirely the morbid reaction in the urine. In either event the case was not one of true Bright's disease, and consequently the significance of the albuminuria is to be taken in accordance with the gravity of extra renal albuminuria, or "irritative albuminuria," if it was due to the irritative influence of renal concretions during exercise. In the absence of any specific statement that an effort was made to exclude mucus as a cause of the reaction, and as the tables accompanying the case show only a small amount of albumen, often only a trace, the claim that the reaction may have been due to mucus is not unreasonable, as will be more fully shown hereafter.

In summing up his cases, Dr. Stewart says :

"The last question which occurs in regard to these cases is as to prognosis. Are these different forms likely to continue simple, or do they culminate in organic renal disease? I think that in the first category there is a slight tendency to the latter issue. In the second and third categories it is less likely. From what has been said by such eminent authorities as Dr. George Johnson and Dr. Clement Dukes, we cannot but fear that the condition does sometimes culminate in organic disease, but so considerable a proportion of my cases have gone on for long periods without doing so, that I am confident it must be rare."

Before proceeding further with the consideration of Dr. Stewart's cases, it will be well to revert to our classification and agree upon our prognosis in the various forms of renal disease attended by albuminuria, to ascertain whether our tests for albumen may or may not be misleading, and for these purposes to review as far as possible, within the limits of a paper written for delivery at an Association meeting, the causes of albuminuria aside from organic renal disease.

The first division into acute and chronic nephritis gives us two classes with widely differing grades of gravity. It will not be necessary to introduce statistical proof that the prognosis in acute diffuse nephritis is quite favorable. What proportion of the cases of chronic nephritis may have originated more or less directly from the acute form of the disease is not specially relevant to our present consideration of the subject. It is enough to know that acute nephritis quite generally passes to a complete recovery after a longer or shorter period, varying probably not much from the period of time required for the recovery of cases of acute bronchitis, and this recovery has been so repeatedly tested by the lapse of time—from childhood to old age—that the question as to the morbid process being simply held in abey-

ance rather than fully removed, can hardly be raised in many of the cases. It may be assumed, then, that a goodly proportion of cases of acute nephritis progress to a complete recovery, and that this fact is accepted by the profession generally.

As to the prognosis in chronic diffuse nephritis, we must keep prominently in mind the distinction between complete recovery and remissions in the onward march of the disease or its very slow rate of progress. Some one, I cannot recall who, on being questioned as to the longest duration of a case of Bright's disease concerning which he had knowledge, replied that he had known the malady to exist over thirty years before the death of the patient.

It may be—in fact it is—a difficult matter to define the boundary between acute or sub-acute and chronic nephritis, but aside from cases due to some special and removable cause, it has seemed to me that instances of complete recovery of those cases which the profession generally will agree in classifying as chronic Bright's disease are extremely rare. To me the idea of a complete recovery, in view of the character of the tissue changes, is untenable. This, however, does not exclude the idea of a considerable duration of life, and even a comfortable state of the general health, in quite a large proportion of these cases, particularly where circumstances are favorable to the proper care of the malady. The following instances from cases under my personal observation will illustrate the duration of the disease even under unfavorable surroundings.

The first case, a man 55 years of age, consulted me in May, 1880. He was very anæmic, puffed under the eyes, legs œdematous (the œdema had then existed for over a year), the heart enlarged but without valvular lesions, the pulse tease, urine specific gravity 1015, acid, clear, with albumen in large amount. It is unnecessary to give the history in detail. It is sufficient that no disease was found other than the disease of the kidneys. The œdema disappeared after three or four months, and the patient continued at his business till a few months ago, when I lost sight of him. I believe, however, that he is still alive. He never recovered the appearance of health; in fact, he continued to have almost a corpse-like pallor for the seven years he was under observation, and occasional examinations of the urine during five of the seven years, always showed the presence of albumen. This case illustrates a somewhat prolonged duration of life under conditions certainly unfavorable, *i. e.*, persistent and extreme anæmia resulting from the disease, and the necessity to earn a livelihood by long hours of work in a restaurant.

Another case is that of a man about fifty years of age who first came under observation in 1879. From that time to the present he has repeatedly been under my care for symptoms classed as uræmic. Albumen was generally present in the urine, though occasionally none was found, particularly when he was free from uræmic symptoms. I have never been able to assign any special development of the uræmic troubles to an acute nephritis. The patient is still actively engaged in conducting quite a large business, involving care, worry and personal attention, and apparently he may survive for several years. I have never regarded any failure to find albumen in his urine as evidence justifying any hope of recovery, for a careful consideration of all the facts in the beginning of my observation of the case convinced me that he had chronic nephritis, and therefore I regarded the disease as irrecoverable.

The third case which I will relate came under my observation in 1879 or 1880. He had previously been told that he had Bright's disease, and had shown symptoms of failing health for some time; for how long I cannot state. My diagnosis at the time of his first consulting me was chronic diffuse nephritis, with a reservation as to renal calculi. The case progressed favorably until the summer of 1883, when he was taken with severe nephritic colic. No calculus was passed, nor had one been found in a similar attack before I knew him. The urine became at once extremely bloody, with some long slender clots apparently molded in the ureter, and soon it lost the odor and other urinous characteristics; in fact it presented the appearance of disintegrating blood clots. During one week he passed but a few ounces, certainly not a pint all told, of this dark, somewhat grumous material. Though in extreme danger, he slowly improved, and for the last three years has been attending to his business. I am still in doubt as to the existence of renal calculi past or present, but in the absence of continued or recurring evidence of pyelitis or irritation in the pelvis of the kidney, I incline to the opinion that blood clots resulting from the acute diffuse nephritis gave rise to the nephritic colic. His urine remains albuminous, and the low specific gravity, with other facts, inclines me to conclude that he has contracted kidney, which was the original diagnosis. At intervals a hasty or imperfect examination of the urine might have led to the conclusion that he had recovered, so small would be the amount of albumen present.

This list of cases could be added to from my own experience, and I have no doubt from the experience of many of my auditors, but they sufficiently illustrate the considerable duration of even irrecoverable

cases of renal disease, so that the requirement for a prolonged observation of a case of albuminuria before pronouncing it "not dangerous to life," is fairly sustained. My own conviction is that when we can fairly denominate an individual case to be one of chronic diffuse nephritis, we have no right to anticipate a recovery in the true sense of the word, either by means now at our disposal, or likely to be discovered, unless the progress of surgical science should enable us to transplant kidneys from healthy animals, as was suggested to me by my former pupil, Dr. J. P. Marsh.

In any given case of albuminuria that receives our attention, the questions to be answered are, is the albumen due to diffuse nephritis (acute or chronic), or is it due to some other cause, renal or extra-renal.

The gravity of the prognosis will depend upon the cause and source of the albumen. While it will not be practicable to fully consider each possible condition, aside from Bright's disease, productive of albuminuria, as set forth in the classification before noted, we may profitably consider them briefly, by title at least, omitting the differential diagnosis except in a few instances.

The cyanotic induration of the kidney, whether due to disease of the heart or other cause of obstructed return-circulation, will usually have apparent elements of prognosis more important than the renal complication, though in this condition the defective kidney may be the determining cause of death.

The presence of albuminuria in cases of protracted suppuration, particularly in connection with pulmonary phthisis or disease of bone may commonly be accepted as evidence of amyloid changes in the renal vessels. In these cases the prognosis will be largely influenced by the probable duration of the primary disease, or the ability to remove that disease by therapeutical or surgical measures.

The presence of moderate amounts of albumen in the urine during the progress of febrile disorders, as typhus or typhoid fever, will hardly suggest to the physician the existence of serious renal disease. Although he may be unable to explain the method of its appearance, as to whether the tubular epithelium is paralyzed, and therefore unable to remove by absorption the albumen supposed by some to normally escape at the malpighian tufts, or, on the other hand, that albumen is not in health transuded at the capillary circulation in the glomerular vessels, but that the paralysis of the tubular epithelium allows of a transudation of albumen from the inter-tubular capillaries.

Whether either or neither of the foregoing is correct, the compara-

tive innocuousness of the albuminuria of pyrexia is established, for the fact exists as to the presence of albuminuria as a directly associated event in febrile diseases, and the recovery of the patient from the fever usually, at least, implies the entire cessation of the renal trouble.

New growths and morbid infiltrations in the kidney, as tumors and syphilitic disease, may furnish instances extremely puzzling in diagnosis, and consequently troublesome in the matter of prognosis. Their consideration would be out of place here, but the fact that irritation may produce albuminuria is excellently illustrated in one of Morris' recent cases of neprorrhaphy, wherein a suture of fixation being made to directly traverse the substance of the kidney was followed by a transient albuminuria.

The presence of inflammation in the urinary tract as urethritis, prostatitis, cystitis, ureteritis or pyelitis, particularly when productive of pus will account for the presence of albumen in the urine; but as was pointed out by the late Caspar Griswold in the second volume of our Transactions, any estimate of the proper amount of albumen to be ascribed to purulent contamination based upon the sediment of pus cells is liable to mislead, owing to the varying relative proportion of the albumen in the *liquor puris* to the corpuscular elements. Here the general diagnostic acumen of the physician will be needed, and at the same time it should be borne in mind that some of the diseases mentioned have a tendency to induce progressive renal disease with a consequent unfavorable prognosis.

The apparent or actual presence of albumen in cases of irritation of the urinary passages when due to mucin or some peptone, without purulent catarrh, will receive some consideration when the subject of the tests for albumen is taken up, but I wish to record here my conviction that an albuminous reaction is frequently the result of such irritation, notably in affections of the prostate gland, and in fissure of the neck of the bladder in women, and that early and efficient treatment may prove curative and preventive of further and more serious changes.

A case or two in point may illustrate. A man about forty-five years of age with stricture in the membranous urethra and some prostatitis (the urine containing numerous so-called prostatic cylinders) was rejected for life insurance on account of albuminuria. He applied to me for "kidney trouble," and the recognition and cure of the local disease rendered the urine normal.

Another man, twenty-five years of age, had been troubled with frequent urination for over one year. The urine contained a small amount

of pus, and was occasionally slightly bloody in color. The albumen was far in excess of the amount fairly attributable to the purulent contamination.

Examination showed a long and probably somewhat incrusting calculus in the membranous urethra. After the removal of the calculus and the cure of the urethral ulceration, and prostatic irritation connected with it, the albumen disappeared.

The occasional presence of albumen in cases of nephritic colic, out of proportion to the blood in the urine, is also an illustration of the effect of irritation in the production of albuminuria, although this reaction may also be due to mucin.

It will be recalled that functional renal albuminuria was made into four divisions: 1. Derangements of the nervous system. 2. Derangements of digestion. 3. Altered conditions of the blood. 4. The so-called physiological albuminuria.

My own clinical experience has not led me to accept the existence of a purely functional albuminuria, nor am I convinced of its existence by the researches of Senator, Capitan and others. While not prepared to deny that an expert chemist may find albumen in the urine of the majority of men, since chemists inform us that mucin contains a small proportion of albumen, and that mucus is a normal constituent of the urine, it seems to me that from a clinical standpoint the traces of albumen found must be shown to be of renal origin before the title albuminuria is given.

It is reasonable to suppose that disease involving the renal nerves, or disease of some portion of the nerve centres may produce albuminuria; yet in such instances it is not improbable that the integrity of the renal structure is disturbed, and if the condition continues for some time, or is frequently repeated, we will probably find no better means of classification so far as the renal trouble is concerned than to assign the cases to the category of acute or chronic nephritis. Usually in such cases the causative disease will be the more important, and will deserve precedence in the clinical consideration of the case.

That derangements of digestion may cause the transudation of some of the albuminoids I am prepared to accept, though the subject is as yet imperfectly investigated; but that derangements of digestion while the patient is living from an ordinary diet list should cause albuminuria seems to me extremely doubtful. This does not exclude the influence of the prolonged and excessive use of certain articles of diet in the production of renal disease, or the dietetic increase of albuminuria when the disease is already established, but it justifies the claim.

that distinct albuminuria resulting from the injection of food, either the ordinary or special articles of diet, should lead to the inference that the kidneys are not in a normal condition, and if this dietetic albuminuria continues for a considerable time, it seems to me it should be interpreted as evidence of permanent structural changes in those organs. The fact that the patient does not speedily succumb to the malady is not evidence of the absence of serious renal disease as has been previously illustrated. It is to be accepted that enormous quantities of albuminous food may cause albuminuria, but it is reasonable to suppose that this may occur from the irritating effect of the diet on the kidneys, as certain drugs, like cantharides, may produce an albuminuria indicating a nephritis. Apart from pre-existing renal disease, it seems to me that Dickinson was right when he wrote that "alimentary albuminuria is practically unknown, save as the result of experiment."

The occurrence of albumen in the urine in altered conditions of the blood is too large a field for specific consideration, but when the patient has become cachectic from prolonged or serious disease it is not specially remarkable that the nutrition of the kidneys should suffer and their function be disturbed. Cases of this kind could not long mislead the attentive observer.

A few words as to the so-called "physiological albuminuria." I shall refer only to the albuminuria said to be developed during severe muscular exercise, as prolonged marching or mountain climbing. A large number of observations on this subject have been made, in persons at rest and during exercise, particularly in France and Germany, by Capitan, Leube, and others. These examinations, showing albumen often in ninety per cent. of the cases observed, are justly criticised by Ralfe to the effect that the method of testing the urine is not always specified, and when stated, the double iodide or equivalent test has generally been used, and of course all the *albuminoids* would be precipitated. The additional criticism is relevant that with soldiers the conditions favorable to extra renal albuminuria are common. To use the term albuminuria in such instances may be technically correct, but is misleading, and not warranted by the present knowledge relative to renal disease, of which albuminuria is the most common and most reliable sign.

I will close this portion of our subject by quoting from Ralfe the opinion that "with the exception of those cases where the albumen is plainly derived from the *liquor puris* secreted from the mucus surfaces of the genito-urinary passages, or from the blood poured out into the urinary tract from rupture of the vessels, or in those cases where al-

bumin is not serum albumin, but some other proteid as paraglobulin, propeptone, peptone, which, being more diffusible than serum albumin, pass through simply in merit of their diffusibility, that in all cases of albuminuria the chief and primary cause is to be attributed to either the glomerular or tubular epithelium losing its functions of retaining the albuminous portions of the blood plasm within the renal vessels."

It is certainly not a captious or hypercritical feeling that influences me in the statement that instances of albuminuria are often to be accepted with caution as to the essential fact of the actual presence of albumen. From personal experience I am profoundly impressed with the truth of the statement that the recognition or exclusion of albumen in a sample of urine is often extremely difficult. In cases of doubt the personal factor as to the care and attention to detail on the part of the observer should exercise a special influence in accepting or rejecting results; but in cases of doubt the method pursued and the appearances observed should be stated before the conclusions can be accepted by those not making the tests.

I fully concur with Dr. Purdy, of Chicago, that there is no single test for albumen but is liable to mislead, and I cannot escape the conviction that some of the cases of innocuous albuminuria are in reality simply due to erroneous observations, in which the albumen, if present at all, is not the result of nephritis, or even unstable renal physiology. This may explain the frequency with which Gull and others found albuminuria in adolescents.

The albuminuric elements to be found in the urine are :

Serum albumen.

Para globulin or serum globulin.

The albuminoids, including hemi-albumose, or pro-peptone and the peptones.

The albuminoids may be ignored at present, except in so far as they complicate the examination for serum albumen or serum-globulin, for the clinical significance to be attached to their presence in the urine is not yet settled. It is quite probable that they may escape from the blood through the vessels of the glomeruli, being present as the result of defective metabolism in the digestion of alimentary albuminoids.

Serum albumen and serum globulin are usually associated; their significance is probably identical for all practical purposes; and as their detection results from the use of the same re-agents, and their differentiation therefore is unnecessary, they may be considered together. Hemi-albumose, or pro-peptone, as Senator prefers to call it, is not coagulated

by heat, at least if the urine be acid; but it is precipitated by nitric or acetic acid, though an excess of the latter or the application of heat restores the clearness. The peptones are doubtless frequently found in the urine, though not distinguished as such. The fact that they are produced in all the infectious fevers is evidence as to their liability to frequently appear in the urine.

A striking instance of peptonuria recently occurred under the observation of the writer in a case of pericarditis, with compressing effusion in the pericardium and resultant anasarca. The test by floating some of the urine on Fehling's solution is a delicate reaction, there resulting a white zone of phosphates at the point of contact, and a rosy red strata just above. With albumen the reaction is purple. The fact that heat with acid urine does not precipitate the peptones furnishes the great distinguishing feature in excluding them in examinations having reference to the detection of albumen. In some of the tests soon to be noted it would be easy to mistake the peptones for albumen, and when we recall that they are likely to be produced in irritations of the genito-urinary tract at any point where there is activity in new cell formation, we realize the necessity for care in all examinations where albumen in small quantity is supposed to be present.

The tests for albumen are very numerous, and Dr. George Oliver's recent treatise on bedside urine testing seems to have called special attention to the subject. I have for some time been making experimental examinations with a number of the re-agents used for the detection of albumen in the urine, and to those tests which seem the most valuable and satisfactory I will call attention, and also try and point out the sources of error. Before proceeding to give the methods of testing for albumen I wish to specially call attention to mucus as a source of error. There can be no doubt concerning mucus being a normal element of urine, though in such a small proportion as to be practically undetectable by ordinary procedures of examination; but when the multitude of ways in which the genito-urinary tract may be irritated, and the production of mucus thereby increased, is considered, it becomes a serious—in fact, in my judgment, the most serious—complication in testing for albumen. The fact that some chemists make albumen a constituent of mucin rather adds to our embarrassment. The usual tests for albumen require that the urine shall be acid, or that an acid be added during the procedure. The acids, both mineral and vegetable, coagulate the mucin, and practically I find that the fact that an excess of a mineral acid will re-dissolve the precipitate is unsatis-

factory as a test. The most satisfactory measure that I have found is to acidify a portion of the urine with at least ten per cent. of its bulk of acetic acid; allow the mixture to stand for some time—say a half hour—and then filter. If mucus or the urates be present the filtered liquid will not be perfectly clear; but two or more test-tubes are to be partly filled with this filtered urine, and tests applied to all but one, which is reserved as a standard of comparison. I prefer here the double iodide test, and if the turbidity be not increased, it may be assumed that albumen—at least serum albumen—is not present. Nothing short of a painstaking procedure of this kind will exclude mucin as a cause of the reaction when a small amount of albumen is supposed to be present, and even with every care there may remain cases in which the doubt can only be removed by repeated examinations and a somewhat prolonged observation of the case.

There is still another source of error, negative in character but positive in importance, and due to the fact that serum albumen in the presence of an alkali or an acid may be converted into an alkali or an acid albumen, neither of which is coagulable by heat; nor is the acid albumen coagulable by heat *and* acid; at least not promptly. The acidity or alkalinity of the urine will settle the possibility as to which form may be present, and no test for albumen is complete unless the reaction of the urine be taken in reference to this point. A few months ago I tested a sample of urine and found on boiling and adding nitric acid that the urine remained clear, and being somewhat pressed for time at that moment, I somewhat hastily concluded that no albumen was present. Shortly afterwards I accidentally noticed the test-tube, and thinking there was a slight cloudiness, I continued the examination and found a free amount of albumen held in solution as acid albumen. The case was one of acute nephritis, and was making, as I supposed, a rapid recovery, but the contrary proved to be the fact, and now at the end of over four months I present a specimen of urine from the same patient in illustration of some of the urinary tests.

The following tests I believe to be the most reliable:

1. Heat (which might be called Cotugno's test).
2. Nitric acid (Heller's test).
3. Heat and nitric acid (or a vegetable acid).
4. Potassio-mercuric iodide (Tanret's test).
5. Ferrocyanide of potassium and acetic acid.
6. Picric acid (Johnson's test).
7. Phenic-acetic acid and potash (Millard's test).

Tanret's test I regard as one of great value, but the formula is differently given. The formula given by Ralfe is 2.7 parts of bichloride of mercury, 6.64 parts of iodide of potash, and 100 parts of water. In using the test in this form two test-tubes are prepared with urine equally acidified with acetic (or citric) acid. If there be turbidity from the acetic acid, and that turbidity be increased by the addition to one of the test-tubes of a few drops of the double iodide solution, and be not diminished thereafter by heat, there is albumen present. This comparative method has some value in the recognition of mucin, the urates, and oleo-resins.

"The other form as given by Capitan is as follows: "Place in a glass vessel 3.35 grms. of iodide of potash, and add slightly more water than is necessary to dissolve the salt; then in a second glass place 1.35 grms. of bichloride of mercury and add a few drops of water, sufficient to give a pasty consistence; then add slowly along a glass rod the contents of the first glass to the bichloride, having care to constantly agitate the mixture; it forms immediately the bin-iodide of mercury, which is manifested by an intensely red color. Stir this mixture and add a few drops of water, to the point of entire disappearance of the red color; pour the slightly yellowish liquid thus obtained into 60 c. c. of distilled water, add 20 c. c. of acetic acid, and filter. There is thus obtained a very transparent, nearly colorless liquid, which will remain unchanged a long time."

This test is one of extreme delicacy, and will precipitate albumen "in the cold," though the addition of heat produces a better reaction. It precipitates both acid and alkali albumen, but also all the albuminoids (peptones), the alkaloids, mucin, and oleo-resins, and when the urine is concentrated, the urates. Heat will clear the turbidity due to the alkaloids, oleo-resins, and urates, but in my hands does not clear the turbidity due to mucin as it is stated by Oliver. Its range of sensitiveness is such that I now employ it as the first test for albumen, and if the urine gives no reaction with it, albumen may be confidently excluded; but if a reaction occurs then the question of mucin, etc., must be determined as before indicated.

The ferrocyanide of potassium test is prepared by simply saturating cold distilled water with the salt. It is necessary to add a small amount of acetic acid to the urine, even if it be already acid, before applying the test. Then add the solution in proportion of 5 to 10 per cent.; if the bulk of urine and if albumen is present a cloudiness will soon appear.

The reaction is not complete for a short time, often ten to fifteen

minutes being necessary to secure the full effect. One of the advantages of this test is that it works "in the cold," and in fact heat very far above blood-heat produces a change in the salt which results in cloud.

It precipitates all forms of serum albumen and globulin, but is said by Purdy, and I believe truly, not to precipitate the peptones, vegetable alkaloids, phosphates, or oleo-resins, though of the latter I do not feel so sure. Of course mucin would be thrown down by the acetic acid, and if the urine is of a high specific gravity the urates may appear, which could readily be obviated by reducing the gravity to or below 1020.

Picric acid is prepared by dissolving the crystals in hot distilled water in the proportion of 6 or 7 grains to the ounce. On cooling some crystals will deposit in the bottle. The test may be applied by the contact method, *i. e.*, place in a test-tube about four inches of urine and when inclined float an inch of the picric acid solution on the urine. At the region of contact there will be a mixture, and a turbid zone due to the precipitated albumen which will gradually subside and form a delicate film just at the line of the unstained urine. Heat may be applied to increase the rapidity and completeness of the reaction. This test precipitates the entire list of albumens and albuminoids, mucin, the alkaloids as quinine, the oleo-resins, and occasionally the urates, though the last three are dissipated by heat.

Heller's test, done by carefully floating an inch of urine on an inch of nitric acid in a test-tube, is convenient where heat is not at hand, the reaction being a white band or line at the junction of the two liquids. The test is a convenient one and quite reliable, though there is a reaction with an excess of urates, with the oleo-resins and mucin. The urates and oleo-resins could be cleared by heating.

The carbolic acid or Millard's test is prepared as follows :

R.	Acid. phenic. glac. (95%),	-	-	-	-	3ij
	Acid. acet. puri,	-	-	-	-	3vij
M.	Add liquor potassæ,	-	-	-	-	3xxij

This test has about the same range of sensitiveness as Tanret's, but it precipitates nearly everything that is precipitable in the urine, and is specially active in the precipitation of mucin. The proportion of acetic acid and liquor potassæ is so adjusted as to not precipitate acid or alkali albumen, which renders it, in my judgment, less desirable than Tanret's test.

It is not necessary for me to give the method by heat and nitric

acid, familiar to all. I do not attach particular importance to the directions as to how the tube shall be held to observe the cloud. In this test, as in all chemical manipulations, the personal factor as to the care used and *way* familiar to the operator are the important points. A black background, seen through the column of urine by a transmitted light, is advised generally, but I find slight movements of the tube near the edge of a gas flame give all the result I could ask.

Whatever method of examination, as to the transparency or cleanliness, is adopted, the main point is to become systematic and thorough in all the details. It is in that way that the "personal factor" becomes a means to success.

By means of serum albumen dissolved in water and healthy urine in known proportions, I studied practically the cloudiness and character of the deposit produced by the several tests mentioned. Picric acid and the ferrocyanide of potassium give a somewhat *heavy* or finely granular precipitate. Tanret's test is flaky, and the carbolic acid, even with mucin, is a delicately flaky deposit. I have seen the statement that a reaction could be detected where the proportion of albumen was one to three hundred thousand; but in my hands nothing could be determined beyond the proportion of one to one hundred thousand; and practically any amount beyond one in twenty thousand to thirty thousand will generally be a matter of extreme doubt between albumen and mucin. Then the presence of an occasional tube cast would be the sole means of deciding, unless there be some other associated signs, as a persistent low specific gravity and a hypertrophied left ventricle. There is some looseness in speaking of the proportion of albuminous sediment as a certain per cent. of albumen, and I have heard the statement that 25% of albumen was found, while in fact a specimen containing 2.5% would be "solid" on boiling with nitric acid, and probably more specimens of albuminous urine examined are below than above .5%. It is perfectly proper, however, to estimate the amount of albumen by the proportion of sediment remaining after standing twelve or twenty-four hours; but it should be expressed in simple fractions rather than as a per cent.

Some of the points connected with the examination for albumen may be summarized as follows:

1. The specimen is transparent, clear, acid, with a specific gravity of 1015 to 1025. On being tested by heat it remains clear; the possible error is acid-albumen, which is excluded by Tanret's or the ferrocyanide of potassium test. On the other hand, these tests produce a turbidity which may be due to the urates, alkaloids, oleo-resins, mu-

cin, or albumen. But heat clears up all these, except mucin and albumen. If the specific gravity be at or above 1025, without sugar, the urates are very frequently precipitated, and mucin is specially liable to be present if the urine be notably acid.

2. The urine is turbid and acid, specific gravity 1015 to 1025. If heat removes the turbidity it is due to the urates, but if it remains turbid on heating it may be due to pus, blood, phosphates, mucus, fat (chyluria), and of course albumen, if present. To determine the question filtration, before testing, and a microscopic examination, will be needed.

3. The specimen has a low specific gravity (1001 to 1010), is acid and fairly clear. After filtration heat, or heat and nitric acid, also Tanret's test, give a slight cloudiness. In this case doubt will often remain, unless the microscope shows casts. Repeated examinations and a consideration of all the facts and evidence in the case will be necessary before giving an opinion.

4. The urine is alkaline, turbid, and of any specific gravity. If the turbidity be due to the phosphates it will be increased by heat and clear on the addition of an acid; but it may be due to pus, blood, mucus, oleo-resins, or micro-organisms. Filtration, testing by means of heat and nitric acid, or Tanret's test, will serve to detect albumen, and the use of the microscope and care in the general analysis of the signs and symptoms and in the exclusion of mucin will usually allow of a determination of the source of the albumen when present.

My conclusions from the facts presented in this paper, and from my clinical experience and observations, are as follows:

1. It is usually, but not always, possible to determine whether albumen is of renal or extra-renal origin.

2. If the urine be turbid special care by acidulation and filtration may be necessary before deciding on the presence or absence of a small quantity of albumen.

3. Negative results in acid urine, particularly when the specific gravity is low, should only be accepted as final after repeated and varied tests have been tried.

4. Heat and nitric acid, Tanret's test, and the ferrocyanide of potassium test, when it may not be convenient to apply heat, used with the precautions before noted, will usually serve all practical purposes.

5. The microscope may be necessary in differentiating the source of the albumen.

6. Cases of renal albuminuria admit the possibility of a complete recovery in a certain proportion, except chronic diffuse nephritis, in which full recovery is doubtful.

7. It is possible that other sources of turbidity are occasionally accepted as albumen, notably mucin.

8. As simple as the process of testing for albumen usually seems, it is occasionally a chemical procedure of considerable difficulty, and the published results in cases admitting of doubt only become of value when all the facts have been stated.

9. Reports of cases of functional albuminuria in order to be of value require special care in describing the measures used to avoid errors of observation.

ARTICLE II.

INDICATIONS FOR THE INDUCTION OF PREMATURE LABOR. By
GEORGE TUCKER HARRISON, M.D., New York.

Read before the New York County Medical Association, June 20,
1887.

In asking your attention, for a short time, this evening to the indications for the induction of premature labor, I am aware that I venture upon a theme a discussion of which suggests problems exceedingly difficult of solution. To discuss such a theme thoroughly would demand a much longer time than I have at my disposal, and therefore it does not lie within the scope of this paper to do more than touch upon questions which under other circumstances might be enlarged upon with interest and profit. In general terms it may be stated that the object we seek to attain, in the induction of premature labor, is to give a better prognosis in those cases in which the further continuance of pregnancy or child-birth at term involves great danger to mother or child or both, by an artificial interruption of pregnancy at a time when the fœtus is capable of maintaining existence outside of the uterus. As the chief danger to the mother, in the performance of this operation, lies not as was formerly supposed, in the mechanical irritation of the womb, but in septic infection, we may confidently affirm that if proper antiseptic precautions are observed this danger is an avoidable one.

The first and most important indication for the induction of premature labor, undoubtedly, is furnished by pelvic deformity of a moderate degree. Theoretically this indication is clear enough, but in practice a number of difficulties may arise in its fulfillment. In the first place, the means at our command for pelvic measurement are by no means perfect; they confessedly only enable us to attain to an approximation to correctness. In the next place, the exact period of gestation may

be exceedingly difficult to decide. In normal cases we can form a quite correct idea of the period of pregnancy from the objective examination alone, but in cases somewhat deviating from the normal this is not so easy. Irregularities are especially prone to occur in cases of contracted pelvis from the circumstance that the head is prevented from entering the pelvic cavity, and thus certain signs of pregnancy are modified. Under these circumstances it is important to take cognizance of the pregnant woman's own reckoning. We may be pretty sure that we are correct when her reckoning agrees with the results of our objective examination.

Having fixed the date of gestation, the next question is to decide in what week of pregnancy the induction of premature labor is indicated, the earlier the labor is induced so much the less danger of injury to the soft parts of the mother and so much greater the chances are that the child will be born alive; but at the same time the prospect of the child's continuing its existence diminish in proportion to its prematurity. On the contrary, the later the labor is induced the greater the danger to the mother and child, but the better the prognosis for the preservation of the life of the child, if it comes into the world living. The problem we have to solve, then, is to choose such a time when the child can traverse the pelvis without injury to itself or the mother.

In order to do this it is necessary to form an accurate idea of the size of the pelvis and of the child's head.

In reference to the capacity of the pelvis, if we have to encounter the obstacle produced by such a contraction as obtains in a flat pelvis, the one we oftenest have to deal with in practice, we have a problem to solve reduced to simple conditions comparatively. We have only to ascertain the measurement of the conjugate diameter. In the case of the equally contracted pelvis, the problem is much more intricate. We must introduce the entire hand into the vagina in order to form an idea of the pelvic cavity; and here, with our best endeavors to the contrary, we are often led into errors.

The determination of the size of the child's head offers many difficulties. Schröder (Vide "*Lehrb. der Gebärtshülfe*," 9te Aufl., p. 263) ascertained from careful measurements of the heads of sixty-eight prematurely born children that the transverse diameter on an average, measured in the 36th to the 40th week, is 8.83 centimetres; in the 32d to the 36th week, 8.69 centimetres; and in the 28th to the 32d week, 8.16 centimetres. In a word, the head is larger at these dates of gestation than is usually assumed. It must, however, be borne in mind that the heads of immature children are more easily moulded and much more

compressible than obtains in the case of the head of the child at term. Independently of these considerations, other criteria which may serve as a guide to us are the facts based upon experience, that large and powerful women give birth to large children, and that the weight of the child increases with the age of the mother and with the number of preceding births. The transverse diameter of the heads of the children of young primiparous women is relatively small, while the contrary is true in those multiparæ who are comparatively old.

Ahlfeld (*Arch. für Gyn.*, Bd. II., p. 353) has proposed a method of estimating the size of the child's head by ascertaining the distance between the head and the breech as the fœtus lies flexed in utero. The double of this gives the entire length of the child. Between the length of the fœtus and the size of the head there is a constant proportion. It must be recollected, however, that while these proportions are correct, as a rule, in a concrete case an exception to the rule may exist. In practice, this method of Ahlfeld will not render us much aid, for, as Schauta ("Grundr. der Op." Geb., p. 43) truly observes, even if it were reliable we could scarcely draw a correct inference from our measurement in regard to the size and breadth of the cranium, the skulls of children of the same intra-uterine age and the same length exhibiting very considerable differences as to hardness, compressibility, and especially with respect to form.

The method proposed by Frankenhäuser and Roth ("Der Frauenarzt," p. 29) of determining the relation between the head of the fœtus and the pelvis of the mother is worthy of trial. This method consists in pressing the child's head into the pelvis and, by means of the fingers in the vagina, ascertaining if it is possible for the head to descend below the brim. According to Frankenhäuser this examination should be repeated every eight days, and operative interference should only be resorted to when the descent of the head below the brim seems no longer possible.

What degree of pelvic contraction, it may now be asked, justifies a resort to this operation? I believe, in the case of the simple flat pelvis, a conjugate diameter of $7\frac{1}{2}$ centimetres, or 7 centimetres in very exceptional circumstances, should be the extreme limit. In the case of the equally narrowed pelvis, when the shortest diameter is at least 8 centimetres it may be affirmed that the operation is justifiable. As a rule, we should select the 36th week, and only exceptionally anticipate the term of gestation by operating in the 34th week, in fulfillment of the conditions above enumerated.

As an illustrative case I may mention briefly one that occurred in

my practice in January, 1881, which Dr. T. Gaillard Thomas saw in consultation and by whose valuable aid I was enabled to fix the date of gestation with accuracy. His diagnostic acumen at once detected the form of pelvic contraction; it was that form known as the funnel-shaped contracted pelvis, in which the pelvis retains the infantile character. This was the fourth pregnancy. According to her previous history craniotomy was necessary for her first as well as for the second child. The forceps had been used in vain. When she became pregnant the third time an artificial abortion was induced, as her physician did not believe that she could give birth to a living child. She was very anxious to bear a living child. Dr. Thomas and myself were convinced that the induction of premature labor at the 36th week would see the fruition of her wishes. This was done with strict regard to antiseptic precautions, and I delivered her of a healthy boy with the forceps. This child is still living. It is needless to say that the mother recovered without any untoward symptoms. In a subsequent pregnancy, when I was preparing to induce premature labor, I was fortunately relieved of this necessity by the voluntary advent of labor pains at about the 36th week of pregnancy.

Secondly. An indication for anticipation of the term of gestation is given by certain severe diseases which endanger the mother's life and are amenable to no other treatment, while on the other hand either a disappearance or at any rate an amelioration of the symptoms may confidently be expected with the termination of the pregnancy. One of the most interesting diseases coming under this category is uncontrollable vomiting appearing late in pregnancy. While I believe that an indication for the artificial interruption of pregnancy is not often furnished by this distressing affection, still it cannot be denied that occasionally it threatens such dangers that operative intervention is imperatively demanded. In a case I recently saw in consultation with Dr. E. A. Banks, of this city, in which the vomiting occurred during the latter part of pregnancy, the patient was obviously sinking rapidly from inanition, the heart exhibiting signs of failure. Operative interference seemed plainly indicated, but fortunately premature labor began without artificial aid, and as soon as the os was sufficiently dilated, at the request of Dr. Banks I delivered the child by version, as the pains were powerless, and it was deemed expedient to evacuate the uterus of its contents as speedily as possible. The patient made a good, though slow, recovery. Hardly any other emergency can be adduced in which more sound judgment, as to our line of duty in the premises, is required than in this morbid condition.

Another disease of paramount importance, which may indicate this operation is nephritis. It is important, as Loehlein (*Zeitchr. für Geb. u. Gynæk.* xii Bd., Hft. 2) insists that a distinction be made between nephritis gravidarum and nephritis in gravitate, the first being a form of disease in which the anatomical and functional disturbances of the kidneys are evoked by the state of pregnancy, while the latter is an interstitial or parenchymatous nephritis, which either existed prior to conception or has been produced by causes other than pregnancy during the course of the gestation. The morbid state of the kidneys, constituting the so-called nephritis gravidarum, is designated by Leyden as pregnancy kidney, and has of late been the subject of animated discussion, independently of its relations to eclampsia. The question to be solved is, In what way does the condition of pregnancy operate injuriously on the kidneys?

The pathogenesis is by no means clear, and we can only hope that future investigation will throw light on what is now obscure. As bearing upon this question Loehlein (l. c. p. 411) lays emphasis upon the circumstance that all the factors which we recognize as especially predisposing causes in the development of œdema and albuminuria in the pregnant woman—such as the conditions obtaining in the primipara, particularly when rather old, twin pregnancy, etc.—have this in common they all have a tendency to obstruct the escape of the urine from the kidneys, which takes place under very slight pressure. This view is similar to that of Halbertsma, according to which the compression of the ureters by the pregnant uterus is the cause of the diseased state of the kidneys. In all probability there are a number of etiological factors potent in the production of this condition. One of them may be an obstruction to the return of venous blood from the kidneys by pressure on the renal veins or on the vena cava by the gravid uterus. Whether the ingenious speculations of Dr. King (*Amer. Journal of Obstetrics*, March, 1887), of Washington, rest on any basis of fact must be decided by further and more extended observation.

When now does this morbid condition of the kidneys demand the induction of premature labor? In the first place it is indicated to ward off attacks of eclampsia. This indication has been a fertile source of controversy, as you well know. I believe that the indication is clear and decided when the urine shows a constantly increasing quantity of albumen and cells in a state of fatty degeneration, and above all the therapeutical resources at our command have proved unavailing. Again an excessive degree of œdema and transudation

into the serous cavities may demand the performance of this operation.

To make the differential diagnosis between the two forms of nephritis above mentioned is no easy task. The nephritis gravidarum is in fact not a nephritis at all; there is no inflammatory change of the kidney, but only a fatty degeneration of the epithelial cells of the glomeruli and urinary tubules. The clinical phenomena, however, are so nearly alike that the previous history of the case and the course alone can decide as to which form of the kidney affection we have to deal with in a concrete case. It is abundantly demonstrated by numerous observations that in chronic nephritis in pregnant women there is a great tendency to abortion and premature labor, and not so much to attacks of eclampsia. In a paper on eclampsia read before the New York State Medical Association, at its last session, Dr. T. Gaillard Thomas (*Journal of Amer. Med. Association*, p. 640) made the remark that "we have abundant evidence of the fact that so soon as utero-gestation ceases to progress the renal trouble, as a rule, diminishes and soon disappears." Barbour (*Edinburgh Medical Journal*, February, 1883) made a similar observation. In November, 1885, I had an opportunity to confirm this experience. At that time I had under my professional care a patient pregnant for the first time. About the 8th month of utero-gestation there was a sudden development of symptoms indicative of renal disease. She had œdema of the hands and feet, the face was bloated, she suffered with intense headache, and the urine was loaded with albumen. Dr. Polk saw her with me in consultation, and we discussed the propriety of inducing premature labor, but decided finally to wait. Shortly after this the symptoms underwent a change for the better, which was coincident with the death of the fruit. A few days subsequently labor came on prematurely and she gave birth to twins who had evidently been dead some days. The renal symptoms disappeared shortly after childbirth altogether.

A third indication for the induction of premature labor in the interest of the child is met with in certain cases in which former experience has shown that the children die at a certain date of gestation, when this time is not far removed from the end of pregnancy. Some cases of nephritis gravidarum come under this category. If syphilis is the cause of the death of the fœtus the artificial interruption of pregnancy is contra-indicated; for in the first place, according to Kassowitz, in latent syphilis of the father or mother the death of the fœtus takes place in each ensuing pregnancy somewhat later, so that in successive pregnancies there come into the world first abortive fruits, then im-

mature macerated, then prematurely born macerated, and, finally, mature but diseased children ; still later mature healthy children. On the other hand, we gain nothing by the artificial interruption of pregnancy before the expected time of the death of the fœtus, for the child is already diseased, and may be considered as lost.

In cases, however, in which chlorosis or anæmia of the mother, or change in the umbilical cord or placenta, have caused the death of the fœtus, the induction of premature labor before the time which experience has shown to be the critical period, may be the means of bringing a living child into the world. It is rare that diseases of the heart or lungs give an indication for this operation, though they occasionally do. Lastly, an indication for the anticipation of the term of gestation is given by those dangerous and incurable diseases of the mother which will probably cause death before the end of pregnancy in order to avoid the performance of the Cæsarean section post-mortem or *in agone*.

ARTICLE III.

RUPTURE OF THE UTERUS DURING LABOR AT TERM ; WITH REPORT OF A CASE. By W. H. TAYLOR, M.D.

Read before the Medical Society of the District of Columbia, June 8, 1887.

Mr. President : I purpose giving a short paper this evening on that fearful accident, rupture of the uterus during parturition ; together with the notes of a case that came under my observation a short time since, although not in my own practice.

Fortunately this sad accident is not, comparatively, of very frequent occurrence, and therefore it is important that cases of it should be put upon record, together with the attending circumstances, to the end that haply some means may be found to avert or mitigate so serious a calamity. That rupture of the uterus when it is foreseen can be prevented, seems to be the opinion of Angus Macdonald, who says in an article on this subject published in the *Transactions of the Edinburgh Obstetrical Society*, 1874-77, Vol. 4, "If I am able in the sequel, as I am persuaded is the case, to show that rupture of the uterus, at least in the cervical segment of the organ, the only situation in which it is likely to occur, * * * is due to mutual action of certain conditions and forces which one ought with ordinary care to be able to de-

tect long before rupture takes place, and therefore be able to prevent the occurrence of uterine tear."

In this same article Macdonald gives two cases, one in the practice of Dr. Sullivan, the other in that of Mr. George Harrison. The first was a case of prolonged severe labor which lasted ninety-six hours. The number of children the mother had borne is not stated. The delivery was with much difficulty effected by turning. It does not appear that the child passed into the abdomen. The rupture was transverse and low down in the cervix. The woman died shortly after delivery, and the child was dead when delivered.

The second case was in a first labor. The labor was of thirty-six hours' duration; the rupture, as in the former case, was in the cervix, and it does not appear that the child passed through or engaged in the rupture. The presentation was a head presentation and the delivery was effected with forceps. The woman died apparently from shock.

In this connection I would state that I recollect a case somewhat similar to the above which occurred in the practice of my preceptor, the late Dr. Wm. P. Johnston, of this city.

In this case the rupture was a transverse rupture of the cervix, the tear almost amputating the cervix. The amputation was completed by Dr. Johnston, with scissors. The presentation was of the head and the delivery by forceps. Both mother and child did well. I do not know the number of children this lady had had prior to this accident, but I think the doctor stated that she subsequently bore children.

An interesting case of rupture of the non-pregnant uterus is reported by Dr. R. H. Sabin in the *New York Medical Journal*, 1879. In this case there was a polypus, the size of a small fig, which was removed. At first—that is for some weeks after the removal—there were no unusual symptoms, but then hemorrhage set in, which was controlled with difficulty. The woman finally died from peritonitis. Post-mortem a rupture was found extending across the fundus of the uterus, and it was found that there had been hemorrhage into the peritoneal sack.

Doubtless many cases have been reported similar to the one I am about to narrate this evening, but owing to the short notice given me I have not been able to look up the subject. I will, however, mention a case reported by Dr. C. S. Ward in the *American Journal of Obstetrics*, Vol. xi, 1878. Page 586.

The patient, æt. 38 years, was in labor with her thirteenth child. The labor commenced a 1 o'clock in the morning, but the pains were not fairly regular or of much force until an hour later. About four

hours later the pains suddenly ceased. On examination *per vaginam* the scrotum of the child could be felt presenting. (I am giving Dr. Ward's words as near as I can recollect them). On palpation the contour of the child could be easily made out, and even the toes could be distinguished. The child was entirely in the abdominal cavity, resting in front of the uterus, its breech plugging the rupture. The placenta was also in the abdomen. Laparotomy was performed and a dead child taken away.

The rupture in the uterus was in the anterior wall, at or immediately below the internal os, extending obliquely downwards in the cervix.

Examined post-mortem, the posterior wall of the uterus was of good thickness and firmness; the anterior wall was thin and easily torn. Microscopically, the organ proved to be in an extreme degree of fatty degeneration. The patient lived two and a-half days after the operation, and then died of peritonitis. I should have stated that the labor in this case commenced with a very abundant discharge of liquor amnii, differing in this respect, as we shall see, from the case which I report.

Through the kindness of Dr. B. B. Jolley I am permitted to report the following case, occurring in his practice:

About seven o'clock on the morning of May 8, 1887, I received a note from Dr. Jolley, asking me to come and assist him in a difficult case of labor. Before I could dress, Drs. Jolley and Osmun called on me and told me the patient had died a few moments after the messenger sent for me had left the house.

Dr. Jolley stated that he had been called to the case at two o'clock that morning, and that the midwife in charge had given him the following history:

She said that the labor had commenced at seven o'clock on the previous evening, that the pains were not particularly severe or forcible, and that they continued up to nine o'clock—two hours—and then suddenly ceased.

The pains not returning, and the patient passing into a condition of extreme restlessness, Dr. J. was sent for. There had been no discharge of water, according to the midwife's statement.

As soon as Dr. Jolley saw the patient, he appreciated the gravity of the situation, and immediately sent for assistance. The first physician sent for not being at home, considerable time was lost. Dr. C. J. Osmun, being called, arrived at the bedside about 6 A. M. He found the patient pulseless and suffering extremely from shock. She was still able, however, to get out of bed and stand on the floor. Upon

examination *per vaginam* no presenting part of the child could be felt. On palpation, Dr. Osmun stated, the child could be felt, freely movable in the abdominal cavity, the whole contour being as easily made out as though the child were merely covered by a blanket. There was absolutely no external hemorrhage. The woman died in collapse about 7 o'clock, A. M., twelve hours after labor had set in.

Autopsy forty-nine hours after death. Case, Mrs J., colored, æt. 33 years, died in childbed undelivered of 8th child at term. Present, and assisting at post-mortem, Drs. C. J. Osmun, B. B. Jolley, and A. J. Hofer.

Appearance of body—A finely-formed, light mulatto woman, apparently about 30 years of age; rather inclined to fat; rigor mortis well marked; on palpation, child very distinctly felt in abdominal cavity.

Abdomen opened by an incision extending from ensiform cartilage to pubes; incision showing thick layer (about one and a-half inches) of subcutaneous fat; abdomen quite filled with liquor amnii and some clots of blood; child presenting back to front of abdomen; head in left iliac region; feet in right lumbar region; arms embracing uterus; cord around right arm, crossing back of neck and passing down left side; placenta under child, between child and uterus; uterus anteverted; omentum covering neck and shoulders of child; transverse colon passing over left shoulder and down side.

Upon removing child and placenta from abdomen, the child was found to be a male of the medium size and weight of a child at term; the placenta looked healthy. Uterus removed, shows oblique rupture on posterior wall extending through and below internal os; cause of rupture not apparent. Walls of uterus of good thickness.

Bladder, bowels and stomach quite empty and of healthy appearance. Not removed for inspection. Hemorrhage, as indicated by blood clots, etc., quite slight—seemingly not so much as in ordinary accouchements.

The specimen was taken to Dr. Lamb, of the Army Medical Museum, who has kindly produced it here to-night with notes of his examination as follows: "Uterus at term somewhat contracted; lower half of posterior wall shows rupture from right to left and above downwards, involving upper half of cervix; os uteri surrounded with aqueous cysts. Both ovaries contain small cysts, and in the right is a corpus luteum."

The question arises, What is to be done in these cases?

I would express the opinion that in cases of not very extensive

rupture, which cases constitute the great majority of those reported, turning, or delivery by forceps, would be the proper procedure, but where the rupture is so considerable that the child and placenta, or child alone, have passed through into the abdominal cavity, laparotomy, if performed as soon as practicable after the accident, offers the best prospects for both mother and child.

Since recording the above paper I have had the opportunity of looking up the statistics on the subject to a limited extent.

Trask, in a monograph published in the *American Journal of the Medical Sciences*, January and April, 1848, gives over four hundred cases of rupture of the uterus some ten per cent. or more of which seem to have been cases where the child had at term passed into the peritoneal cavity. Some of the cases, though, may have been cases not of rupture of the uterus, but of abdominal or extra-uterine pregnancy. Trask, if I mistake not, says that one of the cases reported was a case of abdominal pregnancy. I should think from the descriptions given that quite a number of the cases given by Trask may have been cases of extra-uterine fœtation.

In spite of the number of reported cases, rupture of the uterus at term, with the escape of the child into the abdominal cavity, must be an accident of rare occurrence.

Washington, D. C., 619 M St., N. W.

ORIGINAL TRANSLATIONS.

STUDIES UPON ARTHRITIC, HERPETIC, AND SCROFULOUS PULMONARY CONGESTIONS. By DR. EUGENE COLLIN, Medical Inspector of the Waters of Saint-Honoré. Translated from the *Union Médicale* by H. MCS. GAMBLE, M.D., Moorefield, West Va.

Congestions of the lung have been divided into two great classes :

Active congestions provoked by an afflux of blood ; passive congestions which are the result of an embarrassment of the circulation of a blood stasis.

Woillez is, as we know, the first who made a morbid entity of simple hyperæmia of the lung, an acute disease having its signs and peculiar lesions distinguishing it from other diseases with which it was confounded.

In 1863 M. Bouchat described a special disease under the name of

chronic pulmonary congestion, and in support of his opinion he offered two sorts of proofs, some analogical and others direct.

In 1874 I communicated to the Society of Hydrology a work entitled "Arthritic Pulmonary Congestion," and described a sign discovered by auscultation, and by aid of which one could recognize it.

The simple congestions of the lung being known, my purpose in writing this article is to facilitate the diagnosis of those which depend upon one of the following diatheses: arthritism, herpeticism, or scrofula.

Arthritic pulmonary congestion.—There are few physicians who do not to-day admit visceral rheumatism; the young medical generation seems carried away towards diathetic studies after the great teachers whose lectures they have listened or are still listening to.

But to believe in rheumatism of the lung, is it not inevitably to admit the possibility of congestion?

This congestion being admitted, the following question presents itself: Is it anterior to the congestion of the pleura, or, on the contrary, is it only in consequence of it?

We believe in the second hypothesis, and we are going to try to prove our opinion by former works, which we ask permission to recall.

After my studies published, as I have said, in 1874, a new work was presented to the Society of Hydrology in 1876, and finally Woillez made, in 1881, a report to the Academy of Medicine upon a paper that I had the honor to read before that learned Society.

In these different works I maintained that in the pulmonary congestion of an arthritic nature there existed in a place of election a sound which I had not at first characterized, but which I said resembled the fine crepitant râle of the first degree of pneumonia, and which afterwards I said belonged to the pleura, and to which I gave the name of *arthritic friction*.

In fact, if one auscultates an arthritic subject attacked with simple pulmonary congestion, one will find at the anterior part of the axillary line, towards the lower third, or at its juncture with the middle third, a friction that I believe takes place in the pleura, perfectly simulating the fine crepitation of the first stage of pneumonia, and heard only at the close of inspiration.

This sound may exist on both sides at the same time as a rare occurrence, but it is met with habitually on the right side.

One of its characteristics is to be sometimes very fugitive, which alone may explain why it has been denied by certain authors, and regarded by others as a sign of simple curiosity.

To those who might still doubt we might oppose the opinion of a large number of physicians of the highest authority. I will content myself with citing a few passages from the report of Woillez. "Several distinguished practitioners," he says, "have verified the correctness of the semiological fact described by our confrère. Among them I may mention our new colleague, M. Ernest Besnier, Dr. H. Huchard, and M. Vidal (of Aix), under whose eyes each year pass such a large number of rheumatics, and who last year was able to examine two of my patients who had presented the sign in question before their departure from Paris for the waters of Aix." Further on: "The capital fact, which appears to me established, is that the new sign depends upon rheumatism, at least in the majority of cases in which it has been observed." And finally: "There springs from the important discovery of M. Collin a capital fact which he has noticed, but upon which he ought to have insisted as upon the fundamental conclusion of his researches; I mean the favorable prognosis of the hæmoptyses among rheumatics."

I shall revert in the course of this article to this latter phrase.

I have said that I thought that the congestion of the pleura preceded, in general, that of the lung, and these are the facts upon which I base this opinion:

It has happened to me several times to have to treat rheumatics for an affection other than pulmonary congestion; I nevertheless auscultated these patients, and I found *my typical friction*. When interrogated they did not remember having experienced the least stitch in the side, were not subject to colds, and, I must say it, it was very easy to see that these patients appeared to doubt completely the existence of the morbid sound that I said I had found in their chest; *the friction existed nevertheless*.

There had then been formed there a little dry pleurisy, which had not manifested itself to the subject by any suffering, and of which the intensity had not been sufficiently serious to bring on after it the congestion of the lung.

A few years later I again saw some of these patients for what they called a bronchitis which I had foreseen, they told me, and I then found with my sound all the signs of a veritable pulmonary congestion.

If the treatment caused the congestion to completely disappear, the *arthritic friction* persisted in the majority of cases as the probable mediate cause of a new pulmonary hyperæmia.

It suffices, in effect, that the rheumatism should have once pos-

sessed itself of the pleura for it to have the greatest tendency to return. "It is necessary," says Gueneau de Mussy, "to assign a part to the habit that brings back the morbid process into the roads already traversed, and the organism is more disposed to undergo certain pathogenic actions from the very fact that it has already passed through them."

It is then by the pleura that the pulmonary congestion commences, and I am happy to be able to cite, in defense of my opinion, the following lines, written by a *savant* of the highest authority in such matters, and who has been kind enough to devote to my studies a paragraph in his researches upon arthritic congestion (Ernest Besnier: "Dictionnaire de Dechambre," article "Rheumatism," page 761):

"Among the numerous pleurisies which are developed outside of present or antecedent rheumatism, or which do not alternate immediately with another rheumatismal localization, does there not exist a goodly number of them, among the most simple, the most ephemeral, the most rapid in their evolution; among those that are accompanied by fine and dry sub-crepitant râles, so long persistent, even after the cure, that are, in reality, rheumatic pleurisies, although there may be no other actual localization? It cannot be doubted." (Besnier, *id.* page 763.)

Causes.—Of all the viscera of the organism, the lung is certainly that which is most frequently attacked with rheumatic congestions, and if they have not been often observed, it is because we were lacking in an important means of diagnosis. Everything, in fact, predisposes it to this; its structure of an extreme delicacy; its direct and permanent contact with the atmospheric air, of which the variations of temperature and of hygrometry are so frequent; finally, that species of see-saw which exists between the secretions of the skin and that of the mucous membrane that lines the lung.

Being given a rheumatic, to what cause is to be attributed the congestion of the pleura, and, as a frequent consequence, the hyperæmia of the lung? In the front rank we place the use of iced drinks, the body being in perspiration, the humid cold acting upon the feet above all, upon the shoulders and the upper limbs, but with this reservation that we do not then recognize in the pulmonary congestion an affection *a frigore*. The cold, in these cases, acts simply as a determining cause upon a subject of the arthritic diathesis manifest or latent.

As for the rheumatism itself, but above all from the point of view of relapses, it is necessary to take into account the sudden variations of temperature and of barometric pressure.

To the incontestible action of humid cold must be added the more or less prolonged sojourn in the midst of an elevated temperature.

Who does not know, for example, that there are rheumatics who cannot remain in a too-heated apartment, in an exhibition hall, for example, without being seized with an oppression, with a cough dry at first, soon followed by an abundant expectoration? It suffices often to these persons to go and respire for a few moments a cooler atmosphere in order to see the commencing hyperæmia diminish and even disappear. I must say, however, that this latter cause has appeared to me to act more particularly upon subjects formerly attacked with pulmonary congestion, and, consequently, rendered more susceptible.

Diagnosis.—A pulmonary congestion being given, it does not suffice to diagnose it; it is necessary also to know what is its nature.

But, if one consults the authors, they all respond that there exists no means in particular of differentiating these affections.

“In the present state of our knowledge, all authors agree in recognizing the fact that one can assign no *pathognomonic* character to the bronchitis observed in constitutional diseases.” (Dr. Schlemmer.)

“Like diseases of the heart,” says Prof. Ball, in his thesis for the fellowship, “the pulmonary manifestations of rheumatism offer no characteristic sign which permits us to distinguish them from the other phlegmasia of the respiratory apparatus; and it is above all by the ensemble of their physiognomy, of their march, and of their transformations, that they acquire a certain stamp of individuality.”

Allard, my predecessor at Saint Honoré as medical inspector, and whose works upon constitutional diseases are justly appreciated, has written the following lines in the seventh volume of the *Annals of the Society of Hydrology*: “It is the assemblage of the morbid phenomena observed which *alone* will permit of establishing an intimate relation between the affection of the bronchi and the constitutional disease; it is from the assemblage of the objective phenomena, from the knowledge of hereditary troubles, from the whole life of the patient, that one ought to demand the elements of a complete diagnosis and of a rational prognosis.” These quotations, which I might multiply, will suffice, I hope, to convince you that before the knowledge of the sign that I have described it was impossible to diagnose in any certain manner the rheumatic nature of a pulmonary hyperæmia.

I have said that the arthritic friction was in certain cases essentially fugitive, and I permit myself to call the whole attention of my confrères to the precautions to be taken in order that the ear may perceive it. It is necessary to commence the auscultation in both axillary regions,

and in the right first. The arthritic friction disappearing sometimes after a series of strong inspirations, it is very natural that it should not be heard when it is sought for at the close only of the exploration of the chest.

If the physician has not taken the precaution indicated, he will have to let the patient rest a few minutes and auscultate anew in placing the ear immediately upon the place of election. For my part, it has sometimes happened to me to find this sign only after several séances. One of the most distinguished of the hospital physicians, Dr. Huchard, quoted already by Woillez in his report, has come to affirm the means of diagnosis of which I have just spoken, with this difference, however, that he says that my friction is not heard only in the places of election that I have cited, and that one may meet with it in all parts of the chest. (*Union Médicale*, year 1883.)

I hasten to recognize the correctness of the observations of my learned confrère. I have, in fact, sometimes myself met with the arthritic friction elsewhere than in its places of election, but I maintain that this is an exception, and that, in the immense majority of cases, it is heard in the axillary region, in that region that unfortunately many physicians rarely auscultate. Finally, in an excellent inaugural thesis, Dr. Lebreton has confirmed the results of my investigations upon arthritic friction.

Besides this sign, the frequency of which is such that I regard it as almost a pathognomonic sign, it is certainly necessary to take account of the age, of the constitution, of the antecedents, of the concomitant affections, of the march and degree of the hyperæmia, of the crises that supervene, of their sudden appearance in the midst of a state of health, perfect in appearance, and of the equally sudden manner with which they often disappear.

Rare among children, arthritic pulmonary congestion supervenes sometimes in them, and under the form of an asthma that auscultation might cause to be confounded with a pulmonary inflammation. This asthma may disappear suddenly after having for several days resisted all the measures employed to combat it. It is, in general, at from thirty to forty years that we observe the affection that now engages our attention. It is usually strong and sanguine subjects who are the most predisposed to it.

As children, they have had frequent attacks of coryza, of laryngismus stridulus; later, of epistaxis, of erratic, but slight and fugacious pains.

Having become men, the congestions commence, and it seems to be

for them that the learned Prof. Peter has written : *Congestion there is the enemy.*

It is then that appear disorders of vision, abundant transpirations ; the hair falls, to be reproduced no more, an alveolar osteo-periostitis causes the loss of the teeth, there are buzzings in the ears, vertigos and too often deafness. Finally appears pulmonary congestion, often accompanied by hæmoptysis.

I have just remarked that hæmoptysis was frequent in arthritic pulmonary congestion. The moment has come to approach the important question of the harmlessness of these hemorrhages ; a harmlessness upon which, according to Woillez, I had not sufficiently dwelt, which he regarded as a gap in my researches.

I confess that I might have gone further into such an interesting subject, but I beg to recall the fact that about 1874 I wrote in my first work, "The hæmoptyses are often the consequence of arthritic congestion ; I am far from regarding them as an alarming symptom ; I will even say that I have several times seen a sensible amelioration coincide with an abundant sanguine expectoration."

Since that time I have attended upon a large number of patients attacked with arthritic pulmonary congestion ; I have cited numerous cases, and if I am still convinced of the relative harmlessness of the hæmoptyses, I do not the less seek in practice to arrest them as soon as possible. These losses of blood may, in fact, by their frequency, and above all by their abundance, anæmiate the patient, and, per contra, render these hemorrhages still more frequent.

It is, then, necessary to be careful not to fall into this vicious circle, from which it is sometimes difficult to escape.

Among the individuals predisposed to the affection which forms the subject of this study one even frequently sees the disorders manifested on the part of the stomach ; digestion becomes difficult and accompanied by pyrosis ; constipation and pruritus ani are observed ; and I have even several times discovered fissures of the anus.

I refer, moreover, to my works upon arthritism for the complete series of antecedents in persons attacked with rheumatic pulmonary congestion.

Under the influence of whatever cause, the congestion appears, and this is, from the diagnostic point of view, what I have observed in a very large number of cases.

The arthritic is seized one day with a cough, which is laid to the charge of a cold, but which is perpetuated, and which is the result of congestion of the lung. This cough often assumes a frankly intermittent character.

It is generally during the night that the paroxysm appears. After having gone to bed in a state of health that seems to leave nothing to be desired, the rheumatic goes to sleep, but is soon aroused by a tickling in the throat, which provokes a cough, at first feeble, then stronger, habitually dry and extremely fatiguing. It seems as though the chest will not be able to resist the efforts that it has to bear. A few sharp pains are felt along the course of the bronchi or upon the thoracic walls. It is at this time that we often notice sanguinolent striæ in the expectorated matters, soon followed, in other cases, by veritable hæmoptysis. After a longer or shorter time, the cough becomes a little less dry, less fatiguing; a slight moisture appears upon the patient; then an abundant expectoration commences, at the same time that a considerable discharge of serosity takes place by the nostrils.

The expectorated matters, at the commencement, are stringy, spumous, like the white of egg, and it is only when their quantity diminishes that they become thicker; this is generally the signal of remission. Broken with fatigue, the rheumatic can take some rest. In general these symptoms pass off without any well-marked fever.

During the day nothing special occurs; sometimes a little cough followed by expectoration, but nothing that recalls the sufferings of the night. The appetite is very well preserved, and when the evening comes the patient goes to bed with the hope of a good night, but which is no better than the preceding.

After a time of more or less variable duration, the symptoms disappear suddenly. Between the crisis which has just ended and the next there may pass weeks and even months.

The diagnosis of arthritic congestion will be probable if the cough, preceded by oppression and roughness of the voice, has supervened suddenly and without fever, if the paroxysms have occurred in the night, if it is dry at the commencement and accompanied afterwards by an abundant expectoration and coryza; finally, if all the symptoms of which I have just spoken suddenly cease to reappear the following night.

This diagnosis will be more probable if the subject is rheumatic or gouty. It will be certain whenever the ear shall be able to perceive the sound of which I have spoken.

(To be concluded.)

SELECTIONS.

THE DRY TREATMENT IN GYNÆCOLOGY. PRACTICAL DETAILS: THE REMEDIES, THEIR USE AND APPLICATION. By George J. Engelman, M. D., St Louis.

By the dry treatment in gynæcological practice I mean the treatment of female pelvic disorders, uterine, circum-uterine, and vaginal, by the use of powders and cotton, wool or jute in the dry state, impregnated with the medicinal agent, or serving as a carrier for powders. I have used the term because it corresponds in gynæcological practice to the treatment which has of late years proven so effective in surgery and in the management of disorders of other organs. Most of the applications are old; these I have systematized and utilized as "The Dry Treatment" in the management of uterine disorders, for which gynæcologists now and then have used some one of these numerous applications. The range of practice to which I have adapted it gives it the dignity of a method, in which are united and culminate the isolated efforts of many of our most progressive workers, who for years have employed some detail or other of the method: thus Taliaferro advocated the mechanical qualities of the cotton tampon as a compressor and a support; antiseptic gauze and cotton is used much, of late, as a vaginal dressing in surgical cases by German operators; clay has been used as a vaginal packing to give rest to the pelvic viscera; so other individual features have been utilized, but have never found general favor; Kugelmann, of Hanover, made the beginning in the use of dry powder as an intrauterine application; Eduard Martin, of Berlin, my first instructor, used bacilla of tannin and of iron over twenty years ago; and, in a loose way, the tampon has been used by many.

ADVANTAGES OF THE METHOD.—The advantages I claim for this method are in brief the following: 1. *It is safe.* No evil results are liable to follow from the nature of the remedy and the site of the treatment; serious results are out of the question; and even discomfort, which may be caused by excessive or injudicious applications, by a tampon too large or badly placed, is readily obviated, as the agent is thoroughly under the control of the patient, who can remove the tampon herself with ease, and relieve such pain as may be excited, even by the medicinal agent used, by washing away the remedy by means of the vaginal douche.

2. *Immediate comfort is afforded* by the treatment, which causes no pain upon application, but relieves the more annoying symptoms at once, contrary to the immediate effect of intrauterine medication, which is more or less painful, if not dangerous, however good the results which follow. The preparatory cleansing is always agreeable, the mechanical effect of many of the powders used is soothing, and the tampon eases the pain or nervous irritation, caused by pressure, friction, and displacement of parts, as soon as it is placed.

3. *The effect produced is mild and continuous.* More decided and

permanent, less irritating and dangerous is the result brought about by gentle, well-distributed, and permanent pressure, and by the continuous absorption of a remedy in a mild form, as is the case when the elastic tampon is used for support, and powders and cotton for medication, whilst by most methods heretofore in vogue the remedies applied were of necessity proportionately severe as everything was accomplished by the application as made during the few moments of treatment.

4. *Rest is given the pelvic viscera*: the tampon is the uterine splint. Applications so made, whether for medication, compression, or support, rest and steady the parts, serving as a splint to the diseased tissues; fixing them, to a certain extent, even during motion of the body; preventing friction of the inflamed or abraded cervix and straining of the tissues, traction upon the ligaments, and serving to carry out that all-important but much-neglected aid in gynecological treatment, the prevention of coition.

5. *The treatment is clean and antiseptic*. Secretions are absorbed, cleanliness and asepis of the parts is assured by the very nature of the treatment; the patient does not soil herself or her clothing; the physician does not stain his hands and instruments or the linen and carpets of his client. It is only in case of superabundance of uterine or vaginal discharge, which is not absorbed by the tampon, that part of the medicinal agent may be carried away with the escaping fluid, which may, when perchloride of iron or tannin is used, slightly stain the patient's clothing, and this must then be guarded by a cloth.

6. *All the pelvic viscera are influenced*, whether so intended by the physician or not, though certain parts only are reached directly; hence he must of necessity regard parts which generally escape attention. The treatment not only affects the organs mainly diseased and the object of attack, but all surrounding tissues which sympathize to a certain extent, so that the method of necessity leads to better and more general results. The endometrium cannot be reached directly, but must be acted upon through the tissues, which is by far more safe and rational than the treatment of the diseased uterus or pelvic tissues through the endometrium, as is often done under the despotic sway of the intra-uterine swab. This precaution is of exceeding importance, on account of the very common yet often very obscure and comparatively slight affections of the peritoneal and sub-peritoneal tissues, the ovaries, ligaments, and tubes, which are disregarded by the routine gynecologist and greatly aggravated by pessaries and intrauterine applications, whilst even without especial intent on the part of the practitioner they are by this method not endangered but directly benefited. Most pelvic affections of necessity determine some more or less marked change in the uterine mucosa; no metritis, perimetritis, or salpingitis attains a chronic stage without causing at least a congestion or hypersecretion of endometrium, evident to the eye, and hence the centre of attack to the detriment of the patient. In direct contrast to this prevalent and dangerous method stands the Dry Treatment, which overcomes these secondary derangements of that small and delicate membrane by re-

moving such obstructions to the circulation as may exist by reposition of the parts, by preventing renewed irritation by reason of the rest and fixation afforded, and by medication of all the diseased tissues.

7. *A variety of purposes can be accomplished by one and the same application.* Several medicinal agents may be used at one time, even directed to different parts, and the mechanical properties of the agent which carries them can also be utilized in a number of ways. The tampon which is used to replace and support the uterus may at the same time serve to prevent friction of the eroded cervix against the vaginal wall; it fixes and rests the part and protects it, whilst it medicates by the drug it carries. This may be iodine, to further absorption in the hyperplastic uterus; this iodized tampon may be covered by a layer of ferrated cotton, which acts as an astringent to the vaginal walls; iodoform may have been applied to the eroded cervix, yet bismuth and alum can be dusted over the vaginal walls to cleanse, protect, and contract. By judicious management, many indications can be fulfilled by the one application.

8. *This method neither excludes nor does it interfere with other methods of treatment,* such as mechanical manipulations, reposition, intrauterine applications, or the use of electricity.

Such are the advantages of this method of treatment, and I have been so well satisfied with the results that I feel justified in saying that the practice of gynæcology is thereby rendered more satisfactory, more safe, and more agreeable. This has been my experience in private practice among my clientele, and it has been equally satisfactory in my clinic at the Post-graduate School. It is in the clinic, among the working poor, that the advantages of this treatment are most strikingly evident; they come from their work, in the cars or on foot; they return to their work when they have been treated; and they go back relieved of their pains, strengthened, and better able to resume their task. If I make an intrauterine application, it is with a mild remedy and gives no pain, unless the case be one of hemorrhage; the effect of the powder upon the irritated parts is soothing, the tampon rests and supports the displaced parts, prevents traction, pressure, or friction, and the application itself causes no pain. If the tampon is properly placed, the patient invariably experiences relief, unless during the very first disturbance of greatly displaced parts; if cellulitis, chronic periuterine inflammation, which is so very common, co-exists, this is benefited, whilst this is the very condition which makes the pessary and the applicator so dangerous. Certainly all who have witnessed the method and the results achieved—truly surprising for an out-door clinic—will testify to this; patients are not made to suffer, and their labors are not interfered with, but the treatment is easy and they go away relieved, better able to resume their vocations, be it at the sewing machine, the counter, or the washtub, never in distress or cramped with pain.

Why the treatment was received with favor. I have been gratified at the reception accorded the paper in which I first announced my results, and at the expressions of commendation from all who have

witnessed or tried the treatment, and I may say that it has found favor, not only by reason of its inherent merits, but also because the pessary and the intrauterine application have now been abundantly tried and have been found wanting. The practitioner has failed to derive the promised benefits from these greatly over-estimated methods, and he is no longer willing to subject his patient to the dangers which their universal use entails, with so little prospect of reward. The new departure is in harmony with the feeling of the profession at large and the *reaction now taking place* against the routine practice, the *aggressive and dangerous practice of powerful intrauterine medication*, and the *indiscriminate use of pessaries*. The time has come for the introduction of a more mild, safe, and certain method of uterine therapeutics. Gynæcological practice has extended beyond the reach of a few experts and is in the hands of the profession at large, who find not only that, by following text-books and journal articles in their practice, the expected results have not been attained, but, on the contrary, mischief is often done. Pessary and intrauterine application, each most excellent in its proper place, have become the routine treatment; to speak plainly, we can almost say that gynæcological practice turns about the insertion of a pessary or the application of tincture of iodine, nitrate of silver, or Battey's fluid to the uterine cavity. If we listen to the experience of thinking practitioners, much suffering is caused, and often more damage than good is done, by this indiscriminate routine gynæcology. The ill results which follow the use of pessary and applicator are due to the prevalence of low and often occult forms of inflammation of ovaries, tubes, or ligaments, accompanying if not causing uterine disease; the uterine cavity, the endometrium, and the cervical mucosa have been the centre of treatment, and of treatment too violent for the good of the sensitive circum-uterine tissues, which are intimately connected by lymphatic channels and readily respond to any attack upon the endometrium. A displacement of the uterus was rectified by the insertion of a pessary, regardless of cause or surrounding conditions; what was the consequence? Although the uterine catarrh perhaps yielded to the application of iodine, or nitrate of silver, though the discharge diminished, the patient grew worse; her pelvic suffering increased, and then, especially if no improvement was found in the discharge, the practitioner blamed his own timidity, and resorted to stronger intrauterine applications, with still worse results. If he did not succeed in relieving a displacement by the pessary, the instrument did not fit and another was tried; if suffering was caused, the patient was urged to endure it, as the displacement would be cured, and she would be well if she would only stand the pessary, and so women were brought from bad to worse. * * *

Materials used.—The materials used in this treatment are powders, more or less finely powdered or impalpable, according to the purpose, and fine vegetable and animal fibre, cotton, wool, and jute, plain and absorbent. As in all medication, a greater or less variety may be used; many are kept on hand, but the fancy or experience of the individual

practitioner soon confines him to a few preparations upon which he relies. I will mention such as I have used in the order of their importance and the frequency with which I use them.

Powders.—Bismuth, iodoform, boracic acid, borax, alum, tannin, oxide of zinc, soda and charcoal.

Cottons.—*a.* For mechanical purposes or as carriers; wool and plain cotton; less useful are jute, medicated gauze, and wool absorbent with corrosive sublimate.

b. Cotton for medicinal purposes.

1. Antiseptic: borated, iodoform, salicylated, and carbolated.

2. Alterative: iodized.

3. Astringent: iron cotton (hæmostatic), styptic (66 per cent.), tannated ($7\frac{1}{2}$ per cent.), alum (10 per cent.), and alum (5 per cent.).

Instruments necessary are: a bivalve speculum; and a Sims speculum; one or the other being preferable according to the position in which the tampons are to be placed. A long, strong dressing forceps, best with a catch; a tenaculum to steady the uterus whilst the tampon is being placed; a number of powder blowers for the proper distribution of the remedy. The limited use which is as yet being made of powders in uterine treatment has caused little demand for such an instrument, hence only stray samples of the proper size and form are found even in the hands of our best instrument makers, and these are imported. The powder blower should be similar to the one used for nose and throat, with a long straight tube, but a much larger magazine, the quantities used being greater in proportion. The instrument which is still lacking is one by means of which the powders can be applied to the endometrium. I have not yet seen one which would answer the purpose, and the best instrument makers, appreciating the difficulties in the way of successfully accomplishing the task, have not given me much hopes of attaining the desired device. Such as I have seen are too clumsy or too easily clogged. As I believe that powders properly distributed would, for many purposes, be the most efficacious application to the cavity, I should consider a serviceable instrument of this kind the stepping stone to a decided improvement in gynæcological therapeutics.

POWDERS.

For most purposes the impalpable powder, as manufactured by Mallinckrodt, of St Louis, or Wyeth, of Philadelphia, is preferable, adhering more closely to the surface, being more easily distributed, and less liable to clog.

How the powders act.—The action of the powder is both mechanical and medicinal. We use in the main the powder for its medicinal effects, but in gynæcological practice we derive so favorable an effect therefrom, on account of the secondary mechanical action which, in many cases, furthers the end in view as much as the medical properties for which it is used; thus while we use iodoform upon a raw surface as an antiseptic and stimulant, or tannin on the vaginal walls for the

purpose of strengthening and contracting them, we at the same time cover and guard the irritated surface, and the iodoform or tannin, in addition to its specific action, has the effect, which any powder would have, of protecting and drying the surface, which is desirable in most cases in which we use any application, as most pelvic disorders are accompanied by hypersecretion of vaginal or uterine mucosa. The remarkable results attained by the dry treatment are due in a certain measure to the mechanical properties of powders as well as the cottons, as both serve to mitigate and to overcome a condition which is a frequent and annoying accompaniment of uterine disease, but which is usually overlooked, that is, the over-acidity of the vaginal secretion, and the less important, though by no means indifferent property of the uterine secretion—an excessively alkaline condition. These irritating fluids are either absorbed by properly prepared cotton and rendered harmless, or absorbed, dried, and neutralized by the powder upon the surface of the mucous membrane, and I might say that the excellent results I have achieved from the use of subnitrate of bismuth, which I applied for a long time without knowing the precise reason for the admirable effects produced, are in the main due to the mechanical properties of the powder, which forms a protecting cover by coating the surface, dries the secretion, and destroys its virulence by neutralizing its excessively acid character; some even claim a certain antiseptic property for it. Bismuth is as important in the treatment of the uterine and vaginal mucosa as it is in the management of morbid conditions upon other mucous surfaces.

The action of the powder is twofold in its nature: 1, direct upon the surface which is reached, and this is both *a*, mechanical and *b*, medicinal. Then we have 2, the indirect, always medicinal, effect of the powder by absorption upon the surrounding tissue; so that the practitioner, if he uses his remedy judiciously, will obtain a variety of effects. The medicinal effects I need not speak of, as these are well-known and identical with the effects of similar remedies upon any other mucous membrane. Alum is the astringent which I prefer, as it can be used pure if the surface is but lightly dusted with it; tannin, the sulphate of zinc and the oxide I do not use as freely as these must be applied with bismuth or bicarbonate of soda; very small quantities suffice to abrade the surface if used pure. Bismuth and iodoform I have found of most general use, by reason of the agreeable mechanical effect exercised by their presence upon the mucosa, in addition to the medicinal action of the drug. The dusting of the vaginal walls with the subnitrate of bismuth is a valuable addition to the treatment, whatever it may be; its soothing influence is like that of the lycopodium powder in the interigo of infants, a protector, desiccator, and antacid, but by far more efficacious. Heretofore it has been the custom to make a violent application of iodine or nitrate of silver to the uterine cavity; careless practitioners have not even mopped the superabundance of fluid which gathers in the cul-de-sac, and the patient was sent to her home or about her business with the diseased surfaces, not

cooled and protected, but heated, charred, and irritated. In most chronic cases, the pelvic tissues are all more or less affected, so also the vaginal walls, and the friction of these abraded, sensitive, often hypersecreting or excessively acid surfaces against one another serves as a decided irritant; whatever the benefit expected may be, the local irritation reflects upon the nervous condition of the patient, and thus the slumbering embers are fanned to a flame. Irritation, on the contrary, is allayed and the comfort of the patient increased by the dry treatment, by protecting these surfaces with iodoform or bismuth, in case of excessive acidity of the secretions bismuth being preferable. The tampon of absorbent cotton serves to separate the surfaces, to protect them against each other, and to keep them dry. Where disinfection is desired and the odor of the iodoform not borne, charcoal may be added, or borax may be used, which, next to iodoform and bismuth, is perhaps the most serviceable in the great mass of cases. Charcoal alone is an excellent antiseptic, sedative, and desiccator.

How used.—The powders should be distributed upon the surface to be medicated with the powder blower; as stated, the one I have been in the habit of using is similar to that used for larynx or nares, but with a larger magazine, holding from a half to one ounce; a number must, of course, be on hand, containing the various powders to be used. The receiver with the compressed air serves a very excellent purpose if the powders are kept in bottles with proper attachments for such use; an insect powder blower is a very cheap and serviceable contrivance if the nozzle is somewhat lengthened. After resorting to such treatment or manipulation as the case may demand, the surface of cervix and vagina is dusted with powder and the tampon then inserted. As a preparatory measure, the parts must be thoroughly dried with absorbent cotton; the powder should then be dusted over the surface of the cervix and vaginal walls, such portions as may more particularly demand treatment being more thickly coated. The powder, of course, must be used in quantities to meet the necessities of the case; bismuth, borax, soda, and charcoal may be very freely used; also iodoform; in rare cases only, if an idiosyncrasy exists, is an unpleasant constitutional effect visible; yet this is hardly to be taken into account, as I may say that only one marked case of toxic effect from iodoform so used has occurred in my practice, and that was an excessively nervous lady in whom I have observed striking idiosyncrasies in regard to other remedies as well; alum and tannin in the smallest quantities caused prostration and distressing itching, whilst carbolic acid, added in even the smallest quantities to the vaginal douche, caused the greatest physical and nervous prostration. Alum and tannin must be used with some care, best with bismuth, soda, or charcoal, and if pure, in moderate quantities only, a free use causing violent local effects: pain with excoriation of the surface. When used pure, only the surface to be affected should be delicately sprinkled. Salicylic acid, sulphate or oxide of zinc, must be strictly confined to the surface to be affected, and only a very thin coating given. If a more diffuse effect is desired,

it is best to mix them with an indifferent powder, such as bismuth, charcoal, or corn starch, in the proportion of one to four. Borax may be freely used. Several powders can be used with advantage at the same time; for instance, if the cervix be lacerated or eroded, raw, the uterine discharge offensive, we may coat these parts freely with iodoform, using bismuth upon the vaginal walls if the secretions are profuse or acid; tannin or alum, if the parts are relaxed, flabby, and it is desirable to strengthen and contract. Thus several indications may be met in one and the same treatment.

The insufflator is the proper means for the administration of powders, since we are aided in treatment by medicated cottons. Formerly I was in the habit of applying the powder within the tampon of cotton, which is an excellent method where the medicated preparation is not to be had, or where we desire to strengthen its effect; thus, if we desire an astringent effect upon the vaginal walls or pelvic tissues, we may take a knife-point full of alum or tannin and carry it in the centre of a small cotton tampon; as the secretions slowly saturate this, the powder is dissolved, and a gentle and continuous action is thus produced. In this manner we can crudely supply the place of the medicated cotton, or utilize the tampon where such is not to be had. It is an excellent method, as it guards the tissues from the direct effect of a strong remedy, and, what I deem so important in this practice, it causes a continuous action. In fact, such powders, which must be used with the greatest care when placed directly upon the surface, like salicylic acid or alum, are better applied in the centre of a small cotton tampon.

I would caution against the use of powders sprinkled upon the surface of the tampon, as advised by some. It is evident that by this method we can in no way gauge the quantity used or control its even and proper distribution, and, moreover, as it is introduced, surfaces which should be guarded from the effect, at least of sharp remedies, urethra, or the mucous membrane of the vulva, may strip off some of the coating. It is neither cleanly, exact, nor safe.

Impalpable powders are very valuable in gynæcological treatment; however, I look upon them in the main only as a part of, or an addition to, the more important tampon treatment. The mechanical effect is always a good one in serving to protect the parts and take up the secretions; it is equally valuable in neutralizing the injurious effect of excessively acid secretions, so common in the majority of pelvic troubles. The effect of this discharge upon the parts, indirectly upon the system, has been too long neglected, as not infrequently much of the prostration and nervous irritability of the patient is due directly to this cause.

THE TAMPON.

Method of action.—The most important feature of the treatment is the tampon which I use:

First, on account of its *medicinal* properties, as a carrier of the remedial agent ;

Second, mechanically as a *support* to hold in place the uterus or other of the pelvic viscera, and as a *compressor* ;

Third, as a *stimulant* or *alterative* to the tissues.

For whichever of these purposes it may be used, it serves in addition, by its mere presence :

Fourth, to *splint* and steady the parts, *to give rest* ;

Fifth, to *cleanse* and render them aseptic by absorbing the discharge, keeping the vaginal walls dry and clean ;

Sixth, as a mechanical *protector*, keeping the tissues apart, preventing friction and irritation, as well as exposure to cold.

The first three objects are those for which the tampon is mainly used ; the others are advantages which follow of necessity this method of treatment. Even the third, an extremely important purpose served by the tampon, the alterative or stimulating effect upon the tissues, and for which alone I often use it, inevitably follows its application for either the purpose of medication or support, if judiciously applied. We know well that the tampon has long served gynæcologists, but rather for other purposes of which I will not here speak, as they are comparatively of trifling importance. It has been used for the purpose of checking hemorrhage as a compressor, by packing the vagina, dangerous and hardly permissible in gynæcological practice proper. It likewise has served to dilate the canal or to stretch contracting tissues, and hold in place intrauterine stems, pencils, or some vaginal dressing.

Medical purposes.—Medicinal agents are applied by means of the tampon, either by inclosing the remedy in the form of a powder within it, or by using a medicated cotton covering over the elastic body of the tampon, and of this alone I shall speak, as it is by far the most cleanly and satisfactory mode of treatment and an important feature of the dry method. I cannot sufficiently express my gratitude to Am Ende, the Hoboken chemist, whose fertile brain has furnished us with the useful preparations now in the market. There is no neater method of medicating tissues than the soft fibre of cotton, cleansed and impregnated with the remedy. In resorting to this treatment, the practitioner is obliged to regard the various organs and tissues ; the uterine mucosa ceases to be the centre of attack—a small surface which has been plied with powerful remedies—and he is forced to a more rational method, that of treating the mass of surrounding tissue, which is almost invariably affected at the same time. The attention of the profession has too long been riveted upon the uterus and especially the uterine mucosa, to the utter disregard of ovaries, tubes, ligaments, and cellular tissues, which are, I may safely say, of even greater importance, but not being within sight, not within direct reach of an instrument, their morbid states not at once made evident by a discharge, are easily overlooked ; yet I look upon each one of these as more important than the uterine mucosa, which heretofore has formed the centre of attraction in gynæcological therapeutics ; the sur-

geon alone has passed beyond to a broader view. The discharge thrown off by the uterine mucosa, next to the displacement of the organ itself, was the most important evidence of disease, and all efforts centered in checking this discharge and replacing the organ regardless of cause. By applying the remedy by means of the cotton tampon, all the pelvic tissues are reached, the muscular structures of the uterus as well as the mucosa; medication is general, as the disease usually is, and the treatment by far more rational than it has been heretofore when directed only to the lining membrane. The effect of the remedy so applied, which is mild and continuous in its action, is twofold: direct upon the surface with which the tampon is in contact; and indirect, by absorption, upon the surrounding tissues. The kind and amount of material used in the tampon must be chosen accordingly; the kinds of cotton I use, of course, depend upon the object to be attained, the medical properties of the substances with which the cotton is impregnated being well known. Seven and a half per cent. tannated cotton and five and ten per cent. alum cotton serve as astringents; a thin film of iron cotton does excellent service for the same purpose. Upon an eroded cervix, if no other object is to be attained, a tampon of iodoform cotton makes an excellent dressing; if antiseptis is desired, salicylated cotton or cotton with corrosive sublimate answers well; a thin film of styptic cotton, with sixty-six per cent. of iron, is admirable as an agent to check bleeding, whether external or internal, upon vaginal or cervical mucosa, or in the cavity itself. The excellent effects of such medication are perhaps best demonstrated by the iodized cotton, five per cent. of iodine, as compared to the painting of the cervix or vaginal vault with the tincture. The latter is painful in its action, whilst the tampon of iodized cotton acts mildly and continuously. The medicated tampon being placed in contact with the tissues to be reached, a second tampon serves to hold it in place, and to prevent the evaporation of the remedy, which in this way is all absorbed, producing a much more lasting effect than the painting of the surface; in the latter the blistering effect of the tincture is prominent; in the former, the effect of the iodine itself.

2. *Mechanical Effect.*—In the mechanical effect of the tampon centres the value of the dry method. Whilst the medicated tampon is admirable for the application of remedies to the pelvic tissues, acting mildly and continuously, directly upon some, by absorption upon all, it is most important as a support to the displaced uterus, holding it in place without causing irritation, and removing the strain from the diseased ligaments. Too often the disease of the uterus or its mucosa is only secondary, the result of displacement due to morbid conditions of the bladder or bowel, and in many instances to the contraction of diseased ligaments or to low forms of cellular inflammation, and by replacing the uterus by the tampon, or at least approximating its normal position and holding it there, we at once relieve the more distressing symptoms and attack the causative morbid conditions; the circulation in all the pelvic tissues is improved, hence the venous con-

gestion which mostly accompanies these chronic inflammations is diminished, and, as a normal position is approximated, the strain upon the ligaments and vaginal walls is lessened and opportunity afforded the tissues to recover. The cotton tampon affords an excellent support to the displaced ovary, which would never bear the pressure of a pessary. The pressure of the elastic wool, jute, or non-absorbent cotton tampon is borne by even the most sensitive tissues; but in these cases, as in fact in all, the tampon must not be firm, the very quality which is looked upon by some as important; this should always be avoided. Whilst the pessary only serves to retain the uterus in place by pressure upon a limited space, stretching and often irritating the tissues, rarely assisting contraction and restoration, the tampon is curative and will accomplish this. It is a great mistake to make the tampon supporting by reason of its size, thus distending the tissues and holding them for the time being only, whilst the prop is in place. The supporting tampon should be indeed a direct support like a pessary, but like a pessary well placed, not supporting by its mass, but by a judicious insertion by leverage. The supporting tampon so used is directly curative, as the mechanical action is assisted by the medicinal agent with which it is impregnated. Whilst the circulation is improved by rectification of the dislodged viscera, the enlargement diminished, the strain taken off, healthy action is furthered by the astringent effect of the remedy used. The vaginal tissues are not stretched, but relaxed and approximated to their normal position, and one of the most important objects accomplished is the stimulation, the improvement in the tone of the tissues, especially the ligaments and vaginal walls.

For the purpose of support, the tampon should be elastic and of such form and size, so placed, as not to distend the tissues; the material must be such as to retain this elasticity as far as possible, hence the absorbent cottons, and the medicated cottons alone, are not serviceable; the best material is wool, jute, oakum, or simple cotton. I have used the ordinary cotton wadding a great deal, but am now relying equally upon wool, which is more elastic and less absorbent. Absorbent or medicated cotton is not serviceable, as it is soon impregnated with the discharge, and, yielding to the weight of the superimposed organ, is compressed into a small doughy wad; hence I would caution against the use of absorbent cotton as a supporting tampon, though it is becoming quite popular with the gynecologist who endeavors to treat his patient well, and uses the fine, soft, absorbent cotton in place of the ordinary wadding for the tampon. With the best intention, he renders her a very poor service. The glycerin tampon likewise should never be used as a supporting tampon, it being a heavy, matting mass which can only hold the organ in place by sheer force of quantity and distention of the parts. In virgins especially, the elastic, medicated tampon is the proper agent for the correction of displacements, a normal relation of the parts being attained, not only without distention, but by an improvement in strength and circulation which is very beneficial.

Well-prepared sheep's wool, fine, white, and clean, makes the best supporting tampon, and as this can be had in a very perfect shape, it is not always necessary to coat the tampon with a layer of fine carbolated absorbent cotton; the most sensitive hardly experience irritation from the wool, which can be had in the market even finer than the absorbent corrosive sublimate wool made by a Boston firm for medical purposes. In the supporting tampon we do not wish any absorbent properties, and the antiseptic is furnished by the powder used. It is the fat in the animal fibre which prevents absorption and aids in retaining the elasticity which makes the pure wool tampon superior to all others for supporting purposes. If jute or oakum is used, which is rough and irritating, annoying and injurious in most cases, the supporting tampon must be covered with a good coating of absorbent or medicated cotton, according to the effect desired.

The great advantage of the supporting tampon lies in the fact that it is curative; that it not only may but it must be used in the most sensitive and inflamed condition of the parts; that it not only improves the position of the parts, but reduces the inflammatory condition in such cases where the persistent use of the pessary has increased or created inflammation. It is most decidedly curative, as it combines, with the mechanical property of a support, a medicinal effect by the remedial agent it carries, by pressure checks the superficial congestion and mechanically exercises an alterative effect upon the tissues with which it is in contact, whilst the pessary, at best, is only borne, and prone to irritate and inflame by contact. Many, I might almost say the majority, of pelvic troubles which come under treatment have been caused by, or are combined with, displacement of the uterus or ovaries, relaxation or contraction of the ligaments and vaginal walls, and much of the suffering and nervous irritation, and many reflex neuroses, are dependent upon such mechanical displacements of the viscera. The tampon as a support, in rectifying at least to some extent such displacements, at once affords relief, the relief continuing whilst it remains in place. The remedies used, the medicines applied, in this method of treatment in the form of the medicated tampon, at the same time serve to improve the relative position of the parts. It is the friction of the eroded and everted lips of the lacerated cervix against the posterior vaginal wall which causes the annoying backache in the heavy subinvolted uterus which lies low in the pelvis.

Even the small tampon properly placed, bringing the cervix more into the vaginal axis, at once relieves those distressing symptoms. Thus the fundus or the cervix, pressing against bladder or urethra, can with ease be replaced, at least sufficiently to relieve the distressing symptoms caused. Much is gained if the more annoying symptoms are at once eased; the intense nervous strain is removed from the patient and an opportunity afforded her to rally her wasted energies, to gain strength; medication and reposition can then progress more satisfactorily with continued treatment. In by far the greater number of

those cases in which treatment is necessary for malposition of the uterus, the displacement is backward, the most favorable for the tampon treatment, as it is indeed for the pessary. The tampon can always be used, whilst the indications for the pessary are limited; it is especially in inflammatory conditions of the retro-uterine cellular tissue or posterior folds of the peritoneum, and in injury to these parts, that the advantages of the tampon are evident; by this alone can the position of the parts be improved, and the sensitive retro-uterine tissues and ligaments do not resent the soft cotton tampon. 1st. The medicinal agent is carried precisely to the point where it is most needed. 2d. The normal position of the parts is approximated; the circulation is improved; venous congestion reduced; and 3d. Sufficient pressure is exerted upon the parts to produce the stimulating or alterative effect which is desired.

3. *Stimulating and alterative effect.*—Mechanically the tampon may be used to exercise a stimulating or alterative effect upon the tissues with which it is in contact; to strengthen, harden, or soften, as the indications may be. This, with medication and support, is one of the most important uses of the tampon, but I rarely employ it for this purpose alone, almost invariably I combine with it medication or support, generally both. The action of the tampon so used is to the pelvic tissues what the elastic bandage is to external parts, by the pressure of its mass upon the tissues, first, the doughy, œdematous thickening is diminished and healthy action promoted; second, venous congestion is overcome by compression of the vessels and capillaries; third, active changes are inaugurated and hyperplasia is reduced. The advantages of pressure for the control of these conditions has been appreciated. The importance of pressure as a means of overcoming these conditions is evident, and repeated efforts have been made to utilize this valuable agent, prominent among which is the clay pessary of Pallen and the more reasonable cotton wool packing of Taliaferro. I can well indorse both Dr. Pallen, who lays great stress upon the utero-vaginal rest that is secured—which he deems all-important in the treatment of obstinate displacements, especially if complicated with acute cellulitis and œdema of the pelvic organs—and Dr. Taliaferro, who claims that the pressure diminishes, first, the blood supply; second, increases absorption; third, that it destroys hyperplastic tissues by retrograde metamorphosis; fourth, diminishes nerve activity; fifth and final, that it rectifies displacements. Excellent results have been accomplished by these methods, in which the packing is used for purposes of pressure only, but this is most unnecessary and a simple waste of time and material; properly utilized, the packing can do more and will even accomplish the object mainly desired to better advantage, if applied so as to combine with pressure medication and support.

The dry tampon treatment affords these advantages in a degree in every case; a certain stimulating and alterative action is always exerted. The tampon, medicinal or supporting, is never crowded so as

to distend the vagina, hence does not compress the tissues so thoroughly, and it is packed only around the parts affected, to be held in position or medicated; as a rule, only around the cervix, in the cul-de-sac and upper part of the vagina; the alterative effect is hence less marked than in a packing such as that of Taliaferro, but constant and equally certain. I look upon the stimulating, alterative effect, to a certain extent a natural sequence to the treatment, as a most desirable result and as almost equal in importance to that of medication or support, although the action of the tampon as generally used is the dry treatment, and not especially applied for alterative purposes, is not so decided, it is sufficient in most cases; as it is continued and combined with other effects, the object in view the end desired is attained even more readily. I look upon the alterative properties of the tampon as one of the strong points of the dry treatment, because the great mass of cases, at least the more troublesome and difficult ones in gynecological practice, are chronic, accompanied by venous congestion, hyperplasia, thickening of the tissues, often of an edematous character. In all of these a beneficial effect is exerted by the pressure of the tampon, whatever the purpose for which it is used may be. Moreover, cellulitis, in one form or another, is a frequent condition, and the indurated or thickened doughy tissues of the utero-vaginal tract resulting from passive hyperemia, caused by constriction or compression of vessels and tissues, need precisely such pressure as is exerted by the elastic cotton tampon used in the treatment.

Other purposes are accomplished by the tampon, but although they are rarely of sufficient importance to afford, in themselves, indication for its use, they always result in a greater or less degree in accordance with the nature, number, and placing of the tampons.

4. *Rest giving*, as an intra-pelvic splint. Tampons, as used in the Dry Treatment, prevent the wobbling about of the heavy, enlarged, or displaced parts, and serve as a splint to the diseased tissues, reducing their movements to a minimum. They thus serve to steady, to splint the pelvic viscera, and give them rest. The treatment itself necessitates what the orders of the physician often fail to attain, what the patient may not be able to give—rest, which is as needful to a diseased uterus or ovary as to a broken arm or a recently united wound. The tampon affords that rest which I look upon as one of the most important elements in the treatment of uterine disease.

5. *Cleansing*.—The tampon itself, like the dry bismuth powder, furthers cleanliness by absorbing the secretions, and when rendered aseptic by impregnation with corrosive sublimate, salicylic acid or similar preparations, it prevents fermentation and disintegration of fluids and thus does much to further healthy conditions, irritation and inflammation being frequently kept up and aggravated by such discharges; like the dry powder, it thus relieves many of the distressing symptoms occasioned by excessive acidity of the vaginal discharge. The parts are kept dry, clean, aseptic; the tissues are surrounded by healthy conditions and healthy action is thus furthered.

6. *As a protector.*—Whatever object the tampon may be intended to serve, it will protect the parts against irritation by friction and pressure from adjacent organs, and what is equally important, from the effects of cold, from changes of temperature. The friction of sensitive, congested, or displaced parts against each other is prevented and great relief thus afforded. The insertion of the tampon for purposes of medication or support at once removes the inflamed or eroded cervix from the vaginal wall against which it grated at every step, with every step, with every movement of the body, a constant source of suffering and irritation; the tampon is interposed, holds the parts in their proper position, and prevents friction. To a certain extent the parts are protected against insult from without as well—this treatment prevents coition and forces the patient to afford herself the much-needed rest in a matter upon which the physician may dislike to speak, and in which his directions are most likely to be disobeyed. In this respect the tampon renders a most excellent service, as the congestion accompanying coition and the mechanical injury caused thereby do much to keep up existing irritation, and to excite or aggravate inflammation, and often cause most intense suffering. Only in extreme cases does the physician, as a rule, interfere, whilst in all abstinence does much to promote the restoration of health. The dry treatment enforces abstinence without the necessity of discussing this delicate topic. The tampon in the vagina, like the cotton wad in the ear, is a good protector against cold, although at the present day, in this era of modern conveniences, one of the most fruitful causes of injury has been removed with the introduction of the water closet; the poorer classes or country women all still resort to the privy, where vulva and vaginal tract are directly exposed to the cold, often to perfect blasts. The mere exposure of these parts to such drafts as often exist in privies is injurious, above all when rendered sensitive by pre-existing inflammation, and in multiparæ with relaxed vaginal walls, and ruptured perineum, the pelvic viscera are directly exposed to the cold draughts from below, as the vagina is then an open canal. Ladies better situated are not so much endangered from this source, but from the very nature of their dress are more or less exposed to cold. The tampon as used in the Dry Treatment protects the vagina and internal parts.

7. *As a supporter for instruments and appliances.*—In the dry treatment we used one tampon, at times, to fix and hold in place another; or use it for the retention of a medicated pencil *in the uterine cavity*.

HOW THE TAMPON IS USED.—As the Dry Treatment is not only non-irritating, but at once affords the patient immediate relief from the more annoying symptoms and gives her support, it may be applied in the office just as well as at the home of the patient. For one purpose or another I use the tampon in *all* cases. To obtain the best possible results, its use must be almost continuous, hence the treatment should be repeated every second or third day: after the treatment—the placing of the tampon—the patient should lie down for half an hour in such position as is indicated by the existing morbid conditions; in a

case of retroversion, where the tampon is placed behind the cervix, underneath the fundus, the position should be lateral, semi-prone, so as to remove the pressure of the intestines and allow the uterus to fall well forward, the tampon to settle itself firmly in the posterior cul-de-sac in the hollow of the sacrum, and the viscera to accommodate themselves accordingly. If this is done the effect of the tampon is more certain, the parts more liable to retain the position given them by the physician. But before the patient leaves the office she must be told of the fact that the tampons have been placed, how many, and how long they are to remain, when she is to remove them, and the precautions which are necessary for such removal. She must be told to lie down immediately after treatment, before going home, how long, and in what position; she must also be directed as to the position she is to take in bed at night. Should iron cotton be used in treatment, the patient must be advised of the possible discolorization of the discharge and the staining of clothing, against which she may guard by the wearing of a cloth. If the tampons begin to give discomfort, the patient must be instructed to make an effort to push them upward with the finger, and to assume the proper recumbent position for a time, when the previous position of parts and tampons may again be attained, but if the tampons have become displaced and cannot be returned so as to give comfort, they should be at once removed, as irritation will be caused by the cotton when low in the pelvis where it presses upon urethra and rectum. The patient must also be cautioned against the possibility of displacement of the dressing during a movement of the bowels, after which the same attempt at reposition must be made. She should always be instructed to remove the tampon if it causes pain or even discomfort, as *a well-placed effective tampon will never inconvenience*. It is immaterial whether the tampons are placed in the morning or evening of one day; they can always remain at least until the evening of the next day, and remain perfectly sweet, as the treatment is aseptic or antiseptic, and antiseptics are always used on one or the other of the tampons inserted. The tampons, if important for purposes of support, should be left in until within a few hours of the following treatment; but when the vaginal douche forms an important element in the treatment, they are removed upon the evening of the day following their insertion, so that the douche may be used upon the evening after their removal, and again upon the following morning. If support is the important factor, they are not removed until the following morning or afternoon, only a few hours before the repetition of treatment, or even retained until removed by the physician himself before treatment. The patient should be as short a time as possible without them. I leave them in as long as possible to afford support, or to permit the effect of medication to continue as long as possible. Any exertion the patient must undergo should always be undertaken while she has the benefit of the support afforded by the tampon. After it has been removed, before the re-insertion at the next treatment, she must keep quiet, rest in the proper recumbent posture.

In my clinic at the Post-Graduate School, the hours of treatment are from 10 to 12, and as a rule the tampons are left in place until the following evening; in cases where support is very important, until the day thereafter, for forty-eight hours, when they still remain free from any odor, although somewhat matted and with a doughy surface from the discharge absorbed. The abundance of antiseptics used in the treatment, either in the powder or the substance of one or other of the tampons, preserves them perfectly for two days. In private practice I utilize the afternoon hours, and there tampons are as a rule allowed to remain for thirty-six hours, from the afternoon of one day until the evening of the next. Where it is not possible for the patient to receive treatment as often as necessary, she can be instructed to place tampons, medicated or carrying dry powder, upon the morning of each day, so that a certain support is afforded while she is on her feet; although the same object is not accomplished as when placed by the physician, I have found very good results where a simple support was necessary, and even in cases somewhat more intricate, I have found that ladies become adept in the use of the tampon as they do in the dressing of some chronic sore, which they have long practised upon themselves.

(To be concluded.)

EVERGREEN FORESTS AS A THERAPEUTIC AGENT IN PULMONARY PHTHISIS. By Alfred L. Loomis, M.D., LL.D. (Read before the American Climatological Association.)

If one studies the literature of medical climatology, he will find very few well-established facts, or even plausible theories, which satisfactorily explain the beneficial effects of change of climate upon pathological processes. Even the climatic treatment of phthisis, upon which the most careful attention has probably been bestowed, must still be regarded as unsettled. We are unable as yet to formulate any exact statements as to the influence of even the more potent elements of climate, such as light, heat, and moisture, while our knowledge of the more obscure and imponderable factors is still more uncertain and chaotic. Even the nomenclature employed by medical writers is inexact and confusing; the terms cold and warm, severe and mild, moist and dry may each individually find exact expression in figures, but one very soon becomes convinced from his clinical experience that their various combinations can be described in no such definite terms, and that purely meteorological factors are, in themselves, of little value in elucidating the subject, or in leading to safe conclusions. Neither the density of the atmosphere, the amount of moisture, the equability of the temperature, the barometric oscillations, nor the amount of sunlight, are sufficient data from which to deduce the climatic influence of any locality; for clinical observations have established the fact that places having similar climates, so far as can be determined by their topography and meteorological conditions, have very different thera-

peutic effects. As previous investigations have given us full and exact knowledge of the physical elements of climate, the necessary inference from a clinical standpoint was that there are other unknown agents which either by their presence or absence determine in a large degree the results obtained in different climates. Modern pathology has given definite form to this clinical deduction. The revelations of the microscope in the field of bacteriology have made clear many obscure points, and given a strictly scientific basis to much empirical practice, especially in the treatment of pulmonary phthisis. All recent writers on climatology seem to agree that the chief factor, and the one common to all localities that furnish favorable results in pulmonary phthisis, is purity of atmosphere. Formerly this term applied almost entirely to purity of physical composition, but more recently, and in the light of advanced pathological investigations, it has come to imply freedom from those floating particles derived from inorganic, as well as organic sources, which appear to the naked eye as motes in the sunbeam. In air which has been rendered impure by the crowding together of human beings, these germs are found in such quantities as to be sensible to both smell and taste, although a large portion are so minute as to be beyond the power of the microscope, and can be detected only by solar rays. Dr. David Young, in his book on the "Tuscan Hills," says: "Many of these minute organisms are now well known; and, besides playing a very important part in the causation of disease, they likewise fulfil many functions, not only invaluable but necessary to life. They are the essential agents in the digestion of our food, they make our bread, and turn our grapes into wine; without them our crops would not grow, and much of our dairy produce would be valueless. This teeming world of microscopic life thus contains innumerable agents of minutest form, highly serviceable to man, and many which are equally hurtful, and even fatal to him. Could we discover the means of destroying the latter, mildew and blight would disappear, and many infectious diseases would be unknown."

That there is some intimate connection between the development of the microorganisms of disease and atmospheric impurities every day's clinical experience seems conclusively to establish. Dr. Angus Smith, in his work on "Air and Rain," states that we have in the air organized living things which are capable of planting colonies wherever they can find food. These spores may be divided into many classes, the useful and the deleterious, those which promote health and those which bring disease. The idea of any of them bringing health is not founded on anything positive, but we can scarcely imagine these numberless forms to be all useless. The idea that they bring disease is well confirmed, and ought to be the study of the medical profession. All varieties of putrefactive bacteria may have an atmospheric origin, and it is reasonable to suppose that the so-called specific bacilli may have a similar origin. It is to be remembered, however, that I am not now discussing whether the cause of disease be an organic substance formed in the process of decomposition, or an organic germ.

But the tendency of inquiry in modern times has been to establish the belief that decomposing substances, both animal and vegetable, produce disease, and are intimately connected with infection and the production of those contagious germs whose absence renders any atmosphere pure or aseptic; such an air must act negatively rather than positively, if its therapeutic condition be simply that of freedom from septic elements. Considering, however, the rapidity with which all septic germs multiply, the innumerable sources of their supply, and the freedom and ease with which they are disseminated over large areas, it seems almost necessary to suppose the presence in aseptic atmospheres of some antiseptic agent. Extreme cold and high altitudes render air aseptic without the presence of any material antiseptic element, but the degree of the one and the extent of the other necessary to produce asepsis are such as to preclude their general employment in the treatment of septic diseases; moreover, clinical experience has shown that such an aseptic air has a less powerful curative effect upon ulcerative and suppurative processes than one in which the aseptic condition is due to the persistent presence of some antiseptic agent of sufficient power to destroy existing septic germs. The air of high altitudes is aseptic; that of the sea is antiseptic by reason of the bromine and iodine which it contains. Since then the clinical fact is well established that phthical processes go on far more rapidly in an impure or germ-laden atmosphere, the question is constantly coming to us, Where can we find an atmosphere that is aseptic because it is antiseptic, into which we can send our patients who are suffering from tubercular disease?

Having long since been convinced by my observations that evergreen forests have a powerful purifying effect upon the surrounding atmosphere, and that it is rendered antiseptic by the chemical combinations which are constantly going on in them, I invite attention to some conditions existing in such forests which may explain their therapeutic power. The belief that the atmosphere of evergreen forests has a curative effect upon persons suffering from pulmonary phthisis is a very old one. Dr. Walsh, in his work on "Diseases of the Chest," states that the old Romans sent patients with ulcerated lungs to *Libra*, where, by breathing the balsamic effluvia of the pines, with which the country abounded, they were said to have lived many years freed from their complaints. The atmosphere of pine forests has always been regarded as most favorable to consumptives by the non-professional public, and there is usually some good ground for a widespread and long-standing non-professional belief in the therapeutic efficacy of any locality. Various attempts have been made to explain the beneficial effect of these forests; some have attributed it to the sedative influence of the terebinthinate vapor constantly floating in the air of such localities, which, by its action on mucous surfaces, arrests diseased processes; others have attributed it to the deoxygenation of the air by the terebinthinal vapors; others to the action of resinous aromata; and still others, to some change in the electrical condition

of the atmosphere, the result of the friction of the air against the sharp needles of the evergreen trees. Such ambiguous terms as "balsamic influence," "health-giving emanations," and "aromatized atmosphere," must be regarded as empty phrases, and meaningless as scientific explanations. The clinical evidence, however, of the beneficial effects of pine forests on phthical subjects is unquestionable, and it has been accepted by the most careful clinical observers that they are an important adjunct in the treatment of phthisis.

The changes attributable to the persistent inhalation of air impregnated with the emanations of such forests are such as to indicate that the atmosphere is not only aseptic, but antiseptic, made antiseptic by some element which is not alone fatal to germ life, but at the same time is stimulant and tonic to normal physiological processes within the lung. Such an antiseptic the chemical laboratory has thus far failed to supply; but as we weigh carefully the facts presented to us in the study of this subject, we are led to the conclusion that this antiseptic element of evergreen forests, an element which is not found elsewhere, is the product of the atmospheric oxidization of turpentine. It is well known that the turpentines alone have been regarded as of special service in the treatment of all forms of catarrh, especially catarrh of the respiratory surfaces. Atomized solutions and vapors of turpentine have been employed by inhalation in all forms of disease of the respiratory organs, and its internal use has long been regarded as a most valuable remedial agent in the treatment of infectious diseases. Its use in all these different ways has been, to a certain extent, empirical. Dr. Ringer, in his "Handbook of Therapeutics," states, in addition to its other effects, that turpentine acts antiseptically, passes readily into the blood, and may be detected in the breath and perspiration, and in an altered state appears in the urine, giving it an odor of violets or mignonette. Recently terpine, an active principle of turpentine, has been employed in antiseptic surgery, and has proven a most powerful deodorizer and antiseptic, both within and without the body. From these and many other similar facts which might be quoted, it would seem evident that the local and constitutional effects of turpentine are those of a powerful germicide as well as stimulant. Its presence in the atmosphere of pine forests cannot be questioned. Again, ozone is said to be present in excess in the air of evergreen forests, and the beneficial effects of such an air have been ascribed to this substance alone. Soret states that when ozone is brought into contact with turpentine the whole molecule of ozone is absorbed and no oxygen remains, so that it seems evident there is a close relation between an excess of ozone in the atmosphere and turpentine exhalation.

Recently the disinfectant property of peroxide of hydrogen has been attracting attention, and it has been shown that it is either fatal to certain forms of germ life or that it renders them inoperative, so that putrefaction processes are arrested or prevented. The oxidizing and antiseptic power of the peroxide of hydrogen have been proven by numerous experiments, among which may be mentioned those of

P. Regnard (*Gazette Medical*, 1880). The researches of Saböni, made near Moscow, published in the *Bericht Deutsch. Chem. Gesel.*, vol. viii., and abstracted in Pettenkofer and Ziemssen's "Handbuch," have proved beyond question that peroxide of hydrogen is almost certainly present in varying amounts in the air and rain, and less frequently in snow and hail, and that the amount varies with the season, with the wind, the amount of moisture, and in different kinds of forests, the larger amount being found among pines. It has also been demonstrated that all kinds of aromatic plants produce it, and that many natural processes give rise to it which have been regarded as exclusive sources of ozone. As its tests are similar to those for ozone, it has doubtless been mistaken for it, as experiment shows that if turpentine is heated in contact with a stream of air, peroxide of hydrogen is produced. Mr. Kingsett states that it is probable that each molecule of the oil of turpentine gives rise in the process of oxidation to a molecule of the peroxide of hydrogen, and that when turpentine is exposed to the action of the atmosphere it absorbs oxygen and evolves a peculiar organic oxide, which remains dissolved in the turpentine, communicating to the surrounding atmosphere properties similar to those of the peroxide of hydrogen; also that by natural atmospheric oxidation of the terebinthines there is produced in extensive pine forests an almost illimitable amount of peroxide of hydrogen, which renders the atmosphere of such forests antiseptic. The supposition that peroxide of hydrogen exists in excess in the air of any locality is thus based upon the presence in the air of such localities of the vapor of the oil of turpentine or of other allied substances. It has been shown by Schönbein and others that peroxide of hydrogen may be produced in large quantities by the combined action of air, light, and moisture upon ether, alcohol, oil of turpentine and other essential oils, and it has been further shown that ozone and turpentine itself contains, not ozone, but peroxide of hydrogen. It seems evident, therefore, that an atmosphere containing the vapor of turpentine or allied substances would be richer in peroxide of hydrogen than that of other situations.

Since putrefactive processes within the pulmonary tissue, no less than in any other situation, are due to, or accompanied by, the presence of various forms of bacteria, the continual bathing of the ulcerated surfaces with such a powerful antiseptic as peroxide of hydrogen cannot have other than a decided effect in arresting the formation of the products of decomposition. Dr. Clifton Allbutt says (*Lancet*, June, 1878): "For many years I have held that the majority of phthisical patients die of septicæmia, and that the arrest of this daily repointing is a primary object of treatment. To wash, cleanse and dress ulcers of the lungs by surgical methods is impossible; if, however, there be an aseptic or antiseptic climate, we may hope to counteract this secondary blood poisoning by sending our patients to live in it. If then an antiseptic atmosphere, although not fatal to the tubercle bacilli, will destroy the products of germ life of septicæmia and pyæmia, it will accomplish much in the arrest of phthisical pro-

cesses. The more recent developments in the (Bergeon) treatment of phthisis by gaseous injections, if they shall be found beneficial, are apparently due to the arrest of septic poisoning, and not to destruction of the tubercle bacilli." It is my belief that the atmosphere of evergreen forests acts in a similar manner, and the facts which I have brought before you from many sources seem to prove that the antiseptic agent which so successfully arrests putrefactive processes and septic poisoning is the peroxide of hydrogen, formed by the atmospheric oxidation of turpentine vapors.

The crucial test of medicine is not in the cure, but in the prevention of disease, and I fear that the terrible death-rate from pulmonary phthisis, which has so long defied the advances of medicine, will never be greatly reduced so long as we confine ourselves to its cure, or attempt to destroy specific bacilli lodged in some endothelial cell or lymphatic capillary. These are the impregnable citadels of germ life. If we hope to destroy them or render them inoperative in phthisical processes, it must be done through the respired air. It is not possible for every one to take his weak lungs to an aseptic air, but it is possible to render the air of most localities antiseptic; I therefore would impress not only the profession but the public with the importance of preserving our evergreen forests, and of cultivating about our homes, so far as possible, evergreen trees. Dr. Dobell states that wherever the pine, with its constant exhalation of turpentine vapor, and its never-failing foliage, can be distributed in a proper proportion to the population among the houses of men, the atmosphere can be kept not only aseptic but antiseptic by nature's own process, independent of other influences than a certain amount of sunshine and moisture—elements which, like the pine itself, can be found wherever human beings can form a home.—*Medical News*.

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ABSTRACTS.

THE USE OF MEAT AS A REGULAR ARTICLE OF DIET IN THE NURSERY. (Dr. Charles P. Putnam in the *Boston Med. and Surg. Journal*.) Meat is usually given to children as a matter of routine as soon as they are able to eat it without indigestion, and the question whether it is a food suited to childhood has received no very careful consideration. Yet it seems to be generally recognized that meat has peculiar effects on the organism, as compared with other kinds of food. The fact that meat has a well-established position in the diet of adults is not alone a convincing argument in favor of giving it to children, since there are other articles, such as tea and coffee, which are generally believed to be good for adults, and yet almost as generally believed to be bad for children. Dr. Clouston, of Edinburgh, says: "My experience is that children who have the most neurotic temperaments and diatheses and who show the greatest tendencies to instability of brain,

are, as a rule, flesh-eaters, having a craving for animal food too often and in too great quantities. I have found, also, a large proportion of the adolescent insane had been flesh-eaters, consuming and having a craving for much animal food. My experience, too, is that it is in such boys that the habit of masturbation is most apt to be acquired, and when acquired, seems to produce such a fascination and a craving that it ruins the bodily and mental powers. I have seen a change of diet to milk, fish, and farinaceous food produce a marked improvement in regard to the nervous irritability of such children. And in regard to such children I most thoroughly agree with Dr. Keith, who in Edinburgh for many years has preached an anti-flesh crusade in the bringing up of all children up to eight or ten years of age. I believe that by a proper diet and regimen, more than in any other way, we can fight against and counteract inherited neurotic tendencies in children, and tide them safely over the periods of puberty and adolescence." My experience has not been drawn from any extended observation of such cases as Dr. Clouston describes, yet I can fully believe that his statement is a fair one. I have become convinced that children fed largely on meat are apt to have a capricious appetite, to suffer from indigestion, constipation, and also from diarrhoea, to be subject to catarrhs of the mucous membranes, and have an unstable nervous system and less resistive power in general. As a rule, the more children are allowed to take meat the more they want it, while the appetite for other kinds of food is apt to diminish.

In families where meat eating has been put off or given up for any considerable period, I have found the children to have more freedom from little and great ailments, and to be less inclined to colds and diarrhoea. In 1884 Dr. D. M. Cammann, of New York, wrote an article on "Milk Diet in Childhood" (*New York Medical Journal*, March 29, 1884). After advocating milk as a food of great value, and quoting the above passage from Dr. Clouston he says: "During the past twenty-five years, in a large institution in this city, meat has been omitted from the dietary of children under eight years of age, and it must be admitted that this has been long enough to test fully the value of the diet adopted." One of the reports of the Board says: "Past records of the institution furnish such ample proof of the value of milk and vegetable food, and the exclusion of meat from the dietary of children under eight years of age, that the medical board sees every reason to adhere for the future to the diet from which such good results have been reached in the past." He gives the dietary for the children under eight years of age, which consists of a great variety of cereals, vegetables, fruits, and milk." Also of the number of deaths by years during the twenty-five years up to 1882, he reports that both the death-rate and the number of illnesses was much greater during the year 1865, when meat was added to the dietary. In a letter which he recently wrote to me he says: "I have no new facts in addition to those mentioned in my article on milk diet, except that I have seen a number of children in private practice brought up on a diet from

which meat has been omitted, until they were seven or eight years old, and the results have been favorable. I think the facts in that article speak for themselves very strongly. In the Orphan's Home a milk and vegetable diet has been tried now for twenty-five years. During all those years the death-rate was remarkably small; gastrointestinal troubles during the summer months have been rare. We often go through the summer without a single case of diarrhœa. This, in a large city, among 150 children, many of whom have inherited feeble constitutions from their parents, is a noteworthy fact. Then through the winter we never have many cases of bronchitis or other-diseases of the lungs, and those that do have such trouble usually recover rapidly. Another fact well worth noticing is that during the year 1865, in which meat was added to the dietary, the death-rate was larger than in any previous or subsequent year, and that disturbances of the digestive organs were extremely prevalent. The literature of the subject is meagre, and I cannot refer you to any articles bearing on it, except those referred to in my paper. * * * A look at the rosy cheeks of the children would convince any one that it was possible, at least for them to be healthy without the use of meat."

But few medical writers have thought it worth while to give any arguments in favor of meat for children. It is taken for granted that meat is the proper food for every one, and that children are to have it as soon as their digestion will bear it, in any form. For example, Starr, in a book lately published on the "Diseases of the Digestive Organs in Infants and Children," simply says: "Children who have got their milk teeth may be fed a twelfthmonth, namely, up to the age of three and a half years, in the following way." His dietary contains a teacupful of beef-tea at eleven, a slice of underdone roast-beef or mutton, or a bit of roast chicken or turkey, minced as fine as possible, and potato moistened with gravy at twelve o'clock. In this community the giving of meat seems to be on the increase. Nursing babies, whose age is still counted by months, sometimes receive a regular meal of beef-juice. Some children of two years and upwards have meat or meat-extracts twice and three times a day. Certainly this is not a universal custom, but it is getting to be more and more common. The result seems to be an increasing craving for meats and other stimulating foods, and a dislike of bland foods. In many nurseries bread and milk is a forgotten mixture. Puddings, such as were the main food of children forty years ago, boiled or baked rice and sago, rennet pudding or slip, simple blanc mange, bird's nest, baked custard, and bread puddings are distasteful to many children of the present day, and often milk will not be taken unless it have a little tea or coffee in it.

Exactly what place meat holds in the nutrition different from milk, eggs, grains, and vegetables is perhaps not thoroughly understood. Certainly physiologists do not absolutely agree. The best authorities, so far as I know, say that its peculiar effects on the system are due to the abundance of the nitrogenous elements and to the presence of

extractive matters which are not in themselves nutritious, but which may be called relishes, as they make other food more tasty, and thereby more digestible. Thus Liebig's beef-extract and some others are made from a liquid out of which all albumen has been precipitated. They are, therefore, not nutritious in the ordinary sense. Still they are valuable under certain circumstances, but might fairly be considered as drugs. Whether this theory satisfactorily accounts for the well-known effects of meat on the dog, whether it accounts for the condition of excitement which sometimes is observed when infants first get beef-juice, and for the craving for meat which is found in older children who have become accustomed to it, I am not prepared to say. On the whole, the view of Roberts as given in his lectures on "Dietetics and Dyspepsia" seems to be a fair one. He classes meat with tea, coffee, and cocoa, and also with alcohol as among the stimulants, and calls those classes and races that use these articles in abundance "high fed."

While the community is putting off the age of learning to read until eight or nine, and deploring the existence of a large and exciting literature, is it not out of place to endeavor to stimulate them with "high feeding?" Were it only claimed that meat contained nourishment in a concentrated and easily digestible form, it would still remain to be proved that this is an advantage. On the contrary, we know that for infants (not on the breast) milk combined with some, at their age, innutritive material, such as starch, is often more easily digested than milk alone. Coarse oatmeals and cracked wheat are taken by older children and adults, partly for the very purpose of giving a non-nutritive diluting material together with the digestible. Many nations of great physical strength take no meat. We need only look at the Scotch with their oatmeal, the Egyptian sailors and the Japanese with their rice, the latter of whom perform labors that would be impossible to most meat-eating men. The same may be said of the East Indian runner.

MR. REGINALD HARRISON ON THE TREATMENT OF STONE.--In a recent number of the *Medical Press and Circular*, Mr. Harrison, of Liverpool, published some very interesting cases of urinary calculus, from which the following are selected: *Case II.*—A. W., æt. 19, was referred to me by Dr. Barron, who had diagnosed the presence of a stone in the bladder. He was admitted into the infirmary on November 23, 1886. Though the stone had a long diameter of over one and a half inches, I thought it was one I could remove by crushing and evacuation of the fragments at a single sitting. As soon, however, as I had got well into it with the lithotrite through the phosphatic shell I found that I had a very hard and comparatively large nucleus of oxalates. I felt that under the circumstances the risk of crushing would be greater than that of cutting. I had the patient placed in the lithotomy position, and performed the lateral operation, removing, as I had anticipated, a moderately-large oxalate stone. Allowing for some delay in getting away

the fragments, the lithotrite had chipped off; the latter proceeding did not extend over a few minutes. There was some free bleeding from the transverse perinæal artery, but when this was tied no further trouble arose, and the patient made a good recovery. He left the infirmary Jan 14, 1887. My colleague, Mr. Mitchell Banks, was present, and agreed with me in the substitution I made. I refer to this case merely for the purpose of urging that in all cases of stone, excepting, of course, small and soft ones about which there can be no doubt as to their removal by lithotripsy, the operator should always feel at perfect liberty to do what is best for the patient. If, on cracking the shell of a stone he reveals a state of things indicating that it would be better to do a lithotomy, he should not have any hesitation in proceeding at once to the latter operation, so far as the permission of the patient is concerned. Had I in this, as well as in other instances, where I felt the necessity of changing my procedure, to wait for the purpose of first explaining the matter to the patient, and obtaining his consent, I should have considerably diminished my chances of success. Some years ago I was about to crush, but I became suspicious as to the nature of the nucleus. I could get no clew from the patient. I performed lithotomy and found that the nucleus of the stone was a large piece of whalebone. On another occasion when operating on a phosphatic stone the jaws of the lithotrite became entangled in a hair-pin. Similar instances have occurred to other surgeons. In view of these, and others that might be mentioned, the surgeon when operating in the case of large stones should always feel that he had *carte blanche* to do as seemed best to him, and those associated with him. From these observations it must not be concluded that I consider oxalate stones in adults not adapted for crushing, I see that in July of last year I crushed two moderate-sized stones of this kind, both patients making rapid recoveries. Some oxalate stones are much harder than others, and when, at the same time, they are of large size, cutting, as a rule, is to be recommended.

Case IV.—J. B., æt. 28, was admitted into the Royal Infirmary on February 1, 1887, with a large stone in his bladder. I decided to remove it by lithotomy. This was done by the lateral operation on February 4, Mr. Rushton Parker holding the staff for me. Only one small vessel required a ligature. The stone weighed ten drachms, and consisted mainly of oxalates and urates. A drainage tube was put in and retained for forty-eight hours. The patient rapidly recovered. This case is introduced for the purpose of illustrating the simplicity of this method of removing the stone when Cheselden's lines are implicitly followed. Many surgeons still practice it with perfect ease and safety, and with a very large amount of success, notwithstanding all that is now said to the contrary. In the instance just recorded the operation, including the use of the knife, and the extraction of this large stone with forceps occupied, I am told, something less than one minute. Nor, in this comparatively unimportant respect, is it in any way exceptional. All that was required for its performance was a knife, a curved director, and a pair of forceps. Contrast this with the dissection, and

all the paraphernalia connected with a supra-pubic lithotomy. I do not mean to say that the latter has not its place in surgery, but to assert that it is to supersede lateral lithotomy is to draw a wrong and misleading conclusion.

MICROSCOPY AND PATHOLOGY.

THE BACILLUS TUBERCULOSIS AND THE BUSY PRACTITIONER. By
J. L. Elliott, M.D., Bay City, Michigan.

Ever since the discovery of the bacillus tuberculosis by Koch, there have been many who doubted whether any practical benefit would be derived from the discovery. But after five years' quite extensive experience with the bacillus and its relations to tuberculosis, the most advanced thought and highest authorities in the medical profession tell us that there is a definite relation between them. These authorities are widely at variance as to whether the bacilli are the cause or only an accompaniment of the disease. They are, however, pretty well agreed upon two points—viz.:

1. That when the bacilli are present in the sputum they become positive evidence that such sputum comes from a tuberculous centre.
2. That their number, when present, is an index of the rapidity with which the disease is progressing.

It is to be regretted that there is any chance for disagreement upon the question, but that should not deter us from putting to practical use the settled points, leaving the other for future investigation to decide.

Now, if the doctrines as taught us are correct, every practitioner of medicine should be able to stain and recognize bacillus tuberculosis. The writer is satisfied, however, that altogether too few practising physicians make any use whatever of the microscope as an aid in the diagnosis and prognosis of tuberculous disease, and it is this very fact which has prompted the writing of this article. It has been for some time apparent to workers in this field that the whole bacillus tuberculosis question stood in need of a practical turn—that is, it should be shorn of so much technicality, and brought within the range of the every-day busy practitioner. For if the discovery of Koch is of practical importance to mankind, it can only be made manifest by practitioners of medicine acquiring a knowledge of the subject sufficient to enable them to make practical use of it.

Heretofore the methods of acquiring this knowledge have been accompanied by difficulties which professional microscopists do not seem to overcome. Physicians engaged in the practice of medicine who seek for information upon any topic pertaining to their profession must, in most cases, rely upon current medical literature. Now, we all know this country is flooded with the latter, of uniformly good quality too, yet the writer must confess that nearly every article on staining and identifying bacillus tuberculosis with which he is familiar has certain defects which must certainly limit its usefulness. There is too

much technicality for physicians in general to follow understandingly. The illustrations usually represent the bacilli magnified eight hundred or twelve hundred diameters, which gives them an appearance altogether unlike that seen by the aid of the low powers. The staining process described is tedious, requiring two to twenty-four hours to execute. Nothing is said of the expense of equipping one's self for the work, or how to obtain chemicals of reliable quality. So that the process as usually described is so complex, tedious, and indefinite that no doubt many are discouraged at the outset, and many more, to his certain knowledge, fail to get any results at all when they attempt to execute the work as described. Some microscopists, who habituate themselves to the use of high powers, many accessories, etc., seem to entertain the belief that simpler methods will not give just as good results. For instance, Dr. Formad, an eminent pathologist and microscopist, in his series of articles on the bacillus tuberculosis question, says the following: "The second advantage resulting from the bacillus theory may be that physicians may become induced to make more use of the microscope in diagnosis; yet in this respect the general use of the microscope is hardly practicable, on account of the thorough technique and experience required." (*Philadelphia Medical Times*, vol. xiv., p. 337.) The writer does not wish to criticise this class of teachers; with them scientific accuracy and its accompanying technique are second nature, and their work is very important to scientific medicine. It is unfortunate, however, for the profession that the subject is kept in such a complex state. The writer claims that the process may be so simplified that, with a little skill and very moderate outlay for apparatus, any physician can determine the presence or absence of bacillus tuberculosis in sputum, and that, too, in as short a time as from fifteen to twenty minutes. This may be accomplished by observing the following details.

The Microscope and Accessories.—Any ordinary stand will do, as long as the fine adjustment works well; a high power objective is not necessary at all. The writer has been surprised to find so many able workers with the microscope who claim that a high-power objective is indispensable. A friend who served a term in hospital, where he had every facility for such work, and thereby gained a large experience in staining bacilli, wrote after he began to practice medicine that he did nothing in the way of staining bacilli since leaving the hospital, because he had no high-power objective. For all practical purposes, a good one-quarter inch glass (Spencer's students' series, for instance) is all that is needed; a one-sixth inch is a little nicer, but it is not necessary. The writer has even been able to see the bacilli with a first-class Spencer's one-inch objective. With his one-fourth inch objective he uses a one-inch ("C") eye-piece. Now, a great many physicians have a fairly good stand and the above-named glasses, and yet they do not stop to estimate whether they have the requisite power to identify bacillus tuberculosis.

Staining and Mounting.—There are quite a variety of methods,

some comparatively simple, others quite tedious and complicated. The one best suited to the use of the physician is the one which is perfectly reliable, and at the same time quickly executed. The writer has tried many methods, but the one he is about to describe is the one which has proved to be most reliable. The apparatus needed is a light pair of forceps, a spirit-lamp (or Bunsen burner), a beaker glass (or tumbler), a watch-glass, bottle of glycerine, slides, and cover-glasses. Nearly every physician has these already on hand. The chemicals needed for staining are a saturated solution of aniline oil in water, a saturated solution of fuchsine in alcohol, a two-per-cent. solution of hydrochloric acid in alcohol. Now, few retail druggists will be apt to have the aniline oil and fuchsine in stock, but they may be ordered from Messrs. Lehn & Fink, importers, of New York, in a short time. It is very important to have these two chemicals of first-class quality, or else no result will be obtained, and the writer feels thus in duty bound to mention the above-named firm on this account, knowing they would send out no inferior goods. The necessary quantities of the above-named solutions one would need to work with should not cost over seventy-five cents or one dollar, so that the whole outlay for working material is only a trifle.

The process is applied as follows: Try to obtain a thick portion of sputum which the patient has coughed up from the lungs. Spread a thin layer on a cover-glass and allow it to dry. Some difficulty may be encountered in spreading a thin layer of sputum evenly over the cover-glass; a little practice by the following method will give good results: place with forceps a small portion of thick sputum on the centre of the cover-glass; next press the cover-glass with the sputum against a glass slide. This will flatten the sputum out into a thin layer; now draw the cover-glass away from the slide, always keeping their surfaces parallel while doing so. Next pour a watch-glass nearly full of the aniline-oil solution, add to this from five to ten drops of the fuchsine solution; next lay the cover-glass, sputum side down, on the surface of the staining solution. Now hold the watch-glass containing the stain and cover-glass over the spirit-lamp and heat gently for three or four minutes; the degree of heat needed here is just sufficient to cause vapor to rise from the liquid. Remove the cover-glass from the stain. Wash away the excess of staining solution with water, then wash in the hydrochloric-acid solution until decolorized or nearly so; wash again in pure water, touch the edge of the cover-glass to blotting-paper to remove the excess of water, then lay upon blotting paper and allow it to dry.

Place a drop of glycerine on the centre of a glass slide; heat it a little to remove any air-bubbles which may be present; place the prepared cover-glass carefully on the slide, and allow the glycerine to spread out and form a thin layer between slide and cover-glass. Right at this point a little patience and experience will be required sometimes, when it is desired to make a permanent mount, to get the exact amount of glycerine necessary to spread to the edge of the cover-glass,

and no more. A little experience will soon enable one to estimate pretty accurately the size of drop required. Should too much be used, the excess can be removed from the edge of the cover-glass with strips of blotting-paper; should too little glycerine be used, a drop placed at the edge which lacks enough will flow under the cover-glass and meet the portion first used. The slide is now ready for examination. If bacilli tuberculosis are present in the sputum stained, careful focusing will show them distinctly as dark-colored, curved, slender rods. When the bleaching process has been incomplete, so that the epithelial cells, pus-corpuscles, and debris of broken-down lung tissue all retain the coloring-matter, the bacilli are still easily seen, being darker in color and more regular in outline.

One more point the writer wishes to call attention to. He has frequently failed to find any bacilli whatever after making several mounts; then, from the same lot of sputum, a portion from another part of the dish would be tried and the bacilli found in great numbers; so that before one can exclude their presence samples must be tried from all parts of the containing dish. If it is desired to preserve the slide, a ring of zinc-white cement can be run on the edge of the cover-glass, and the mount will keep indefinitely.

[Dr. Elliott has kindly sent us a slide prepared in the manner described, which certainly leaves nothing to be desired; it could not be surpassed by any method.—ED. *P. M. T.*] *Phila. Med. Times.*

THE PATHOGENY OF MALARIAL HÆMATURIA.—(Dr. Julian M. Baker, in the Pittman Prize Essay of the Medical Society of the State of North Carolina, for the year 1877, published in the *North Carolina Medical Journal*.)—From what has preceded in regard to the general character of malarial diseases and special characteristics of malarial hæmaturia, we are forced to one of the following conclusions as to primary causes, viz.:

I. Malarial hæmaturia is not of malarial origin.

II. If of malarial origin, there exists in addition to malarial micro-organisms another of very different character and with different outward manifestation of its existence; or

III. Malarial hæmaturia is of malarial origin alone, and micro-organism seen in Case IV. was the bacillus malarix of Klebs, Crudeli, Marchiafava and others.

Little doubt can be entertained, from investigations that have preceded, that conclusion I. is erroneous, unless it is assumed that the bacillus observed in Case IV. is primarily and solely the causative element of the disease, and by its life-acts all the ravages of the disease are produced. While this may be so, we are not prepared to prove it. That conclusion II. is true is decidedly more probable, that is, that besides the general pathological characteristics of malaria, the disease presents others not seen in normal malarial diseases, and if malaria exists at all as a causative element, there is another of entirely different nature. There is a decided preponderance of evidence in all preceding

investigations in favor of malarial origin. Its mode of onset, its occurrence in certain localities at certain seasons generally, and the results of study of pathological changes all point to the fact that malaria exerts some causative influence. My own investigation discloses some discrepancies in the department of malarial hæmaturia and what may be called normal malarial diseases. These discrepancies, as noted in cases occurring in this locality, are principally in lack of periodicity and that clock-like regularity in the rise and fall of temperature, and the season of the year in which it occurs, and the appearance of a peculiar microbe not seen in malarial diseases. Cases are met with in all seasons, more often in the fall, but in summer and winter as well, and in localities in which other malarial diseases are not prevalent to a great extent. When the disease once commences, as evidenced by jaundice, great depression, black urine and nausea, there is a continuance of these symptoms until convalescence or death; no intermission or remission and return at stated intervals. After convalescence in exceptional cases, death occurs suddenly, without return of characteristic rigors. Either death results or convalescence commences in from two to ten days. In all my cases, a notable feature was low temperature and rapid, feeble pulse; in cases of other physicians in this section I have heard of the temperature reaching 105° F. on first or second day, but after that there was the low temperature as in my cases. In no case has the temperature ranged higher than 102° F., and this was following reaction from the first chill. The low temperature is a symptom almost pathognomonic, and should be looked for as much so as dark urine and jaundice. There is never, in cases here, a regular or periodic variation in temperature. The alkaloids of cinchona fail to exert the slightest influence over the disease in a great many cases, even when given early and by mouth, rectum, endermically and hypodermically. From this it will be seen that discrepancies do exist, and these discrepancies being a constant accompaniment of malarial hæmaturia in this section, there must be a constant and common cause of different nature and different attributes to the malarial poison, at the same time we recognize in pathological changes and in some clinical features the characteristics of malaria. We are then forced to admit two elements of causation, viz.: The malarial bacillus and another different from any yet found in malarial diseases, and to strongly suspect a characteristic micro-organism of the disease. It is reasonable to ascribe the variations in the conduct of ordinary malarial diseases and malarial hæmaturia to the presence of this bacillus so like the anthrax bacillus. It cannot be that its greater severity is due to a large amount of poison taken into the system, for upon post-mortem examination in many cases the characteristics of malaria are not so conspicuous as it is in mild forms of malarial fever, when death occurs from some inter-current malady, the malarial infection itself not being sufficient to cause death.

The bacillus observed in liver and spleen differs in essential parts from that described by Lavanan or Klebs and Crudeli, and destroys at

once the idea that it is the *bacillus malariae*. That such a combination of causative agents exists as we maintain does in malarial hæmaturia, is further substantiated by the fact that in many hot climates, as Egypt, Mauritius and Cape of Good Hope, a disease is met with, having many of the characteristics of the one in question, in which is found a microbe, the *bilharzia hæmatoba*. The presence of this microbe is always accompanied by dark urine containing altered blood, or a decided hemorrhage from the kidney. In malarial diseases in these countries, without the *bilharzia*, the kidney affection is not exhibited. It may be that the microbe observed in my case serves the same purpose here that the *bilharzia* does in those climates; the effect on the system is similar in many particulars. When the *bacillus anthracis*, to which the one observed in malarial hæmaturia seems so nearly allied, finds a habitat in the system, it produces many of the same symptoms as noted in the latter disease, such as vomiting, constipation, rigors, headache, extreme prostration, and usually speedy collapse. Temperature is usually very little elevated, if at all; death occurs in forty-eight to sixty hours generally; it may be more rapid or delayed five or six days; no periodicity marks the disease. The only points of outward difference are the black urine and jaundice in malarial hæmaturia. It is reasonable to assume a certain relationship between the microbe of malarial hæmaturia and anthrax, but they are not identical, and the deviations of the former from normal malarial diseases can be ascribed to the presence of this microbe, its effect being very much the same as the *bilharzia* in hot climates, although it differs from the *bilharzia* in outward appearance, as much as it does from malarial micro-organism as described by Lavarán and others. Future investigations, we think, will justify the conclusion that this *bacillus* is an essential element of causation of malarial hæmaturia, and that without its presence malarial diseases will exhibit the ordinary phenomena of intermittents or remittents, but with it those of malarial hæmaturia. Our investigations prove this, but they are not sufficient to consider it an established scientific fact; all that we can hope to be accomplished by it is the direction of the attention of others to the results obtained, that the investigation may be further prosecuted.

HOSPITAL NOTES.

ST. MARY'S HOSPITAL, LONDON.

A CASE OF GALL-STONES IN THE CYSTIC DUCT; CHOLECYSTOTOMY; RECOVERY. (Under the care of Dr. Broadbent and Mr. Page.) —The operation of cholecystotomy has not yet been performed in so many cases as to deprive of considerable interest the record of a successful case. The following is an example of the operation in which,

after previous tapping of the gall-bladder, with only temporary relief and with no ill effect to the patient, stones were removed from the cystic duct which, without surgical aid, could not have been passed. The after progress of the case was all that could be desired. For the notes we are indebted to Mr. P. A. Lloyd, house-physician.

S. W—, aged thirty-three, was admitted under Dr. Broadbent, on January 24, 1887, complaining of a tumor in the region of the gall-bladder. In April, of last year, she had an attack of what appears to have been biliary colic, though she had no jaundice, and did not pass a gall-stone per rectum. Shortly after this attack, the swelling was first noticed, though it caused no inconvenience till Christmas, when the patient began to feel a dragging pain in the right side, especially after exertion. No further history of colic nor any history of jaundice could be obtained, but the patient said she was subject to "bilious attacks," from time to time.

On admission, there was a swelling in the region of the gall-bladder, about the size of an orange, which was smooth, hard, and freely movable. No enlargement of the liver could be discovered.

On February 13th, six ounces of slightly opaque fluid were drawn off by aspirator. The fluid was faintly alkaline, sp. gr. 1008, and contained about one-tenth albumen. No hooklets or echinococci could be discovered on microscopic examination. After the tapping, the tumor could no longer be felt, and the patient left the hospital, ten days later, free from all symptoms. On March 17th she was readmitted, as the cyst had again filled; she had felt the pain in her side during the previous week. On March 31st the tumor was again aspirated, and eight ounces of fluid were drawn off, of a pale green color, faintly alkaline, sp. gr. 1010, and containing mucin and about one-sixth albumen. Microscopic examination showed only a few blood corpuscles, small masses of yellow pigment, and a few epithelial cells. On April 3d, the cyst had once more refilled to its former size. Dr. Broadbent now considered that the tumor was a distended gall-bladder, and not a hydatid, as had at first been suspected. Mr. Page was therefore asked to perform cholecystotomy.

On April 9th, chloroform having been administered, Mr. Page made a vertical incision two inches long, commencing half an inch below the ninth costal cartilage on the right side, and extending down to the level of the umbilicus. The abdominal walls having been divided, immediately external to the rectus, and the peritoneum opened, the gall-bladder and the edge of the liver were seen. There were some slight recent adhesions between the gall-bladder and the parietal peritoneum. The cyst, having been carefully examined, was then aspirated and ten ounces of purulent fluid drawn off. The empty gall-bladder was now seized with forceps and incised; its cavity was wiped dry with sponges and then explored with the finger. A stone about the size of a walnut was felt in the cystic duct, and removed with a pair of small lithotomy forceps. Two minute calculi were afterwards detected, and were removed on a sponge. There was no discharge of bile-stained

fluid after the removal of the calculus. The walls of the supporting cyst (i. e., the distended gall-bladder) were now fixed by catgut sutures to the abdominal walls, and a large drainage tube was passed as far as possible towards the cystic duct. Wood-wool pads formed the dressing, and perchloride of mercury was the antiseptic used. The wound in the gall-bladder healed in five days, and that in the abdominal walls in about five weeks. There was neither pain nor rise of temperature after the operation, and no bile was discharged through the wound. The patient left the hospital on May 17th, with no trace of tumor, and quite free from abdominal discomfort, and there has been no reappearance of the swelling up to the present time.—*Lancet*.

SANITARY.

THE DISPOSAL OF HUMAN EXCRETA.—While continued experimentation has yearly added new demonstrations of the perfect efficiency of the dry earth system, it still remains true that comparatively few, even of those who claim considerable general intelligence, have made practical use of this system in their own homes, and still the reeking stench from full and foul privies is one of the most frequently recurring nuisances reported to the health departments, even of cities which have a tolerably extensive sewer system. Vid. Health Commissioner's Report for 1885-6, p. 17, where it is stated that among 3,660 nuisances of all sorts reported during the last half of the year there were 1,675 "full, foul, and defective privy vaults." On p. 18, we learn that of 1,770 nuisances reported by the police officers during the months from April to September, inclusive, 869 were "full, foul, and defective vaults." On p. 19, it was stated that of 13,899 nuisances reported by the sanitary officers during the same period, 6,051 were "full, foul, and defective vaults."

The remedy for all this stench and nuisance prejudicial to health is to be found in the general adoption of dry earth defecation as the method of disposal of human waste. The essential principle of this system is the provision for covering with a layer of dry earth every deposit of excrement immediately after it is made. In its simplest form a wooden drawer is set under the seat of an ordinary privy without any vault. A bed of dry earth some two or three inches in thickness is spread upon the bottom of this drawer, and a barrel or pail filled with sifted dry earth, stands in a corner near the seat. After making a deposit in the drawer a small quantity of earth from the barrel or pail is thrown upon the deposit, simply enough to cover it. More elaborate contrivances have been designed by which the fecal matter is covered at once with dry earth by mechanical contrivances

which are quite as ingenious and ornamental as the most improved modern water closets. So efficient is this system that a commode arranged to be used with dry earth may stand in the boudoir of the most delicate and fastidious lady, and be habitually used, yet never reveal its presence to the sense of smell in the slightest degree.

Those who may be inclined to offer objection to the adoption of earth closets on the score of expense will be surprised to learn that all the extra appliances of a well-appointed earth-closet cost considerably less than an ordinary deep vault lined with brick or stonework, and the infinitesimal expense involved in the simple device of using an ordinary bucket and shovel (or a shingle will answer every purpose), takes away all force of that argument. The dry earth scraped from a dusty road on any summer day will answer every purpose, and involves no trouble in preparation and almost none in obtaining it.

Another point in the matter of dry earth disinfection of fæces is one which is too little known or recognized by physicians. By covering the bed-pan or chamber vessel with a layer of dry earth and then covering the deposit at once with another quantity of dry earth the room of a bed-ridden person may be kept perfectly free from unpleasant odors.

It would be a thing devoutly to be wished if this dry earth system could be adopted not only by individuals, but could be made obligatory upon whole communities that are so situated as to render the general use of water-closets impracticable or a necessary source of nuisance detrimental to the public health, as, for example, some districts in the suburbs of our own city.—*St. Louis Courier of Medicine.*

PROCEEDINGS OF SOCIETIES.

NEW YORK COUNTY MEDICAL ASSOCIATION.

RESPIRATORY THERAPEUTICS IN PHTHISIS.

Dr. L. J. McNamara read an interesting paper on this subject which has already been published. (See GAILLARD'S MEDICAL JOURNAL for July.)

Dr. E. G. Janeway said that it was difficult, in the first place, to carry out any plan of antiseptic treatment that would fully reach the affected parts, and difficult, in the second place, to appreciate the amount of disease present in many instances. By inhalation methods we might be able to benefit a certain proportion of cases, but the conditions present were often such that the application would be carried to the sound tissues of the lung rather than to the affected parts. It was well known how much difficulty there was in favorably affecting a case of tuberculosis when the parts involved could be readily reached, as, for instance, in tuberculous ulcers of the mouth, gums, tongue, or

leg, and the difficulty must necessarily be much greater when the diseased part was as inaccessible as the lung. He thought inhalations might act favorably, however, in arresting the process by affecting the neighboring sound tissue. Again, it was a fact that in cases of chronic phthisis attacks of capillary bronchitis and broncho-pneumonia sometimes occur, making them appear like acute tuberculosis, and, under these circumstances, the violent symptoms usually subsided in a short time. There were, therefore, many cases in which one might be led to suppose that the tuberculous process was much more advanced in the lungs than was usually the case, and he believed that some of the cases reported as being so much benefited by the Bergeon treatment were of this character.

Dr. H. M. Biggs said that such applications as those referred to in the paper no doubt had a soothing effect upon the mucous membrane. They had no effect upon the bacilli, however, even when applied directly to them, and if we did use solutions which were strong enough to destroy them, we would produce an amount of irritation which could not be borne by the patient. Inhalations in the form of spray were unquestionably useful in aiding expectoration and the resolving of the products of inflammation, as well as for their disinfectant action in the upper air-passages; but, as a rule, he thought our main reliance in the treatment of phthisis at the present time must be placed on constitutional measures, including the selection of a suitable climate, wherever this was practicable.

In closing the discussion, Dr. McNamara said that he had not claimed that the inhalations would kill these germs. As a matter of experience, however, he had found that many of his patients improved so greatly under their use that all symptoms disappeared, although, as he had stated in the paper, the bacilli, with the exception of but a single case, persisted after the symptoms were gone.

REVIEWS.

TRANSACTIONS OF THE NEW YORK STATE MEDICAL ASSOCIATION
FOR THE YEAR 1886. VOL. III. Edited for the Association by
Alfred Ludlow Carroll, M.D.

This handsome volume bears eloquent testimony to the vigor of an association which, though young in years, has already established for itself a commanding position by the high quality of its scientific work, and fulfilled the most sanguine expectations of its founders. A prominent feature in the annual meeting, of which the record lies before us, was the pre-arrangement of written discussions for each of the afternoon sessions, specific questions having been framed to serve as texts for the several discourses, and the judicious choice of topics and selection of participants having yielded results of permanent value.

The first of these "symposia" relates to shot-wounds of the intestines, the successive papers embracing the diagnosis, immediate treatment, indications and technique of operative interference and subsequent management. A brilliant series of essays, by Drs. Tremaine, Bryant, E. M. Moore, Jr., W. T. Bull, T. R. Varick, Nancrede, Dennis, J. B. Hamilton, and C. T. Parkes, covers this comparatively new development of abdominal surgery, and shows a convincing unanimity of expert opinion as regards the propriety of laparotomy and suture of wounded intestine, and the fitting method of operating.

The second afternoon's discussion, introduced by Dr. H. D. Didama, concerns pulmonary tuberculosis, considering the questions of inherited or acquired predisposition, the relations of the tubercle bacillus to the morbid process, prophylaxis and treatment, deliberated respectively by Drs. Cronyn, Biggs, Elsner, W. H. Flint, and J. Shradly. As might be expected, in the present state of medical opinion, enlightened by recent testimony, to the infective character of tuberculosis, the inheritance of any special phthisical taint is dismissed from view, a feeble vitality or greater vulnerability, which may be transmitted from parents who are not themselves consumptive, or which may be acquired by the habits and surroundings of the individual, being held as the essential predisposing factor.

The closing conference, of most interest to the great mass of practitioners, and carrying authority in the array of distinguished writers, deals with the convulsions of pregnancy, labor, and childbed, in a series of questions propounded and ably considered by Dr. W. T. Lusk. Dr. Tyson, while admitting that convulsions during childbirth may, in exceptional instances, be ascribed to epilepsy, hysteria, meningitis, apoplexy, loss of blood, or other causes, regards all cases of true puerperal eclampsia as "renal in their origin, and due to uræmia," and this view is generally supported by the other speakers. The indications for the induction of premature labor are discussed by Drs. I. E. Taylor and T. G. Thomas, who agree in advocating the measure in actual or threatened eclampsia, and urge the importance of watching the renal secretion during gestation. Dr. Taylor draws a distinction between the "function" of secretion, beginning in all parts of the economy, and the emunctory organ through which it terminates, and suggests that uræmic intoxication may thus be caused before the kidneys are affected. Drs. George T. Harrison and Darwin Colvin debate the merits of therapeutic agents in eclampsia, with special reference to the efficacy of venesection, against which Dr. Harrison takes strong physiological ground, while Dr. Colvin as strongly upholds it on purely clinical experience. The supposed influence of puerperal convulsions in inducing post-partum mania is investigated by Drs. J. R. MacGregor and G. Alder Blumer, from whose industrious inquiries it appears that no definite relation can be established between the two conditions.

Prominent among matters of lasting interest must be mentioned the presidential address by Dr. E. M. Moore, in which he has demonstrated, by actual dissections, the much-disputed nature of the occas-

ional displacement, at the elbow, from sudden extension of the arm in young children, showing it to consist in a subluxation directly downward to the extent of about an eighth of an inch, the orbicular ligament remaining untornd, and farther descent being prevented by the other attachments of the radius to the ulna, notably by the oblique ligament. An unique instance of concretions of hair in the human stomach, similar to those often found in the lower animals, is recounted by Dr. Finder. Dr. Jacobson describes the successful removal of a large naso-pharyngeal tumor, necessitating preliminary resection of the superior maxilla, and gives an exhaustive résumé of the pathology and treatment of such growths. Dr. Hubbell has an equally elaborate recapitulation of the recorded cases of congenital occlusion of the posterior nares, with the addition of an example under his own care. Last on the list, but by no means least, is a characteristically thorough exposition, by Dr. Gouley, of sacculation and perforation of the bladder, as consequences of chronic retention of urine, caused by stricture, stone, prostatic enlargement, or other sources of obstruction.

No review could do justice to theses which are in their published form condensed to the utmost, and our space forbids even recital of the titles of the many other excellent papers contained in a collection which we commend to the careful perusal of our readers as an exceedingly valuable contribution to professional literature.

The Association is to be congratulated, not less on the superb typographical execution of the book, which is adorned by admirable portraits of the late Austin Flint, Frank H. Hamilton, and John P. Gray, than on the conspicuously able manner in which the onerous task of preparing it for the press has been performed by the accomplished editor.

BOOKS AND PAMPHLETS RECEIVED.

Controlling Sex in Generation. By Samuel Hugh Terry. Second Edition, with an Appendix of Corroborative Proofs. New York: Fowler & Wells. 1887.—The Physiological Conditions and Sanitary Requirements of School-Houses and School-Life: Merritt H. Cash Prize Essay. By A. N. Bell, A.M., M.D. Abstract from the Transactions of the Medical Society of the State of New York, for the Year 1887.—The *Liverpool Medico-Chirurgical Journal*, including the Proceedings of the Liverpool Medical Institution. July, 1887.—The Technique of Tracheotomy and Intubation of the Larynx. By Charles G. Jennings, M.D. Reprinted from the Transactions of the Michigan State Medical Society, 1887.—Practical Thoughts for Physicians; Address Delivered before the Indiana State Medical Society, May 10, 1887. By G. W. H. Kemper, M.D.—Importance and Value of Experimental Research; Doctorate Address Delivered at the Graduating Exercises of the College of Physicians and Surgeons, Chicago, Ills., February 21, 1887. By N. Senn, M.D., Milwaukee, Wis. Reprinted from the *Western Medical Reporter*.—On Some Important Points in the Treatment of Deep Urethral Stricture. By F. N. Otis, M.D. Reprinted from the *New York Medical Journal*—A New Ex-

planation of the Renal Troubles, Eclampsia, and Other Pathological Phenomena of Pregnancy and Labor. By A. F. A. King, M.D. Reprinted from the *American Journal of Obstetrics*. Resident Students of the Charity Hospital of New Orleans. Establishment of a Medical Library by the Louisiana State Medical Society. By Joseph Jones, M.D. Reprinted from the Proceedings of the Louisiana State Medical Society, 1887.—Sixth Annual Report of the Brooklyn Training School for Nurses Attached to the Brooklyn Hospital.—Annual Catalogue and Announcement of the College of Physicians and Surgeons in the City of New York, Medical Department of Columbia College —Announcement of the Western Pennsylvania Medical College, Pittsburgh, Pa.—Forty-Seventh Annual Announcement of Lectures and Catalogue of the Medical Department of the University of the City of New York.—Annual Announcement and Catalogue of the College of Physicians and Surgeons, Baltimore, Md.

PHARMACY AND THERAPEUTICS.

DR. AUSTIN FLINT ON THE TREATMENT OF DIABETES (*Medical News*.)—At a recent meeting of the Therapeutical Society of Paris, Dr. Martineau made a brief communication, in which he stated that for several years he had treated cases of diabetes mellitus with a solution of lithium carbonate and sodium arseniate in ordinary carbonic acid water, to the exclusion of every other medicinal remedy, and with a moderately strict antidiabetic diet. Dr Martineau claimed that he had cured sixty-seven out of seventy cases of arthritic diabetes by this method of treatment, which he had borrowed from a practitioner now dead, the late Professor Rouget, of Paris. The communication was discussed by Dr. Dujardin-Beaumetz and others, who regarded the methods as so simple and, to say the least, innocuous, that it was worthy of trial. The preparation recommended by Dr Martineau was the following. Into an apparatus such as is commonly used in Paris for extemporaneously making carbonic acid water are put twenty centigrammes lithium carbonate and a tablespoonful of a solution of twenty centigrammes of sodium arseniate in five hundred grammes of distilled water. The quantity of carbonic acid water used is about one litre. This quantity is to be drunk by the patient during each day, either by itself or mixed with ordinary wine at meals.*

* *Bulletin et Mémoires de la Société de Thérapeutique, Paris, 30 Mars, 1887, 18^e année, No. 6, p. 41.* Reduced to the English standard, the formula would be about as follows :

Lithium carbonate,	3 grains.
Sodium arseniate,	$\frac{1}{16}$ grain.
Carbonic acid water,	2 pints.

This formula has been published in a number of medical journals. In some it is stated that a teaspoonful of the solution of sodium arseniate is used instead of a tablespoonful. This error arises from a faulty translation of “cuillerée á bouche,” which means a table-spoonful. The term for a teaspoonful is “cuillerée café.”

The simplicity of the proposed remedy led me to make an effort to test its efficacy in certain obstinate cases under treatment for diabetes. I endeavored first to have the agents introduced into the ordinary siphons of soda-water prepared and sold in New York; but the manufacturers were unwilling to do this, and I was forced to adopt some other method of preparation. It was finally suggested to me to put up the preparation in ordinary beer bottles with patent stoppers, which could be replaced after using a certain quantity. This is now done by Mr. Theodore Angelo, apothecary, 460 Fourth Avenue, New York City, who has supplied the patents to whom the remedy has been given. Two of these bottles make the quantity administered daily by Dr. Martineau.

I was not prepared to make a trial of the remedy before the middle of April, and have used it since then in but three cases—a time too short, and a number of cases too small to admit of anything like definite conclusions. However, in the hope of inducing others to make similar trials, I venture to present the imperfect results of my own brief experience. (Cases narrated.)

The general result of the observations on the three cases reported is quite indefinite. The effects of the solution of lithia and arsenic were not well marked, and the slight improvement under its use in cases XCIII. and XCV. might have been due to other causes. I shall, however, continue the remedy in these three cases and employ it in other cases until I shall have given it a fair trial; but I do not feel that it would be prudent in any case to relax the dietetic treatment.

With other so-called specifics for diabetes mellitus I have had some experience. I have given calcium chloride in a number of cases with entirely negative results. In several cases I have used Jambol, also with negative results. I have never given opium, except for the relief of pain and insomnia; but in cases in which it has been used it has been well tolerated. I nearly always prescribe at first Clemens' solution of the arsenite of bromine. This remedy does no harm, and in many cases it seems to exert some control over the thirst, polyuria, and the quantity of sugar in the urine.

I invariably interdict the use of milk and skim milk. In a number of cases, in which it has been taken by patients on their own responsibility, I have observed that it promptly induces thirst, polyuria, and an immense increase in the discharge of sugar. In some instances, in which my published diet-table has been copied, milk has been added. This addition, it seems to me, is most unwarrantable; and the use of milk more than counteracts the beneficial results to be expected from the anti-diabetic diet properly carried out.

For the past three years I have recommended a gluten bread made by George V. Hecker & Co., of New York. This bread at first contained between two and five per cent. of starch. Within a year, however, it has seemed to act unfavorably. I have lately had a number of

analyses made of this bread, and it has been found to contain about thirty per cent. of starch. Within the last two months I have temporarily abandoned its use, although this has greatly increased the difficulties of the dietetic treatment. It is to be hoped, however, that the Messrs. Hecker, who are untiring in their efforts to produce a satisfactory and uniform anti-diabetic bread, will soon perfect their process, so that the bread will be entirely reliable. This will require a more simple chemical process of control, the ordinary methods of ultimate analysis for starch being tedious and expensive.

I have not been able to study the details of the seventy cases mentioned by Dr. Martineau, sixty-seven of which he reported as cured. The experience of all who have followed out any considerable number of cases of diabetes teaches that the disease is nearly always liable to return under a careless diet; and my own experience is no exception to this general rule. That such an exception should have occurred in the experience of Dr. Martineau would, indeed, be remarkable.

Including the three cases already briefly reported, I have now under observation and treatment ten cases which I have followed for variable periods. It may be interesting to compare seven of these cases with the three treated with the solution of lithia and arsenic. (Cases narrated.)

The ten cases reported are all that are now under immediate observation. Taken in connection with my other recorded cases, they lead me to the following conclusions:

1. In the three severe cases in which I have used the solution of lithium carbonate and sodium arseniate in carbonic acid water, no very marked effects have been observed in the few weeks during which the remedy has been employed; but the treatment seems to me to be worthy of more extended trial, and it may be useful in mitigating the severity of a strict anti-diabetic diet.

2. The so-called specifics for diabetes have little if any effect. An exception, however, may be made in favor of the arsenite of bromine, which has sometimes seemed to me to control, to a slight extent, the thirst, polyuria, and discharge of sugar.

3. The main reliance in treatment is to be placed upon an anti-diabetic diet. This has fallen somewhat into disrepute because it is seldom efficiently carried out. In no single instance, out of ninety-nine recorded cases, have I found that the anti-diabetic diet had been enforced.

4. Milk should be absolutely interdicted. Its influence over the progress of the disease is prompt, powerful, and most injurious.

5. There are certain cases in which dietetic treatment promptly arrests the disease and keeps it under control. There are other cases in which treatment seems to be of little avail, except in possibly retarding the progress towards a fatal result. Of the ten cases reported, and now under observation, seven are amenable to treatment and three are obstinate.

6. A confirmed diabetic may be cured, in the sense that all symp-

toms will disappear; but the disease is liable to return at any time under an unrestricted diet. Still, moderate care in diet will often secure immunity.

7. A patient who has once had diabetes should have his urine examined every few weeks. The glycorusia always precedes the general symptoms of the disease, and these general symptoms can generally be forestalled by proper treatment employed as soon as sugar makes its appearance in the urine.

8. As the disease returns, either from imprudences in diet or from other causes, the successive recurrences present greater and greater difficulties in the way of treatment.

WYETH AND BROTHER'S COMPRESSED TABLET TRITURATES.—In using any of the more powerful remedies, such as aconite, morphia, arsenic, etc., the tablet triturates of Messrs. Wyeth and Brother will be found a very convenient and satisfactory method of administration, on account of the accuracy of the dose and their ready absorbability, as well as the entire freedom thus afforded from the danger always attending to a greater or less extent the dispensing of poisonous drugs in the form of powders, drops, or solutions.

MISCELLANEOUS.

TOMMASI-CRUDELI ON MALARIA.—The last addition to the already voluminous bibliography of this subject is the elaborate "note" recently submitted by Dr. Tommasi-Crudeli to the Royal Academy of the Lincei, entitled, "Stato attuale delle nostre Conoscenze sulle Natura della Malaria e sulla Bonifica dei Passi Malarici" ("On the present State of our Knowledge as to the Nature of Malaria, and as to the Reclamation of Malarious Countries"). The paper is a reply to the author's many critics, and his fair and courteous tone is quite as remarkable as the trenchant force of his dialectic. Without entering into the arguments with which he seeks to remove objections, or to add confirmation to his position, we may admit that he has shown reasonable cause for adhering to the conclusions set forth in his now well-known treatise on the "Climate of Rome," reviewed in *The Lancet* of October last. Even as a working theory of the origin of malaria and its remedy, it is not too much to say that his doctrine still holds the field, while he can claim the independent investigations of pathologists like Mosso, of Turin, as yet further reinforcing that doctrine. The concluding section of his paper refers to the treatment—the prophylaxis, rather—to be adopted in malarious countries, and he still holds to his belief in the preventive utility of arsenic, as "augmenting the mean resistance of the human organism to the invasion of the malarious ferment." Often enough he confesses this end is not obtained because in many cases the "specific resistance" has already sunk below the "mean resistance,"

either through defective or deleterious alimentation, or through long-continued depression, moral as well as vital, or through previous malarious attacks. Dr. Ricchi, medical supervisor of the South Italian Railways, and now of the Adriatic network, has, at the instance of Tommasi-Crudeli, set himself for some time to obviate these adverse conditions; and to aid the preventive virtue of the arsenic, he has prepared an aliment which has been found materially to answer that end. It consists of a powder, impalpable, soluble in water, in coffee, in broth, and such like, prepared with the "sterilized" and desiccated blood of calves, and now known to commerce under the name of "trefusia." The composition, quite accessible to the very poor, "has served," says Tommasi-Crudeli, "to render resistant to malaria those whose organisms, already deteriorated, were not susceptible of protection by the arsenical treatment alone." He further reiterates his confidence in the decoction of lemon as a prophylactic, and even as a remedy, in cases in which quinine and arsenic have failed. In testimony of this he adduces the experience of Professor Colasanti and of Drs. Taussig and Ferraresi, of Rome, and of Dr. Shakespeare, of Philadelphia, all of whom have noticed the efficacy of the decoction in every stage of malarious disease.—*Lancet*.

CASE OF CANCER OF A DOUBLE UTERUS AND VAGINA.—Dr. Carl Huber describes this case in Virchow's *Archiv*, vol. cviii, part i. The patient died at the age of 65. Menstruation was normal from the first, and ceased at 48. She married twice, and had borne six healthy children, including a pair of twins. Labor was always easy. Symptoms of cancer began two years before death, and an ulcerating tumor of the cervix was diagnosed, yet no abnormality of the sexual organs was suspected during life. At the necropsy, uterus bicornis, with a complete division of the vagina into two halves, was discovered. The pelvic and lumbar glands were infected, and the new growth perforated the walls of the bladder and rectum. The left ureter was compressed, there was hydronephrosis of the left kidney, and pyometra in both halves of the uterus. The uterus formed two spherical bodies; the vagina measured over two inches, and a median septum ran from the vulva upwards. The left half was widest at the entrance, and no trace of a hymen could be found; the right half admitted the finger, and was surrounded by carunculæ myrtiformes. The tubes, ovaries, and other genitals were normal. Both halves of the vagina ended above in a cancerous mass, which involved the vaginal mucous membrane, the cervix, and the body of the uterus. The relationship of malformation to new growths has been often discussed, but there is no sound evidence to explain why a uterus bicornis should or should not be more subject to cancer than a normal uterus. The frequency with which these malformations is overlooked is very singular, especially in a case like that described above, where the patient was a multipara, and died from a grave uterine disease.—*British Medical Journal*.

UNSATISFACTORY MEDICAL APPOINTMENTS.—At the recent annual meeting of the State Medical Society of West Virginia the following preamble and resolution was adopted with much unanimity:

WHEREAS, We are assured that in the recent appointment to the vacancy of the Board in the First District the letter and spirit of the law were violated, and that the character of the appointment in other respects is not such as the profession have a right to expect, in consideration of the dignity and responsibilities of the office.

Resolved, That the action of the Governor, in making this appointment merits our unqualified disapproval, and that we most earnestly and respectfully call upon him to assist us, by his official acts, to maintain and uphold the law in its spirit and integrity.

The law referred to is the Act creating a State Board of Health, and the action of the Governor of the State so "unqualifiedly disapproved" was the appointment of Geo. J. Garrison, M.D., of Wheeling, to fill a vacancy on said State Board of Health. If we are correctly informed, the said Dr. Garrison had received a diploma only about one year previous from the Jefferson Medical College, of Philadelphia, and that after having attended but *one* regular annual course of lectures, although he had been in practice for several years. The same appointment had been protested against by twenty-nine of the physicians of Wheeling. Such action, on the part of the State Medical Society, and of a large majority of the regular members of the profession in Wheeling, is sufficient evidence that the Governor's appointment was not based on any superior professional education or special fitness on the part of the appointee, such as would enable him to discharge the important and responsible duties devolving upon the State Board of Health, in such way as to command the confidence and respect of the profession and the people of the State. It is the frequent recurrence of such mere political appointments to positions requiring high professional attainments and acknowledged ability that causes so many in the medical profession to doubt the propriety of all legislation having for its object the control of medical education and practice. If we are not mistaken, it was this act of the Jefferson Medical College, in conferring the degree of Doctor of Medicine on Dr. Garrison after attendance upon only one annual college course of lectures that caused the West Virginia State Board of Health to threaten to exclude that college from the list of colleges recognized in good standing. And yet, hardly twelve months passes before the same cheaply graduated doctor becomes a member of the same State Board of Health by the act of the Governor of the State, in defiance of the expressed wishes of the medical profession of the State.—*Journal of Am. Med. Association.*

BONE-SETTERS AND SURGEONS.—In commenting on the recent death of R. H. Sutton, the bone-setter, who was well known in London, and especially in sporting circles, the *British Medical Journal* remarks: It is significant, though by no means surprising, that the

daily press has taken the opportunity of singing the praises of bone-setters this week, to the disparagement of orthodox surgery, as far as diseases of joints are concerned. The subject, as we are all aware, has been repeatedly discussed in medical journals and before medical societies. Some of the many sources of the bone-setter's success are self-evident. The public believe in "gifts" and "inborn genius," in men who know without learning. This feature in human nature is reflected in works of fiction, where the hero is made to scribble off some masterpiece of literature, or to dash off a picture which puts the old masters to shame, all without study, his time being taken up, as the narrative usually shows, by more picturesque but less professional employments. The bone-setter is popular partly because he is believed to be a genius who has not crammed his head with Doctor's Latin. Another class of the public have some personal objections to medical men, and chant the praises of bone-setters without looking into facts. There remain, however, the important truths that bone-setters have gained the confidence of hundreds of intelligent persons, and that, although it has repeatedly been shown that gross errors of diagnosis and complete failure have often attended the practice of these empirics, it is equally certain that they sometimes cure cases which ought to have been cured by qualified men already consulted. Patients with chronic articular diseases expect manual treatment, not advice. Too often they get only the latter from the surgeon, whilst the bone-setter does the work which the qualified attendant only tells the patient to do for himself, or at the most leaves it to be done by a "rubber." Thus not rarely we hear of a patient applying to some distinguished surgeon for relief from chronic synovitis of a joint, the result of a sprain. He is told to rub the affected part, and perhaps some lotion is prescribed. Now it does not follow that he has the least idea how to rub the joint, and at the best, manipulative treatment on one's-self is unsatisfactory. The services of a rubber may be recommended; then, if the joint be cured, the rubber rather than the surgeon gets the credit. When, on the other hand, a patient consults the bone-setter for the same affection, the joint is dexterously wrenched after it has been pronounced to be "out," old adhesions are torn down, and permanent benefit often effected, and all this is done by the bone-setter himself at one sitting. Of course, a success of this kind inspires public confidence in favor of the empiric, who also knows when the extra services of a rubber are needed. He makes a show of doing something for the patient himself from the very first, and uses terms at random, which give the impression that something definite has been done. The surgeon is consulted because he is supposed to cure with his hands. He is never above operating, so there is no reason why he should be above manipulating. When surgeons become as ready to rub and manipulate old sprains in the consulting-room as they are to open thecal abscesses, and to master the details of breaking down old adhesions as they now master the steps of an operation, the bone-setter's occupation will be gone.

THE DOCTOR'S HOLIDAY.—Few classes of men stand in more urgent need of an annual holiday than the members of the medical profession. Their work is very constant, very exacting, always anxious, often in the highest degree laborious and harassing. Just in proportion to the scantiness of their daily leisure is the necessity for an adequate annual rest. Yet this necessity is but too commonly overlooked or trifled with, and not rarely the doctor works on year by year until an imminent failure of health compels the adoption of a practice which might at an earlier date have proved both a source of much pleasure and an efficient prophylactic against premature breakdown. How often do we inculcate upon our patients the folly of working on until the overwrought machine gives way at some point; how commonly does our practice belie our precepts. No doubt the difficulties which beset the medical man in arranging for a holiday are in many respects peculiarly embarrassing, and the busy practitioner is tempted to think that the rather chequered pleasures of a hastily snatched holiday are dearly bought at the cost of the unusual worry and vexation which sometimes ensue upon his return home. But to argue in this way is to follow a short-sighted philosophy. The man who wishes to make the most of his powers and to give himself the chance of long life must learn to rest, and to rest betimes, before body and brain have suffered irremediable damage. Work is but one side of life; rest and amusement form the other, and each is essential for the man who would be

“In se ipso totus, teres, atque rotundus.”

—*Lancet.*

HISTORICAL SKETCH OF ST. BARTHOLOMEW'S HOSPITAL.—In 1102 a certain Master Rahere, who had followed the profitable, but not wholly respectable, trade of minstrel during the reign of William Rufus, and had attracted the favorable notice of William's successor, Henry I., found himself in possession of what was for those days a tolerably large sum of money. This money he resolved to use—like many other gay gentlemen of his time—in atoning by some good work for the little irregularities of his earlier years. Accordingly he founded a priory in Smithfield, the ancient chapel of which still exists as the parish Church of St. Bartholomew the Less. Nor did his zeal stop there. Hardly was the priory built when its founder obtained from King Henry the grant of “a certayne peece of waste lande nigh thereunto,” upon which he built and endowed “to the honor and prayse of the blessed Sanct Bartholomew, a hospital for a master, brethren, and systers, and for the good entertaynement of all poor folk and such as bene sick of divers diseases, until such time as they be whole and sound agayne.” Thus established in the heart of London, the new hospital did abundance of good work, and was manfully helped in doing it by the honest burghers of the city. In process of time the priory was incorporated with it, and in 1547 the boy King, Edward VI., made over the entire building to the citizens of London as a public hospital, in which capacity it probably found plenty to do

in an age when every man had a weapon and what Paddy would call "a dacent notion of usin' it," and when street fights, with three or four lives lost on either side, were matters of almost daily occurrence. The great fire of 1666, which swept away so many priceless monuments of London's past, revered the famous hospital, but its ancient walls gradually crumbled before the slower assaults of time, and in 1729 the whole edifice was rebuilt in the modern form, which it still retains. In 1782 the management of St. Bartholomew's was united with that of Bethlehem, St. Thomas's, Christ's Hospital, and Bridewell, and the group thus formed received the title of "the five royal hospitals," the superintendence of which was intrusted to "the pious care of the Lord Mayor of London."—*David Ker in the N. Y. Times.*

"CHRISTIAN SCIENCE" AND "MIND CURE."—In speaking of the Rev. Dr. Buckley's able article on this subject in the *July Century*, the *Boston Medical and Surgical Journal* says: Perhaps the cream of the whole article is the following, which constitutes a portion of a prayer, printed *verbatim*, capitals and all, from a text-book on a "Mind-Cure," issued by the President of the "New York School of Primitive and Practical Christian Science," who states that his school will be free from "eccentricity, pretension, and fanaticism."

"PRAYER FOR A DYSPEPTIC."

"Holy Realty! We BELIEVE in thee that thou art EVERYWHERE present. We *really* believe it. Blessed Reality, we do not pretend to believe, think we believe, believe that we believe. WE BELIEVE. Believing that Thou art everywhere present, we believe that Thou art in this patient's stomach, in every fibre, in every cell, in every atom; that Thou art the sole, only Reality of that stomach. Heavenly, Holy Reality, we *will* not try to be such hypocrites and infidels as every day of our lives to affirm our faith in Thee and then immediately begin to tell how sick we are, forgetting that Thou art everything, and that Thou art not sick, and, therefore, that nothing in this Universe was ever sick, is now sick, or can be sick. Forgive us our sins in that we have this day talked about our backaches, that we have told our neighbors that our food hurts us, that we mentioned to a visitor that there was a lump in our stomach, that we wasted our valuable time, which should have been spent in Thy service, in worrying for fear that our stomach should grow worse, in that we have disobeyed Thy blessed law in thinking that some kind of medicine would help us." * * * "Lord help us to believe that ALL Evil is utterly unreal; that it is silly to be sick, absurd to be ailing, wicked to be wailing, atheism and denial of God to say 'I am sick.' Help us to stoutly affirm with our hand in Your hand, with our eyes fixed on Thee, that we have no dyspepsia, that we never had Dyspepsia, that we will never have Dyspepsia, that there is no such thing, that there never was any such thing, that there never will be any such thing. Amen."

MEDICAL NEWS.

PROGRAMME OF THE INTERNATIONAL MEDICAL CONGRESS.—The Chairman of the Committee of Arrangements, Dr. Garnett, announces the following programme :

First Day—Monday, September 5th.—The Congress will assemble at Albaugh's Opera House, at 11 A. M., and will be formally opened by the President of the United States, to be followed by a short address of welcome by the Secretary of State; address by the President of the Congress; report of Secretary-General and Chairman of Committee of Arrangements. Adjourn at 1.30 P. M. From 3 to 6 P. M., meeting of the Sections at their respective halls. Evening *conversazione* at U. S. Pension Hall from 8 to 11 P. M.

Second Day—Tuesday, September 6th.—Meeting at 10 A. M. at Albaugh's Opera House. General addresses by Drs. Flint and Semmola. Sections will meet at 11 A. M., and adjourn at the same hour with Congress at 1 P. M. In the afternoon the Sections will meet from 3 to 6 P. M. In the evening it is expected that a reception will be given by the President of the United States, and the Corcoran Art Gallery will be thrown open to the members and their families.

Third Day—Wednesday, September 7th.—The Congress will meet at 10 A. M. General addresses until 1 P. M. The Sections will meet as usual at 11 A. M., and adjourn at 1 P. M. Afternoon meeting of the Sections from 3 to 6 P. M. Evening reception to the members and their families by the citizens of Washington.

Fourth Day—Thursday, September 8th.—General meeting at 10 A. M. Addresses, if not previously delivered. Meeting of the Sections at 11 A. M.; adjourn at 1 P. M. Afternoon, Sections meet from 3 to 6 P. M. General reception buffet banquet at U. S. Pension Hall from 8 to 11 P. M.

Fifth Day—Friday, September 9th.—General meeting at 10 A. M. Transaction of business affairs of Congress. Meeting of Sections at 11 A. M., and adjourn at 1 P. M. Afternoon, Sections meet from 3 to 6 P. M.

Sixth Day—Saturday, September 10th.—General meeting at 10 A. M. Adjourn at 11 for visit to Mount Vernon.

MORTALITY IN THE STATE OF NEW YORK.—According to the State Board of Health's *Monthly Bulletin* for the month of June, the whole number of deaths reported during that month was 7,414, forty per cent. of which were those of children under five years old. In each thousand deaths there were 111 from diarrhœal diseases, 7.25 from typhoid fever, and 64 from diphtheria. The death-rate from zymotic diseases in general is stated to have been decidedly smaller than that of 1885 and 1886.

SANITARY CONGRESS IN SOUTH AMERICA.—The Government of Peru has invited the republics of Central and South America to co-operate in a Sanitary Congress to be held in Lima on November 1.

PATENT MEDICINES IN BERLIN.—It is stated that the advertising or sale of patent medicines (secret or proprietary preparations) has been absolutely prohibited in Berlin, and sixty-one of them have been publicly denounced on account of disclosures made by chemical analysis.—*Med. News.*

PLENTY OF JOURNALS.—There are now said to be over seven hundred medical journals published in the different parts of the world. The number is still increasing. Louisville, Ky., publishes a larger number of medical journals than any other city in the world in proportion to population.—*Maryland Med. Journal.*

PHYSICIANS HAVE THE RIGHT OF WAY.—The chief of police of Chicago has issued an order giving the vehicles of physicians precedence at bridges, along with the mail and patrol wagons, ambulances, and fire apparatus.—*Med. Record.*

QUADRUPLET BIRTHS.—Dr. S. T. Lowry, San Antonio, Tex., reports in *Daniel's Texas Medical Journal* for July the case of a German woman, who, having had several single children by her former husband, about a year after her second marriage was delivered of four well-developed female children at the end of six months' utero-gestation. All showed some signs of life at birth, and each measured 12 inches in length, and weighed about $2\frac{1}{2}$ pounds each. Each child was in a separate membrane, with separate cords and placentæ, but were attached to each other at their margins. These were removed with some difficulty, and there was considerable hæmorrhage. Mother recovered well and rapidly. In Collin's tables of over 129,000 deliveries, there was only one quadruplet birth.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.—The recent annual meeting of this Society, at Crab Orchard Springs, Ky., was largely attended and very successful. The papers and discussions were of great interest, and \$250 was contributed towards defraying the expenses of the Ninth International Medical Congress. The address of the President, Dr. I. N. Love, was excellent, and the *Medical Register*, in commenting on the address and the meeting, says: "Another successful meeting of this Association closed on the 15th of July, and this success is largely due to the fact that the younger men are interested in it, and that the time is devoted to work, and not entertainments, shows, and ethical quarrels or discussions. The address of the president, Dr. I. N. Love, of St. Louis, was a scholarly effort, and hit at the roots of many evils in the profession. It should be read by every doctor in the United States. The paper was good, well delivered, and interesting. The election of Dr. Reynolds, of Louisville, Ky., as the president for 1888, was a graceful tribute to his sterling worth and great ability, and a firm support when foes from without assail him."

WEST VIRGINIA STATE MEDICAL SOCIETY.—The twenty-first annual meeting of the West Virginia State Medical Society was held at White Sulphur Springs, on July 13th, 14th and 15th. Among the visitors present as guests were Drs. Miles, Welch, Michael and Opie from Baltimore, and Drs. Cullen, White and Upshur from Richmond, Va. Thirty new members were admitted, and Dr. Brock, of Morgantown, was elected president for the ensuing year. The next meeting will be held at Huntington, W. Va., in May, 1888.

THE AMERICAN RHINOLOGICAL ASSOCIATION holds its Fifth Annual Meeting in Washington on the 1st, 2d, and 3d of September. The President is Dr. J. A. Stucky, of Lexington, Ky.

THE AMERICAN NEUROLOGICAL ASSOCIATION held its Thirteenth Annual Meeting at Long Branch, N. J., July 20, 21 and 22. The following officers were elected for the ensuing year: President—J. J. Putnam, M.D., of Boston. Vice-Presidents—Wharton Sinkler, M.D., of Philadelphia, and B. Sachs, M.D., of New York. Secretary and Treasurer—Graeme M. Hammond, M. D., of New York. Councillors—George W. Jacoby, M.D., of New York, and Robert T. Edes, M.D., of Washington.

THE AMERICAN OPHTHALMOLOGICAL ASSOCIATION held its Twenty-Third Annual Meeting at New London, Conn., July 20 and 21. The following officers were elected: President—Dr. William F. Norris, of Philadelphia. Vice President—Dr. Hasket Derby, of Boston. Secretary and Treasurer—Dr. O. F. Wadsworth, of Boston. Corresponding Secretary—Dr. J. S. Prout, of Brooklyn.

THE AMERICAN OTOLOGICAL ASSOCIATION held its Twentieth Annual Meeting at New London, Conn., July 19. The following officers were elected: President—Dr. J. S. Prout, of Brooklyn. Vice-President—Dr. George C. Harlan, of Philadelphia. Secretary and Treasurer—Dr. J. J. B. Vermyne, of New Bedford, Mass.

CHOLERA IN ITALY.—On August 9 four new cases of cholera were reported in Naples, nine new cases and four deaths in Resina, and several cases in Palermo, Messina, and Syracuse, Sicily. August 18, there were reported twenty-five new cases and sixteen deaths in Palermo.

THE YELLOW FEVER AT KEY WEST.—Up to August 7, the total number of deaths reported was 221, with 45 deaths.

TRACHEOTOMY IN OPIUM POISONING.—In a recent case of opium poisoning at Buffalo, in which all other means had failed, Dr. George Fell succeeded in resuscitating the patient by opening the trachea and keeping the lungs supplied with oxygen by means of a bellows.

DEATH UNDER ETHER.—On the 3d of August, Dr. D. Hayes Agnew, of Philadelphia, lost a patient while under the influence of

ether, upon whom he was operating for hemorrhoids. There was no heart trouble, and the gentleman had previously taken ether without experiencing any bad effects from it.

A NEW LOCAL ANÆSTHETIC.—In the *N. Y. Medical Record* of July 30, Dr. J. Herbert Claiborne, Jr., reports successful results obtained with an alkaloid obtained from the tear blanket tree of Louisiana, used as a local anæsthetic in the same manner as cocaine.

DEATH UNDER CHLOROFORM.—The death of a youth, aged 14, while under the influence of chloroform, occurred last week at Addenbrooke's Hospital, Cambridge. The evidence of Mr. George Edward Wherry, surgeon to the hospital, whose patient the deceased was, was to the effect that three months previously the lad underwent an operation for the removal of diseased bone in the foot, and the operation being successfully performed he was discharged. The disease recurred, and another operation was undertaken for the purpose of removing the diseased bone. By Mr. Wherry's wish, Mr. Street (the house-surgeon) administered chloroform, and when the operation was about half completed it was observed that the boy was faint, and that the action of the heart had entirely stopped. The jury returned a verdict that the deceased died under the influence of chloroform, skillfully administered, and expressed their belief that no blame attached to anyone.—*British Medical Journal*, July 16.

TYPHOID FEVER AT MOUNT HOLLY, N. J.—Mount Holly, N. J., has had an epidemic of typhoid fever, the origin of which very closely resembles that of the disastrous one at Plymouth, Pa. Water for public use is taken from Rancocas Creek, which flows down from the cedar swamps, fifteen or twenty miles away. The local Board of Health discovered that at Smithville, three miles above Mount Holly, there were two or three cases of typhoid in a boarding house, and that the contents of a cesspool on the premises passed directly into the creek. Here the germs of the disease entered the water, and they were carried down to the crib at Mount Holly, from which the water used by the inhabitants of that place is taken.

DEATH FROM POLLUTION OF A WELL.—A report from Wilmington, Del., dated July 12, states that a man and his wife and their eleven-months old child died of dysentery, attributed to the pollution of their drinking water with decomposing meat. It was brought out at the inquest that a piece of fresh meat had been placed in an old kettle and suspended by a windlass in the well for preservation. For some cause or other, the meat was forgotten and had putrefied and been blown by flies. The tin receptacle in which it was hanging contained numerous holes, and the decaying meat fell into the drinking water. All who used the water were affected. The two surviving children were removed from the house in time to at least prolong their lives.

STATISTICS OF INTUBATION.—Dr. Dillon Brown presents in the *N. Y. Medical Record* the statistical records of intubation as follows: Total number of cases reported, 806, with 221 recoveries—27.4 per cent.

THE TEXAS MEDICAL COLLEGE AND HOSPITAL has been re-organized, and a Board of Trustees elected, with Dr. D. F. Stuart, of Houston, for President. Appropriate committees have been selected, and much solid work has been done. Some \$20,000 for the purchase of laboratory and general apparatus is guaranteed. The Sealy Hospital is to be speedily erected (with the fund left for that purpose by the late John Sealy). The faculty of the college is to be the Medical and Surgical staff of this Hospital. It is proper to state that there is an understanding and agreement between the movers in this enterprise and the Regents of the State University, that when the State shall be in position to carry out the law with regard to founding a medical branch of the State University, this organization shall be dissolved, and all property belonging to it is to be turned over to the Regents for the use of the latter institution. The fund for the purchase of apparatus has been raised by subscription amongst the wealthy citizens of Galveston, with this understanding. Dr. Wooten, President of Board of Regents, has recently shown that it will be some ten years before the University fund will be in such shape as to enable the Regents to carry out the plan; meantime, by or before the fall of 1888 we will have in full operation a first class medical college, where the 460 Texas students will find every facility for acquiring as thorough and complete an education as can be had in any medical centre of the North, East, or West.—*Daniel's Texas Medical Journal*.

LEGALIZED DISSECTION IN GEORGIA.—The Georgia Legislature has finally passed what is known as the Candler bill, which provides for a fair distribution of dissecting material among the various medical colleges, and also changes the crime of grave-robbing from simple misdemeanor to felony.

“MEDICAL COLLEGES IN GOOD STANDING.”—At the quarterly meeting of the Illinois State Board of Health, held July 8, 1887, the following resolution was adopted: *Resolved*, That the phrase, “medical colleges in good standing,” in the first section of the Act to Regulate the Practice of Medicine, approved June 16, 1887, is hereby defined to include only those colleges which shall, after the sessions of 1890–91, require four years of professional study, including any time spent with a preceptor, and three regular courses of lectures, as conditions of graduation, and shall otherwise conform to the Schedule of Minimum Requirements heretofore adopted by the board.

THE CROWN PRINCE OF GERMANY has gone to Scotland in excellent general health. Before leaving London his throat was operated on

for the fourth time by Dr. Mackenzie, the galvano-cautery being employed on this occasion.

CHOLERA IN MALTA.—Cholera appears to be spreading in Malta, and as many as fifteen new cases and twelve deaths have been reported within a single twenty-four hours.

CREMATION IN CASES OF DEATH FROM YELLOW FEVER IN BRAZIL.—By Imperial decree cremation has been made compulsory in Brazil in cases of death from yellow fever. The cost of the crematorium and all other expenses connected with the cremation of the bodies are to be paid by the community.

THE BRITISH MEDICAL ASSOCIATION held its Fifty-Fifth Annual Meeting at Dublin, August 2, 3, 4, and 5. The address of the President, Prof. J. T. Banks, was on "The History of Medicine in Dublin;" the Address in Medicine, by Prof. W. T. Gairdner, of Glasgow, was on the question, "Has the Art of Medicine Advanced During the Present Century?"; the Address in Surgery, by Professor Edward Hamilton, was on "Tissue Resistance and Antisepticism;" the Address in Public Medicine, by Dr. Samuel Houghton, was on "Reflections on Death-Rate, with Special Reference to Dublin and Its Suburbs;" the Address before the Section of Psychology, by Dr. J. R. Gasquet, President, was on "The Psychological Aspect of Insanity;" and the Address before the Section of Medicine, by Dr. Wm. Moore, President, was on "Advance in Knowledge of Fevers." The meeting was largely attended, and the interest well maintained throughout. From the journal of the Association it is learned that the Obstetric Section was full to overflowing on the first day, to take part in the discussion on "Puerperal Fever," introduced by Dr. W. S. Playfair, and to hear Dr. Apostoli's paper on his method of treating fibroid tumors of the uterus by electricity. In the Surgical Section a large audience were present at the discussion on the "Radical Cure of Hernia;" in the Medical Section there was a spirited discussion on "Aphasia;" while in the Section of Therapeutics and Pharmacology, after the resolution proposed with regard to the right of the profession at large to a share in the compilation and revision of the "British Pharmacopœia" had been adopted, Dr. Unna, of Hamburg, gave a demonstration of his method of treating diseases of the skin by the application of his "glycerine-gelatin" preparations, his "salve-muslin," and his "plaster-mulls."

INTERNATIONAL CONGRESS OF INEBRIETY.—Among the papers presented at the recent Colonial and International Congress of Inebriety, of which Dr. Kerr was President, were the following by American authors: "The Physical Aspect of Inebriety," by Dr. N. S. Davis, of Chicago; "Inebriety and Inebriate Hospitals in America," by Dr. T. D. Crothers, of Hartford; "The Relation of Intemperance to Insanity," by Clark Bell, Esq., President of the Medico-Legal Society of New York.

THE LONDON HOSPITAL SUNDAY FUND.—The Report of the Distribution Committee, adopted by the Council of the Hospital Sunday Fund for the current year, shows that the total amount available for distribution, after allowing sufficiently for liabilities and the usual current expenses, is £39,125. The result of the collection last year was a total of £40,300.

A NEW TEACHING UNIVERSITY FOR LONDON.—The terms of the draft charter for a new university, to be named the Albert University of London, and designed to include a district of fifteen miles' radius from Somerset House, have been agreed upon and adopted by the Councils of University and King's Colleges. The charter is in its essential features similar to that of the Victoria University.

THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF BUFFALO.—Dr. Charles G. Stockton has been appointed professor of theory and practice of medicine and clinical medicine, to fill the vacancy caused by the death of Dr. Thomas F. Rochester. A department of veterinary medicine has been established, for which, it is expected, a new building will be erected and fully equipped.

CONTAGIOUS DISEASE AT HAVANA.—The Marine Hospital Bureau is informed that small-pox and yellow fever are raging in Havana, Cuba. During July there were 104 deaths from yellow fever and 112 from small-pox.

A SUIT GAINED.—The United States Circuit Court has granted a perpetual injunction restraining the publication of a formula for a liquid medical preparation under the name "bromidia," unless there is also published, in connection with the said words "bromidia," or "bromidio," a statement that the preparation covered by the said receipt is put up and sold by Battle & Co., of St. Louis, under the trade-mark "Bromidia."

CARL L. JENSEN, of Philadelphia, has secured the building 161 West 23d Street for a branch office and depot of his well-known pepsin preparations. Mr. C. P. Strauser is his agent in this city.

DR. RICHARD H. LEMMON died at his home in Lynchburg, Va., July 6, 1887, from acute gastritis; age about 33 years. He was a graduate of the Medical Department of Tulane University of New Orleans, and was a Fellow of the Medical Society of Virginia when he died. The Lynchburg Medical Faculty, at a meeting July 7, adopted appropriate resolutions in regard to his death.

DR. SAMUEL H. HENRY, of Baltimore, died July 12, in the sixty-ninth year of his age. He was a native of Somerset County, Maryland, and was graduated from the University of Pennsylvania, Department of Medicine, in 1839. He practiced his profession at Elkrige Landing, Md., until 1876, when he settled in Baltimore. His death is said to have been due to paralysis.

DR. E. D. STANDIFORD died at his home in Louisville, July 26, 1887, at the age of 56. He was married three times and leaves seven children. His last marriage was on July 7, and he had been out of the house but three times since the wedding. Dr. Standiford was the most prominent capitalist of Louisville. He served several times in the State Senate, and was a member of the Forty-third Congress. He was president of the Louisville and Nashville Railroad. His fortune is placed at two millions.

EDITORIALS.

ARE STARCH-CONTAINING FOODS DANGEROUS TO YOUNG INFANTS?—At a recent meeting of the Clinical Society of London, Mr. Robert William Parker, Surgeon to the East London Hospital for Children, read a paper on the alleged dangers of starch-containing foods during the period of infancy, in which he took a different view of the subject from that now entertained by the best authorities on pædiatrics. After many years' work in a children's hospital, he has arrived at the conclusion that the dangers of this kind of food are very greatly exaggerated, and he does not hesitate to say that he has never himself met with cases in which he could distinctly and directly trace disorder to starchy foods. His object in making these statements is not to advocate artificial feeding in preference to nursing, but to draw attention to what he believes to be the real and proximate causes of the immense mortality which obtains among young children, especially among the children of the poorer classes—namely, congenital debility.

"It cannot be gainsaid," he says, "that very many artificially-fed children are puny and weakly, and it has come to be generally accepted that the children are puny and weakly because they are so fed. On the other hand, an analysis of any 100 wasted and weakly children will show that a considerable number of them are breast-fed; and further, that of those which are being artificially fed many were puny and weakly when artificial food was commenced, and that artificial food was either added to the nursing, or substituted for it, because the children were not thriving. What inferences, then, are to be drawn from these facts? First, and chiefly, that many children are congenitally deficient in the vitality and digestive power which are absolutely essential to their healthy development. Such children will be weak and puny on any diet. Such children as these, moreover, are just the kind of children we should expect to be born of women (of parents) themselves weakly, either congenitally or from acquired causes, such as irregular modes of living, drink, poverty—leading as it does to privation of every kind; food, fresh air, light, rest, etc. Can women exposed to such conditions as these be ex-

pected to give birth to strong, healthy children, or even to produce good milk in sufficient quantity to nourish their children properly?"

Towards deciding the issue raised, he gives an analysis of 100 histories of artificially-fed children, under twelve months of age, taken from among his unselected patients attending the East London Hospital for children; which shows, he thinks, that in a very large percentage of cases the lowered health-status of the mother is obviously the reason why artificial feeding of their children has to be adopted.

"It does not need any long experience," he goes on to say, "to enable one to predicate that if the mothers are weakly their offspring likewise will be weakly. It follows, therefore, that the reason why so many children are fed on artificial food is that they do not thrive on the breast-milk of their mothers, or that they do not thrive on that alone. Thus, in estimating the causes and treatment of marasmus and other kindred diseases in infancy, it seems to me that too little stress is laid on the congenital debilities under which vast numbers of children labor, and too much stress is laid on artificial feeding, especially on the injurious effects of starch-containing food."

He does not question the immense value of good maternal nursing, nor underrate the dangers and disadvantages of artificial feeding. He states that he simply questions the truth of the belief that starch foods are actively injurious, and for the following among other reasons: "That many and many a child is now alive and well to testify against such a doctrine; that in years gone by, before malted foods came into vogue, hundreds of children thrived upon milk thickened with a little of one or other of the common starch-containing cereals; that there are no experimental investigations to warrant such an assertion; that, as is well known, animals, when fed on starch, do not get rickets and the diseases usually attributed to starch-feeding—they die of inanition; that the starch taken in with the food passes out with the *fæces* unaltered. If it could be shown that the starch was broken up into other and deleterious compounds, there would be something to go upon but, as a matter of fact, the starch passes out of the body unchanged."

In this connection it may be of interest to refer to the examination of the *fæces* of twenty-four starch-fed infants, made by Dr. N. A. Randolph, two years ago, in the physiological laboratory of the University of Pennsylvania. Although the number of cases was small, the results are certainly unexpected and remarkable, since these showed that the presence of starch was exceptional, and apparently in no degree dependent upon the age of the child. The stools of eighteen out of the twenty-four children contained either no starch, or but a trace, i. e., no more than is frequent in the evacuations of a healthy adult upon a mixed diet. Six of the specimens examined were from children of three months or less, the youngest being but forty-five days old. In many cases the broken and empty cellulose envelopes of the starch-granules were clearly discernible. From these experiments, then, it is concluded that many infants of under three months can digest starchy

foods, and that the individual variations, in this regard, are so numerous that no broad and general statement can be made as to the period at which infants begin to digest starches.

It would seem, therefore, if these experiments are to be relied upon, that Mr. Parker and most other writers are mistaken in supposing that starch is not digested by young infants, but passes out of the body unchanged, except it may be in comparatively rare instances. Until the present time, however, it has been an undoubted fact, as he asserts, that the belief in the dangers of starch-food during infancy is widespread and generally accepted in the profession. Hence he thinks that there should now be a reconsideration of the starch dogma, and it certainly does seem desirable that a full and impartial scientific investigation of this important subject should be made. But whether his views as to the innocuousness of starch should be confirmed or not, his paper is likely to prove of service in attracting attention to the fact that considerable harm has no doubt resulted from the almost exclusive attention which by many has latterly been bestowed on this element in infantile dyspepsia, and to the importance of more generally taking into consideration the congenital condition which may be largely responsible for the existing atrepsia.

CORKAGE OF THE URETER WITH CLOT IN CASES OF ADVANCED CANCER OF THE KIDNEY.—In a recent paper before the London Medical Society, an abstract of which has appeared in the *Lancet*, Mr. E. Hurry Fenwick proposes the ingenious procedure referred to.—He has long been strongly impressed with the necessity for adopting some measures, other than excision, in the treatment of cancer of the kidney, as the statistics of nephrectomy show the futility of removing a kidney thoroughly attacked by carcinoma. Cases such as these are often met with in practice, but sometimes, he finds, there is superadded a profuse and ungovernable hæmaturia—a hæmaturia which prostrates the patient, defies all remedies, and which slowly, always surely, reduces that short term of life allowed by the disease to a minimum. In casting about for some conservative measure to arrest the hemorrhage, without attempting to remove its source, there occurred to him the skillful manner in which the ureter is sometimes spontaneously plugged with clot, obstructed by growth, or pressed upon and rendered impassable by the enlarged lower segment of the kidney, the hemorrhage being thereby suddenly and permanently arrested. Post-mortem examination of these cases shows the pelvis to be distended with a large firm blood clot, and the canal to be impervious, and it seemed to him to be within the range of possibility to imitate this by inducing clottage of the blood in the ureteral canal, while it did not seem beyond the range of probability that the mere pressure of the distended pelvis upon the renal vessels would restrain slightly the flow of nourishment to the neoplastic growth, and thus reduce its rate of increase. The course he proposed to adopt in a suitable case was to introduce into the bladder some form of

nstrument which would allow of the vesical orifice of the ureter being nipped between it and the compressing finger in the rectum. The instrument he decided upon was his own ureter aspirator (Vide *The Lancet*, September 18th, 1886, p. 529), which can be made to embrace either ureteral orifice without trouble.

He then proceeds to narrate the first case that came under his care at St. Peter's Hospital which seemed to justify such an attempt being made. Although its clinical aspect is strongly in favor of the conclusions he has drawn being correct, yet its pathological history is wanting, and he does not hesitate to say that without post-mortem evidence its accuracy is questionable and its value greatly diminished.

"J. L.—, aged fifty-three, had been healthy up to July, 1884. On the 31st of that month he received a severe blow upon his chest which caused him an hour afterwards to pass much blood in his urine. From that time he continued passing blood in large quantities and at irregular intervals for thirteen months. The hæmaturia was often apparently causeless in its origin, always painless in its course, and generally beyond the control of drugs. It used to stop gradually, only to reappear suddenly in a few day's time. Thirteen months after its onset he applied for relief at the out-patient department of St. Peter's Hospital, bringing with him a bottle of scarlet hæmaturia. He was at that time suffering from some pain in the right kidney, and had lately lost flesh and strength. He was very anæmic. There was no renal tumour to be felt, although pain was experienced on pressure in the region of the right kidney. No vesical or prostatic cause for the hemorrhage was found. I explained the case to him, and, finding the hæmaturia unaffected by drugs, I advised attempting to close the right ureter with a clot, and failing this to excise the kidney. He consented to the former operation. After carefully washing out the bladder I injected two drachms of a 20 per cent. solution of cocaine. I then introduced my right-sided ureter aspirating catheter, and turned it a quarter of a revolution on its long axis, so that the lateral eye of the instrument overlay the orifice of the right ureter. I now made a little counter-pressure per rectum with my left index finger, and exhausted the air in the catheter by means of its evacuator ball. On removing the catheter ten minutes after I found a large white clot, which I believed had been sucked from the ureter into the eye and shaft of the instrument, and I concluded that more of the same clot was collected in the lower third of the ureteral canal. Had I plugged the canal? With the exception of a little bleeding that night, which I believed came from bladder instrumentation, *he had no recurrence of the hæmorrhage up to the date of his death six months after*, and this although the hæmorrhage for the previous fourteen months had been recurrent and profuse. The patient now rapidly picked up in health, weight, and strength. In three months' time, however, he relapsed, and I found what I had often examined him for—viz., a right-sided renal tumor. The pain in the same region became worse, and in a month or two

he wasted considerably, and finally died exhausted six months after my interference. I had the opportunity of examining the patient shortly after the operation with Dr. B. Ward Richardson, and although there was no disagreement as to the site of the hemorrhage, our opinion as to the nature of the lesion differed. This we expected to reconcile by post-mortem examination, a privilege which was, however, most unfortunately denied us."

In conclusion Mr. Fenwick remarks: The case, therefore, must stand upon its clinical merits, but sinks in value in comparison with the question of the advisability and possibility of closing the ureter in cases of which the foregoing is an example. If it be possible, is it surgical? The answer to that question is ready, but not complete. The interference is *imitative*, and is based upon pathological ground. It has the advantages of being painless, and though palliative it is strictly conservative. Its probable objection rests in the formation of a renal blood tumor, for there is but little renal substance left to form a hydronephrosis. Usually the hemorrhage is directly into the pelvis, and the fibrous wall of the pelvis is rarely attacked, so that its integrity will generally prohibit the formation of a large blood collection.

AMERICA AHEAD.—A recent number of the *Medical Press and Circular* contains the following Jeremiad on "Fashion and Dress": "To what trying experiences, to what appalling discomforts have a large portion of the male sex been exposed during the past extraordinary weeks of heat, on account of the inexorable fashion which demands the persistent use of the black tall hat, the black frock coat, the gloves, and the umbrella. It seems, after all, curious in the extreme that men should thus consent to make martyrs of themselves because of the dictates of fashion. Fashion in dress, with few exceptions, has been, and probably always will be, unphysiological. Now-a-days a business man only wears even a white waistcoat in an apolegetic sort of way, and yet everyone is agreed in regard to the suitability and comfort of these garments in hot weather. Why, then, should we condemn ourselves to mundane purgatory, and sacrifice health, good temper, and energy in the process? Health and fashion, it must be conceded, stand widely apart, having apparently rival interests. There is much cause for regret that nineteenth century wisdom has not been able to devise for the nobler members of mankind a more rational fashion in dress; in hot weather a man swelters in his apparel, in cold weather his clothing affords him the opportunity of acquiring the habit of shivering, and in each case he has only fashion to thank for the result."

Let our British friends learn a little wisdom from their American cousins. The relevancy of the allusion to the umbrella in this connection is not very apparent, as one would naturally suppose that in mitigating the force of the sun's rays it might perhaps be of service in diminishing the "appalling discomforts" of the heated term; but fortunately, in this heaven-favored land of liberty tall black hats, black

frock coats, and even gloves are for the most part banished during the summer months in favor of more seasonable apparel. Even in the large cities there has for some time past been a growing tendency to adopt a style of dress entirely appropriate to warm weather, and as to our seaside and other summer resorts, certainly nothing could well be more sensible and healthful than the loose flannels that are now so almost universally worn by the men there.

In regard to the dress of the fair sex—well, that is a different matter. The masculine mind is incapable of grasping the intricacies of such a subject, and the utter futility of declaiming against the discomfort and unphysiological character of the feminine wardrobe has long been recognized as altogether beyond question.

A HINT TO WRITERS OF FICTION.—Any fabricator of sensational stories in search of new horrors ought to be satisfied with the blood-curdling and harrowing tale which is contained in the following bit of newspaper intelligence recently received from South America, and which is particularly worthy of consideration from the fact that the concoctor of the diabolical scheme, by a happy disposition of poetical justice, himself fell a victim to the novel agent which he invoked for the destruction of his enemies; while it is also gratifying to learn that he finally made a full confession of his villainies, thus bringing the narrative to a satisfactory termination as the painful circumstances of case would admit:

“One of the most abominable acts of criminal vengeance conceivable by a human being has recently been perpetrated in Chili. This monster lived in Los Andes, Chili, and in his neighborhood there resided a family the members of which he hated. When smallpox appeared in the province he secretly obtained a number of dried pustules, and these he placed inside a plug of tobacco, which he threw away in a place where the people he hated were sure to see it. One of the children picked the tobacco up and gave it to her parents, who made cigarettes from it and smoked them. A very few days afterward smallpox broke out in the house, and with such virulence that no one of the family escaped. The criminal, however, was attacked with the disease a few days afterward, and died after confessing his crime.”

NOTICE TO NEW SUBSCRIBERS.—All who subscribe now for the JOURNAL for 1888 will receive the October, November, and December numbers of the present year free.

GAILLARD'S MEDICAL JOURNAL.

VOL. XLV.

NEW YORK, OCTOBER, 1887.

No. 4.

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ORIGINAL ARTICLES.

ARTICLE I.

COMPOUND FRACTURES OF THE SKULL, WITH SPECIAL REFERENCE TO TREPHINING IN GUNSHOT INJURIES, WITH A REPORT OF ONE HUNDRED AND SIXTEEN CASES. By FREDERIC S. DENNIS, M.D., New York.

Read at the Annual Meeting of the Fifth District Branch of the New York State Medical Association, held in Brooklyn, May 24, 1887.

A great diversity of opinion exists among surgeons as to the proper management of compound fractures of the skull produced by gunshot injuries. The past few years have been marked by such changes in the treatment of fractures of the skull that the practical surgeon is at a loss to know which plan to follow. Some surgeons recommend the most radical operative interference, while others insist upon the greatest possible conservatism. In the present state of conflicting opinion it is advantageous for us to consider the important question of the treatment of gunshot injuries of the skull. It is with a view to provoke a discussion upon some of the great principles involved in the treatment of cranial fractures and to solicit the opinion of surgeons as to their plan of procedure in these cases that the present subject has been chosen. The state of confusion into which this whole subject is thrown is not peculiar to the present day. The same revolution in treatment and the same uncertainty of opinion have existed before, so that the present attitude of this question is not unprecedented. The time has fully arrived when a thorough study of the opinions and writings of surgeons should be made, and such deductions should be drawn from their recorded experiences, as to enable surgeons to establish some fixed principles to guide them in the management of these gunshot wounds of the cranium. A century ago operative interference was the rule of practice. At that period, Desault, who was in the zenith of his glory, was the first to vigorously oppose the use of the trephine in fractures of the skull. His views were supported by such men as John Bell, Aberthony, Lawrence, Robert Liston, and many other eminent men in the profession. On the other hand, Percival Pott, John Hunter Gurthrie, Brodie, Velpeau, and many other illustrious surgeons advocated active surgical interference and employed the trephine in nearly all cases. The practice of these two schools moulded the opinions of surgeons throughout the different countries of Europe. The extent to which this diversity of opinion influenced the practice of French surgeons can be appreciated when it is stated upon the authority of the eminent British surgeon, the late Mr. Gamgee, that there were only four cases of trephining in France from 1855 to 1866. In England the influence of this same school of non-interference can be seen when one considers that in St. Bartholomew's Hospital in 1867, according to the authority of the late Mr. Callender, there has not been a single case of trephining for six years.' On the other hand, again, Percival Pott and his followers urged the almost indiscriminate use of the trephine. These surgeons were as active in advocating the operation of trephining as their opponents

were active in decrying its use. Thus it is evident that the want of a unanimity of opinion prevailed a century ago as it prevails to day.

There are still in existence two schools; but the line of demarcation between them is not so pronounced. The introduction of antiseptics has broken down a great barrier, and the question which now agitates the surgical world is how far operative interference is justifiable. It is not so much—shall the trephine be used or not, as it is—to what extent the trephine should be employed as a means to explore the interior of the cranial cavity in cases of gunshot injury. It is, in other words, an extension of the limits of an operation far beyond the highest conceptions of a class of surgeons who lived and practiced in pre-antiseptic days. It is with a view of formulating some safe line of practice to follow in all of these cases, and which shall conform to the present state of the surgery of the day, that I shall respectfully invite the attention of the Association. In gunshot fractures of the skull there are two classes of wounds.

First, the non-penetrating.

Second, the penetrating.

First. The non-penetrating gunshot wound is when the ball has not entered the skull. This wound is usually associated with a fracture of the skull; but it may exist without a complete fracture. Occasionally the ball may pass through the tissues and impinge upon the bony wall and embed itself into the periosteum and bone and not fracture the inner table of the bone. An illustration of this variety may be seen in this specimen. In the frontal region a ball may enter the frontal sinus and not fracture the internal table, and thus not penetrate the skull, because the bullet remains in the air sinus. Again, a ball will often strike the mastoid process of the temporal bone and adhere to its surface and not fracture the inner wall of the skull. A ball also may lie in the orbit and not penetrate the skull. In all of these varieties there is usually an absence of any cerebral symptoms. The ball is found outside the skull and with proper care these cases recover. When the ball has not penetrated the skull, and it has been removed, and the wound is not bleeding, free irrigation is indicated about the wound. The aperture is dusted with iodoform and the opening is hermetically sealed by a little styptic collodion. The surgeon, however, must be cautious, because it sometimes happens that a ball has penetrated the skull and there is no sign or symptom to lead him to suppose that such is the condition. I have seen a number of cases of laceration of the brain without cerebral symptoms. In one case the entire lock of a gun was driven into the brain

of a boy, in another case the bullet lacerated the brain, in still another case the ball with several large pieces of bone injured the brain, in still another case a large abscess existed in the anterior lobe of the cerebrum. In none of these cases were symptoms present pointing to such serious lesions. This can happen in an injury involving the frontal lobe of the brain, and the patient remains perfectly rational, free from any pain, with no elevation of temperature, and suddenly coma and death supervene. I cannot place too much stress upon this point, and I should like to emphasize this clinical fact in connection with lesions of the frontal lobe of the cerebrum. There is an important lesson to be derived from a narration of these cases. A penetrating wound may co-exist with absence of cerebral symptoms when the lesion is situated in the anterior lobes of the brain. The injury may be fatal from the start, though no evidence of it is apparent until some time has elapsed. It is in these cases that the surgeon must exercise great caution in giving a prognosis. I have seen cases where a fracture of the skull healed without any difficulty and the patient resumed his usual avocation in life and no trouble arose for years. Suddenly, from some unknown cause, an inflammation is excited and a cerebral abscess develops and the patient succumbs.

It is with a view to avert just such a serious complication that the surgeon should direct his treatment of the wound. He should leave the wound in such a condition that this accident would not be likely to occur. Patients suffering from head-injuries of the first class should always be kept quiet for some time after the accident. Any undue excitement might develop suppuration in or about the wound, or give rise to secondary trouble in the brain or its membranes as a result of a slight laceration produced by the original injury. As long as any signs of mental disturbance remain the patient should not be allowed to engage in any work, and under any circumstances he should remain perfectly quiet for several weeks following the head injury.

Second. The penetrating gunshot wound of the skull. In this variety the surgeon has to deal with an injury of extreme gravity. He should proceed at once to investigate the case with great care. Some general observations should be made. The mental condition should be first noted in order to see if the patient is conscious, or if simply suffering from shock, or if there is any loss of memory. Attention should next be directed to his bodily condition. The fact of the presence of convulsions, the state of the joints, whether flexed or extended, the presence of ptosis, the contraction or dilatation of the pupils, whether strabismus is present or facial twichings; these and

other conditions must all be examined. The presence of paralysis in any part of the body should be ascertained. The legs as to flexion or extension, the arms as to flexion, extension, pronation, and supination, the tongue as to unilateral protrusion, all these members should be examined for the purpose of locating the cerebral lesion.

If no convulsions are present to denote cerebral irritation, and if no paralysis to denote any cerebral compression, attention must be directed to the fact of the presence of anæsthesia or hyperæsthesia. The special senses, such as hearing, seeing, tasting, smelling, feeling, should be tested. Great care must be exercised in ascertaining the loss of any of the special senses that there is nothing to disturb the function of these nerves between the central origin and the peripheral extremity. For example, the loss of smelling must not be disturbed by a necrosis of the nasal bones. The tendon reflexes should next be observed. The pulse should be noted, remembering that a slow full pulse denotes cerebral compression from pressure of bone, or blood, or foreign body, but not pus until some time after an injury. The temperature of both sides of the body should be accurately recorded, the character, variety, and rapidity of the respirations. The urine should be examined for albumen and sugar. The eyes, ears, nose, and mouth should be inspected to see if any hemorrhage is present. The fact must also be remembered that a hemorrhage may take place into the middle ear and the blood pass down the œsophagus into the stomach by the eustachian tube. The ears and nose should be examined to see if there have been any escape of cerebro-spinal fluid. Emphysema about the nose should be looked for, also the presence of aphasia should be ascertained. All of these clinical facts must be found out in every head-injury in order to arrive at any conclusion as to the locality and severity of the cerebral lesion. The local wound should now be examined. The aperture of entrance should be carefully studied to see if any powder stain is about the opening. Attention should be directed as to the shape of the opening, the presence of hemorrhage, and the inversion or eversion of its edges. The wound of exit, if one exists, should also be examined. Information as to the kind of weapon which produced the wound, also the size and shape of the bullet or cartridge, should be obtained. Having completed the examination the patient is ready for trephining. The hair should be cleanly shaven from the entire skull, the head thoroughly washed, at the same time protecting the wound. Free irrigation should be employed and then a covering of wet bichloride gauze or carbolized wool should be placed over the head and bandaged, so as to be in contact with the scalp until every preparation for the operation is made and the patient is anæs-

thetized. The operation of trephining is divided into five stages. 1. Incision to fracture. 2. Application of trephine. 3. Removal of cause of compression. 4. Burnishing of edges. 5. Dressing of wound.

First step.—Under free irrigation the original wound in the soft parts can be explored as far as the opening in the skull. The fracture should now be examined and the character of it noted. It should be remembered in this connection that as a rule an injury to the skull is likely to produce greater damage to the internal table than to the external table, because the internal table is more brittle, and again because a physical law determines a fracture on the side of the greatest extension, the external table suffering compression, the internal table extension, and still further because a mass of material is carried before the force. It is for these reasons that a gunshot fracture should be explored. Another aphorism should be also remembered that it is not the damage to the bone as it is to the brain itself that makes a head-injury assume a serious aspect. A head-injury which apparently is trivial may result fatally in a few hours with no symptoms present until just before death. I once saw a man who had fallen while walking leisurely upon the sidewalk. There were no symptoms indicating a lesion for some hours; suddenly he became unconscious, coma supervened, and he died within twenty-four hours. The autopsy revealed the fact of a surface clot which produced death. I have seen, on the other hand, most serious fractures of the skull involving a large bone area, and even cerebral laceration, recover without the slightest disturbance.

The *second step* of the operation is now entered upon, and consists in the application of the trephine. The instrument should be placed directly over the bullet entrance and a disc of bone removed, which incloses the small opening made by the bullet. If there is a depressed fracture then the trephine should be applied in the usual manner over sound bone so as to elevate the depressed bone.

The use of the word trephining, in the sense in which it is at present employed, means not only the removal of a piece of bone by a circular saw, which perforates the skull, but it has reference to any operation in these injuries where loose pieces of bone are removed or elevated. In other words, the operation includes all the steps necessary to put a compound fracture of the skull into proper condition for aseptic healing. The interesting question of the treatment of hæmatoma scarcely can be considered in connection with gunshot fractures as it would be in simple fractures. Before the trephine is applied the periosteum should be gently pushed aside, and this membrane, which

is stripped up only so far as to permit the crown of the trephine, must be preserved. The periosteum thus preserved is placed over the opening, and later on it will throw out bone cells and form a dense hard medium to help close the wound in the skull. The pin of the trephine, having been pushed out one-eighth of an inch, is placed over the firm bone in the fracture. The pin is to be withdrawn if the trephine is to be placed over a small opening made by the bullet. The rotation of the trephine should be performed under free irrigation, because the friction of the saw is likely to generate sufficient heat to act like the actual cautery to the bone and produce peripheral necrosis. No pressure should be made upon the handle of the instrument. When the external table is sawn through, the hemorrhage from the diploe warns the surgeon. The central pin should be withdrawn, and great care exercised, because the internal table is often very thin and may be splintered. If the fracture is comminuted the trephine must be placed on firm bone, otherwise the fragments might be twisted and the dura mater torn. A new quill toothpick, which has been lying in carbolic acid, should be introduced into the groove to see if the bone is cut equally in depth around the entire circumference. Neglect to do this may result in a wound of the dura mater, and this greatly influences the mortality. The surgeon should remember that in the aged and in young children the diploe is practically absent. He should also remember, in performing this operation, the sage remark of Sir Astley Cooper, that "there is only the thinness of paper between eternity and his instrument." Any amount of bone should be removed that is necessary to explore thoroughly the fracture and put it in favorable condition for aseptic healing. To repeat what has already been said, injuries of the head are dangerous, not in proportion to the amount of bone fractured, or to the pieces of bone removed, but according to the amount of damage sustained by the contents of the skull.

The *third step* is now entered upon, and it consists in removing the cause of compression. When all the loose pieces of bone are removed the condition of the dura mater must be examined. If it is glistening and white, and pulsating with the respirations, there is probably no clot underneath, but if the dura mater has lost its normal appearance, and it is puffed out, and there are no pulsations present, there is most likely a hemorrhage under the membrane, produced by the bullet. If any epidural hemorrhage has occurred it is evident as soon as the disc of bone is removed. The hemorrhage is to be treated in the manner to be presently described.

The *fourth step* in the operation of trephining has reference to

the burnishing of the lower and upper edges of the disc. An instrument made for this purpose should be carried around the opening next to the dura mater, and the sharp rim made smooth and any spiculæ of bone removed. This is a very important step in the operation. A circumscribed traumatic meningitis which I saw in the practice of a colleague, and which resulted in death from neglect to carry out this detail, has given the subject in my own mind sufficient importance to devote a special stage to it in the operation. I have seen cases where the operation of trephining for the relief of symptoms was a brilliant success as an operation, but in ten days death ensued from circumscribed meningitis which was due to sharp pieces of bone irritating the membrane. I should also recommend a small probe to be passed carefully around the rim of the opening between the dura and the edge of the bone to be sure that no loose pieces of bone are left behind to act as foreign bodies.

The *fifth step* in the operation consists in the dressing of the wound. The special treatment of the wound of the brain will be discussed presently; but in this connection is meant only the trephine wound. If all hemorrhage has ceased, and the wound has been irrigated thoroughly, a thin film of iodoform can be dusted over the wound, a drainage tube introduced into the bottom of the disc on the dura and brought out at the lower angle of the wound in the scalp. The soft part should be united by catgut sutures, and the wound again irrigated, and the iodoform again sprinkled over the scalp and antiseptic dressing applied over the head. The entire head should be enveloped in an antiseptic dressing, and moderately firm compression should be made over the cranium so as to control the movements of the scalp during the healing of the wound. In three days the drainage tube should be removed and the wound redressed. This dressing should be performed under free irrigation, and with all the care in its technique as was observed in the first dressing.

The indications for the use of the trephine are many in the different varieties of fracture of the skull. The special indications for the application of the trephine in gunshot fractures are:

I. To elevate depressed bone.

II. To remove bullet or foreign bodies.

III. To arrest hemorrhage.

IV. To prevent cerebral irritation, inflammation, suppuration, epilepsy, meningitis, encephalitis, necrosis of bone, cerebral abscess, insanity, and other pathological conditions.

First. To elevate depressed bone. The trephine is applied in this

case on account of the pressure which the bone produces upon the brain. A discussion of this subject has already been anticipated in a consideration of the technique of the operation.

Second. To remove bullet and foreign bodies.

The trephine in this case is applied for the same reason as under the first indication and also to prevent secondary local inflammation. This indication naturally leads us to a consideration of the question of probing in the brain for bullets and foreign bodies. In a discussion of this question a surgeon cannot be too cautious in recommending a plan of treatment. If a bullet has penetrated and at the same time perforated the skull and loose pieces of bone can be found around the aperture of entrance of sufficient quantity to entirely cover the entrance wound, a further exploration than about the entrance wound is not wise. Any attempt to follow the course of the bullet deep in the brain with a suitable probe is in my judgment, in the present state of our knowledge of the treatment of wounds of the brain, injudicious. Such a procedure excites new mischief and it is fraught with great danger.

If on the other hand a bullet has penetrated, but at the same time has not perforated the skull, I do not think a study of the history of these cases justifies one in any attempt to find the bullet if it is driven deeply in the brain. If the foreign body is within sight or can be definitely located beyond the periphery of the brain by cerebral localization from signs and symptoms from pressure effects, under these conditions a search might be instituted.

Any probing in the dark with a view to finding the bullet in the absence of signs and symptoms to locate the situation of the bullet is a source of greater danger than non-interference.

Wharton's statistics upon this point are of interest. In three hundred and sixteen cases in which probing was employed, one hundred and sixty recovered, and of these one hundred and sixty cases in one hundred and six the foreign body was removed and the mortality was thirty-two per cent. In the two hundred and ten cases in which there was no attempt at probing the mortality was fifty-eight per cent. In one hundred and eleven cases of recovery where there was no mental derangement in fifty-six cases the foreign body had been removed and in forty-five cases the foreign body was left.

Wharton adds a most significant remark that in all probability extraction was only attempted when the foreign body was superficial. The important fact must not be lost sight of that in the future some evident manifestations may appear which will locate accurately the lodgment of the bullet from pressure effects. Still another fact equally

important must not be overlooked that in not a few cases bullets become encapsulated and never give rise to any trouble. There are numerous examples of this condition, among which is one which I have here to-day of the brain of a man who shot himself many years ago and died of some other cause. The bullet is encapsulated and can be seen in the specimen.

Parsons reports a case where perfect recovery followed and the bullet remained in the brain. Atkinson reports two cases where recovery was complete in each case though the bullets remained in the brain. Douglas reports a case where a lead bullet weighing three drachms was embedded in the brain and complete recovery followed.

The late Dr. Gray, of Utica, whose experience was very extensive upon this point, mentioned in one of my surgical clinics that he had under observation three or four cases where bullets were lodged in the brain and there was no mental disturbance present. I am fully aware that such cases are the exception and not the rule. I mention these cases only to show that if a bullet remains encapsulated that necessarily in all cases a fatal issue is not to be expected or even an impairment of the mental faculties. The situation of the bullet in the brain has much to do with this question.

There is a hope, forlorn as it may be, to encourage the patient as well as the surgeon to anticipate a complete recovery. I am also fully aware of the brilliant achievement of Dr. Fluhrer, who extracted a bullet by a counter-opening in the skull. That case has justly become world-renowned. I do not believe that such a procedure could be universally recommended for a line of practice in the present state of cerebral surgery. There are too many conditions uncertain and the management of cerebral wounds is as yet too little understood to advocate such a bold procedure. That the time may soon arrive when this treatment will be adopted by surgeons, which has already been anticipated by Dr. Fluhrer, is possible; but conservatism, until more fixed principles are established in brain surgery, seems to me a more prudent course to pursue.

Let us, for the sake of argument, however, admit that the surgeon has knowledge of the initial direction of the track of the bullet, and, further, that he can follow the course of the bullet through the brain with a probe to the opposite side of the brain and skull and can ascertain with precision the spot upon the inner wall of the skull against which the ball impinged, he cannot even then, under these assumed conditions, tell on mechanical principles the course the bullet will take on its rebound. He cannot tell, because the ball is inelastic and not

always spherical, and the skull only partially elastic, and this inequality would destroy any mathematical accuracy. In order for the surgeon to tell the course which the bullet will take on its rebound he must know the elasticity of both the ball and the skull; moreover, if the velocity of the bullet was very small when it impinged upon the wall of the skull, any medium such as the brain would cause a disturbance which cannot be calculated, and it might be possible for the ball to descend along the inner concave surface of the skull. In addition to the question of pure mathematical and mechanical precision must be mentioned the practical and anatomical inequality and unevenness of the inner surface of the wall of the skull, which do not accurately correspond to the outer surface. The projections, depressions, sinuses, fossæ, sutures and other inequalities which would determine the law of action in such cases must be known, otherwise the principles of mechanics cannot be applied.

After admitting, for the sake of further argument, that the course of the bullet can be determined, the course which that bullet will take on its rebound will depend upon the velocity of the bullet and the density of the medium through which it travels. There is absolutely no means of determining the velocity of the bullet under the circumstances attending the rebound.

Finally, admitting again that the point at which the ball impinged against the concave surface of the inner wall of the skull can be accurately determined, and further, that a tangent plane can be determined upon the outer surface of the skull at a point opposite, it is absolutely impossible to determine the tangent plane to the inner surface corresponding at that point, because of the inequality of the parallelism of the inner and outer surfaces of the skull. Moreover, to illustrate, if the two surfaces were exactly parallel and the track of the bullet was not central but upon the side of the brain so that the track in the brain was quite short, then it would be apparent to the eye that a tangent drawn on the inner surface at the point of impingement would be far from parallel with a tangent to the outer surface at the point where the line of the track would, if prolonged, impinge upon the outer surface. In short, the question of trephining by a counter-opening in the skull to locate the exact situation of the bullet from any mathematical calculation based upon the angle the bullet would take in its rebound, said angle being determined by the outer surface of the skull, is mathematically impossible.

If the bullet traversed the lateral part of the brain, the bullet, in its rebound, would not be directly below, as in the case already

assumed, but, rebounding according to the mathematical law, it would take a direction toward the central part of the brain, and thus be found to one side of a vertical—the distance at which the ball might travel on its rebound can not be determined; still further, it might be found even above the track of the bullet on its rebound, if the track of the bullet, on its rebound, was below a normal line to the skull at the point where the ball impinged; in other words, that the statement made by Dr. Fluhrer, that “it seemed reasonable that the missile, moving through a medium of uniform resistance like the brain substance, would take a straight course to the opposite wall of the skull, where it would rebound and be deflected at an angle proportionate to the inclination of the inner surface of the skull,” is misleading to the general surgeon, because the location of the bullet can not be demonstrated upon mathematical principles. A surgeon, therefore, is not justified, in the present state of cerebral surgery, in probing the brain and making a counter-opening in the skull to extract a bullet the approximate situation of which can not be, with any degree of uniform accuracy, determined upon before undertaking such a bold operative procedure. I believe, at the present time, that in the majority of cases non-interference, as regards probing deep in the brain and making a counter-opening, will yield better results than probing, extraction, drainage, and counter-opening.

There is one condition where trephining by a counter-opening is clearly indicated, and that is where the bullet has produced a fracture at the opposite point of the skull. The fracture in this case is similar in its general character to a punctured fracture. If this fracture can be detected a counter-opening from the point of entrance can be made by the trephine. Here trephining by a counter-opening is imperatively demanded, and in performing this operation the bullet might be extracted. Whenever then a fracture can be detected at a point opposite to the aperture of entrance the trephine should be employed to put the fracture in a favorable condition for aseptic healing.

Third. To control hemorrhage.

The presence of an alarming hemorrhage from a gunshot fracture of the skull demands prompt operative interference. The trephine must be used to enlarge the opening to enable the surgeon to control the bleeding. The sources of the hemorrhage are from small vessels from the membranes to the brain, or from the meningeal vessels, or from the venous sinuses, or from the cerebral vessels. The hemorrhage from the off-shoots of the meningeal vessels, or from the meningeal vessels themselves, may be amenable to surgical treatment. Formerly

ligation of the common carotid or the external carotid artery was recommended. I have resorted to this measure in one case. In another case I trephined over the meningeal artery, and removed a large disc of bone, and exposed the bleeding vessel. I was unable to seize the bleeding point with the artery forceps, because every time I attempted to seize the bleeding point the dura receded and the forceps would not catch hold. I then took a tenaculum, passed its point through the dura and under the vessel, and out again beyond the artery. The bleeding point was now firmly held in the curve of the tenaculum, and the membrane was lax and could not recede from the grasp of the forceps. The opening in the vessel was closed by a catgut ligature, and the hemorrhage ceased.

Besides the question of the arrest of hemorrhage by ligation of the meningeal artery by means of a tenaculum introduced through an opening in the skull, another question has arisen in connection with these cases of meningeal hemorrhage.

The possibility of a surface clot by *contre-coup* has been denied by many surgeons. I have here two specimens which I believe will settle this long-disputed question. In the first of these cases a patient was found by a policeman on the street, at eight o'clock in the evening, in a condition of what was supposed to be intoxication. He walked to the station house and was locked up for the night. At ten o'clock the following morning he was brought before the police justice in court and was sentenced to ten days for intoxication. At eleven o'clock he was returned to the station house, awaiting the time to be sent to the Island.

While in the cell, a few minutes after his arrival, he became unconscious. An ambulance was summoned and he was taken to the Ninety-ninth Street Hospital. I saw the patient that day, and from the history of the injury and the paralysis, I diagnosed meningeal hemorrhage.

The patient was anesthetized, and the uninjured scalp was incised, exposing to view a linear fracture. The trephine was applied, and a large epidural clot was discovered. The dura-mater was torn, and the brain substance lacerated. The wound was dressed antiseptically. In fourteen hours the patient died. The autopsy revealed the presence of a second epidural clot, which was almost opposite, and was the result of *contre-coup*. The scalp over the skull corresponding to this clot was normal as upon the opposite side.

The second patient was brought to the hospital in an unconscious condition, with general paralysis. The case was supposed to be a frac-

ture at the base of the skull. The patient died the next day, and the autopsy showed a linear fracture of the parietal bone upon one side, and extending to the middle fossa, under which fracture was a large epidural clot, and, upon removing the calvarium, another surface clot was found at a point directly opposite to the fracture. This fracture did not extend upon the other side of the skull, and the clot here was also the result of an injury by *contre-coup*.

These two specimens settle the important question whether a meningeal hemorrhage may be produced by *contre-coup*.

The presence of symptoms of cerebral irritation followed by unilateral paralysis with a slow, tense pulse, with the Cheyne-Stoke's respiration, accompanied by protrusion of eye-ball and dilatation of pupil on same side as the injury, taken in connection with a sudden rise of temperature due to disturbance of the heat centre, form a group of symptoms which, if they were preceded by a short interval after the injury in which no serious manifestation of brain lesion was present, make it extremely probable that an intra-cranial meningeal hemorrhage had occurred.

This group of symptoms, appearing at the time and in the order mentioned, with or without any fracture, would indicate the application of the trephine over the seat of pressure, the removal of the clot, and the ligation of the middle meningeal artery through the opening made in the skull by means of a tenaculum applied in the manner already described. To some this may seem too bold; but when the fact is considered that it has been demonstrated that formerly nine-tenths of these cases of meningeal hemorrhage perished under the expectant plan of treatment, and when further it is considered how safe the operation of trephining is in the hands of antiseptic surgeons, it would seem that a surgeon might be derelict in his duty if he did not resect a portion of the skull and remove the clot and arrest the bleeding. I have applied this principle in several cases with success where I trephined in head injuries, suspecting but having no knowledge of a fracture of the internal table, and have removed many pieces from the inner surface of the skull.

The diagnosis of meningeal hemorrhage is exceedingly difficult. Apoplexy, drunkenness, concussion, uræmia, laceration of brain, opium narcosis, arachnoid and cerebral hemorrhage, are to be differentiated. The distinct interval of consciousness or lucidity after receipt of an injury to the head before symptoms of compression appear is strong presumptive evidence in favor of a peripheral hemorrhage and not a laceration of the brain or a cerebral hemorrhage. Besides the question

of dilatation of the pupils upon same side as lesion, the question of reaction of the pupils is a most important one as regards the prognosis. If the pupils though dilated will react—the brain can be said to be in a recoverable condition, for it is only compressed by hemorrhage and not compressed as a result of laceration. When no reaction of pupils is present—the compression is great and probably associated with severe laceration. The diagnosis between meningeal extravasation of blood and a cerebral hemorrhage is very difficult. The symptoms are much alike in both cases. One calls for operative interference, the other not. The history of the case and the interval after the accident before the symptoms of compression appear form an important link in the chain of evidence. Among some of the diagnostic points may be mentioned.

MENINGEAL HEMORRHAGE.

First. Injury, local, blow, or fall upon part.

Second. Symptoms of compression well pronounced and come on soon after injury.

Third. Hemiplegia, often incomplete.

Fourth. Urine normal.

Fifth. The fall is the cause of the hemorrhage.

CEREBRAL HEMORRHAGE.

First. Injury not local, fall not necessarily upon head.

Second. Symptoms of compression well pronounced and come on immediately after injury.

Third. Hemiplegia complete.

Fourth. Urine almost invariably contains albumen and often casts.

Fifth. The fall is secondary to the hemorrhage and not the cause.

In trephining for meningeal hemorrhage, the surgeon must bear in mind that a hemorrhage of this kind can exist with or without a fracture. The varieties are: First, epidural, that is to say between the dura-mater and the skull. Second, subdural, between the membranes or underneath the dura. And, third, cerebral or in the brain substance itself. The epidural hemorrhage is usually a result of a wound of a branch and not the main trunk of the middle meningeal artery. The epidural clot may also be derived from blood from one of the venous sinuses, notably the lateral or the superior longitudinal. The quantity to produce signs and symptoms of compression is about three ounces. This variety of blood clot does not absorb, nor will it become encysted. It may possibly organize, if the hemorrhage is slight; but this is not to be relied upon and is exceptional.

A differential point between a circumscribed hemorrhage into arachnoid cavity and an epidural hemorrhage requiring operative interfer-

ence is found in the fact that in the former the inequality of the pupils is not likely to be so apparent nor the hemiplegia so profound. This differential diagnosis is, however, only relative and a positive one can not be made until the trephine is applied. If an arachnoid hemorrhage has taken place the dura will bulge out in the opening made by the trephine and the membrane will have lost its glistening appearance and its pulsation. The hemorrhage from one of the venous sinuses is always alarming. The superior longitudinal or the lateral sinuses are usually involved. The rent has been closed by ligation, by Brinton, and by compression, by cat-gut, by Sir Joseph Lister. Iodoform gauze has also been used to plug the wound and subsequently the gauze has been removed. If the hemorrhage is in the arachnoid space trephining may possibly, though it is not likely to, reach the vessel, and if the hemorrhage is from the cerebral vessels no operation is of any avail. Even if the ventricles could be reached, the conditions under which an apoplexy occurs necessarily preclude recovery. These cases, therefore, are not amenable to surgical interference.

Fourth. To prevent cerebral irritation, inflammation, suppuration, epilepsy, meningitis, encephalitis, cerebral abscess, necrosis of bone, insanity and other pathological conditions. The use of the trephine in gunshot fractures of the skull has its greatest field for usefulness as a means of preventing any of the above serious complications. If a gunshot fracture has produced splintering, any loose piece of bone left in the wound will give rise to cerebral irritation or to an inflammation or to suppuration. If by any chance these three complications do not result, the presence of spiculæ of bone or a sharp edge of bone will give rise to epileptiform convulsions later in the history of the case if they do not within a week set up a circumscribed meningitis and an encephalitis. Cerebral abscess and necrosis of bone and insanity are likely to follow as a sequence if the wound is not properly treated. Trephining then is indicated in these cases because the operation in experienced hands adds no additional danger to the patient and a failure to do so exposes the patient to risks which in nearly every case lead to a fatal issue. In an experience involving one hundred and sixteen cases of compound fractures of the skull, though not all due to a gunshot injury, but in all cases to an injury with the character of the wound in the bone similar, I have never had occasion to regret operative interference under the conditions stated. A carefully prepared history of each of these one hundred and sixteen cases has been made, and the list is here to be examined by any of the members of this association who may desire to study it.

[A full history of each of the 116 cases accompanies the paper; but for want of space they cannot be published in full.—ED.]

In this table of compound fractures of the skull there are one hundred and sixteen cases. Excluding those deaths from shock within forty-eight hours in accordance with all statisticians, because these deaths were not the result of any special plan of treatment, there are two deaths which may be ascribed to sepsis. There are, however, five cases of cerebral softening. In reference to these cases of cerebral softening following the injury, a word of explanation seems pertinent. The circumscribed areas of softening in every respect resembled the changes which are found after apoplexy. There was no local evidence of septic infection, and in all the cases the autopsies were made by experienced pathologists who coincided in this opinion. The situation of the softened areas at a point distant from the original wound, and the changes—i. e., hemorrhage and softening, the perfect aseptic and healed condition of the external wounds, indicate that these five cases are not of septic origin from the wound. The cerebral softening appears to be due to a molecular disintegration or laceration of brain tissue from traumatism, and this disturbance of the nutrition produces a metamorphosis, and as a result liquefaction takes place. The external surface of the dura mater seems to possess the power of preventing the entrance of septic micro-organisms into cerebral substance, while the internal surface of the dura mater, owing to the proximity to the arachnoid space, is exceedingly delicate and susceptible to the slightest influence of any septic material.

Experimental work in the direction indicated that such points of softening may have their origin in traumatism and not necessarily be due to sepsis. I believe that these cases are explained in this way, and therefore these cases may be eliminated from the list of deaths due to septic infection derived from injury to the skull. I feel certain that these softenings were not the result of infection from the wounds, because the wounds were aseptic. To convince myself further of the accuracy of this conclusion I trephined the skull of a dog and planted upon its dura mater septic micrococci, which were furnished to me from cultures belonging to Dr. Biggs. Though the micro-organisms were septic, they did not develop a cerebral abscess through the dura mater and in this case even produce a meningitis which was exceptional. There have been a number of experiments recorded of this nature with the same result.

Such an experiment, while it is not conclusive, of course, carries additional evidence in favor of the non-septic origin of such cerebral

softenings, though they may be due to the presence of some micro-organism, for example the bacilli tuberculosis. The traumatism may have acted as an exciting cause to develop a softening in tissue already impregnated with a pathogenic germ. This explanation places a higher value upon antiseptic surgery, and it serves also to illustrate at the same time that an operation like trephining may be a brilliant success so far as the operation is concerned, but yet the patient perishes from causes which are as yet beyond the complete control of the surgeon.

Perfection has been almost reached in the technique of the operation of trephining; but as yet there are circumstances which are not controlled by the practical surgeon, and to a study of these causes future scientific surgery must engage. In these one hundred and sixteen cases of compound fractures of the skull there were two deaths. If now those cases of cerebral softening and those deaths occurring within forty-eight hours from shock, in accordance with the custom of all surgical writers, are excluded, because death in these cases was not the result of any treatment of the fracture, the rate of mortality is less than two per cent. I feel sure that this small mortality will be reduced to nothing and that in the near future trephining, whenever it is performed in compound fracture of the skull, will be absolutely free from sepsis.

These two deaths from septicæmia occurred in my hospital service, and they were operated upon in an emergency to arrest bleeding in one case, and on account of urgent symptoms in the other. I was not present at either operation, but I report these cases in my list because I was responsible for them. Perhaps the severe hemorrhage in one case, and the extensive brain laceration in the other case, predisposed the wound to inflammation; at all events, theorize as we may, these two deaths were due to sepsis.

The question of trephining in gunshot fractures of the skull derives its special importance from the fact that great advance has been made recently in cerebral topography. The surgeon can often exactly locate the track and lodgment of a bullet from a study of the nervous symptoms. With a view to demonstrating some points in cerebral localization, and with a view also of stimulating a desire among the members of this association for further knowledge upon this interesting subject, I have here some beautifully prepared specimens for study and observation. These anatomical preparations may serve to recall cases of gunshot injuries of the skull in the practice of many surgeons present to-day. A narration of the symptoms may serve to locate with accuracy the lodgment of a bullet and throw much light by collective

investigation upon this study. This first preparation consists of a skull upon which is marked out the situation of the sinuses and the trunks and branches of the meningeal arteries. The air sinuses and the sutures are also indicated. The object of this preparation is to warn the surgeon of the dangers of placing a trephine over these special places, and also to enable him to tell where to trephine in order to find these vessels when the special emergencies arise. This preparation, therefore, serves a two-fold purpose, and must be studied under two opposite conditions. In another skull the motor cortex of the upper and also the lower extremities are marked out as well as the fissure of Rolando and the fissure of Sylvius. In still other skulls may be found the places to trephine in order to relieve certain nervous phenomena. To any one interested in this new field of surgery, this collection will be found useful in the study of cerebral topography. The precise way to find the different important centres as well as the fissures can be easily learned by a study of the many skulls prepared with this object in view.

ARTICLE II.

FERMENTATION—PTOMAINES—BACTERIA. By L. B. ANDERSON, M.D., Norfolk, Va.

Having discussed quite elaborately the subjects of bacteria and ptomaines in articles published in the *Southern Clinic* and GAILLARD'S MEDICAL JOURNAL, I propose now to consider fermentations in connection with these questions, viz.: Do bacteria produce fermentation, or does fermentation produce bacteria? Do ptomaines spring from bacteria, or bacteria from ptomaines? And, finally, is fermentation the cause of both ptomaines and bacteria?

I shall not discuss these questions seriatim, but, co-ordinating known and well established and universally accepted facts, shall proceed to test by them the conjectures of the advocates of living germs as the primal cause of fermentation, putrefaction, and disease, and thus educe, if possible, a general principle resting on a universally accepted and clearly demonstrated truth. In so doing I shall discard all rhetorical verbiage and collateral questions, and address myself to as succinct, concentrated, scientific, and logical a discussion of the subject as I am able.

We are told that "the weight of scientific opinion is in favor of the assumption that every disease has its origin in a vital germ that multi-

plies indefinitely in the fertile soil of the human body." On the other hand, it is maintained that "different kinds of septic matter, acting as different poisons or ferments, provide the various diseases to which flesh is heir to." (Wright, "Maxims on Public Health.") "There are other diseases which are believed to be produced by similar organisms growing and multiplying in the discharges from the stomach and bowels. Such organisms are supposed to grow outside the body as well as inside," etc. (Tracy on "Hygiene," etc.)

"Fermentation and putrefaction, accordingly, are analogous processes, going on under the influence of different microscopic vegetations. The former takes place in saccharine liquids, the latter in those containing albuminoid matter, since the yeast-plant (*saccharomyces torula cerevisiæ*) requires for its growth a preponderance of carbohydrates, while bacterium cells are nourished by the absorption of nitrogenous matter. If a small quantity of yeast be added to a glucose solution, and the mixture kept at a temperature of 25°C., after a short time it becomes turbid, carbonic acid is given off, and the glucose is gradually destroyed and alcohol appears in its place. When this change is complete the fermentation stops and the liquid becomes clear, its turbid contents subsiding to the bottom as a whitish layer. This deposit is found to contain yeast, and will excite fermentation in other saccharine liquids. If we employ the expressed juices of certain fruits, like those of the grape, which contain both glucose and albuminoids, and expose them to the action of the air, fermentation will begin after a time and proceed with the same phenomena as before." (Dalton's Physiology.)

"Albuminoid substances are distinguished by the property of putrefaction. This is a process in which dead animal substances, when exposed to the atmosphere at a moderate temperature, soften, liquefy, and are finally decomposed, with the production of certain fetid gases. No substance is capable of putrefaction unless it contains albuminoid substances; certain conditions are also necessary, such as a proper temperature, a certain amount of moisture and the presence of oxygen. The process of putrefaction is accomplished by the growth of microscopic vegetable organisms, somewhat analogous to that causing alcoholic fermentation in saccharine liquids. The cells belong to the genus "bacterium," and the species found in the putrefying infusions is known by the name of *bacterium termo*. Their existence is synchronous with that of putrefaction; when that ceases they disappear." (Dalton's Physiology.)

From the most distinguished investigators in this field of scientific re-

search, such as Pasteur, Koch, Meissner, Cheyne, and others, we learn that fermentation in albuminous and amylaceous, vegetable and animal substances, as well as putrefactive processes, all result from the presence of certain living micro-organisms, and without them these processes could neither begin nor proceed. That is, to the *micrococcus ureæ* is due the fermentation of ammoniacal urine. To the influence of the *torula cerevisiæ* is due the alcoholic fermentation of sugar. The lactic acid fermentation is due to the *bacterium lactis*. Hæppe finds that these organisms will grow in milk, and set up fermentation under conditions which have nothing to do with the presence or absence of oxygen. Pasteur says that the viscous fermentation of sugar is due to a micrococcus, etc., etc. (Cheyne on Bacteriology.)

Pasteur's researches led him to the view that, when a substance putrefies it is due to two classes of microscopic organisms—one abstracting free oxygen from the material, the other unable to live in free oxygen, yet requiring oxygen for its growth. This view is combatted by Rosenbach and others, who contend for a greater number of putrefactive organisms.

All of the advocates of the bacterial origin of fermentation and putrefaction admit that the presence of atmospheric air or other materials giving origin to oxygen is essential to the life and growth of these organisms. They contend that pure fermentable and putrescible materials can only be made to ferment or putrefy by inoculating them with certain micro-organisms, their germs, or their spores. They demonstrate the correctness of this assertion by introducing into a sterilized culture-fluid a pure bacterial culture and so isolate it as to preclude the possibility of contamination from any source; when, after a few hours or days, the surface of the culture will swarm with bacteria. Again, having prepared a perfectly sterilized culture and exposing it to the atmosphere for a time, and then subjecting it to a temperature favorable to the growth of bacteria, it will be found that the germs deposited from the atmosphere have germinated and great varieties of bacteria have been generated. With the development of the bacteria fermentation is excited, and they progress *pari passu*. When the bacterial pabulum is exhausted, the microbes die and fermentation ceases. If, during the progress of these processes, atmospheric air be entirely excluded, and all sources of oxygen cut off, the bacteria become torpid or die, and the fermentation ceases. Therefore they conclude that fermentation springs from micro-organisms.

Pasteur, Koch, and Rosenberger, as well as Löffler, Gaffky, and

others (Belfield, Hueppe, and Cheyne) have demonstrated the following propositions:

“That innocuous culture fluids acquire, after inoculation with minute quantities of infected blood or tissue, the same septic properties, provided such blood or tissue contain living bacteria. Now, since putrefaction must be regarded as impossible without the presence of these organisms, it is evident that putrid infection is due, in every instance, to the action, directly or indirectly, of bacteria. Therefore, there can be no sepsis without the vital action, directly or indirectly, of these organisms.”

A careful analysis of the above conclusions would seem to leave no ground for doubt that fermentation, septicæmia, suppuration, and putrefaction, if not, indeed, all diseased actions, are the work of bacteria.

But there are other facts from the same distinguished sources which are in such direct conflict with the foregoing as to impel us to the conclusion that their vaunted demonstrations are unphilosophical, illogical, and in direct conflict with well-established and universally accepted physiological and pathogenic laws. So far from bacteria producing disease in a healthy tissue, or causing fermentation or putrefaction in pure fluids or tissues, animal or vegetable, we are told by Belfield that “Koch, Pasteur, and Elrich affirm that they have never detected bacteria in a healthy animal. Observation and experiment on the living body would prove the absence of bacteria from healthy animals. When injected directly into the blood or tissues of living animals, they can not be found after the lapse of some hours. For seventy years one may eat, drink, and breathe them with impunity, yet, so soon as his component cells are destroyed generally, as in death, or locally, as in gangrene of the toes, the tissues swarm with these minute organisms.”

Cheyne informs us that “it has been shown that bacteria are not normally present in the juices and tissues of the healthy living body. If they so penetrate into the body they are rapidly destroyed. As to vegetables, Boeck, Pasteur, and Roberts showed the absence of organisms in the fresh grape. There is now a large amount of evidence to show that bacteria are not normally present in the tissues in health. That they may now and then gain access to the healthy blood through scratches, etc., is extremely probable, but they very rapidly die, and are excreted by the kidneys.”

So far, all the evidence seems to demonstrate that fermentation and sepsis spring from the direct or indirect influence of micro-organisms upon albuminoid and amylaceous materials; and though they

cannot live in healthy tissues or fluids, by some mysterious and, as yet, undefined process, they produce fermentation and sepsis, by those "vital processes," in fluids and tissues where they cannot live. To accept such a conclusion as a pathogenic law requires too great a stretch of imagination and too great a draft upon our credulity. We must, therefore, seek a solution of this problem in processes more in accordance with reason, logic, and truth.

All the normal processes in nature are effected by vital or chemical laws. So long as vital laws are in full exercise, chemical forces are in abeyance. So soon as vital laws are suspended, chemical forces begin to operate. There are certain vital, organic forces so much like chemical forces as to be scarcely distinguishable; hence they are called chemico-vital forces. An illustration of these processes is found in the animal kingdom under the influence of pepsin, and in the vegetable under the influence of diastase. The presence of pepsin in an albuminous solution causes the suspension of certain affinities between the constituents of the mass, causing a dialysis and the formation of peptones. This is effected without change in the pepsin or the constituents of the albumen. This may be explained on the principle that the loadstone, when brought within a certain range of atoms of steel, will exert a powerful influence on them, without imparting or receiving any quality not previously possessed by each. While this is true of pepsin, it is by no means so of diastase, torula, or any other known ferment. "The torula or yeast ferment," says Liebig, "possesses all the characters of a compound of nitrogen in the state of putrefaction and enemiacausis. It converts the oxygen of the surrounding air into carbonic acid, but it also evolves this gas from its own mass like bodies in a state of putrefaction. When kept under water it emits carbonic acid accompanied by gases of an offensive smell, and is at last converted into a substance resembling old cheese. But when its own putrefaction is completed, it has no power of inducing fermentation. Under no circumstances will the torula produce fermentation in any liquid unless it has been exposed for some time to the action of the air. When introduced into a solution of sugar in this state, it produces a brisk fermentation."

The same distinguished authority (Liebig) informs us that "malt and the germinating seeds of corn in general contain a substance called *diastase*, which is formed from the gluten contained in them, which can not in certain proportion be brought in contact with warm water and starch without converting the starch into sugar, the elements of the diastase at the same time arranging themselves into new combinations."

Let it be remembered that these processes are clearly set forth by Liebig as chemical, in which there is a marked change both in the ferments and the fermenting mass; and only such changes as the breaking up of old, and the formation of new combinations, would effect, under the operation of well-known chemical laws.

“By the terms fermentation, putrefaction, and enemacausis are meant,” says Liebig, “those changes in form and proportion which compound organic substances undergo when separated from the organism and exposed to the influence of water and a certain temperature. The elements of bodies capable of undergoing these changes arrange themselves into new combinations in which the constituents of water take a part. Fermentation and putrefaction are processes of decomposition of a similar kind, the one of substances destitute of nitrogen, the other of substances which contain it. Many such bodies as contain nitrogen appear to enter into a state of fermentation or putrefaction spontaneously. Very small quantities of these substances in a state of fermentation or putrefaction possess the power of causing unlimited quantities of similar matters to pass into the same state. Thus, a small quantity of the juice of the grape, a minute portion of milk, paste, flesh, or blood in a state of putrefaction causes similar bodies perfectly fresh to pass into the same state. These changes evidently differ from the class of common decompositions which are effected by chemical affinity; they are chemical actions, conversions or decompositions, excited by bodies already in the same condition. The compound nature of a single molecule of organic matter points out the true cause of these combinations. Thus, grape sugar is composed of twelve equivalents of carbon, twelve equivalents of hydrogen, and twelve equivalents of oxygen, which are capable of combining in so many various proportions, in water, as to form almost all known organic compounds containing no nitrogen. These elements are united apparently by a *vis inertiae*, and afford no resistance to a change of their condition by their own mutual attraction. Such complex molecular organic compounds are, therefore, capable of undergoing, with great facility, those decompositions known as fermentation and putrefaction, by the simple contact with water and caloric.” Hoppe-Seyler attributes fermentation to new combinations between the molecular constituents of organic bodies, during which carbonic acid is disengaged. “These are rendered possible,” he says, “by the breaking up of the existing union between oxygen and hydrogen, carbon and hydrogen, and carbon and carbon. In all fermentations there is a wandering of the oxygen atom from hydrogen to carbon, and from carbon

to carbon: Hence fermentation is with difficulty effected in all substances poor in oxygen, and easily effected in those containing a second displaceable atom of oxygen, such as the carbo-hydrates and the proteids."

The advocates of the bacterial origin of fermentation and putrefaction readily admit the existence of all these chemical changes, but attribute them to a disturbance of the molecular relations of the fermentable mass by the vital forces of bacteria. They thoroughly sterilize a glass tube by subjecting it to a degree of heat utterly incompatible with the existence of either vegetable or animal life. They introduce some carefully sterilized nitrogenous matter, with all due precautions against the possible introduction of micro-organisms. Then they introduce a platinum wire, heated beyond measure, into the ten-thousandth pure culture of a germ bacillus, and plunge it with inconceivable care into the nutrient material in the sterilized tube, and carefully *cork* it with cotton wool. After a few days a white line appears in the track of the platinum wire, which gradually expands and deepens, until the whole mass has been transformed into a new material. A microscopical examination of this changed material, at any time during its transformation, discloses the presence of an innumerable multitude of bacilli. Therefore the beginning, the progress, and ending of the whole matter is due to the presence and depredations of the bacilli. When confronted with the objection that it was the septic matter in which the bacillus floated which effected these changes, and not the bacillus, they reply, "It is true the ten-thousandth removed grandmother of this bacillus was taken from the juices of a malignant pustule, but it has been passed through so many new cultures that not one homœopathic infinitesimal of the original septic matter remains—it is indeed a pure culture—hence the bacillus alone did the work."

To which I reply :

1st.—The fluid in which the bacilli were introduced into the new culture-fluid could not have been "pure," because, according to Koch, Pasteur, Cheyne, and others, they cannot live in pure matter of any kind. "For so soon as they enter healthy blood or tissue they die and are thrown off by the kidneys."

2d.—There are numbers of bacterial species which require for their pabulum certain kinds of septic matter. I have observed not less than twelve varieties in the same culture, at the same time, all well, hearty, and exceedingly active. After a time one variety will become feeble and torpid, then die and disappear. Then another, and another, and so on till only one variety remained, which would soon become

pale and weak and also die. If, however, during these changes new pabulum be supplied, the weak and sickly ones will rapidly revive, and become as active as ever. The more putrid and offensive the fluid is, the more vigorous and active the bacteria are. When sepsis ceases they die.

3d.—If bacteria produce fermentation and putrefaction in pure amylaceous and albuminoid matters, they must effect it by their “vital processes,” producing catalytic changes, whereby new combinations are formed and gases are disengaged. Were this so, wherever these substances are found in contact with water and air at a temperature above 32° F., bacteria should hold high revel, and fermentation and putrefaction follow in their train. Aye, if they can, *per se*, as is claimed, produce putrefaction in pure, uncontaminated, nitrogenous matter, then every living being should be a laboratory and storehouse of these deadly micro-organisms, and disease and death should reign supreme; “for the air we breathe, the water we drink, and the food we eat,” says Cheyne, “are laden with these living germs.” Indeed, to state such a proposition is to answer it.

4th.—Liebig and a host of other chemists tell us that a minute quantity of the fermenting juice of the grape, added to a large quantity of fresh juice, will soon transform it into a fermenting mass exactly similar to itself. If a septic fluid be introduced into a healthy system, it will produce sepsis therein, and may thus be transmitted through generations *ad infinitum*. The virus of the small-pox has been passing for ages through fresh cultures, and its properties and characteristics are unchanged. The sperma which was cultured in the pure soil of the queen of Eden, six thousand years ago, has passed through a myriad of cultures, and yet possesses the same properties and characteristics to-day which it bore in primeval times. Why, then, should it be supposed that the virus from a malignant pustule, with or without bacteria, in passing through a succession of soils, in each of which the same physical and chemical properties are developed, should lose any of its characteristics, in even ten thousand cultures? Like causes will produce like effects, under the same conditions, in all times and countries. Therefore, since bacteria cannot germinate or live except in septic matter, the fermentation, putrefaction, or disease which results from their introduction into healthy fluids or tissues is the effect of the septic matter, and not the bacteria.

5th.—“Brieger has separated highly poisonous bases from the cultivations of the Koch-Eberth bacillus of typhoid fever.” “Feraud says that the fungus which is found growing on putrid and poisonous fish

is not the poisonous agent, but it is the fish itself which acts poisonously." Dr. B. W. Richardson in a long series of experiments "found that disease was transmitted from animal to animal by inoculation of various secretions. Fluids drawn from the wound of a patient, and injected into a susceptible animal, gave rise to the most distinct form of disease of a specific character, while the secretions of the infected animal reproduced the same type of disease in other susceptible animals. The poison of the cobra, when dried and mixed with water, is still poisonous, and the secretions of the animal poisoned by it in turn yield a virus which produces like effects. The multiplication of the poison is through the force of secretion of the person affected, not through the deposit of vegetable parasites and multiplication of them, nor from propagation of living germs. If the poison from the eye of a person suffering under contagious ophthalmia passes to the eye of another person, there is presently a free secretion which in turn becomes poisonous. It is not that the particle of poison has propagated a new particle, but it is that the secretion of the eyeball has come in contact with a particle of poisonous matter, and immediately at that point where the speck of poison was implanted there is a change in the secretion. This process widens the circle, more secretions are found out, and the increase goes on, until, in the end, the whole body of the animal may become infected by absorption of poisonous matter into the blood from the injured surface."

It would be equally as wise to attribute the effects of morphia, atropia, strychnia, or Prussic acid to vegetable or animal parasites as to claim for them the morbid impression produced by the inoculation of the poisonous fluids in which they live, or the virus of malignant pustule, contagious ophthalmia, small-pox, or cholera.

6th.—Though bacteria are generally found in septic matter, and frequently appear as inconceivably minute micrococci, as soon as the fermentation process is discovered, it is expressly unphilosophical to attribute the fermentation or putrefaction process to them, when all scientists agree that they cannot survive except in septic matter. Therefore they would die in a pure culture, just as they do in a fermenting mass, so soon as the fermentation is arrested. My own observations have demonstrated that so-called germicides exert but little influence over bacterial life; but all so-called germicides are antiseptics, and when introduced into a bacterial culture they arrest putrefaction, cut off the food-supply, and they die from inanition.

All these conclusions would amount to nothing if the experiments of Pasteur on hydro-carbons and albumen, and mixtures thereof, were

true, for he claims to have demonstrated that under the most favorable conditions for fermentation and putrefaction these processes will never occur if bacterial germs are absolutely excluded from these agents. But every one of his experiments has been repeated time and again by several distinguished investigators and members of the Academy of Sciences of Paris, who have arrived at diametrically opposite conclusions—conclusions which correspond with other well-established and universally received facts, facts, indeed, which are both logical and self-evident.

The micro-organisms which are said to be the ferments, producing fermentation in amyloid, and putrefaction in albuminoid agents, are either living vegetable or animal parasites. There are a great variety of parasites, both vegetable and animal, and each variety has its own peculiar habitat in which it germinates, lives, and flourishes. Remove it to an uncongenial soil, and it wilts and dies. Hence, there are many materials in which no bacteria are found. In pure waters, sound meats, sweet, fresh milk, healthy blood, and thousands of other matters no bacteria are found, for the good reason that they contain no pabulum on which they can feed. Therefore it is unphilosophical to conclude that they can produce fermentation in amyloid, or putrefaction in albuminoid, matters that are pure, sound, sweet, and fresh or healthy—for in such materials they can find no congenial food, and hence in them must die. Let, however, in the language of Hoppe-Seyler, “some wandering atom of oxygen” fall upon a molecule of these feebly united organic materials, and the equilibrium is at once destroyed, catalysis ensues, new combinations, ptomaines, if you please, are formed, gases are evolved, and fermentation or putrefaction rapidly ensues. In a few moments the new and congenial soil will be swarming with parasitic life. Fermentation and putrefaction are, therefore, the source of ptomaines, and ptomaines of bacteria. Where the decaying carcass lies, the carrion crows collect; where putrid sores are found, bacteria dwell. While neither molest the sound or living tissues, both are heaven-sent scavengers to consume the deadly ptomaines which would rise from every putrefying mass and laden the air with pestilence and death.

I have recently made many investigations of morbid discharges with special reference to the possible influence of bacteria in the production of pustulation, a very brief synopsis of which will only be given, as this paper has already exceeded the length I proposed. I secured a specimen of gonorrhœal matter, fresh from the urethra, and subjected it to the most careful microscopical examinations. In it, for the first

twelve hours, no bacterial life of any form could be detected. At the same hour I collected a portion of pus drawn from a freshly opened cervical abscess in another person (both were females), and no evidence of bacterial life could be discovered. These investigations were repeated in various ways, with lenses of great power, during several hours.

After the lapse of two days the same materials, which had been kept in phials with cotton-wool stoppers, were again subjected to careful microscopical examinations, and both specimens were swarming with bacteriæ of many varieties, their size, form, and appearance being the same in both specimens.

A number of carefully-made experiments on twigs, leaves, barks, and wood from trees affected with what is known as "Pear Blight" have recently been made, and in no recent specimen has a single bacterium been found. But in every instance as soon as fermentation began bacterial life was developed.

From an old abscess under the sub-maxillary bone, which had been neglected until it had bagged, and the cuticle was shrivelled, I collected the first drawn pus. It was decomposing and offensive, and presented a number of bacteria. In pus recently discharged from an ulcerated prostrate gland no bacteria were found, but in alkaline urine, in which pus washed from the inner coat of the bladder was floating, bacteria were found. The teachings of these facts are self-evident, and are submitted without comment.

ORIGINAL TRANSLATIONS.

STUDIES UPON ARTHRITIC, HERPETIC, AND SCROFULOUS PULMONARY CONGESTIONS. By DR. EUGENE COLLIN, Medical Inspector of the Waters of Saint-Honoré. Translated from the *Union Médicale* by H. MCS. GAMBLE, M.D., Moorefield, West Va.

(Concluded from page 246.)

Treatment.—The treatment of arthritic pulmonary congestion sufficiently indicates the difference that exists between this affection and the disease of Woillez. In effect, in simple pulmonary congestion emetics seem to be in great honor, the preferred medication. "The emeto-cathartic," says Dr. Bourgeois, "is the pivot of the medical treatment."

In the arthritic congestion we have never employed it, and we do

not know that it has been used by others. It is to mild purgatives, often repeated and followed by the administration of sulphate of quinine, that we have recourse in the majority of cases; we have also derived good results from arsenic and iodide of potassium. Rarely local revulsives have been employed, but we have sometimes ordered alkaline or sulphurous baths to be taken. We remember that in the case of a patient who for three weeks had passed horrible nights with a little fever, a cough incessant, and followed by a very abundant expectoration, in whom everything had been employed without result, a revulsive bath put an end immediately to the congestion, to which succeeded the most complete calm.

The mineral waters are of great help in this affection when it has become chronic or tends to become so; but it is necessary to be careful not to prescribe them in an inconsiderate manner. One will have to take great account of the age of the rheumatic, of his constitution, of his state of strength or weakness.

If the subject is young, very sanguine, one will have to direct him to the alkaline waters. If he, on the contrary, is enfeebled by age, sufferings, or excesses, it is of the sulphurous waters that he will have to demand his cure.

It is to the large douche that I address myself often at Saint-Honoré, and under its influence I have seen congestions accompanied by disquieting hæmoptyses cease.

I ought to add that in certain cases I would never have dared to have recourse to such treatment if I had not had to confirm my diagnosis the presence of the arthritic friction.

Herpetic Pulmonary Congestion.—Before commencing the study of herpetic congestion it is necessary first to prove that there exists a diathesis of this name, perfectly distinct from arthritism, which we are going to try to do in placing ourselves under the ægis of Bazin, and of our excellent and learned teacher, M. Hardy.

What, then, is herpeticism?

The following is the definition that I have given of it in an article read before the Society of Hydrology in 1885:

Herpeticism is a constitutional, hereditary malady, having an independent existence, but often associated with another diathesis, arthritism especially; characterized by a more or less generalized varicose condition, manifesting itself very often by affections of the skin, non-contagious, and never leaving cicatrices after the cure; capable of remaining in the latent state as to its cutaneous manifestation, or of causing multiple affections, mucous, visceral, or nervous; a constitutional

disease of which the treatment must be sought at the sulphurous waters and by arsenic. * * * Several authors have made but one diathesis of arthritism and herpeticism, and it is under this last denomination that they have described it.

For ourselves, there exist between the arthritic and the herpetic subjects differences as distinct as those that one remarks in the constitutional diseases with which they are attacked.

The arthritic is generally strong and vigorous; he is violent, of sanguine temperament.

The herpetic is weak rather than strong; he is susceptible, suspicious, given to melancholy, of a nervous temperament.

The arthritic has a highly colored complexion, but in a regular and uniform manner; he bears sometimes the trace of acne rosacea at the beginning.

The herpetic presents a brick-red color seated upon the cheek-bones and contrasting sharply with the habitual pallor of the face.

The arthritic is strongly muscled; he almost always has a tendency to obesity.

The herpetic is nervous, dry, and reaches old age without seeing his adipose tissue much increased.

The arthritic perspires easily; certain regions of his body are peculiarly the seat of this perspiration; the head should be placed in the front rank; baldness is also precocious in his case.

The herpetic suffers, on the contrary, with cold; it is in the highest temperatures that he seems to be in the best health; his feet and hands are sometimes moistened with a cold sweat; but it is only with difficulty, by exercise, that he reaches the state of perspiration so easy to the arthritic; the skin is often the seat of more or less troublesome itching.

The arthritic is sometimes varicose.

The herpetic is so always.

The arthritic is subject to the effects of atmospheric changes.

The herpetic is not so or is much less so.

If now we approach the series of the principal affections belonging to these two diatheses we still find well-marked differences, which I believe I have seriously discussed in my work upon this question, and to which I refer the reader.

I will content myself with saying here that in the two diatheses of which we are speaking, the congestions in general are frequent, but that nevertheless they are observed much less frequently in herpeticism than in arthritism.

There exists, then, a pulmonary congestion of herpetic nature, but which is observed more rarely than that which occurs among arthritic subjects.

What is the reason of this difference which astonishes me, so much the more as that the lung, the right, above all, seems entirely prepared for it?

Observe an herpetic and interrogate him when he believes himself in perfect health. You will find him in general nervous, hard to please, often peevish, his cheek-bones of a brick-red color; he will tell you that he is subject to migraine, recurring at more or less remote periods. In him the functions of the skin, so active in the rheumatic, are performed badly, and the cutaneous envelope is habitually dry and harsh. This is so true that it suffices often to touch the hand of an herpetic in order to become aware of his diathesis. You will learn that he is subject to hemorrhoids, that varices, more or less developed, furrow his lower limbs. Perhaps he will tell you that he has already suffered from various affections of the skin. I say perhaps, for cutaneous affections are not the characteristic of the diathesis, but one of its frequent manifestations.

In all cases he will reply to you that his skin is the seat of a very frequent pruritus, or that it possesses a very great susceptibility, that it is impossible for him to eat certain articles of food without being seized with a more or less confluent eruption, and that the mildest revulsive determines the same troubles upon his skin.

If now you examine the chest you will find in the immense majority of cases a slight dullness, but still very appreciable, the seat of which is in the posterior and middle part of the right lung.

Auscultation will enable you to recognize, in this region, a slight diminution of the vesicular murmur. The ear, as I have said elsewhere, will very readily perceive the sound of pulmonary expansion, but to a less degree than on the left side, as if a thin veil was interposed between the ear and the lung, and upon a pretty large extent of the organ. I have given to this sign the name of *diminution en nappe* of the respiration, a name that takes sufficient account of the sign revealed by auscultation.

How is this phenomenon to be explained if not by saying that there exists in herpetics a state of blood stasis produced probably by dilatation of the veins and capillaries of the right side, the varicose state being habitual among herpetic subjects?

Increase hypothetically this slight but habitual hyperæmia of the lung, and you arrive at congestion with all the rôles that characterize it.

But why, then, are herpetic congestions more rare than arthritic congestions? Could it depend upon the sanguine temperament of the arthritics?

Might herpetics be less easily influenced because of their being accustomed to have a lung in a constant state of hyperæmia, but to a degree compatible with at least apparent health? Would the facility with which the pleura is affected in arthritic subjects explain this frequency of congestions among them?

So many questions to which it is impossible for me to reply at present, and I must, to my great regret, confine myself to stating the fact.

Causes.—The extreme susceptibility of the skin among herpetics may very often explain the pulmonary congestion that supervenes.

When the cold acts for a time more or less long upon the cutaneous covering, healthy or already diseased, the lung will become affected by virtue of that great law of alternation which exists between affections of the skin and of the mucous membranes.

This alternation exists even between certain affections of the mucous membranes themselves, and I will cite, as an example, the alternation that is often remarked between pulmonary congestion and certain herpetic affections of the uterus, the treatment of which requires an extreme prudence.

Diagnosis.—The state of blood stasis of the right lung being habitual with herpetics, it will be necessary, then, to take great account of it in observing the symptoms derived from percussion and auscultation of this organ.

In true congestion a more serious dullness will be found. The vesicular murmur, habitually weakened, will be still more feeble, and to these negative signs will be joined a few sonorous, a few sub-crepitant, more or less moist râles, according to the intensity of the congestion.

Heredity, the constitution of the patient, his herpetic aspect, the cough habitually dry, more rarely moist, pretty frequent paroxysms of asthma, the alternation between other herpetic affections of the skin or of the mucous membranes, these are the means of a diagnosis of which one will no longer have cause to doubt if one in addition meets with the *diminution en nappe*.

In this affection the diagnosis is of the utmost importance; for it is easy to be led into error and to take this herpetic hyperæmia for a tuberculous affection of the lung. I have published a very curious instance of this error of diagnosis in a patient who was going on growing weaker every day, and in whom had been diagnosed the presence of cavities.

The aspect of the subject, the extreme susceptibility of his skin, and, above all, the slight dullness and the diminution of the vesicular sound at the posterior part of the right lung, enabled me to diagnose a simple herpetic congestion, and to see in the pretended cavities only coarse mucous râles, the probable consequence of a slight bronchial dilatation.

The anti-herpetic treatment in a little time confirmed my diagnosis.

Treatment.—Two indications govern the treatment of herpetic pulmonary congestion :

To combat the congestion and to direct our efforts against the diathesis.

It is by mild revulsives upon the skin, sometimes by the vesicatory, but more often by sudorifics : baths, sarsaparilla, guaiac, that one will succeed in combatting the congestion ; it is important to always bear in mind that nothing is more frequent than the alternation between affections of the skin and visceral manifestations, and, whatever may be the medication to which one addresses oneself, to expect a failure or rapid relapses if very serious attention is not given to combatting the diathesis itself.

Sulphur and arsenic are the two remedies upon which one will have to rely, and if it is possible the patient will be sent to a thermal station. It is by aid of the water as a drink, of baths, of inhalations and sometimes of douches, that one succeeds in relieving the lung ; but I could not too earnestly advise the greatest caution in the employment of these different means. How many times has a too rapid amelioration on the part of the uterus been followed by a grievous reaction towards the pulmonary organs !

I remarked at the commencement that arthritism and herpeticism were often united in the same subject.

We may, in effect, find the signs of these two diatheses associated in the same patient : arthritic friction and *diminution en nappe*. Commonly one of these two general diseases dominates the other, and then its symptomatic manifestations often persist after those that characterize the more feeble have disappeared in consequence of an appropriate treatment.

Scrofulous pulmonary congestion.—Does there exist an essentially scrofulous congestion, or is the hyperæmia simply produced by the same causes that may produce it in non-diathetic subjects, and does it assume a certain aspect only because it occurs in a strumous subject ? These are questions that are pretty hard to answer, but is it not sufficient to the practitioner to be able to recognize it ? There, often, is the

difficulty. Apropos of the diagnosis of tuberculosis at the commencement of scrofula, this is what M. Quinquand says in his thesis (d'agrégation): "The diagnosis is then exceedingly difficult; this patient has been the subject of catarrh from his infancy; if an acute period supervenes, it is thought that it is a question of an attack of bronchitis or of *pulmonary congestion*; a favorable prognosis is given, and the patient dies."

Is it possible to establish a sensible difference between exaggerated lymphatism and scrofula? Might not lymphatism be only the first step towards this constitutional state? I cannot here discuss these different hypotheses, but I think proper to refer to them; for, as regards the cause, the diagnosis, and the treatment of pulmonary congestion, it may happen to me very often to confound them.

Causes.—The habitual lymphatic temperament of the scrofulous certainly renders them more apt to be influenced by external causes, and the often exaggerated means which they take to protect themselves from these may become for them a new source of disease. "The morbid act congestion and hemorrhage," says Dr. Senac-Lagrange, "belongs to lympho-scrofula, to lymphatism as to arthritism, but here atony of the organ plays the principal rôle." (*Annales de la Société d'Hydrology, tome 26.*)

Barth says that "among the scrofulous the mucous membranes are habitually congested," and certain physicians think that this habit of congestion with them is hereditary. Might it not be objected, whilst admitting that the father or mother might beget scrofulous children, that the affections which are the consequence of this general disease must vary according to the causes to which the patients will be subjected later.

Is it possible, besides, to maintain that scrofula is always hereditary? We do not think so, and we are not disposed any more to admit that the child can become scrofulous all at once; that is to say, without a predisposition that it derives from its parents.

I have written somewhere that it had happened to me several times to visit the families of peasants at the moment of taking their meals, to see seated at the same table the father and the mother, whose health left nothing to be desired, and magnificent children, strong and robust. There was at the same time near the hearth, and like an unfortunate paria, a little pale and miserable being, with flabby and swollen muscles, the nasal mucous membranes dripping, the eyes diseased, the eye-lashes long and recurved, the cervical ganglia strongly developed; and this child was the brother of the young men whose health I was just admiring.

This poor scrofulous child was certainly not so hereditarily, but had he not been conceived, for example, in a state of drunkenness? I have reasons for believing in such a cause. Then, if I am far from seeing scrofula always following scrofula, I believe that it is rarely acquired in a complete manner, and that in almost all cases one could find in the most healthy progenitors, if this investigation was possible, a state of temporary depression, I admit, but which had favored the generation of the disease in the child.

Scrofulous pulmonary congestion cannot be doubted, and of all those that appear in diathesic subjects, it is perhaps the most to be dreaded. I believe, in fact, that more than any other it may become the starting point of tuberculization, certainly a predisposing and, in some cases, the determining cause of this disease.

Here are some quotations that I find in the excellent work of Dr. Schlemmer upon constitutional bronchitis: "Tuberculosis is developed less frequently during the *écrouelleuse* and ganglionic period than at a more advanced stage of the scrofulous affection." (Constantin Paul, *thèse d'agrégation*.) "The influence of scrofula as a predisposing and perhaps determining cause of tuberculosis is indisputable." (Damaschins, *thèse d'agrég.*)

Age certainly exercises a great influence upon this congestion, and all authors agree in saying that if, in early years, it is the tegumentary system that is attacked by scrofula, it is at a more advanced age that the visceral affections appear.

This strumous hyperæmia is remarked, in general, in young girls at the time at which they ought normally to commence to menstruate. I do not fear, moreover, to assert that, according to my observations, and, in the immense majority of cases, one may say of a woman attacked with a diathesic affection of the chest, that her menstrual life has tardily commenced.

Diagnosis.—In scrofulous pulmonary congestion one remarks neither that congestive tendency so frequent in arthritics nor the nervous state habitual to herpetics. On the contrary, one observes a state of torpor accompanied by a hypersecretion of the mucous membranes, and by dilatation of the bronchi—a dilatation which might be, according to Dr. Senac-Lagrange, the result of the atony of the elements that enter into the constitution of the dilated part. This atony would sufficiently explain, in fact, the degenerations that occur among the scrofulous, whilst their general condition does not appear to answer to the grave local affection of which they are the subjects. In scrofulous congestion the march is habitually slow, without reaction, and yet it is

necessary the more to watch over it as that it may be, as I have said, the starting-point of tuberculosis.

What are the symptoms that allow us to diagnosticate this affection?

Outside of the general condition of the subject, it is necessary to note, in the first place, a hoarse cough at the commencement, a pretty considerable degree of oppression—even suffocation; then appears an abundant expectoration, sometimes hæmoptysis, but more rarely than in arthritism and herpetism.

These symptoms of long duration appear without appreciable fever in those patients who, in general, preserve their appetite.

What characterizes strumous congestion still further is its great tendency to recur and to become chronic.

By percussion we find alternately dullness and exaggeration of sonorousness.

By auscultation a rude respiration, mingled with ronchi, which have their seat sometimes on both sides of the chest, or even a diminution of the respiratory sound in certain regions, and quite near, on the contrary, murmurs mixed with *râles* which may go so far as to simulate the presence of caverns.

These symptoms appear to be the result of the pressure exercised upon the bronchial tubes by the hypertrophied ganglions.

Treatment.—If there is a congestion that it is necessary to combat at its *début* it is certainly that which one encounters in a scrofulous subject, for, as I have said, it tends to pass into the chronic state and may become the point of departure of tuberculous products.

“In children and young scrofulous persons,” says Dr. Baréty, “it is necessary to be watchful to prevent the production and development of every pulmonary affection, and to combat it energetically.”

Here, as in all diathetic manifestations, are presented two indications to be filled: To address ourselves to the diathesis and to combat the affection.

It is by a well-understood hygiene, by substantial nourishment, by frictions upon the skin, that the appetite will be increased, and that consequently the constitution will be fortified.

“As a prophylactic measure,” says Dr. Quinquand, “we will make use of all the means that could increase the respiratory forces and develop the field of hæmatosis.” He advises going to breathe the air of the woods and mountains, and not the warm air of the southern regions.

Cod liver oil, in sufficient doses, is a very efficacious remedy during

the winter, and in the summer it is, above all, to the thermal establishments that one ought to resort, and that for several consecutive years. It is from the sulphurous, the sodium chloride, the arsenical waters, that patients will have to seek an efficacious treatment, and return in the winter to cod liver oil and transported mineral water.

The congestion will be combated by the balsamics, the revulsives, and the mineral waters of which I have spoken.

It is by baths, douches, and the water taken as a drink that we address ourselves to the diatheses at Saint-Honoré. Inhalations come in to add their powerful effects when we wish to combat the pulmonary congestion. But here a serious question presents itself from the point of view of the treatment. A sulphurous water being given, ought the pulmonary hyperæmia to be always combated by the same means? Certainly not. If it presents an irritable form, the strong sulphurous waters are to be avoided, and it is, above all, upon arsenic that we will have to rely.

The waters of Saint-Honoré, with their gamut of sulphur and arsenic, are the more precious because, in the irritable forms, we can employ the water of Romains, slightly sulphurous but arsenical, and it is, on the contrary, to the water of Crevasse, which contains a larger quantity of these two principles, that we will have to have recourse in the torpid forms.

SELECTIONS.

PATHOLOGY, DIAGNOSIS AND TREATMENT OF PERFORATION OF THE APPENDIX VERMIFORMIS. By J. McF. Gaston, M. D., Professor of Surgery, Southern Medical College, Atlanta, Ga.

Read in the Section on Surgery at the Thirty-Eighth Annual Meeting of the American Medical Association, June, 1887.

Lest the title of my paper should lead to the impression that I have made observations of a practical nature on this grave condition, calculated to serve as a guide to the practitioner, let me announce at the outset that my inquiry is directed to the discussing of means for the clearing away of the doubts that cluster around perforation of the vermiform appendage. It is highly probable that many of the cases which run the ordinary course of typhlitis may originate in a slight yielding of the coats of the appendix, that allows an exudation of its contents and sets up a local inflammation in the neighboring tissues, with a shutting in of the pus by adhesive inflammation between the serous membranes around. Such cases having the effects confined to a limited area of the abdominal cavity do not present the phenomena

of general peritonitis, but retain the characteristics of a circumscribed inflammation.

Having treated of the "Surgical Relations of the Ileo-cæcal Region" in a paper laid before this body at its last meeting, and having contributed a paper on the "Surgery of the Ileo-cæcal Connections" to the October, 1886, number of GAILLARD'S MEDICAL JOURNAL, I must presume upon an acquaintance with the points therein presented. My attention will therefore be confined to the peculiar phenomena connected with perforation of the vermiform appendage, so far as they are capable of being considered separately from other forms of intestinal perforation, and peritoneal inflammation from other causes.

The anatomical seat of the disorder is so definitely fixed in its commencement, that it would seem a simple matter to diagnosticate the origin of the symptoms; yet practically it proves a most difficult thing to differentiate the train of disorders associated with this accident from those troubles growing out of derangements in the ileo-cæcal region from other causes. The sympathetic disturbance in the abdominal viscera from local lesions are very obscure, and it is observed that in strangulated hernia, for instance, the pain is not located at the constriction but at the umbilicus. In the case of strangulated inguinal hernia, for which Dr. N. B. Carson practiced resection successfully, it is stated, that "while skating, the patient was suddenly seized with a severe pain in the abdomen, which he did not locate definitely." Other instances might be cited in illustration of the absence of local symptoms in acute cases of obstruction of the bowels; and the history of the local origin of general peritonitis from perforation of the intestines rarely presents an indication of the point at which it has occurred. The same is observed in the early manifestations from perforation of the appendix. Dr. J. D. Bryant's fatal case of perforation of the vermiform appendix exhibits strikingly the want of those local symptoms which might serve as a guide to the nature of the trouble at the outset. He states that the patient had been suddenly attacked with a moderately severe griping pain in the epigastric region. He noticed no pain or tenderness in the right iliac region. About fifteen hours afterward the pain became more severe than at the outset, and was still located in the epigastric region. The tenderness on pressure was general, but was best marked, however, at the lower portion of the abdomen. No isolated point of extra tenderness was discovered. All pain was referred to the epigastric region, the same as at the outset of the attack. In the case reported by Dr. Tiffany, and in two of my own cases, there has been a feature which has not been noted by others so far as I have observed—the pain in the privates. If it should turn out that this is present in any considerable proportion of the cases of perforation of the vermiform appendage, it would prove an important element in the diagnosis. It is difficult to trace any sympathy between the inflammatory process which accompanies the exudation from this particular locality, and the genital organs; nor does it appear that there is any influence that could be operative in perforation of the ap-

pendix rather than in typhlitis. But the fact of pain in a marked degree being present in these three cases, which were verified as cases of perforation of the appendix, stands forth as an indication which may lead to some practical inference in making up the differential diagnosis of this condition. It is desirable that other observers should direct their attention to this point in the early stage of trouble in the cæcal region, and report upon its presence or absence when the subsequent progress of the cases confirms the reality of this affection.

This occurrence would seem to be more frequent in later years, if the fact of its existence formerly has not been overlooked in its effects being confounded with peritonitis from other local lesions. It is evident that some of the cases are only brought to light upon a necropsy being instituted, and the profession now very properly insists on such examinations in obscure cases. Unfortunately, the people are not educated up to the point of assenting to a proposition by the medical attendant to open up a body for the good of others and the promotion of science; and we often have difficulties to encounter in securing a post mortem examination of a patient. But perseverance will generally be rewarded by the consent of friends having a fair measure of intelligence; and the insuperable prejudices of ignorant people can sometimes be set aside by using means of preventing decomposition along with the exploration under the plea of embalming the body. It is, at the present stage of the history of abdominal disorders, so important to make autopsies in obscure cases, that I would urge upon the profession accurate record of every symptom in cases of suspected perforation of the vermiform appendage, and in fatal cases all the details of the post-mortem observations.

I had an opportunity recently of making post-mortem examinations in two cases of perforation of the appendix, which were reported in the *Medical and Surgical Reporter*, of February 5 and April 20, 1887. In both of these patients the symptoms indicated trouble in the ileo-cæcal region at an early period, but the location of the pain and tenderness on pressure was not limited in such form as to indicate the origin of the inflammation; and I am forcibly impressed with the difficulties attending any precise diagnosis of perforation of the appendix vermiformis before the disease has progressed so far as to render operative measures of little avail. The double process of cutting down in the iliac region, and subsequently resorting to laparotomy, for the relief of cases attended with general peritonitis, has not been attended with satisfactory results, so that it behooves us, if possible, to go over the whole ground anew to discover some criterion for our guidance in such cases. An occurrence of inflammation in the tissues of the cæcum, constituting typhlitis, from some accumulation within its cavity, may be relieved by evacuating its contents; and thus terminate by resolution; but it is very rare, if ever, that extravasation of fæcal matter in ulceration of the cæcum is not followed by a discharge in one or another direction. It is therefore recognized by those of most practical experience as proper, at an early stage of inflammatory develop-

ment in the vicinity of the cæcum, to make an exploratory puncture, to ascertain if there be any deep-seated focus of pus; and in the event such source of trouble is detected, a free incision, communicating with the hidden septic seat, is warranted.

It is impracticable to determine the exact source of the suppuration, even when the opening at the bottom of this wound is large enough to admit the index finger for the purpose of exploration; and as a consequence the surgeon cannot decide, generally, whether the lesion is in the cæcum or appendix, when the fæcal odor leads to the unmistakable inference of the escape of the intestinal contents. As a rule, based upon the anatomical relations of the serous investment of these parts, any discharge through a perforation in either enters the peritoneum; and yet, by adhesive inflammation, may be confined to the immediate proximity of its escape, and hence produce a circumscribed abscess there. On the other hand, when perforation of the vermiform appendix occurs, and the contents become diffused to a greater or less extent in the peritoneal cavity, the inflammatory action extends and constitutes general peritonitis with all its serious consequences; or may be partial, from limitation by the surrounding adhesions between different layers of the peritoneum.

We must seek an explanation of the train of disorders following perforation of the appendix in the irritating quality of the discharge from the opening, whether this be caused by the disintegration of tissue from a localized ulceration of the walls, or from the mechanical pressure of some foreign body or concretion within, which cuts its way through the structure into the peritoneum.

There is present in the appendix at all times either fluid or solid fæcal matter, which escapes whenever an outlet exists, and though the quantity may be small at the outset, it gradually increases, so as to permeate in different directions; and being a toxic irritant, it sets up inflammation wherever it comes in contact with the delicate serous membrane, and ultimately induces destruction of its vitality, so that it breaks down in a necrosed state. This brings about the ordinary results of typhlitis, perityphlitis, paratyphlitis or general peritonitis, and the object of the surgeon is to arrest its progress at a point least detrimental to the patient.

The propositions I would submit for consideration are: *first*, the impracticability of making a differential diagnosis between perforation of the walls of the cæcum and those of the appendix; and *second*, that the treatment in its preliminary steps is very similar; so that the operative procedure does not imply a knowledge of which is involved in the given case in advance of its adoption.

The pathological modifications of the tissues in contact with the exudations from either must be identical, on the principal that like causes produce like effects, and the extent of such structural changes depends upon the area involved in the permeation by septic matter. It is a well ascertained fact that the contact of fæcal matter with any of the tissues of the body other than the mucous surface with which it

is brought into close relations in passing through the intestines, causes rapid disintegration of structure, and propagates a hurtful influence to all the adjacent tissues, with a general depression of the vital powers. A concise and yet comprehensive paper by Professor Beck, of University College, London, in Heath's "Dictionary of Practical Surgery," gives the characteristics accompanying perforation of the appendix vermiformis so satisfactorily that I will avail myself of it for a general outline of its concomitants.

Perforation of the vermiform appendix is most commonly caused by the presence of a concretion or foreign body within it. According to Dr. Fenwick, who has collected and analyzed 129 published cases, amongst those in which the nature of the obstructing body is recorded, 28 were concretions, 14 hardened fæces, and 5 foreign bodies. Amongst the cases in which no concretion was found, tubercular ulceration seems to have been the most common cause of perforation, and a few occurred during or after typhoid fever. Concretions are most common in males under 20 years of age. In my two fatal cases referred to already, one, in a gentleman about 32 years old, resulted from a bean becoming impacted in the appendix immediately below its attachment to the cæcum. The other, in a youth 10 years old, was caused by an oblong pointed fæcal concretion located about the middle of the appendix.

The effects produced by perforation of the vermiform appendix vary with the anatomical relations of the part and the seat of the ulceration. According to Mr. F. Treves, the appendix commonly lies behind the end of the ileum and its mesentery, and is directed upwards and towards the left. In the only other common position it ascends vertically behind the cæcum. It may, however, be so placed that its free end lies at the brim of the pelvis. If perforation takes place near the attached end, or if the whole tube lies behind the cæcum, the abscess would be in the same situation as that resulting from diseases of the cæcum, and would be indistinguishable from it. When the appendix occupies its more common situation, and when the perforation occurs in the free part, it is followed either by general peritonitis usually fatal under a week, or by the formation of a collection of pus enclosed in a cavity formed by the surrounding coils of intestines firmly united to each other by adhesions. According to Dr. S. Fenwick, in ninety-five cases of which accurate details could be obtained, thirty-eight presented localized collections of pus.

Premonitory symptoms may be entirely wanting, but occasionally there is a history of obscure pains in the right iliac fossa or of periodic attacks indistinguishable from ordinary typhlitis. In the cases in which perforation is followed by diffuse peritonitis, there is usually a sudden invasion, often during some violent exertion. The pain commences in the right iliac fossa, but soon extends to the whole abdomen. There is constipation, distension of the abdomen, and absence of evident movement of the intestines. The abdomen is tender, but most markedly in the right iliac fossa, when some fulness

may be felt. The symptoms are much less severe than those of perforation of the stomach or other parts of the intestines, as the extension of the inflammation is less rapid, owing to the absence of the abundant extravasation of the intestinal contents. For the same reason collapse is not marked. Vomiting, often of dark colored matter, is a marked symptom, as in all other forms of peritonitis.

The symptoms of perforation with localized peritonitis are much more obscure. The invasion is usually somewhat sudden. There are localized pain and tenderness in the right iliac fossa. The pain resembles colic in character. There is usually constipation, but it may alternate with diarrhœa. Vomiting is commonly present. After a day or two an irregular, diffused, elastic swelling may be felt in the right iliac region. At this time rigors are not uncommon, with temperature 103° to 104° , accompanying septicæmia. General peritonitis with intense injection of the serous membrane, and adhesions of recent date between the different coils of intestines and the parieties of the abdomen exist. Purulent fluid may be found localized by surrounding adhesions, or diffused in the peritoneal cavity.

In the diffuse form the diagnosis from other forms of perforative peritonitis can only be made by the comparative absence of collapse, by the commencement of the pain in the right iliac fossa, by the tenderness in that region, and by the somewhat gradual extension of the inflammation to the peritoneum generally. The localized form most closely resembles simple typhlitis, and sometimes can hardly be distinguished with certainty. As a rule the swelling is more diffused and more acutely tender at an early period than in simple typhlitis, and the constitutional symptoms are much more marked (Heath's Dictionary of Practical Surgery). An exploratory operation to discern the source of the disorder, or a post-mortem examination, are the only means of reaching a definite conclusion as to the precise nature of the case, and if we would avoid the latter the former must be resorted to at an early period.

Until recently patients suffering from perforation of the vermiform appendix were practically left to die under the soothing influence of opium, when their end was not hastened by purgatives, enemata, and other violent measures. There is, however, no doubt that whenever perforation takes place the only chance of life lies in opening the abdomen early and freely draining the cavity. This is applicable to those cases in which there is general peritonitis, and still more so to those in which the mischief is localized, whenever a diagnosis can be made.

The incision should, as a rule, be made above the outer part of Poupart's ligament, and should be about three inches in length. The muscles should be carefully divided and the peritoneum freely opened. The vermiform appendix should then be sought for, and, if it be found and is evidently diseased it may be ligatured with catgut and cut away. If there is diffused peritonitis, with purulent fluid amongst the coils of the intestines, an attempt may be made to clean the cavity by means

of sponges squeezed as dry as possible, after being soaked in some antiseptic solution, such as carbolic acid (1:40) corrosive sublimate (1:500) or tincture of iodine (f3ij to Oj). If the pus is distinctly localized in a cavity, it is better not to attempt to clean it out, for fear of breaking down the surrounding adhesions. After the operation a large drainage tube should be inserted and the wound closed as far as possible by sutures. The operation should be performed with antiseptic precautions, and some antiseptic dressing be applied.

It may be necessary in some cases to modify the incision. Should the swelling be situated near the middle line, Professor Beck says the abdomen might be opened at the outer border of the rectus muscle, but care must then be taken not to wound the epigastric artery. He erroneously claims that the middle line can seldom be a suitable situation for the incision, as, being so far removed from the seat of the disease, the drainage would not be efficient. All who have had practical experience in laparotomy for inflammatory affections will doubtless differ with him in this, as the linea alba is now generally preferred for the incision; and by carrying it to a sufficient extent no difficulty is found in reaching any part, and in effecting drainage satisfactorily. It devolves upon the operator likewise to resort to copious irrigation, with or without antiseptics, to remove all purulent collections from the cavity.

In the debate upon penetrating wounds of the abdomen at St. Louis I adverted to a simple process for detecting the presence of fæcal matter or blood in punctured or gunshot wounds, which is applicable for an explanatory operation in cases of suspected perforation of the vermiform appendix. The report of my remarks will be found on page 596 of *The Journal* of November 27, 1886. They may be summarized by stating that the doubt as to existing lesions of the intestinal canal may be resolved usually by passing two tubes through an opening in the abdominal wall at the site of the injury, both being of a length to reach throughout the cavity, with the outer end of one free and open, while the other is joined to a Davidson syringe. The drainage tube should be fenestrated for some inches from the extremity that is within the abdomen, and the other end left entire outside to carry off the fluid injected, with whatever admixture it may contain, whether sanguineous, fæcal, or purulent. A solution of common salt at a temperature of 100° F., may be thrown into the peritoneal cavity continuously, and allowed to pass out by the escape tube, until the water returns free from the abnormal ingredients therein contained. If the outer termination of the syringe be then secured to the fenestrated tube, while the other is removed from the cavity, suction will remove the remaining fluid. I am impressed with the advantages likely to be derived in diagnosticating the conditions resulting from perforation of the vermiform appendix first by aspiration, and subsequently by the process of irrigation here described, as it is evident that a flexible tube may reach accumulations not accessible to the straight or curved metallic tube ordinarily used with an aspirator.

The puncture made in aspirating would not suffice for the insertion of a tube, and it would therefore be requisite to make such an incision as to admit a single tube if suction only was indicated, or two tubes if irrigation was intended. This incision should be no larger than necessary, and ought to be made in that part where the supposed exudation or suppuration could be reached most directly. Such a proceeding is called for in the first instance as a means of diagnosis, but may become afterwards an important measure of treatment when a diffused inflammation in the abdominal cavity coexists with local conditions requiring the standard operation by an incision in the iliac regions. Thus the grave complications of following the ordinary procedure in cases of typhilitis by abdominal section may be averted, and the prospect of a favorable issue enhanced.

The adoption of prompt and efficient operative measures in the early stages of that inflammation which is set up by perforations of the vermiform appendix depends upon a recognition of the conditions at the outset, and a resort to the exploring needle on the aspirator directly through the tissues involved is warranted by the practical result of those who have had the most satisfactory results in treating this class of cases, as well as in the various modifications of typhlitis. If there is one thing more than another that is pressed upon our attention by the recent developments in abdominal surgery it is that delays are dangerous, and we must take time by the forelock if anything is to be accomplished in snatching from the jaws of death a patient who is suffering from perforation of the vermiform appendix. I am so convinced of the urgent demand for surgical interference at the very earliest practicable period after the occurrence of this accident, that even in a case of simple typhlitis with symptoms causing no misgivings as to perforation, it strikes me forcibly that any cautious surgeon would be authorized in cutting down above Poupart's ligament to verify the true state of the deep seated structures. If no lesion is found in either the cæcum or vermiform appendix, no serious trouble is likely to follow such incision, but on the contrary the drainage effected from the immediate neighborhood of the tissues involved in inflammation must prove beneficial, and the history of early incisions where pus has not been discovered encourages the surgeon to adopt this practice.

Should it appear, on the other hand, that a perforation, however slight, exists either in the cæcum or vermiform appendix, the recourse to Lembert's suture for lesions of the cæcum, and of excision with ligation in perforations of the appendix, afford the best prospect of staying the progress of disorganization. A thorough cleansing of the adjoining tissues by antiseptic washes, avoiding the solutions of bichloride of mercury, is likely to correct the disintegrating process set up by the septic contamination; and by the continuous use of iodoform with the dressings of absorbent cotton, a reasonable calculation may be made of saving the patient. It is not incumbent upon the surgeon to wait for a certainty of perforation—but when a just ground of appre-

hension exists, he should operate and give his patient the benefit of the doubt.

The practical deductions from this inquiry in regard to the concomitants of perforation of the appendix vermiformis may be included under the following heads :

1. The primary disorder is dependent upon a local irritant, either mechanical, chemical, or vital, inducing ulceration and disintegration at some point in its walls.

2. The modification in the tissues of adjacent parts depends upon the presence of a toxic exudation from its cavity, that ultimately leads to disorganization of structure.

3. Extension of the degenerating process depends upon the permeation of the structures with the fæcal matter, but may result from suppuration, or the automatic propagation of inflammation from one part to another.

4. Agglutination between the layers of peritoneum may shut in purulent accumulations, and thus limit the inflammatory action to a circumscribed area, so as to assume the nature of an abscess in that locality.

5. General peritonitis may be accompanied by extensive adhesions of the adjacent serous membranes, and followed by vital prostration and collapse, calling for the knife.

6. Septicæmia may occur from absorption of septic matter independent of suppuration, and associated with a low form of fever which ought to be treated by antiseptics and irrigation of the abdominal cavity by hot water.

7. When there are sufficient indications of perforation in the general symptoms, with pain and tenderness on pressure over the cæcal region, without signs of fluctuation, an exploratory puncture below the ileo-cæcal junction is warranted.

8. If there are any reasonable grounds to believe that pus is present, or that there is extravasation of fæcal matter, whether from the perforation of the cæcum or appendix, a free incision above Poupart's ligament should be carried down to those parts and drainage kept up afterwards.

9. In perforation of the appendix associated with general peritonitis an incision in the linea alba affords the best prospect of reaching all the parts involved, and should be accompanied by thorough cleansing of the abdominal cavity and especially of the ileo-cæcal region.

10. The most efficient means of closing an opening in the cæcum is by Lembert's suture, while an opening in the appendix demands excision and ligation.

11. When perforation is suspected, washing out the abdomen by the use of a syringe and two tubes will assist in the diagnosis and treatment.

12. An early operation with a doubtful diagnosis of perforation of the appendix lessens the likelihood for a confirmation of it by a necropsy, and hence no time should be lost in awaiting development.—

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THE DRY TREATMENT IN GYNÆCOLOGY. PRACTICAL DETAILS: THE REMEDIES, THEIR USE AND APPLICATION. By George J. Engelmann, M.D., St Louis.

(Concluded from page 263.)

The relief afforded by tampons varies so much with the method of placing them, that they soon find out by experience where the tampons must be placed, how large they must be, and how many must be used. When the patient places the tampon herself, she must, of course, use them small, elongated, as they are more readily inserted. She must be carefully instructed how to make and how to insert them; they are to be inserted in the knee-elbow position if they cannot be managed in the dorsal decubitus, and carefully pressed against the posterior vaginal wall, forcing the perineum back, and then brought backward and upward, the first behind the cervix, and then upward against the fundus, the next following it as close as possible. Patients who cannot learn to manipulate the tampon may use the vaginal gelatin capsule, putting the powder for medication into the capsule upon the tampon; these are more handy, but much less efficacious, as they cannot be so accurately adapted. I have frequently seen great improvement in such patients after returning from a summer vacation, or a few weeks' absence, during which time they have not only afforded themselves relief and comfort, but have even improved their condition by the continued use of properly-placed tampons during the daytime, and by the douche in the evening and morning.

We must begin cautiously with the dry treatment, as with all others. Idiosyncrasies may exist; powders or cottons may not be borne, and in almost all cases, certainly in sensitive patients, repeated treatment is necessary before the parts become thoroughly accustomed and adapted to the tampon, and improvement is felt. If we desire at once to attain the full effect, more or less irritation will be produced; hence the first treatment must be mild both in regard to medication and mechanical effect. We must not seek to fully replace and hold the displaced uterus at once, but we must be satisfied with some little change for the better; small tampons mildly medicated. In nervous patients with sensitive organs, in cases of cellulitis and metritis, treatment should be inaugurated with all possible precautions; I have sometimes used cocaine to cervix and cul-de-sac. I generally use bismuth or iodoform with small berated tampons; should the tampon cause irritation, let the patient remove it if it becomes annoying, even before the expiration of thirty-six hours; gradually the parts, by pressure and medication, grow less sensitive, a slight amelioration of the condition takes place, and the treatment is borne without discomfort; ere long the improvement becomes marked, increasing day by day. In rare instances I have seen a few weeks thus consumed. In many cases a little discomfort is felt during the first two or three treatments, but this is only in the more sensitive; in most the improvement becomes apparent at once and is sensibly felt by the patient after the second treatment. If the tampon

annoys, it is better that it be removed ; it may be mere hypersensitiveness of the parts, the tampon may not be properly placed, as it is not a simple matter and it is sometimes after repeated trials only that the proper number, size, and position of the tampons is obtained. This is another advantage over the pessary, the possibility of a *gradual* return to the normal condition. The first tampons may annoy somewhat even when properly placed, because the parts, having become adapted to their malposition, forced upon them by morbid conditions, are disturbed in their relation, and only by degrees again accommodate themselves to the normal; hence we must proceed slowly, and under no circumstance should pain be caused.

What the tampon is.—The tampon, as I use it, is perhaps the simplest of all the numerous forms of tampons which have been recommended, and I would here say that many of them should be carefully avoided; no peculiar shape or manner of wrapping is recommended. To be servicable, easily placed, and well retained, the tampon must not be large; it must not be hard, or too compressible. The tampon should be oval, from two and one-half to three inches in length, from one to one and a quarter in diameter. It should neither be flat nor conical, or a hard mass of rolled cotton; nor should it possess that firmness which is lauded by some for their particular tampons. The cotton or wool of which the tampon is made should be loosely picked, then taking a bunch perhaps the size of an egg, a string seven inches in length should be taken, one end of which is tied around the tampon sufficiently tight for it to become imbedded in the fibre of the cotton and nowhere visible. It must not be tied too tight lest the elasticity of the tampon be impaired, yet it must be sufficiently firm to hold firmly and be imbedded, that the string itself is nowhere exposed so as to come in contact with the vaginal tissue. One end is cut short, the other, five inches in length, is left pendant to secure the tampon. The string should not be coarse, it should not be colored, lest the perspiration or secretions become tinted and stain the clothing; the string must be soft, as irritation is readily caused in tissues so sensitive as the mucocutaneous borders by the friction of a coarse cord, and in very sensitive patients, even a soft string is liable to cause irritation. The pendant portion should not be more than five or six inches in length, long enough to protrude from the vagina, yet not so long that it becomes entangled in the clothing and liable to be disturbed and dragged down; still it must be long enough to avoid the danger of its being drawn up into the vagina so that the patient herself is unable to remove the tampons. The largest tampons I use are three inches in length by one and a quarter in diameter; the smallest about two and a half inches in length by one in diameter; the fibres are packed so as to give the tampon sufficient firmness and still preserve their elasticity; it must not be a hard, incompressible mass, though firm, elastic, the peripheral fibres quite loose. As the elastic fibre of wood or jute is often too harsh to come in contact with the tissues, yet on account of its elasticity desirable for support, I use this material for the body of the tam-

pon, and then cover it with a thin layer of medicated or antiseptic cotton, using for supporting tampons the more harsh but elastic fibre for the body of the tampon, the soft medicated substance for the covering. The smallest size tampon should always be used for an elastic body over which the covering is placed, so that the tampon when completed may not be too large.

Placing of the tampon.—As a rule, I use the bivalve speculum, with the patient in the dorsal decubitus. For certain purposes, for the correction of a retroversion, the semi-prone position and Sims' speculum are preferable; in extreme cases even the genu-pectoral position, so that gravity, traction of the intestines, pressure of air, all add to further reposition of the organ before the tampon is inserted. After such treatment as the case may demand, to the endometrium, by fluid, powder or pencil, or the use of the electric current, all secretions are removed, the vagina is thoroughly dried with absorbent cotton, the cul-de-sac and cervix coated with the remedy desirable in powder form, the tampon is seized with a long broad-bladed dressing forceps, which grasps it about the centre, and the part to be sustained is pressed gently towards its natural position by the tampon. Frequently it is desirable to raise the vaginal vault, especially the cervix, so as to admit of proper placing of the tampon; in retroflexion or anteversion, for instance, where the cervix points backward to the hollow of the sacrum, the posterior lip must be seized with the tenaculum and raised upwards sufficiently to admit the tampon to be lodged behind it. When once in the proper position, the forceps are removed, and whilst the cervix, or other part in the way, is fixed by the tenaculum, the tampon is pressed in place by the dressing forceps, the ends of which are separated about half an inch so as to afford a better surface for pressure. In inserting the tampon, we must always be careful to grasp it so that the string remains pendant, hanging out of the vagina; if the end should slip back into the vagina, it is seized with the dressing forceps after the tampon is placed and brought well out. In the placing of second and third tampons, it is well to make traction on the strings of those previously inserted, so that they may not be pushed upwards and lost. According to the object desired, the following tampons are placed and pushed upwards against those preceding, more or less firmly where support or medication is desired, so that the entire mass of tampons represent one elastic body. Under no circumstances must the tissues, especially the vaginal walls, be distended (except for compression and in the packing of the vagina post partum for hæmostatic purposes). The tampon should find its main support in the hollow of the sacrum and upon the floor of the pelvis, but never low down toward the vaginal orifice, where either rectal or urethral passage will be compressed or irritated. The proper placing of the tampon with Sims' speculum is somewhat difficult, as the natural relation of the parts is greatly disturbed, the vagina distended, and the placing of all but the first tampon rendered extremely difficult, unless very light traction is made upon the speculum and the blade gradually withdrawn as the

lower tampons are placed. In the treatment with the bivalve speculum, it is likewise often well to withdraw the instrument as the lower tampons are being placed, if such are called for. When the tampons are well in place, they are firmly fixed by the slightly-distended blades of the dressing forceps, with which firm pressure is made against the lowest tampon whilst the speculum is withdrawn. After the tampon is placed, the patient takes a few steps to test the effect, whether relief of pain is given, then she lies down for a quarter or half an hour in such position as insures the retaining of the tampons and pelvic viscera in the position given them by the practitioner. Before leaving the office she must be given to understand the nature of the treatment, the presence of the cotton balls, with full directions for her guidance; that she is to do her work or undergo such exertions as are necessary whilst the tampons are in place; that they are not to be removed, unless causing irritation, until the evening of the day following, before going to bed or just before coming again for treatment. The removal must be accomplished with some precaution; unless this is taken, the string may tear and the tampon remain incarcerated; or by a rude removal the parts, which have just been a little bettered in position, will be dragged down with the tampon and pain and even injury caused. Supporting tampons are often made of astringent material or coated with such, and even when medicated tampons are used the lower one is generally astringent, so that the vaginal walls are contracted and the tampon is more firmly fixed, hence it is well that they be moistened with a little warm water, or a quantity of vaseline be inserted so as to lubricate the parts before removal; then the string is seized as near the tampon as possible, to make traction more steady and less liable to break the string, and by slow and steady traction in the direction of the pelvic axis, as in the use of the forceps, she draws out the tampon. Generally the two or three tampons used, soaked with the discharge, have become united, agglutinated, and are drawn out as one mass, though traction be made upon but one string. In cases where special care is necessary, the string of the lower tampon is marked by tying a single knot in it, the second by tying two knots in it, and so on, and the patient is instructed accordingly, so that she may draw out the lower one first, which makes extraction much easier and less liable to draw down the parts, as will happen when a number of astringent tampons are drawn out together, which drags down the parts, gives considerable pain until the patient lies down for a while in the proper position so that the parts may somewhat resume their natural posture, and then uses the hot douche.

The patient must also be told that even should she not be able to remove one or two of the tampons, no harm is done; otherwise she may cause herself great annoyance and discomfort, and much nervous irritation by futile attempts at removing them if the string should happen to slip into the vaginal canal. Yet I frequently find patients who have been under treatment for some time, who have learned to remove the tampons without trouble, even if the string has escaped, by

hooking the finger over the body of the tampon and so bringing it down. A tampon left in place by the patient is very easily removed by the physician when she next comes for treatment, either by the finger alone or by the forceps through the speculum. If by the hand alone, the tip of the index finger, or index and middle fingers, inserted into the vagina, is placed above the centre of the tampon if it cannot be hooked over it, and it is then pressed down into the hollow of the sacrum as we do the placenta, and by simple pressure downwards and forwards, forcing the mass against the inclined plane of the sacrum, the tampon is readily delivered. The physician must not attempt to seize it with his fingers any more than he would a placenta, but he must deliver it by pressing it downwards against the sacral plane.

THE USE OF THE TAMPON FOR SPECIAL PURPOSES.

The material, and to some extent the size, not the shape of the tampon, varies with the purposes it is to serve; the oblong tampon, adapted to all cases, is small compared with the size of the tampons generally used; the largest should be three inches in length by one and a half in diameter, the smallest two inches in length by three-quarters of an inch in diameter, averaging two and one-half inches in length by one and one-quarter in diameter. Even in simple cases, I prefer to use a number of small tampons, as they are more readily adapted and more precisely fitted; I never use a large tampon, which is an unwieldy, clumsy, and useless, if not dangerous, application, extremely crude. In some few cases, perhaps a single large, oblong tampon would answer as well where it is simply desirable to support an enlarged uterus, somewhat low in the pelvis, or to strengthen relaxed ligaments, or to medicate in a simple case; but, as a rule, it will be found far better and more convenient to use several small tampons, each of which may perhaps serve a particular purpose, yet, acting together, combine to further the end in view as one, by pressure, support, and medication. Tampons in the Dry Treatment generally serve a variety of purposes, and one and the same tampon is often so used; but, for whatever purpose used, we must always bear in mind that they must not form a mass sufficient to distend the vagina, and they must find a support upon the posterior vaginal wall, the lowest portion against the perineal body, and must not protrude into the vulva, where they would irritate and annoy by compression of rectal and urethral orifices; the pelvic floor is the point of support, and the perineum is almost as necessary for the retention and proper placing of the tampon as it is for the pessary.

1. *The medicinal tampon.*—The tampon for *purely medicinal* purposes should be of medium size and of such cotton as answers the particular purpose; in case of a light catarrhal inflammation, alum or tannated cotton, seven and a half per cent., may be used, and two tampons of this cotton inserted; if the astringent effect of the iron cotton (perchloride of iron, ten per cent.) is desired, a thin layer only

must be used, taking a small tampon of wool; jute, or cotton with an antiseptic, as a body around which a thin layer of iron cotton is placed. The same is true of iodized cotton; in cases of chronic cellulitis or metritis, in which we wish the iodine effect, we do not use the solid tampon of iodized cotton, unless the blistering effect is desired, but take a small body tampon of antiseptic cotton or jute, around which a layer of iodized cotton is placed, more or less heavy according to the effect desired; a more effective iodine tampon is one in which the body is made of iodized cotton, and this is surrounded by a heavy layer of plain absorbent cotton, sufficient to prevent contact with the mucous membrane, yet admitting of the slow penetration of the volatile iodine. Such a five-per-cent. iodine tampon, when removed on the second day, comes out perfectly white, proving the complete absorption of the remedy. The quantity of medicated cotton to be used depends upon its strength, the condition of the mucous membrane, and the purpose for which it be used. Where we wish but a light iodine effect, non-irritation, not blistering, we must use a small mass of iodized cotton in the centre of the tampon. Likewise in very sensitive subjects; in such, a layer of iodized cotton, not thicker than the back of a knife blade surrounding the tampon, may produce a burning which continues whilst the tampon is kept in place. To avoid these possibilities, it is better always to use the iodized cotton as body in the centre of the tampon. We must bear in mind that one of the great advantages of this treatment is in the comfort it gives and its continued effect; hence we should not resort to strong remedies and irritating methods of application, unless a special purpose is in view; we must be careful as to the quantity of the iron used. Borated cotton, fifteen per cent.; tannated cotton, seven and one-half per cent., may form the body of the tampon, but iodized cotton, even five per cent., must never, unless a blistering effect is desired, be used for the entire mass of the tampon; ten per cent. alum cotton is even too severe for some to be used in quantity; the milder of the iron cottons made by Am Ende, hæmostatic ten per cent., used too freely excoriates and affects the surface precisely as a solution of perchloride of iron would; of such cotton I take a thin layer, three inches square, and surrounded with this the small tampon which serves as a body. Unless a secondary purpose is in view, an antiseptic material should always serve as the body. In rare cases where a powerful effect is desired upon a small surface, as upon the bleeding and everted lips of a lacerated cervix, the styptic cotton, sixty-six per cent. of perchloride of iron, is used, the part to be affected is covered with a thin layer which is held in place by an astringent tampon of alum or tannin; if a more general effect is desired, a number of tampons, consisting of a mild medicated cotton, are inserted. Where the effect is to be localized, as upon the cervix or the vaginal vault, this one medicated tampon is held in place by a second which consists of wool or cotton coated with an astringent as we shall hereafter see. Tampons of medicated gauze may be used for purely medicinal purposes and are especially useful for purposes of

vaginal dressing after surgical operations. Strips of this material may even be used in the uterine cavity both for drainage and medication.

2. *The supporting tampon.*—The tampon for support consists of elastic non-absorbent material, hence best of wool, jute, or oakum; that is preferable which can be impregnated with antiseptic preparations. There is more or less discharge, either from the vaginal or uterine glands, in cases which come under treatment; hence an elastic non-absorbing fibre should be used for purposes of support. In its elasticity lies the advantage of the tampon for such purposes. The sensitive and inflamed uterus, the irritable diseased ovary, or the vaginal walls, are best supported and held in place by an elastic mass, and there is nothing better than wool for this purpose; after this jute, oakum, or cotton. It should, of course, be aseptic, if not antiseptic. Of late, gynæcologists have fallen into a serious error by using absorbent cotton for such purposes, with the best intentions, thinking to give their patients the benefit of this most elegant and agreeable preparation, that have rendered them a bad service; the absorbent cotton soon becomes impregnated with the discharge and forms a small, hard wad, and patients tell me that, whilst the tampon gave comfort for half an hour, it then felt uncomfortable, causing irritation like a foreign body. The absorbent cotton so matted and solidified and greatly reduced in size forms a support very little suitable for a diseased organ; ordinary cotton is far preferable, because it resists much longer. Fine sheep's wool is best; it is elastic, soft, but not antiseptic; hence, if we use it, it must be impregnated with borax or iodoform. The same is true of ordinary cotton, which makes a fair supporting tampon, though not as good as the more elastic fibre of wool which I use almost altogether. The fibres of jute or oakum when used for a supporting tampon must be picked and loosened, so as to form a soft elastic body; but as this is too irritating for the tissues, the tampon so formed is coated with a thin layer of a finer fibre, with a medicated or antiseptic cotton. Unless special indications exist, it is well to coat the elastic body of the supporting tampon with a thin layer of a light astringent cotton, which serves to contract the vaginal walls and hold the tampon firmly in place. When it is desired to apply a certain remedy to the tissues, the elastic body of the tampon is coated with the medicated cotton to be used; thus where an astringent effect is desired a thin layer of tannated cotton serves to soften and at the same time medicate; iodized iron, borated cotton, may be so used. In holding in place the body of an enlarged uterus, held down by ligaments tense and thickened by chronic inflammations, the supporting tampon is coated with a thin layer of iodized cotton, thus attaining the desired medicinal effect whilst proper support is given.

The tampon for supporting purposes must be placed with as much care as a pessary; if not, it will either not answer the purpose or even give discomfort and do injury. The first tampon may be used to push the part it is to support in place. As it is caught upon the end of the dressing forceps in the right hand, the tenaculum held in the left hand

is often useful in opening a path by holding aside such tissues as may obstruct. Thus, in case of a retroflexion where the cervix presses upon the posterior vaginal wall, this is held up by the tenaculum which grasps the lower lip, whilst the tampon is forced against the fundus, pressing this upwards. Each successive tampon must be placed so as to afford the best possible position for the tissues, approximating the normal. When all have been placed, the tampons form a mass which rests upon the posterior vaginal wall and the upper portion of the perineal body, not sufficiently low to approach the vaginal orifice. Immediate relief is gained, friction is prevented, the normal relation of the parts is approximated, the circulation rendered more free, and absorption thus furthered. In case of anteflexion, a small tampon is placed behind the cervix in order to afford a fulcrum for the pressure exercised by the second placed in the anterior vaginal vault against the fundus, and a third, sometimes a fourth, larger one which holds them both in place. A single large tampon never answers the purpose, as it cannot be so accurately fitted. The supporting tampon, when used for the ovary or the uterine fundus only, must itself be held in place by others which rest upon parts more fixed; these should consist of an elastic body coated with a light astringent.

For most purposes, the dorsal decubitus with a bivalve speculum is preferable, because we see before us the normal relation and condition of the parts. In case of retro-displacement of a non-adherent, freely movable uterus, the semi-prone or genu-pectoral position is preferable because the organs may then be thoroughly anteflexed or anteverted before inserting the tampons. Much judgment is necessary, however, in so placing the tampons, and care must be taken to distend the vagina as little as possible with the speculum, as it is almost impossible to find, in this altered and unnatural position of the parts, the proper resting place for the secondary supporting tampons, and it is by no means intended to attain reposition and support by distention; the greatest judgment, however, is necessary to determine the plane of the pelvis to which the organ should be raised, the extent of the effort at reposition to be made at each application. If adhesions exist or the circum-uterine tissues are rigid by induration, injury is done, pain is caused, and inflammation excited by forcing the parts, by attempting perfect restoration, or by aggravating the malposition by improperly placed tampons. For individual cases it is impossible to prescribe; I can only say that the tampon should never support by distention; that it must act more like the properly placed pessary, by leverage; it must neither cause undue tension, nor discomfort, but should, on the contrary, give relief; small tampons of elastic body should be used, coated with soft fibre of prepared cotton impregnated with a mild astringent or antiseptic preparation, or medicated to suit the purpose. So used the supporting tampon is in every sense of the word curative; as the treatment is continuous, normal conditions are more and more approximated, the relative position of the parts is resumed, and consequently the circulation is improved from the very first. In this treat-

ment, even in those cases in which the medicated tampon is used, the dry powder precedes the tampon; where the supporting tampon is used alone, in displacements due to relaxation, the astringent powder is in place to strengthen the parts; for morbid conditions accompanying displacements such powder as seems best under the circumstances is applied.

The medicinal and supporting tampons are the ones most commonly used and most serviceable. The fact that a displacement, not only of the uterus, but of all of the pelvic viscera, almost invariably accompanies morbid conditions to a greater or less extent, at once points out the advantage of this treatment, by which medication and reposition are made possible at one and the same time, and support is afforded during the continuance of medication. The supporting tampon prepared of antiseptic material, aided by antiseptic powder, may be left in place for twice or thrice twenty-four hours, although its best effect is during the first thirty-six hours; simple wool or cotton not medicated soon becomes offensive; in ordinary cases treatment is repeated every other day; the tampon is removed a few hours before treatment and the hot douche used. In cases in which frequent applications are not possible, the patient, when properly instructed, soon learns to place the tampon sufficiently well to afford a certain amount of comfort at least, if not complete relief. When so used it should be inserted in the morning before the patient leaves her bed, in order that the organs may be in the best possible state before the parts are irritated and displaced; it is removed at night before the use of the douche.

3. *Alterative and Absorbent*—The tampon is to the pelvic viscera what the elastic bandage is to external parts, and the importance of the tampon, acting by reason of its elastic pressure, will be best appreciated when we remember that the tissues, in the great mass of cases, and the most trying cases which come under treatment, are in a state of passive congestion—of venous hyperæmia—doughy, thickened, infiltrated, conditions accompanying all chronic inflammations, especially chronic cellulitis. But in addition to the hyperæmic, œdematous, conditions due to disease of the pelvic viscera direct, there are those which are due to stagnation of circulation from morbid conditions in the larger viscera—in the liver or in the intestines. The excellent results of pressure from the elastic bandage externally used are well known, and the success of Taliaferro's cotton-wool treatment upon the pelvic viscera is by no means too highly lauded by the ingenious author. Taliaferro, however, formerly packed the vagina almost to distention with cotton-wool; whilst now he has refined and modified his treatment, using merely small balls which he packs in the cul-de-sac around the cervix, supporting them by larger ones. Pallen accomplished the same object by filling the vagina with clay. I have never found it necessary to pack the vagina so full as described by Taliaferro, and consider it advisable only in rare cases; as a rule other conditions, which are better overcome by the supporting or medicinal tampon, accompany and perhaps determine those for which the tampon is used; hence we have other objects in view as

well. The tampon for alterative purposes purely should be like the supporting tampon, small and of elastic body, but coated with an astringent. This I deem the important feature and the one which in my treatment does away with the necessity of distention. The astringent remedy, used for covering the tampon, serves to contract and strengthen the vaginal walls and to contract the vessels, thus aiding pressure; the cure is more rapid and less trying to the patient. So used, the alterative or stimulating tampon does not annoy as the packing would, but at the same time furthers a healthy state by reposition and medication. For alterative purposes only, the elastic tampon coated with astringent cotton is used, after dusting the cervix and vaginal walls with a mild astringent powder; the small semi-circular tampon is placed in the cul-de-sac anteriorly and posteriorly to the cervix, supported by several larger tampons, firmly packed, but not distending the tissues. I have rarely had occasion to use the tampon for this purpose alone; wherever it is called for, medication and support should be utilized in the tampon which is to serve this purpose. We invariably attain a moderate amount of pressure in the dry treatment by the simple presence of the tampons, for whatever purpose they may be used. This together with the following is one of the many advantages which invariably accompany, as a mechanical necessity, the use of the tampons in the dry treatment. When used for the purpose of support it invariably exercises an alterative and stimulating effect; when used for medicinal purposes the same object can readily be attained by using the elastic astringent tampon as a support for the medicinal tampon, or by using a number of tampons with elastic body covered with a medicinal agent. Thus sufficient pressure is exercised to attain the object. To appreciate the alterative effect of the tampon the result must be seen; the bluish, œdematous, and enlarged cervix of a retroverted hyperplastic uterus, pressing upon the rectum, dragging down with it the vaginal walls, as it appears when the tampon is placed, will not be recognized forty-eight hours later, when this is removed; the swelling has disappeared, the cervix is smaller, pale, especially the mucous membrane has lost its succulence, and the vaginal and cervical mucosa appears thin and pale, the œdematous swelling has completely disappeared. I have not in vain compared the effect of the tampon so used to the elastic bandage; it may be made to be fully as effective. The physician will rarely find it necessary to use the tampon alone as an alterative and stimulant; if he follows out the dry treatment, and properly uses the tampon for medicinal and supporting purposes, he will soon overcome these conditions by reason of the mechanical effect exercised by the astringent body of the tampons used; the alterative tampon may be made to serve at the same time as a splint and rest-giver, an antiseptic, cleanser, and protector.

4. *As a splint* and rest-giver.—The tampon should be, like the supporting tampon, of elastic body covered with an antiseptic, used together with bismuth or an antiseptic powder.

5. *As an antiseptic*, cleansing and absorbing agent.—If used for this purpose alone, we should, of course, always use an absorbent antiseptic cotton, and where there is much discharge this is desirable. But the tampon, for whatever purpose used, accomplishes this to a great extent; it is one of the advantages afforded by the treatment usually resorted to for more important objects. In some light cases of profuse discharge, in case of purulent secretion or disintegrating malignant growths, we use the tampon for this purpose direct. It is then made as large as possible, of an antiseptic absorbent cotton, and frequently changed.

6. *As a protector* against the friction of parts, and against cold, the same soft antiseptic tampon is used, but for the first-mentioned purpose it should be made with an elastic body.

7. *As a support to instruments or remedial agents*.—In the dry treatment the tampon is often used to hold a medicinal or supporting tampon in place, and for this purpose it should be of medium size; one or more can be used, of elastic body with an astringent coating, which serves to fix it in place, causing a certain adhesion by the contraction of the vaginal walls in contact with the agent. A thin layer of iron cotton answers the purpose admirably; but in its prolonged use care must be taken to have only a thin film, as excoriation will otherwise follow if any pressure is made for a length of time upon one and the same place. Of alum cotton a heavier layer may be used, as the strongest of this contains only 10 per cent. of alum. I might here add that where iron or iodine-cotton is used it is well to caution the patient with a profuse secretion against the possibility of staining her clothing and to advise her to wear a cloth, as the discharge, after saturating the tampon, carries away with it part of the medicinal agent used, and causes a slight stain in the clothing. This is the only disagreeable effect accompanying the dry treatment and is very mild indeed compared to the annoying accompaniments of other methods of treatment. The tampon used to hold in place the medicated or supporting tampon should find a rest upon the floor of the pelvis, and, to be effective, must reach beyond the perineal body. For this purpose a larger tampon may be used, but as the physician who engages in this method of treatment has on hand a number of the medium sized tampons almost invariably used, he will do as well to use several of them in place of one larger one. We may also use the tampon to hold in place the intra-uterine pencil, but as a rule tampons serving other purposes accomplish this at the same time. As I speak only of the tampon as used in the dry treatment, I will not refer to it as a holder of tents or intrauterine stems, nor will I speak of it as a hæmostatic, in packing the vagina in hemorrhage post-partum or post-abortem, or as a dilator for contracted tissues. As such it is well known, and moreover the tamponade of the vagina for hæmostatic purposes should never be resorted to in gynæcological practice; the source of hemorrhage must be directly reached; if this be an eroded os, a small pledget of styptic cotton, of the size of a half-dollar and not as thick, pressed against the cervix by a supporting tampon, will answer the purpose; we need no packing.

The glycerine tampon we can well dispense with. The method of applying to the uterus or vagina remedies by means of tampons saturated with glyceroles is an extremely filthy method, which may be looked upon as obsolete since medicated cottons have appeared, and there is but one condition under which a treatment so needlessly annoying to the patient may be used, that is, where the emollient effect of the glycerin itself is desired. But since these cases can be better overcome by proper use of the dry method, and remedies properly applied, we can certainly afford to dispense with this extremely wet treatment. Though good in itself, it accomplishes nothing which cannot be as well obtained by the more cleanly and less annoying dry treatment; it is limited in its usefulness to a very narrow sphere and in that directly to the glycerin effect, as the solid mass afforded by a glycerin tampon has no redeeming mechanical feature which may tempt us to use it, the dry tampon, on the contrary, serving a variety of purposes.

Résumé.—*The dry treatment* is merely an additional weapon in the hand of the gynæcologist, as it excludes no other method of treatment, but I sincerely trust that the excellent results which can be thus accomplished will do away with the abuse of intrauterine medication and of the pessary. The endometrium will cease to be the point of attack, and now that the gynæcologist has a method of reaching a larger area of the diseased pelvic tissues, he will search more carefully for the true centre of disease, and not invariably pounce upon the long maltreated endometrium, which is so small and sensitive a membrane and so nearly connected with the easily ignited peritoneal covering of these viscera, by means of the Fallopian tubes and the great system of lymphatics, that any insult offered this delicate membrane is answered too rapidly by more vital parts. The endometrium, upon which heretofore almost all treatment has centred, is rarely the primary or most important factor in the morbid conditions of the female genitalia; if it be so, the dry treatment by no means interferes with proper medication, nor does it interfere with the medication of the endometrium if secondarily diseased. I would urge that this membrane be treated more rationally, as we treat other mucous membranes; why should we apply pure tincture of iodine, a strong solution of nitrate of silver, or fuming nitric acid, to the endometrium any more than we do to the throat or mucous membrane of the nose or pharynx? In certain cases it is indeed the proper remedy, but as a routine treatment it is dangerous and injurious, and should be abolished. We should put the endometrium upon a level with other mucous membranes and treat it accordingly, in fact with greater care, on account of its intimate connection with the dangerous tissues which surround it. An injury to it is almost like a fuse to a powder-mine, and not less so is the pessary to many of the displaced uteri which are surrounded by inflamed or inflammable tissue. With a more rational treatment of the endometrium, with the use of electricity, both with the galvanic and faradic currents, and the aid of postural treatment, the gynæcologist can with safety and certainty accomplish results as striking as those accomplished by the surgeon. For the

successful treatment of these diseases, usually of long standing, affecting the most important organs, the functional centres of woman's life, we must endeavor to correct every variation, and we must utilize all agents and every method available to restore normal conditions and healthy action.

Among the neglected and apparently unimportant methods, but which in truth are potent factors, I class *posture* and the material or *quality of the support* for the recumbent body. Night and day, a gynæcological patient who obeys instructions lies down three-fourths of the time; the relation and position of the organs in the pelvis is greatly modified by the *posture* of the invalid during this time, and by the *kind of bed* upon which she lies; the posture must be such as to favor a restoration of the normal condition of the parts, but without a level, unimpressible mattress this can never be attained. A good horsehair mattress is essential; a feather bed or an elastic spring mattress is positively injurious, as this yields to the weight of the body at its heaviest part, the pelvis, and a most unfavorable position is thus achieved. The patient who has once experienced the comfort of an unyielding horsehair mattress will never return to springs or feathers; while rest upon the former, in proper posture, gives comfort and relief from pain, upon the latter this may be aggravated or even excited. Eighteen or twenty hours' rest in a position favoring restoration will further the efforts of the physician by far more than the same time passed with the effects of gravity counteracting the labors of the practitioner. We must avail ourselves of every useful aid, whilst we rely, in the main, upon powders and cotton for medication and support.

I look upon the dry treatment as a step forward in medical gynæcology which has been so long neglected and clouded by the splendor and brilliancy of surgical gynæcology; and I am convinced that by returning to this underestimated and forgotten field much good can yet be accomplished. I cannot emphasize too strongly that the *dry treatment is not to replace but to do away with the abuse of other methods of treatment*; since by this a safe method of medication and reposition is afforded, I trust that it will, with its palpable and evident advantages, do away with the free use and the abuse of intrauterine medication and of pessaries. With the uterine mucosa treated as other mucous membranes are treated, with the pessary limited to its proper sphere, uterine therapeutics will be more safe and more satisfactory; by giving rest to the visera, by supporting the uterus and assisting relaxed ligaments, many of the causes of suffering of women are removed, and greater certainty of results is assured from treatment.

In conclusion, that I may not be misunderstood as seeking to establish the dry method as *The Treatment* exclusively to be followed in gynæcological therapeutics, I will define the position to which I deem it properly entitled amongst the methods now adopted in practice. Surgery I place foremost; the field of surgery proper is, of course, undisputed, but even in these cases in which relief is possible by treatment, it is my practice to resort to the knife if decided success does

not rapidly follow the treatment inaugurated, since, in the present status of gynæcological surgery, operation is fraught with little danger, and the result to be expected is always more perfect than could be expected from any treatment, and accomplished in a comparatively short time. For treatment proper I rely upon the dry method and the electric current, aided by postural treatment and the hot douche, and, if need be, by *mild* intrauterine medication, methods gentle and safe, the success of which must convince the practitioner that it is no longer necessary to endanger suffering, health-seeking woman by the applicator and the pessary.—*American Journal of Obstetrics.*

TREATMENT OF WOUNDS OF THE LARGE SURGICAL VEINS. By Edmond Souchon, M.D., Professor of Anatomy and Clinical Surgery, Tulane University of Louisiana.

By large surgical veins I mean the large veins upon which the surgeon may operate with some chance of success, i. e., the internal jugular, the subclavian, the axillary, the femoral and the popliteal. The management and the treatment of wounds of these veins are but imperfectly understood even by most of our best men, as I found out upon seeking information directly or indirectly from them. It is a more complex problem than that of the wounds of the corresponding arteries, except the carotid. The occasions to have to face these large veins and to wound them deliberately or accidentally are comparatively frequent for one who belongs to the staff of a large hospital, where such responsibilities will force themselves upon him, and he should be well posted in regard to the accident. The numerous cases of gangrene following ligation of the large vein of a limb have caused some very good surgeons to advise to amputate the limb at once, as being far preferable to having to wait for the symptoms of gangrene and then perform a secondary amputation. The procedure is a terrible one, and the more perplexing because occasionally some cases of ligation would recover without gangrene, under circumstances not well defined nor understood.

To clear up my mind and to prepare myself for emergencies, I determined to search the literature upon the subject. It is not very rich, consisting really of only two good articles, written, one by Dr. S. W. Gross on the "Wounds of the Internal Jugular Vein," published in the *American Journal of the Medical Sciences*, January and April, 1867, and one by Dr. Lewis S. Pilcher, in the *Annals of Surgery* of January, 1886, in which he gives an account of the researches and experiments of Braune, of Leipsic, and of H. Braun, of Heidelberg. The following are the classified extracts from the labors of these pioneers. They are all so practically important that I will give them in as few words as possible, that they may make a deeper and more lasting impression.

First.—Remarks applicable to almost all of the above veins.

1. When in removing a tumor a vein is expected to be wounded,

it is best to ligate it beforehand if possible and to place a double ligature. Before severing the pedicle of the tumor we should ligate the pedicle, or place a precautionary ligature above and below it and cut between the ligatures.

2. When chloroform has been used, the hemorrhage may not take place until the patient has recovered.

3. The spontaneous union of the lips of the wound by the efforts of nature may occur.

4. When a large vein is wounded, the fingers should be applied to the wound at once to stop the hemorrhage and prevent the entrance of air, then we should place two ligatures.

5. If it is impossible to ligate we should use compression, but if compression is ineffective we should ligate the corresponding artery of the limb to stop the bleeding.

6. Lateral ligation is unreliable and should never be used, although some few successful cases are recorded.

7. When a vein is ligated none of the tunics are divided, but the internal surface is thrown into folds which become adherent; the distal side of the vessel presents a clot of blood, which becomes adherent to the walls of the vein.

8. Ligature of veins is an ancient procedure (Celsus), but the merit of having first ligated the internal jugular is due to Dr. Simson, of Scotland.

9. When the coats of the vessel are healthy and the condition of the blood is normal, the ligature is never the starting point of pyæmia. There are cases on record where in operating for aneurism the accompanying vein has been transfixed by the aneurism needle, the ligature being then applied and phlebitis following.

10. The dangers from ligating a large vein are œdema, dropsical effusions, gangrene, apoplexy, softening of the brain and especially secondary hemorrhage, coming on about the time of separation of the thread. The average time for the separation of the ligature is the thirteenth day.

11. Compression should be used only when ligation is impossible. Digital compression should be used at once, to prevent introduction of air and stop the hemorrhage. It has been used as a permanent measure, and has been successful twice, after forty-eight hours in one case and seventy-two hours in the other. Plugging is best accomplished by sponges. A small piece is introduced first and then larger pieces. They are to be removed at the expiration of sixty hours or three days, if loose, as the wound of the vein is then usually closed or blocked by coagulum. Antiseptic sponges should be used. In mediate compression, the edges of the external wound having been approximated by few points of the interrupted suture, successive layers of iodoform-gauze are to be piled upon it and retained by a roller or, better still, by adhesive strips. If the opening in the vein be small and not gaping, a moderate degree of pressure must be exercised in order to afford a light support to the walls of the vessel and avoid obliteration.

tion of its cavity. When the amount of pressure required is great, compression is painful and interferes with respiration and deglutition. Secondary hemorrhages are frequent enough. Instrumental compression, when applicable, is preferable.

12. It is Henichen and Langenbeck who have proposed, in cases of uncontrollable hemorrhage from the internal jugular, subclavian, axillary and femoral veins, to ligate the corresponding artery to stop the bleeding. In case of the jugular vein the procedure is useless on account of the circle of Willis. We should be mindful to ligate below the largest collateral (i. e., the subscapular or the deep femoral), lest gangrene may follow from the arterial ligation itself.

Second.—Remarks special to the internal jugular vein.

1. The causes of wounds of the jugular vein are: extirpation of tumors (28 cases out of 40 cases); suicidal wounds (5 cases); gunshot wound (1 case); stabs (2 cases); ligation of the carotid artery (2 cases).

2. There are cases where from obliteration of the vein there was no hemorrhage when a piece of the vein was removed with a tumor.

3. Division of the internal jugular vein in its inferior third is more apt to be followed by introduction of air, because of the adhesion there of the walls of the vein to the fascia; the hemorrhage is most copious from reflux bleeding from the cardiac end during natural expiration, sneezing, crying, coughing. Division of the vein in its upper third is less frequently followed by the introduction of air; the hemorrhage ensues from the distal end, little or no blood flowing from the proximal end. Division near the base of the skull is followed by fatal hemorrhage; no recovery from such a wound has been reported.

4. Wounds of the internal jugular in old people are followed by greater hemorrhage, because the veins are larger in old subjects.

5. The causes of death in wounds of the internal jugular were: introduction of air, twenty per cent.; primary hemorrhage, twenty per cent.; pyæmia, twenty-five per cent.; other causes, ten per cent. The symptoms of introduction of air into the veins are a wheezing sound, immediate syncope, tetanic spasms, and opisthotonos. The condition most favorable for the introduction of air is canalization of the vessel from inflammatory thickening of its walls preventing their collapse when divided. When the vein is imbedded or firmly attached to a tumor, the accident has usually followed the division of the pedicle; to prevent this a ligature should always be applied to the pedicle before severing it. After introduction of air death occurred almost instantaneously in two of three cases; in another, in three hours and a half; and in a fourth, after the lapse of seven days. Cases of gunshot wound of the internal jugular are exceedingly liable to be followed by secondary hemorrhage, pyæmia, and death. Secondary hemorrhage in gunshot wounds occurred on the fourth, eighth, tenth, and fifteenth day.

6. The mortality of cases not subjected to treatment is one hundred per cent. from primary hemorrhage, introduction of air, pyæmia, and secondary hemorrhage (internal jugular).

7. Secondary hemorrhage followed in twelve and one-fifth per cent., of which eighty per cent. were fatal from the use of lateral ligature.

8. The mortality after ligature, based upon forty cases, is really but ten per cent. (internal jugular).

The mortality of cases treated by compression is twelve and a half per cent.

9. On account of the collateral circulation through the lateral sinuses mainly, ligation of the internal jugular vein is not attended with serious results as regards the brain.

10. Deaths following ligation have been due to secondary hemorrhage coming on about the time of the separation of the thread.

11. When the carotid artery is wounded at the same time as the vein, the case may recover, but with the formation of an arterio-venous aneurism.

Third.—Remarks special to the subclavian, axillary, femoral, and popliteal veins:

1. To prevent the subsequent gangrene of the limb, following the ligation of the large vein of that limb, we should ligate the corresponding artery, thereby diminishing the supply of blood to the limb (Liddel, of New York, 1883). But we should ligate below (Lewis S. Pilcher, of New York, 1886), the largest collateral subscapular and circumflex or deep femoral. The artery should be ligated only when the condition of the limb begins to show threatening symptoms, i. e., becomes swollen and blue.

2. We should not ligate the artery when a tumor has been pressing upon the main vein so as to cause the collateral circulation to develop. This applies particularly to the subclavian and femoral veins. It does not apply so well to the axillary vein, because a tumor of the axilla will grow from the vein for a while and will only compress it when very large.

3. The collateral venous circulation of the upper extremity is more developed than that of the lower; for this reason the ligation of the artery is not so often called for.

4. When the subclavian vein is ligated, the prognosis is worse than when the axillary vein is ligated in the axilla, because the cephalic vein and its branch to the subclavian are shut off.

5. When the axillary vein is ligated above the subscapular vein, the prognosis is worse for same reasons.

6. When the femoral vein is ligated above the opening of the internal saphenous, the prognosis is worse, because this is also a large collateral branch.

7. When the popliteal vein is ligated above the opening of the external saphenous, the prognosis is worse for the same reason.

8. When during an operation numerous smaller collateral veins have been divided, the prognosis is less favorable.

9. If, after amputating a varicose limb, the venous hemorrhage resists elevation of the stump and compression of the stump, we should ligate the femoral artery below the deep femoral.

ABSTRACTS.

THE MORE RECENT IMPROVEMENTS IN THE THERAPEUTICS OF THE SKIN.—The following is the latter portion of a paper on this subject read by Dr. Unna, of Hamburg, before the Section of Pharmacology and Therapeutics of the British Medical Association and published in the *British Medical Journal*.

I believe that you have now arrived at the point which I spoke of at the commencement of my address. You will no longer look upon the different methods of the application of remedies to the skin as simply accidental, as the mere fancies of inventive brains, but as the logical consequences of physiological observations on the normal skin and clinical experiences of the morbid skin. These different methods do not compete one with the other, they cannot in the least replace one another, but they are mutually complementary. Only he who has them to a certain degree at his command can say that he knows and can make use of the modern method of dermato-therapeutics.

As representatives of the categories of the theoretically possible modes of treatment which I have mentioned to you, I will select three of the most important, and illustrate them in a few words: 1, the glycerine gelatines, as representatives of the porous coverings, promoting absorption of secretions; 2, the salve mulls, as representatives of the best form of the purely fatty covering; 3, the plaster mulls, as representatives of an application with an impermeable covering.

The glycerine gelatines are distinguished above all the agents used for promoting the absorption of secretions, and especially in comparison with the pastes, by their adhesiveness, which constitutes a most useful addition to their other valuable characteristics. The most important of them is the zinc preparation ("Die Medicamentoesen Leime." Von Dr. P. G. Unna. *Aerztliches Vereinsblatt*, 1886, No. 176), which finds a very extensive field of utility, no less as an independent therapeutic agent than as an auxiliary to the use of other agents. Slight superficial eczemas and erythemata, especially such as occupy the flexor surfaces of the joints or are distributed over large tracts of the body-surface, can be treated by means of it both quickly, safely, and pleasantly. The preparation is rendered fluid in a water-bath, then painted on to the skin whilst still warm with a broad bristle brush, after which the layer is dabbed over with a flock of cotton-wool. By this means the layer is soon dried, and takes on the nature of a fabric. From places which are free from hair it can be stripped off in a single sheet on the following day, but from places which are covered with lanugo it must be washed off with warm water. I must ask you to bear in mind that a covering of this gelatine not only does not restrain the perspiration of the skin, but that it actually considerably increases it. You need not hesitate, therefore, if the case should call for it, to paint over a child from top to toe. A patient when so treated quickly notices the perspiration, which takes place through the covering, for he shivers more in his suit of glycerine gel-

atine than he would have done had he been left naked. Hence this cooling mode of dressing is strongly to be recommended for all erythemata caused by artificial irritants, such as the heat of the sun, or drugs, whether they be accompanied by œdema or not, in acute erysipelatoid eczemas, and that class of diseases.

Still greater, perhaps, is the utility of the zinc gelatine as an auxiliary to other dressings. In this capacity, besides effecting the cure of inflamed surfaces, it insures rest, immovability, and, if bandages are used to cover it, an increasing compression. It is therefore invaluable for itching and oozing affections on the faces and hands of children (eczema, impetigo contagiosa). Strips of the salve mulls, which I shall shortly describe, are afterwards laid upon those spots which are oozing most freely; the parts on which the oozing is less marked are painted over with zinc gelatine, and the whole is surrounded and fixed by bandages made of mull. In this way a firm dressing is formed, and one which at once paralyzes the efforts of children to scratch themselves. In the case of ulcers of the leg, it is of great advantage to paint the healthy skin thickly round about the sore with zinc gelatine, and then to bind the whole of the lower leg firmly with a double-headed bandage. Under this bandage the accompanying eczemas heal, the varicose veins improve, and the patient cannot possibly do himself any harm by scratching. Whilst in these cases the compression caused by the gelatinized bandages chiefly comes into play, in others it is the fixation of the plaster mulls, of which I am about to speak, and the exclusion of their influence from the surrounding healthy skin. This is effected by simply painting round the affected part, say a corn or a patch of lupus, with a ring of zinc gelatine, applying the plaster mull, then painting over the whole, and dabbing over the surface of the paint with cotton-wool. Again, in other cases the zinc gelatine assists us in avoiding the irritating effects caused by some of our stronger remedies; for example, in treating a case of psoriasis with a chrysarobin preparation, the flexures of the joints are apt to become irritated and painful after a few days, whilst the extensor surfaces show no reaction; if we then brush over the inflamed parts with zinc gelatine glycerine, and cover them with wadding, we can continue to treat the extensor surfaces without any feeling of anxiety.

Finally, we can make use of the zinc gelatine in order to cover up any unpleasant odors which may arise from the drugs which we employ—as, for example, tincture of tar, iodoform, ether, or balsam of Peru—and thus to render the use of these odoriferous compounds less unpleasant to the patient. We can also combine many substances, such as resorcin, ichthyol, or salicylic acid (up to about five per cent.) with the glycerine and gelatine; but the more efficacious way is to apply the drug direct to the skin in some form in which it dries on—as tar, in the form of the tar tincture, of which we have just spoken—and then to paint over it the layer of zinc gelatine. In this way any irritative action is diminished, the skin is protected from the clothing, the clothing again from the drugs, and the effects of scratching are avoided.

These drugs cannot be incorporated in large quantities into the gelatine mass without diminishing considerably its adhesive power; and then, owing to their being coated with the composition, their activity is naturally very greatly impaired. It is quite otherwise with insoluble bodies like sulphur, iodoform, and white precipitate, which can be added in larger quantities (ten to twenty per cent.) to the zinc gelatine.

I have now only to add that the glycerine gelatines as a class are, of course, contra-indicated wherever a high temperature is present, and the patients sweat excessively. In such cases the pastes which do not melt take their place as absorptive dressings.

The salve mulls hold, to a certain extent, the middle course between the glycerine gelatines and the plaster mulls, of which I have yet to speak. They are also indicated in the case of acute inflammatory conditions of the skin, but more particularly in those where an infiltration of the cutis already exists, as it usually does in most chronic eczemas. On the other hand, owing to the thickness of their layer of fat, they are too waterproof for very irritable places. They have, in general, the effect of a very thick coating of ointment, intensified by the extraordinarily accurate manner in which they fit into all the unevennesses of the skin, and by their large reserve of the ointment. They can, of course, even on the score of cost alone, only be used on limited areas of skin. The salve mulls consist of a basework of mull, that is, undressed muslin, which is impregnated on one or both sides with an ointment composed of lard, lanolin, vaseline, or other fats. Pieces are cut out of the required size, fastened to the skin simply by gently stroking them over with the finger, and then bound down with a mull bandage. It can be easily seen that the salve mull is only a neat, convenient, more adaptable, and therefore more efficacious form of the strips of cloth coated with ointment which are used by the school of Hebra. It is remarkable that this simple and advantageous modification was never thought of until the year 1879. Now, however, it has taken root everywhere, at least in North Germany, and has considerably diminished the number of prescriptions for ordinary ointments. Salve mulls, however, can, nevertheless, never displace ointments in certain conditions, as, for example, where more complicated combinations are required for special cases, where the salve mulls are too watertight, and thus irritable to the skin, wherever hairy parts of the body have to be treated, or where the disease involves the whole skin. The more complicated the form of the skin, the more irreplaceable the salve mull, especially in the treatment of eczemas of the fingers, toes, hands, feet, ears, nose, face, and more particularly of the genital regions.

I will mention only four varieties as chief representatives of the class: 1, zinc salve mull; 2, zinc-ichthyol salve mull; 3, lead and carbolic acid salve mull; 4, zinc and red precipitate salve mull. With these four salve mulls all sorts of circumscribed eczema which will bear fats, and are not too inveterate, can be quickly and thoroughly healed, whether it be the most severe oozing eczema of the heads of

sucklings, or the most obstinate fissured eczema of the scrotum. Small rolls of paper, covered outside with zinc and red precipitate salve mull, and inserted into the nostrils, cure with wonderful celerity those eczemas of the nose and lips of scrofulous children which are generally so difficult to treat. This they do by fulfilling all the mechanical and other requirements of which we have just spoken, lying closely and firmly to the mucous membrane of the nose, and, at the same time, allowing a free passage for the air. For practice among children, salve mulls are particularly suitable, since, if properly bound on, they only require to be changed once daily, and, if the secretion be not profuse, they may remain, without change, for a space of two and even three days. Wasted children, for example, suffering from hereditary syphilis, only require their papules and ulcers to be dressed with zinc and mercury salve mull, in addition to good feeding and some preparation of iron internally, in order that they may bear well the mercurialization which slowly but surely sets in. That forms, in my opinion, the neatest, most convenient, and surest treatment of the hereditary syphilis of infants.

From these few remarks you will gather that the more inflamed and more obstinate affections, above all chronic localized eczema in all its forms, and especially the eczemas of children, make up the largest contingent for the treatment by salve mulls. In the case of adults, it is chiefly the eczema of the hands, genitals, and face, whenever these require the plentiful use of some fat.

The plaster mulls can only be used where the deep situation of the morbid foci in the skin, or the intensity of the disease, or its indolence, render necessary an attack on it with the strongest remedies; but in such cases there is no stronger or more suitable form of administration. In order briefly to explain to you what a plaster mull is, I will commence by telling you what it is not. You might believe, when you hear that the body of the plaster consists of gutta-percha, that it is similar to what we find in the belladonna plasters of various other makers. Nothing is more incorrect than this idea. Quite apart from the fact that such plasters are made and recommended by non-medical people, who have no notion of medical requirements and of the working of drugs, and do not offer the slightest guarantee for their contents, whilst the plaster mulls have both the nature and quantity of their contents properly prescribed by the medical man, and are made up under strict guarantee by a competent pharmacist, so that they may be used accurately for medical purposes. Apart from these differences they are still distinguished by the following important points: These plasters carry, on an impermeable body, a plaster mass which, in the usual old-fashioned way, contains the medicament mixed up with some adhesive substance, frequently of an irritating character. Even if we knew how much of the medicament this mass originally contained (which, of course, we never do), and could reckon out the percentage, yet anyone can see that a slight deviation of the spreader, with its consequent difference in the thickness of the mass, would cause a larger

quantity of the drug to be deposited on one spot than another. Besides, it is impossible to understand what the balance of any diluting mass is intended for, since only the top layer of any plaster can possibly develop any influence on the skin. Precisely on this account the effect of these plasters is relatively weaker and less certain, and their construction—even putting aside the fact that they are secret remedies pushed forward by laymen—is a most undesirable one, and quite unsuited to the exact indications of the therapeutics of the skin.

Now let us look at these plaster mulls a little more closely. You find that a layer of the medicament is cleanly and evenly spread upon a sheet of gutta-percha tissue, which is incorporated with a sheet of mull. The plaster mass is quite absent, and its absence is characteristic and important. Of course some medium must be employed in order to make the drug adhere on the one side to the plaster and on the other to the skin, and, above all, this medium must be absolutely free from irritation, a condition which at once excludes turpentine, resin, and bodies of that class. Two substances have proved themselves to possess these qualities: 1, the purest india-rubber; 2, purified oleate of aluminium. Both are quite indifferent to the skin, are unchangeable, and have the power, even in very small quantities, of causing the skin, the drug, and the plaster to cling together. The choice of the one or the other depends on the drug which we have to deal with. We cannot, however, put these bodies into the same rank as the old adhesive plaster constituents. For whilst on one metre of plaster mull considerable quantities, say twenty or even fifty grammes of medicament are accumulated, so small a quantity as two to five grammes of the adhesive base may be sufficient to make it into a plaster. It is, therefore, misleading to reckon the strength of the plaster according to percentages of the drugs which they contain. They are always made of maximum concentration; that is, they always contain the exact amount of the drug which the physician may order, mixed with the minimum quantity of the adhesive substance, and spread out always over one metre of the gutta-percha tissue. To take an example, when I order twenty grammes of some substance to be spread out in this manner, the drug probably amounts to ninety per cent. of the whole mass, that is, medicament adhesive substance; whereas, if I prescribe forty grammes to be spread over the same surface, in order to make the effect twice as strong, and, at the same time, double the amount of the adhesive substance, the amount of the drug is still ninety per cent. Strength and percentage have thus no relative connection in the case of these plaster mulls; the strength is estimated by the amount of the active agent, which is spread on a unit of surface. That lies in the nature of the plaster mull as the first really medicinal plaster of exact working power, and forms the reason why the plaster mulls are ordered with so many grammes per one-fifth square metre, one metre long by one-fifth metre broad is equal to one roll, which is taken as a convenient unit. When a piece of such a plaster mull is applied, we have the medicament, which we order in a pure state, of the desired strength under an

impermeable covering, united to the horny layer by a minimum quantity of the adhesive substance, and consequently all those conditions fulfilled which are requisite in order to extract the best possible effect from the given quantity of the active agent.

From among the plaster mulls which are most frequently employed, I will select four as examples: 1, the mercury-carbolic acid plaster mull; 2, the resorcin plaster mull; 3, the salicylic acid and creosote plaster mull; 4, the zinc oxide and mercury plaster mull.

The mercury-carbolic acid plaster mull for the treatment of all kinds of boils, abscesses, phlegmons, whitlows, parasitic sycosis, and buboes of the most various origin. When applied early, it has an abortive influence on the suppuration; later it ripens the process quickly, bringing about a painless opening of the abscess, and promotes the closing of the wound; or the surgical treatment of such conditions by means of a small incision may be followed up by the application of a plaster mull, over which, if necessary, a poultice can be applied. At the same time, sulphide of calcium should be administered internally in the form of keratinized (or intestinal) pills.

The resorcin plaster mull serves for the rapid treatment of all forms of severe rosacea and acne. The horny layer flakes off when the plaster is removed each second day, a process which may be repeated as often as is requisite. As an additional internal treatment, 1 to 2 grammes (15 to 30 grains) of ichthyol per diem is the most suitable.

The salicylic acid and creosote plaster mull are used in the treatment of lupus.

The method of using zinc oxide and mercury plaster mull for the treatment of constitutional syphilis consists in laying one-sixth to one-fourth of a roll of the plaster on some covered part of the body, as the back, the breast, the legs or arms, allowing it to remain there for a week, and then renewing the plaster, but changing the field of operation. This treatment is particularly to be recommended in the case of patients, such as commercial travellers and seamen, who can but seldom visit the same medical man twice. Of course it is less persistent in its effects than the treatment by inunction; therefore whilst the latter requires on an average a treatment of about four weeks, the former milder treatment by the plasters must certainly be continued for four months. But during this time the patient does not suffer the slightest inconvenience, and the alimentary canal is left intact. The more serious symptoms of syphilis, such as ocular paralysis, iritis, hemiplegia, can be treated in the same way, but they require a whole roll of the plaster to be wound round the thorax, in order that the cure may be sufficiently active. It is advisable to apply the plaster to those spots where the remains of the syphilomata, such as pigmentations, scleroses, lymphadenitis, tophi, painful joints and tendons, are still to be found.

Whoever has made use of these plasters in this way will easily understand how to employ other varieties of them. All plaster mulls which contain drugs with very active properties (especially salicylic

acid, resorcin, arsenic, sublimate, and chrysarobin) should only be applied after the healthy skin in the neighborhood has been first painted over with a ring of zinc gelatine glycerine in the manner which I have previously described.

Before entering into the treatment of any skin-affection, it is necessary, after having first made our minds clear, by a thorough examination of the whole of the skin-surface, as to the diagnosis of the affection, its extent, and the condition of the healthy skin, to ask ourselves two questions. The first is, is the affection to be treated locally or by application to the whole surface? In the case of very extensive eruptions, the general treatment of the whole surface is a matter of course; but it is also urgently to be advised in the case of all limited dermatoses whenever they are obstinate and occur in many scattered patches, as so often happens with psoriasis, lichen rubber, syphilomata, and lepromata.

Secondly, we must ask ourselves in what form is the medicament to be applied? If the treatment is to be general, we have the following grades, according to the severity and obstinacy of the disease; a general inunction of the body with ointment and the wearing of a woolen undersuit, which is the most perfect way of hindering the perspiration; next, painting the whole body-surface with glycerine-gelatine, or smearing it with a paste; and finally, the milder forms of treatment by baths, soaps, and dusting powders.

If, on the other hand, the extent of the treatment can be limited, you have to determine which of the methods that I have spoken of ought to be employed. According as you find that you have to attack the diseased regions more vigorously and to render them more tender, or that a more superficial effect is sufficient with absorption and drying of secretions, you have to choose from these grades, first, the plaster mulls, then the salve mulls or ointments, and, finally, the glycerine gelatines or their equivalents the pastes, and the weakest forms of localized baths, soaps, and powders. This accurate limitation of the form of the treatment, before you determine on the special medicament which you are going to use, will spare you much useless trouble and many disappointments in practice.

FRACTURE OF THE SPINE: ITS IMMEDIATE TREATMENT BY RECTIFICATION OF THE DEFORMITY AND FIXATION BY PLASTER-OF-PARIS JACKET.—In a paper on this subject, read before the Massachusetts Medical Society and published in the *Boston Medical and Surgical Journal*, Dr. Herbert L. Burrell reports five cases treated in this manner in the Boston City Hospital, of which two died, one is useless, and two have recovered. He states that it is doubtless to Professor Sayre's bringing the plaster-of-Paris jacket method of treatment of Pott's disease before the profession that the present application of plaster-of-Paris jackets in fresh fractures of the spine is due, and gives his conclusions as follows:

First. That, in the *immediate* correction of the deformity and fix-

ation with plaster-of-Paris jacket or other means, we have a rational method of treating a large number of cases of fracture of the spine.

Second. That, considering the hopelessness of results in fracture of the spine when treated expectantly, almost any risk is justifiable.

Third. That the *immediate* correction of the deformity is imperative, *if* softening of the cord can and does occur from pressure, at the end of forty-eight hours.

Fourth. That the suspension of the patient is only a means of rectifying the deformity, that certain fractures could be simply pressed into position while the patient lies prone or supine.

The objections to the treatment are—

(1) That the expectant plan of treatment gives a small percentage of recoveries.

(2) That there are serious risks, especially in the cervical region, attending the suspension of a patient and the rectification of the deformity with a fractured spine in the way of shock, collapse, and death.

(3) That in attempting to relieve pressure on the cord, by rectifying the deformity, that we might either sever the spinal cord or make pressure upon it. This is a matter of chance.

My own belief regarding the status that the procedure should occupy in surgery is: that it will occasionally be a life-saving measure; that it should be applied under anæsthesia in all cases of fracture of the spine which are not conclusively known to be irremediable; and that apart from the chance of recovery that is offered to the patient by this means it will almost invariably make the patient more comfortable, in that he can be handled more easily.

FEVER: ITS CAUSE, MECHANISM, AND GENERAL TREATMENT (From the Address delivered before the Ninth International Medical Congress by Austin Flint, M. D., LL. D.).—In discussing this subject, I have endeavored to apply the physiological methods of study which have lately contributed so largely to the advancement of pathology and therapeutics. I have been led by my reflections upon animal heat and fevers to present certain views which I venture, in conclusion, to summarize in the following propositions:

1. Fevers, especially those belonging to the class of acute diseases, are self-limited in their duration, and are due each one to a special cause, a micro-organism, the operation of which ceases after the lapse of a certain time.

2. We are as yet unable to destroy directly the morbid organisms which give rise to continued fevers; and we must be content, for the present, to moderate their action and to sustain the powers of resistance of patients.

3. The production of animal heat involves oxidation of parts of the organism, or of articles of food, represented in the formation and discharge of nitrogenized excrementitious matters, carbonic acid and water.

4. As regards its relations to general nutrition and the production of animal heat, water formed in the body by a process of oxidation is to be counted as an excrementitious principle.

5. Fever, as observed in the so-called essential fevers, may be defined as a condition of excessive production of heat, involving defective nutrition or inanition, an excessive production and discharge of nitrogenized excrementitious matters and carbonic acid, with waste and degeneration of the tissues, and partial or complete suppression of the production and discharge of water.

6. Aside from the influence of complications and accidents, the ataxic symptoms in fevers, the intensity and persistence of which endanger life, are secondary to the fever and are usually proportionate to the elevation of temperature. These symptoms are ameliorated by measures of treatment directed to a reduction of the general temperature of the body.

7. The abstraction of heat by external cold and the reduction of temperature by antipyretics administered internally, without affecting the special cause of the fever, improve the symptoms which are secondary to the pyrexia.

8. In health, during a period of inanition, the consumption of the tissues in the production of animal heat is in a measure saved by an increased production and excretion of water.

9. In fever, the effects of inanition, manifested by destruction and degeneration of tissues, are intensified by a deficient formation and excretion of water.

10. Alimentation in fever, the object of which is to retard and repair the destruction and degeneration of tissues and organs, is difficult mainly on account of derangements of the digestive organs; and this difficulty is to be met by the administration of articles of food easily digested or of articles in which the processes of digestion have been begun or are partly accomplished.

11. In the introduction of the hydrocarbons, which are important factors in the production of animal heat, alcohol presents a form of hydrocarbon which is promptly oxidized, and in which absorption can take place without preparation by digestion.

12. Precisely in so far as it is oxidized in the body, alcohol furnishes matter which is consumed in the excessive production of heat in fever, and saves destruction and degeneration of tissue.

13. The introduction of matters consumed in the production of heat in fever diminishes rather than increases the intensity of the pyrexia.

14. As the oxidation of alcohol necessarily involves the formation of water and limits the destruction of tissue, its action in fever tends to restore the normal processes of heat-production, in which the formation of water plays an important part.

15. The great objects in the treatment of fever itself are to limit and reduce the pyrexia by direct and indirect means; to limit and repair destruction and degeneration of tissues and organs by alimen-

tation; to provide matters for consumption in the abnormal production of heat; and thus to place the system in the most favorable condition for recuperation after the disease shall have run its course.

BIOGRAPHY.

ALONZO CLARK, A.M., M.D., LL.D.

Dr. Alonzo Clark, the distinguished professor, clinical teacher, and consultant, died September 13, in his eighty-first year. He had been in feeble health for some years past, and during the last three or four years his mental powers had become more and more impaired. For three days preceding his death he was in a comatose condition. Dr. Clark's birth-place was Chester, Mass. He was graduated from Williams College in 1828, but it was not till 1835 that he completed his medical studies at the College of Physicians and Surgeons of this city. He early took high rank as a teacher and lecturer, and the first professorship which he held was that of Pathology and Materia Medica in the University of Vermont Medical School at Burlington. In 1848 he was called to the Chair of Physiology and Pathology in the New York College of Physicians and Surgeons, and seven years later he was made Professor of Pathology and Practical Medicine in his alma mater. While Dr. Clark wrote comparatively little, his career as a medical teacher and consultant was a most brilliant and successful one, and few men have reflected more honor on the American profession. He was for many years visiting physician to Bellevue, St. Luke's, and other hospitals, where his clinical lectures were always largely attended, and in 1853 he was President of the Medical Society of the State of New York. He was also President of the New York Academy of Medicine and other societies. Dr. Clark never married. His funeral was held in the Madison Square Presbyterian Church on September 17, and was attended by the Fellows of the Academy of Medicine, the Faculty of the College of Physicians and Surgeons, and many other medical men.

NATHANIEL A. RANDOLPH, M.D.

With profound regret we record the death of Nathaniel Archer Randolph, M.D., which occurred on Sunday last, while bathing in the surf at Longport, N. J., whither he had gone to secure a day's needed rest. Dr. Randolph was born in the neighborhood of Philadelphia about thirty years ago. He received a liberal education at Cornell University and graduated in medicine at the University of Pennsylvania in 1882. He subsequently pursued in Germany his studies in

physiology, therapeutics, and the relation of foods to nutrition, in which subjects he was especially interested. Last year his qualifications as a lecturer received early recognition by his election to succeed the late Dr. J. G. Richardson, as Professor of Hygiene in the University of Pennsylvania. Dr. Randolph possessed cultivated tastes, a benevolent disposition, and a high sense of professional responsibility; he was a capable teacher, an accomplished student, and an able writer. His last published research was a thoughtful, physiological study on the irradiation of motor impulses, which was read before the College of Physicians in March last. He was an active worker on the staff of *The News* until last May, when, with Dr. Dulles, he assumed the management of *The Medical and Surgical Reporter*, and in this new field he labored with characteristic zeal. He has been cut off at the outset of a career which was full of promise of honor to himself and usefulness to his fellows, and a wide circle of sorrowing friends mourn his loss.—*Philadelphia Medical News*, August 27.

WILLIAM RILEY, M.D.

In the death of Dr. William Riley, the profession of this city (Baltimore) loses from its ranks one of its oldest and most highly respected members. Dr. Riley enjoyed remarkably good health up to the hour of his death. Whilst not engaged in active practice for several years past he continued to visit a few of his old patients and less than two hours prior to his death wrote a prescription for one of his patients. He retired to his bed-room at 10 o'clock on Sunday night apparently as well as he had ever been. About 12 o'clock a noise was heard in his room, but when his friends reached him he was found dead in bed. His death is attributed to cardiac disease. Dr. Riley was born in this city about eighty years ago. He graduated in medicine from the University of Pennsylvania in 1832. For many years he enjoyed a very large practice, and but few men in this city have labored more earnestly and zealously in professional work.

Dr. Riley possessed a cultivated and well-trained mind, and was a most skillful and successful practitioner. He discharged his professional duties in such a quiet, unobtrusive way that but few of his professional brethren were aware of his skill and attainments. He was a man whose life was singularly blessed in all of its relations. He enjoyed the confidence and esteem of many friends. Up to the last hour of his life he preserved that cheerfulness of manner and gentleness of spirit which endeared him to his friends and patients. He lived a long and useful life and now leaves behind him a record of which his family and friends may feel justly proud. He was eminently a pure and good man as well as a cultured and skilful physician.—*Maryland Medical Journal*.

PROCEEDINGS OF SOCIETIES.

NINTH INTERNATIONAL MEDICAL CONGRESS,

HELD IN WASHINGTON, D. C., SEPTEMBER 5, 6, 7, 8, 9, AND 10, 1887.

The Congress met in Albaugh's Opera House, and was called to order at 11 A. M. by Henry H. Smith, M.D., of Philadelphia, who introduced the President of the United States. President Cleveland said: "I feel that the country should be congratulated to-day upon the presence at our capital of so many of our own citizens and those representing foreign countries who have distinguished themselves in the science of medicine and are devoted to its further progress. My duty on this occasion is a very pleasing and a very brief one. It is simply to declare that the Ninth International Medical Congress is now open for organization and for the transaction of business."

Dr. Smith nominated as President of the Congress Dr. N. S. Davis, of Chicago, who was elected by acclamation. Dr. J. B. Hamilton, of Washington, was then appointed Secretary-General, and proceeded to submit the list of Vice-Presidents, who were duly elected. The following gentlemen were then elected presidents of sections: General Medicine, A. B. Arnold, M.D.; General Surgery, W. T. Briggs, M.D. Military and Naval Surgery, Henry H. Smith, M.D.; Obstetrics, De Laskie Miller, M.D.; Gynecology, Henry O. Marcy, M.D.; Therapeutics and Materia Medica, Traill Green, M.D.; Anatomy, W. H. Pancoast, M.D.; Physiology, J. H. Calender, M.D.; Pathology, A. B. Palmer, M.D.; Diseases of Children, J. Lewis Smith, M.D.; Ophthalmology, J. I. Chisolm, M.D.; Otology, S. J. Jones, M.D.; Laryngology, W. H. Daly, M.D.; Dermatology and Syphilography, A. R. Robinson, M.D.; Public and International Hygiene, Joseph Jones, M.D.; Climatology and Dermatology, Albert L. Gihon, M.D.; Psychological Medicine and Diseases of the Nervous System, J. B. Andrews, M.D.; Dental and Oral Surgery, Jonathan Taft, M.D., D.D.S.

The Report of the Secretary-General was then read by Dr. Hamilton, after which Dr. A. Y. P. Garnett, of Washington, Chairman of the Committee of Arrangements, announced the social programme of the Congress, as follows: Monday evening, a *conversazione* at the U. S. Pension Building; Tuesday evening, Reception at the Executive Mansion by the President of the United States, followed by a reception at the Corcoran Gallery; Wednesday afternoon, lawn party at the residence of Hon. Joseph Dent; Thursday evening, reception and banquet at the U. S. Pension Building; Friday afternoon, reception by Secretary Whitney at his country residence, "Grass Lands;" Saturday, special excursions to Mount Vernon, and to Niagara Falls and Watkins Glen. The Secretary of State, the Honorable Thomas F. Bayard, then delivered an address of welcome, which concluded in the following words: "My duty is very simple, and I fear I have already overstepped its limit, for there was indeed little more for me to say than

to repeat the words of an ancient dame whose cottage was close by the battlefield of Waterloo, who, being somewhat deaf, and hearing the sound of the artillery when the famous 'pounding' was hardest, thought she heard some one knocking at her door, and simply said: 'Come in.' This may seem an unscientific illustration of auscultation and percussion, but you need not make half the noise of Wellington or Bonaparte, and I can assure you the American people will hear you and heartily say to you, as I do for them, 'Come in.'"

Appropriate responses were made by the following foreign delegates, Inspector-General Wm. H. Lloyd, R. N., on behalf of England; Professor Léon le Fort, on behalf of France, Professor P. G. Unna, on behalf of Germany; Senator M. Semmola, on behalf of Italy; and Professor Charles Reyher, on behalf of Germany; after which Dr. Davis delivered the President's address, the introduction of which was as follows: "It is my duty to remind you that if there were one to whom more than another we are indebted for having the Ninth International Medical Congress in America, one who was well known for his contributions to medical literature, who was universally regretted as the most national leader in literary work, and had been selected to preside over your deliberations on this occasion, it was the late Dr. Austin Flint, of New York. He was taken from his earthly labors early in 1886, before the work of this Congress had been half completed. His ability and the number and character of his contributions to medical literature had caused him to be known and esteemed in the profession in all countries, and his loss seems now, as it did immediately after his death, well nigh irreparable. But though he has taken his departure the influence of his excellent example and his scientific work remains and will continue to exert a beneficial influence over generations to come. Leaving this sad part of my task with a heart overflowing with gratitude to him and a sense of my own deficiencies, I thank you for the honor you have bestowed in selecting me to preside over the deliberations of this great and learned assembly. It is an honor that I appreciate as second to no other of a temporal nature, because it has been bestowed neither by conquest nor hereditary influence, nor yet by partisan strife, but by the free expression of your own choice."

On the second day, in general session, Dr. Austin Flint, of New York, delivered an address on "Fever, Its Causes, Mechanism, and Rational Treatment," and on the third day Professor Semmola, of Naples, one on "Bacteriology and Its Therapeutical Relations." On the fourth day the following resolution was adopted, after remarks by Dr. Semmola: "*Whereas* it is proposed to hold at the city of Washington, in 1892, an international celebration in honor of the four hundredth anniversary of the discovery of America by Christopher Columbus, and an exposition of the history, arts, and industries of all nations,

Resolved, That the International Medical Congress favors this patriotic movement, and commends it to the nations of the world."

A committee consisting of one member from each of the national-

ities represented in the Congress having been nominated to select the next place of meeting, Dr. P. G. Unna, of Hamburgh, delivered an address on "Dermatology in Its Relations to General Medicine."

On the fifth day, Dr. J. M. Toner, of Washington, announced that, a sufficient number of subscriptions having been received, a gold medal, commemorative of the Ninth International Congress, would be struck at the United States Mint, at Philadelphia, the price of which was fixed at five dollars. The committee on selection of place of meeting, in 1890, reported that they had determined upon Berlin; after which Dr. G. F. Blandford, of London, delivered an address on "The Treatment of Recent Cases of Insanity."

On the sixth and last day, Dr. Graily Hewitt, of London, made the following address: "I come before you as one of the foreign members of the Congress, and I have been requested to express, in a few words, the appreciation which is felt by the foreign members of this Congress, of the efforts which have been made by the executive of the Congress, for the furtherance of the object of this meeting, and to convey to them our thanks for the attentions that have been bestowed upon us, and our appreciation of the success which had attended their efforts. I desire, also, to express our sense of the hospitality, one of kindness and attention which we have received, both in public and private, at this great meeting—attentions which will contribute to make our visit to Washington a source of congratulation and a happy memory in the future. I beg to submit to you the following more formal expression of our ideas." Dr. Hewitt then read the following:

"On the part of the foreign visitors and officers of the Congress, we desire to convey to the President of the United States our best thanks for his presence at the ceremony of the inauguration of this Congress. We desire to express to the Executive Committee of the Congress, particularly to Dr. Henry M. Smith, Dr. John B. Hamilton, Dr. A. Y. P. Garnett, Dr. Toner, and Dr. Arnold, our very high appreciation of the efforts they have made for efficient organization, action, and working of the Congress, which have rendered it so great a success. We would convey our warmest thanks to the citizens of Washington for the kind hospitality, both public and private, we have received during our pleasant visit to their beautiful city."

Complimentary remarks were also made by Drs. Martin, of Berlin, Landolt, of Paris, and Owen, of London; after which Dr. Hamilton, the Secretary-General, arose and said: "*Mr. President*:—I could not fail to be deeply sensible of the great kindness bestowed upon me, and the many words of encouragement received, both during this present meeting and for the past six months. I am profoundly grateful for the expressions now placed upon record. But, sir, the success of this Congress is due to no one man. All on this side worked with the spirit and enthusiasm of Americans, whose hearts were in the work; but all our efforts would have been in vain, and the strongest would have failed, had it not been for that noble army of scientific men abroad, who, deaf to all misrepresentations of disappointed factionists,

came from old England, the universities and vine-clad hills of France, the seats of learning in Germany, the cities of the Alps, from sunny Italy, the lowlands of Holland, the fastnesses of the Danube, from far-off but ever-near Russia, from the golden shores of China and Japan, from Cairo and the sands of Egypt, and the everlasting hills of Palestine, and I say to these representatives here assembled that to them we owe a debt of gratitude which time cannot efface, and as these, our dear colleagues, have braved the dangers of the deep, and sustained, in some cases, the shock of calumny to be with us, so let us here say that when we again meet in Berlin, in 1890, let it be to renew those friendships formed here, and to grasp once more the hands of those who have been true to us now."

The President, Dr. Davis, after a brief closing address, declared the Congress adjourned *sine die*.

SECTION OF GENERAL MEDICINE.

The President, Dr. A. B. Arnold, of Baltimore, delivered an address on "The Practice of Medicine at the Present Day." Among the papers read and discussed were the following: "Some Suggestions upon the Pathogenesis of Yellow Fever," by Dr. Ignacio Alvara, of Mexico; "Pneumonia as Met with in Various Parts of the Dominion of Canada," by Dr. W. P. Geike, of Ontario, Canada; "The Preventive Power of Vaccination," by Dr. Joseph Korosi, of Buda-Pesth, Hungary; "Vaccination and Pasteur's Treatment," by Dr. W. M. Whitmarsh, of England; "Morphology of Rheumatic Blood," by Dr. Ephraim Cutter, of New York; "Pathogenesis of Albuminuria," by Dr. M. Semmola, of Naples; "Notes on the Treatment of Phthisis, More Particularly that by Intra-Pulmonary Injection," by Dr. R. S. Smith, of Bristol, England; "The Natural History of Disease," by Dr. J. A. Ouchterlony, of Louisville; "The Disease of Inebriety and its Treatment," by Dr. T. D. Crothers, of Hartford; "Diabetes," by Dr. Pavy, of London; "The Etiology of Phthisis," by Dr. R. W. Phillips, of Edinburgh; "Some Considerations on the Pathogenesis of Diseases of Women," by Dr. W. B. Neftel, of New York; "Rational Treatment of Diseases of the Respiratory Apparatus," by Dr. Geo. E. Stubbs, of Philadelphia; "Diphtheria," by Sir James Grant, of Canada; "Dilated and Fatty Heart," by Dr. A. B. Arnold, of Baltimore; "Forced Artificial Respiration in Opium Poisoning," by Dr. G. E. Fell, of Buffalo.

SECTION OF GENERAL SURGERY.

Among the papers presented were the following: "A Contribution to the Study of Gunshot Wounds of the Intestines," by Dr. C. I. Parkes, of Chicago; "An Experimental Contribution to Intestinal Surgery, with Special Reference to the Treatment of Intestinal Obstruction," by Dr. N. Senn, of Milwaukee; "384 Laparotomies for Various Diseases," by Dr. John Homans, of Boston; "When Is Colotomy Justifiable?" by Dr. J. M. Matthews, of Louisville; "Three

Cases of Surgical Diseases of the Kidney," by Dr. Donald McLean, of Detroit; "The Present Stand-point of Antisepsis and the Best Mode of Its Application in War," by Dr. Neudörfer, of Austria; "The Primary Treatment of Gunshot Wounds," by Dr. B. A. Watson, of Jersey City; "Gastrotomy for Foreign Bodies in the Œsophagus," by Dr. M. H. Richardson, of Boston; "Report of an Amputation at the Hip-joint for the Removal of a Malignant Growth, Sarcoma," by Dr. F. S. Dennis, of New York; "The Surgical Treatment of Epilepsy by Trephining," by Mr. J. C. Garmody, of New York; "Fistula in Ano of the Horse-shoe Variety," by Dr. S. Benson, of London; "Remarks on Rodent Ulcer of the Rectum," by A. T. Norton, F. R. C. S., of London; "Report of Some Cases of Liver Abscesses and Their Treatment," by Dr. J. A. S. Grant (Bey), of Cairo, Egypt; "The Treatment of Psoas Abscess by Posterior Lumbar Incision," by Dr. L. H. Sayre, of New York; "The Use of the Galvano-Cautery Sound," by Dr. R. Newman, of New York; "Iodol in Surgery," by Dr. G. Assaky, of Bucharest, Roumania; "Calculus in Syria," by Dr. G. E. Post, of Beirut; "An Uncommou Case of Fracture, with Dislocation of the Tarsus and Metatarsus," by Dr. O. J. Coskery, of Baltimore; "Alcohol as an Anæsthetic," by Dr. Link, of Indianapolis.

SECTION OF PUBLIC AND INTERNATIONAL HYGIENE.

The President, Dr. Joseph Jones, of New Orleans, delivered an address on the general subject of hygiene, in which he considered the question under three heads—domestic, national, and international hygiene. The first related to families and households; the second included the organization of boards of health and sanitary administration; the third, vital statistics and race distinctions.

Among the papers presented were: "The History of Hygiene in Modern Egypt," by Dr. J. A. S. Grant (Bey); "Dengue in Syria," by Dr. J. Montabet; "The Relation of State Medicine to Medical Jurisprudence," by Dr. W. L. Schenck, of Kansas; "Report of an Enquiry into the Facts Relating to the Effects of the Overflow of the Mississippi River," by Dr. R. H. Day, of Baton Rouge; "Vaccination in Yellow Fever," by Dr. Domingos Freire, of Rio de Janeiro; "Metropolitan Defenses against Infectious Diseases," by Dr. Edw. Seaton, of London; "The Growth of Preventive Medicine in England," by Dr. B. W. Richardson, of London; "Facts and Theories Relating to the Cause, Nature, and Prevention of Malarial Fever," by Dr. Tomassi Crudeli, of Rome, Italy; "The Influence of Climate on the Production of Cholera Infantum," by Dr. G. T. Maxwell, of Ocala, Fla.; "The History and Practical Application of Steam as a Disinfectant," by Dr. A. N. Bell, of New York; "The Sanitary Inspection of Railroad and Passenger Cars," by Dr. Harvey Reed, of Mansfield, O.; "The Clinical History of Continued Malarial Fever," by Dr. B. D. Taylor, U. S. A.; "A New Method of Detecting *Trichina Spiralis* in Meat," by James A. Close, M. B. (Toronto), F. R. M. S. (London), L. R. C. S. E.; "Teaching Hygiene in Schools," by Dr. W. C. Cook, of Nashville; "The Influence

of Easy Circumstances in the Prolongation of Life," by Dr. D. C. Drysdale, of England; "Outline of investigations relating to the causation and prevention of endemic and epidemic diseases, and, more especially, malarial fever, during a period of thirty years, with a claim for the comprehensive demonstration of the chemical, microscopical, and pathological characters of the blood and organs in malarial fever, and the application of the results of these investigations to the diagnosis of disease and to medico-legal science," by Dr. Joseph Jones, of New Orleans; "A new Method of testing the germicidal and antiseptic powers of certain mineral and vegetable substances employed externally and internally in the treatment of wounds, tumors, enlarged glands, ulcers, and syphilis, and in certain sanitary operations of domestic and public hygiene," by Dr. Joseph Jones, of New Orleans.

The following resolutions were adopted by the Section:

WHEREAS, inoculation against yellow fever, if it proves successful, after further examination, is calculated to benefit the human race throughout the world; and

WHEREAS, The facts presented by the experiments of Dr. Domingos Freire afford a reasonable assurance of its protective influence—

Resolved, That the section recommend the co-operative investigation of the results obtained by yellow fever inoculation as a protection against that disease, and that adequate appropriations by the governments represented in this Congress be made for that purpose.

Resolved, That this action be communicated forthwith for consideration in the general session of the Congress.

Resolved, That this section cordially indorse the suggestions of Dr. Cook's paper on the necessity for the teaching of hygiene in schools, and recommend to the Congress the passage of the following resolution:

"*Resolved*, First. That it is the sense of the Ninth International Medical Congress that every medical college should place the chair of hygiene on its curriculum and on an equal footing with the other regular branches of instruction.

"Second. That in all universities, colleges, and high schools, hygiene should form a compulsory part of the course of study, and should be taught not simply through text-books but by educated physicians.

"Third. That in all public schools the teaching of hygiene should form a prominent and essential feature.

"Fourth. That every State legislature should establish a museum and laboratory of hygiene."

WHEREAS, The whole community has been shocked by the almost daily occurrence of terrible accidents on many of the railroads, causing considerable loss of life, and by the habitual neglect of the most elementary sanitary laws;

WHEREAS, The Section considers itself in a degree the guardian of public health; be it

Resolved, That the attention of this Ninth International Congress be respectfully called to this most important question, and that it be requested to use its influence to obtain the necessary reforms.

SECTION OF ANATOMY.

An address was delivered by the President, Dr. Wm. H. Pancoast, of Philadelphia, and among the papers presented were the following: "The Anatomy of the Rectum and Its Relation to the Reflexes," by Dr. J. M. Matthews, of Louisville; "Does a Relationship Exist Between Anomalies of the Visual Apparatus and the So-called Neuro-pathetic Tendency?" by Dr. A. L. Ranney, of New York; "Which Shall Be the Site of a Urinary Fistula?" by Dr. W. C. Wile, of Danbury, Conn.; "The Anatomy and Surgical Importance of the Perirenal Cellulo-adipose Tissue and Renal Capsule," by Dr. L. H. Dunning, of South Bend, Ind.; "An Apparatus for the Treatment of Fractures of the Surgical and Anatomical Neck of the Humerus," by Dr. W. T. Oppenheimer, of Richmond, Va.; "Anatomical Points Involved in the Loss of the Complete Scalp, Including One Ear and the Greater Portion of the Eyelids," by Dr. F. C. Shaefer, of Chicago; "Anatomical Considerations in Regard to Amputation and Disarticulation at the Ankle-joint by a New Method," by Dr. J. N. Dickson, of Pittsburgh; "Destruction of Dissecting-Room Offal," by Dr. H. G. Boening, of Philadelphia; "An Anomalous Middle Thyroid Artery," by Dr. M. J. Stern, of Philadelphia; "Anatomical Points of Value in the Diagnosis and Treatment of Some of the Joint Affections," by Dr. N. Stamm, of Fremont, O.; "Case of Deformity of the Spinal Column Produced by Maternal Impression on the Fœtus," by Dr. Benj. Lee, of Philadelphia; "The Inter-Cranial Nerve-Tracts in the Light of the Atrophy Methods of Von Gudden," and "The Mesocephalon of the True Reptile," by Dr. E. C. Spitzka, of New York; "The Proper Methods in the Study of Anatomy," by Dr. A. H. P. Leuf, of Philadelphia.

SECTION OF GYNÆCOLOGY.

Among the papers presented were the following: "Artificial and Combined Drainage of the Bladder, Kidneys, and Uterus Through the Vagina, with and without Graduated Pressure," by Dr. N. Bozeman, of New York; "Conservative Gynæcology," by Dr. H. R. Bigelow, of Washington; "The Use of the Vaginal Tampon in Pelvic Inflammation," by Dr. W. W. Potter, of Buffalo; "When Shall We Operate in Tubal Pregnancy?" Dr. J. E. Benton, of Liverpool, Eng.; "The Causes and Treatment of Barrenness," by Dr. T. More Madden, of Dublin; "The Modern Treatment of Uterine Cancer," by Dr. A. R. Jackson, of Chicago; "The Relations between Changes in the Tissues and Changes in the Shape of the Uterus," by Dr. Graily Hewitt, of London; "Rapid Dilatation of the Cervix Uteri," by Dr. W. H. Wathen, of Louisville; "Cancerous Degeneration of the Hyperplastic Glands of the Cervix Uteri," by Dr. E. W. Cushing, of Boston; "A Method of Treatment of Fibroid Tumors of the Uterus by Stronger Currents of Electricity Based Upon Exact Dosage," by Dr. F. H. Martin, of Chicago; "Contribution to the Pathology of Inflammation of the Lining Membrane of the Uterus," by Dr. Leopold Meyer,

of Copenhagen; "Tumors of the Breast Treated by Electrolysis," by Dr. A. C. Garrett, of Boston; "Medical Topical Treatment of Uterine Cancer," by Dr. A. Cordes, of Geneva, Switzerland; "A New Theory and Treatment of Displacements of the Uterus by Electricity," by A. L. Smith, of Montreal; "Some new Applications of the Induced or Faradic Current to Gynæcology," by Dr. A. Apostoli, of Paris; "Galvanism for Uterine Fibroids," by Dr. E. Cutter, of New York; "The Vaginal Total Extirpation of the Uterus for Cancer," by Dr. August Martin, of Berlin; "The Histology and Surgical Treatment of Uterine Myoma," by Dr. H. O. Marcy, of Boston; "Intra-Uterine Stem Pessaries," by Dr. Caleb R. Read, of Middleport, O.; "The Treatment of Uterine Myomata by Means of Ergot," by Dr. D. T. Nelson, of Chicago; "Cystitis in Women," by Dr. M. D. Spanton, of Hanley, Eng.; "The Remote Effects of Shortening the Round Ligaments," by Dr. W. L. Reid, of Glasgow, Scotland; "The Treatment of Commencing or Threatening Peritonitis by Brisk Purgation," by Dr. J. Taber Johnston, of Washington; "Extirpation of the Uterus for Bleeding Myoma," by Dr. E. H. Trenholme, of Montreal.

SECTION OF DERMATOLOGY AND SYPHILOGRAPHY.

An address was delivered by the President, Dr. A. R. Robinson, of New York, and among the papers presented were the following: "Vaccination During the Incubation Period of Variola," by Dr. Wm. Welch, of Philadelphia; "Rectal Alimentation in Diseases of the Skin," by Dr. J. V. Shoemaker, of Philadelphia; "Studies in Hirsuties," by Dr. G. H. Rohé, of Baltimore; "A New Method of Treating Diseases of the Skin Locally," by Dr. V. Knaggs, of London; "A New Method of Treating the Vegetable Parasitic Diseases of the Skin," by Dr. H. J. Reynolds, of Chicago; "Lupus Erythematosus," by Dr. A. Ravogli, of Cincinnati; "Erythematous Lupus of the Hand," by Dr. Ohmann-Dumesnil, of St. Louis; "Contribution to the Knowledge of Impetigo Herpetiformis (Hebra)," by Dr. J. Zeisler, of Chicago; "Seborrhœal Eczema," by Dr. P. G. Unna, of Hamburgh, Germany; "Unique Case of Progressive Melanosis of the Skin," by Dr. A. R. Robinson, of New York; "Treatment of Syphilis by Injection of Insoluble Mercuric Salts," by Dr. H. Watraszewski, of Warsaw, Poland; "Alopecia Areata, with Demonstration of Deep-seated Microorganisms," by Dr. A. R. Robinson, of New York.

SECTION OF OBSTETRICS.

Among the papers presented were the following: "On the Contractions of the Uterus Throughout Pregnancy, and Their Value in the Diagnosis of Pregnancy, Both Normal and Complicated," by Dr. J. Braxton Hicks, of London; "Vicarious Menstruation," by Dr. D. C. MacCallum, of Montreal; "The Mechanism of Labor, and the Normal Forceps," by Dr. T. Lazarswitch, of St. Petersburg; "Improved Forceps with Parallel Branches," by Dr. W. S. Stewart, of

Philadelphia; "*L'Urémie Experimentale*," by Dr. A. Charpentier, of Paris; "Uniformity in Obstetrical Nomenclature," by Dr. A. R. Simpson, of Edinburgh; "The Prognosis of the Cæsarian Section," by Dr. W. T. Lusk, of New York; "The Cæsarian Operation," by Dr. M. Sânger, of Leipsic; "Abdominal Section for Removal of the Fœtus," by Dr. W. H. Wathen, of Louisville; "Treatment and Surgical Restoration of the Cervix During Pregnancy," by Dr. J. A. Doléris, of Paris; "The Relation of the Atmosphere to Puerperal Fever," by Dr. J. Kiicher, of New York; "The Prevention and Treatment of Puerperal Septicæmia," by Dr. T. More-Madden, of Dublin; "Typhoid Fever in the Puerperal Woman," by Dr. E. Poussie, of Paris; "Internal Uterine Hemorrhage the Result of Over-Distention of the Uterus from Hydramnios," by Dr. E. H. Trenholme, of Montreal; "A Study of Deventer's Method of Delivery of the After-Coming Head," by Dr. J. Bartlett, of Chicago; "Lithiasis in Pregnancy," by Dr. J. E. Kelly, of New York; "The Proportion and Causes of Still-births," by Dr. E. P. Christian, of Michigan; "The Treatment of Puerperal Eclampsia," by Dr. I. E. Oatman, of San Francisco. The report of the committee appointed to formulate definitions and designations, in order to secure, as far as possible, uniformity in obstetrical nomenclature, was adopted with but one dissentent voice, Dr. August Martin, of Berlin, who proposed that the matter should be deferred to the next International Congress. This committee consisted of Dr. De Laskie Miller, President of the Section, and Drs. A. F. A. King, W. T. Lusk, and A. R. Simpson.

SECTION OF MILITARY AND NAVAL SURGERY AND MEDICINE.

"American Military Surgery," by Dr. H. H. Smith, of Philadelphia, President of the Section; "A Short Scheme for Water Analysis in the Field," by Surgeon-Major F. P. Staples, of England; "The Necessity for a More Careful Examination of the Water Supply of Military Posts," by Dr. W. K. Taylor, U. S. A.; "The Best Ration for the Soldier," by Dr. J. R. Smith, U. S. A.; "Huts and Hut Hospitals," by Dr. J. A. Marston, of the British War Office; "The Construction of Field Hospitals," by Dr. Jas. Collins, of Philadelphia; "Are Wounds from Explosive Balls of Such a Character as to Justify International Laws Against Their Use?" by Dr. R. Rayburn, of Washington; "Heat-Stroke in India," by Dr. John Anderson, of London; "The Proper Treatment of Penetrating Wounds of the Joints," by Dr. Frederick Hyde, of Cortland, N. Y.; "The Proper Treatment of Penetrating Wounds of the Abdomen," by Dr. S. T. Armstrong, U. S. A.; "Etiology and Treatment of Hospital Gangrene During the War," by Dr. Wm. Varian, of Titusville, Pa.; "Etiology and Treatment of Camp Dysentery and Diarrhœa," by Dr. C. W. Berringer, of Pittsburgh, Pa.; "Etiology and Treatment of Tetanus," by Dr. C. W. Brown, of Elmira; "The Practical Consideration of Human Nosography," by Dr. J. W. S. Gouley; "What

Class of Gun-Shot Wounds and Injuries Justify Resection or Excision in Modern Warfare?" by Dr. R. B. Bontecou, of Troy; "Gun-Shot Fractures of the Femur," by Dr. Henry James, of Waterbury; "Amputation for Injury of Living Parts Never Necessary," by Dr. E. H. Gregory, of St. Louis.

The following resolution was adopted:

"*Resolved*, That this Section recommend the Ninth International Medical Congress to take such action as will direct the attention of all nations to the importance of preventing, by international law, the employment of explosive bullets in warfare."

SECTION OF MEDICAL CLIMATOLOGY AND DEMOGRAPHY.

"The Domain of Climatology and Demography as Dependents of Medicine," by Dr. A. L. Gihon, U. S. N., President of the Section; "Meteorological Elements of Climate and Their Effects upon the Human Organism," by Dr. G. H. Rohé, of Baltimore; "The Importance of the Study of Climatology in Connection with the Science of Medicine," by Dr. W. T. Parker, of Newport, R. I.; "The Preferable Climate for Phthisis," by Dr. Chas. Denison, of Denver; "The Seasonal Prevalence of Pneumonia," by Dr. J. W. Moore, of Dublin; "The Relations of Certain Meteorological Conditions to Acute Diseases of the Lungs and Air Passages," by Dr. H. B. Baker, of Lansing, Mich.; "The Climate of the Swiss Alps, with Pulmonary Cases Treated at an Altitude of Six Thousand Feet," by Dr. A. T. Wise, of Switzerland; "Ground Air in Its Hygienic Relations," by Dr. J. D. MacDonald, of the British Navy; "House Atmospheres, or Artificial Climates," by Dr. P. H. Boyce, of Toronto; "American Mineral Waters, with Remarks on Climate," by Dr. T. M. Coan, of New York; "The Injurious Effects of Overcrowding in Cities," by Dr. A. Wernich, of Coeslin, Germany; "The Thermometer as a Climatological Instrument," by Major Charles Smart, Surgeon United States Army; "Vital Statistics and Medical Geography," by Alfred Haviland, M. R. C. S., of London; "Western North Carolina as a Health Resort," by Dr. Henry O. Marcy, of Boston; "Therapeutic Influences of the Climate of Southern California," by Dr. P. C. Remondino, of San Diego, Cal.; "Short Notes on the Mineral and Thermal Springs of California," by Professor W. F. McNutt, of San Francisco; "The Demographic Effects of Introduced Diseases, and Especially Leprosy, upon the Hawaiian Races," by Dr. George W. Woods, Surgeon, United States Navy; "The Native Treatment of Diseases in Syria," by Professor Thomas W. Kay, Syrian Protestant College, Beirut, Syria; "Demographic Consideration of the Evils of Artificial Methods of Preventing Fecondation and of Abortion in Modern Times," by Dr. Thomas M. Dolan of Halifax.

The following resolution was adopted:

"*Resolved*, That, in the opinion of the Section on Medical Climatology and Demography of the Ninth International Medical Congress, it is important that there should be established in every country a na-

tional department bureau, or commission for the record of vital statistics, upon a uniform basis, to include not only accurate returns of births and deaths, but the results of collective investigations by government officials of facts bearing upon the natural history of disease as manifested among men, women, and children, respectively, especially with regard to climatic and other discoverable causes of the several forms of disease, race, residence, and occupation being also made matters of record, in order that necessary preventive measures may be determined and enforced for the preservation of public health."

SECTION OF PATHOLOGY.

"Pressure Paralysis of Pott's Disease," by Dr. G. R. Elliott, of New York; "The Pathology of Reynaud's Disease," by Dr. A. P. Palmer, of Ann Arbor, Mich.; "Experimental Researches Concerning the Infectious Nature of Traumatic Tetanus," Dr. E. O. Shakespeare, of Philadelphia; "The Production of Immunity by the Hypodermic Injection of Sterilized Cultures," by Dr. Solomon, of Michigan; "The Pigmentation of the Skin at the Articulation of the Phalanges in Chlorosis," by Dr. Pouget, of Cannes, France; "Crystallography of Fats," by Dr. Thos. Taylor, of Washington, D. C.; "The Etiology of Liver Abscess," by Dr. Kartulis, of Alexandria, Egypt; "Tyrotoxicon," by Prof. Victor Vaughan, of Ann Arbor, Mich.

SECTION OF PSYCHOLOGICAL MEDICINE AND NERVOUS DISEASES.

"The Distribution and Care of the Insane in the United States," by Dr. J. B. Andrews, of Buffalo, President of the Section; "The Religious Delusions of the Insane," by Dr. H. M. Hurd, of Pontiac, Mich.; "Miliary Aneurism," by Dr. E. C. Spitzka, of New York; "Remissions and Intermissions in Insanity," by Dr. Daniel Clark, of Toronto; "Occupation for the Insane," by Dr. H. Wardner, of Illinois; "Occupation for the Insane in Asylums for the Private Class in England," by Dr. Bower, of Bedford, England; "The International Classification of Mental Diseases," by Dr. Walter Channing, of Boston; "The True Nature and Definition of Insanity," by Dr. C. H. Hughes, of St. Louis; "The Origin of the Upper Facial Nerve," by Dr. Mendel, of Berlin; "Histological Alterations Following Amputations in the Peripheral Nerves, the Spinal Ganglia, and the Marrow," by Dr. E. A. Homer, of England; "Syphilis in its Relations to Insanity," by Dr. Savage, of London; "The Pathology of Hay Fever," by Dr. S. S. Bishop, of Chicago; "Syphilis Associated with General Paralysis," by Dr. Savage; "Moral Insanity," by Dr. Mendel.

SECTION OF THERAPEUTICS AND MATERIA MEDICA.

"The Development of the Study of Therapeutics in America," by Dr. Trail Green, of Easton, Pa., President of the Section; "Synopsis of the Medical Botany of the United States," by Dr. J. M. Carter, of Waukegan, Ill.; "A Proposed Investigation of the Materia Medica of

the World by the U. S. Government," by Dr. F. E. Steward, of Wilmington, Del.; "The Chemical Philosophy of Remedy," by Dr. H. Hamilton, of Harrisburgh; "Chlorate of Potash," by Dr. J. S. S. Coghill, of Ventnor, Isle of Wight; "The Action of Certain Drugs on the Circulation and Secretion of the Kidney," by Dr. C. D. F. Phillips, of London; "The Neglect of Non-Medicinal Therapeutics," by Dr. S. S. Wallian, of New York; "Rhamnus Purshianus," by Dr. J. E. Brackett, of Washington; "The Pharmacology of Some Bodies Derived from Morphine," by Dr. R. Stockman, of Edinburgh; "Carlsbad Mineral Waters," by Dr. A. L. A. Toboldt, of Philadelphia; "So-called Antiseptic Action of Calomel When Given in Large Doses," by Dr. G. S. Hull, of Chambersburgh, Pa.; "The Chemistry and Pharmacology of the Nitrites and of Nitro-Glycerine," by G. A. Atkinson, M. B. C. M.; "The Poison of the Cobra," by Dr. J. Gneza, of Berlin; "The Maximal Doses of Drugs," by Dr. L. Lewin, of Berlin; "The Emmenagogue Action of the Manganese Preparations," by Dr. J. N. Upshur, of Richmond, Va.; "Resorcin and Its Preparations," by Dr. J. Anndear, of Munich.

SECTION OF LARYNGOLOGY.

"Progress of Laryngology," by Dr. W. H. Daly, of Pittsburgh, President of the Section; "A Contribution to the Causes of So-Called Hay Fever," by Dr. R. H. Thomas, of Baltimore; "Remarks on the History of Rhinology," by Dr. D. N. Rankin, of Alleghany, Pa.; "Epistaxis," by Dr. E. F. Ingals, of Chicago; "Surgery of the Nasal Septum and Turbinated Bones," by Dr. H. H. Curtis, of New York; "Primary Erysipelas of the Larynx," by Dr. F. Massei, of Naples, Italy; "Twenty Years of Laryngological Work in the City of Mexico," by Dr. Semeleder, of Mexico; "Present Status of the Galvano-Cautery in the Treatment of Diseases of the Upper Air-Passages, Illustrated by Instruments and Cases," by Dr. F. B. Eaton, of Portland, Oregon; "Nasal Fibromata," by Dr. W. E. Casselberry, of Chicago; "Chorea Laryngis," by Dr. J. O. Roe, of Rochester, N. Y.; "Deleterious Effects of Tobacco on the Throat and Nose," by Dr. M. T. Coomes, of Louisville; "Intubation or Tracheotomy," by Dr. M. J. Stern, of Philadelphia; "The Action of the Epiglottis in Swallowing," by Dr. Carmalt Jones, of London; "The Longitudinal Tension of the Facial Cords," by Dr. C. M. Desvernine, of Havana; "Treatment of Chronic Stenosis of the Larynx and Trachea by Intubation," by Dr. J. O'Dwyer, of New York; "The Pathology and Treatment of Tuberculosis of the Larynx," by Lennox Browne, F. R. C. S., of London.

SECTION OF DISEASES OF CHILDREN.

"Intubation of the Larynx," by Dr. J. Lewis Smith, of New York, President of the Section; "A Form of Cerebral Irritation in Children," by Dr. Jules Simon, of Paris; "The Deleterious Results of Narrow Prepuce and Preputial Adhesions," by Dr. L. A. Sayre, of New York;

“The Influence of Sewerage and Water Pollution on Diphtheria,” by Dr. C. W. Earle, of Chicago; “Hereditary Syphilis and Rickets in Brazil,” by Dr. Moncorvo, of Rio de Janiero; “The Rate of Growth in Children,” by Dr. Wm. Stephenson, of Aberdeen, Scotland; “The Use of Cow’s Milk in the Artificial Feeding of Infants,” by Dr. V. C. Vaughan, of Ann Arbor, Mich.; “The Pathological Anatomy of Laryngeal Diphtheria, as Related to Intubation,” by Dr. W. P. Northrup, of New York; “Tubage of the Larynx in Stricture and in the Asphyxia of Croup,” by Dr. E. Bouchut, of Paris; “Intubation of the Larynx,” by Dr. J. O’Dwyer, of New York; “Intubation of the Larynx—Its Advantages and Disadvantages, with Statistics of the Operation,” by Dr. F. E. Waxham, of Chicago; “The Milk-Supply of Cities,” by Dr. C. Edson, of New York; “Infantile Marasmus,” by Dr. I. N. Love, of St. Louis; “Headaches in Children, and Their Relation to Mental Training,” by Dr. W. H. Day, of London; “A Study of Some of the Bacteria Found in the Dejecta of Infants Affected with Summer Diarrhœa,” by Dr. W. D. Booker, of the Johns Hopkins University, Baltimore; “The Nutrition of Infants,” by Prof. A. R. Leeds, of the Stevens Institute, Hoboken; “True or Lobar Pneumonia in Children,” by Dr. D’Espine, of Geneva, Switzerland; “Scarlatinal Nephritis from a Clinical and Pathological Standpoint,” by Dr. H. Ashby, of Manchester, Eng.; “Anatomical Characters of Scarlatinal Nephritis,” by Dr. Frank Grauer, of New York; “The Treatment of Congenital Club-Foot,” by W. E. Balkwill, F. R. C. S., London; “Section of Contractured Tissues Essential before Mechanical Treatment Can be Effectual,” by Dr. L. A. Sayre, of New York.

ORIGINAL CORRESPONDENCE.

INFLESHED TOE-NAIL.

COLLIERVILLE, SHELBY CO., TENN., *August 26, 1887.*

To the Editor of Gaillard's Medical Journal.

GAILLARD'S JOURNAL for August contains remarks on infleshed toe-nail, by B. E. Cotting, M.D. This affection ought perhaps to have a great big technical name commensurate with the amount of misery which it entails, but the designation given by Dr. Cotting expresses the condition perfectly.

For ten years I suffered with it, and during this time consulted all the M.Ds and all the old women, too, who professed to know anything about the matter that I could find, and among the former was that great and good man, the late Paul F. Eve. The nail was scraped and notched and the effort made to raise it by placing cotton and other substances under it. I painted the toe with the tincture of iron, and

used adhesive plaster put on in such a way as to pull the flesh from over the nail, and finally tried having the nail split and forcibly removed. Of all the cruel operations in surgery this is the most cruel, as well as the most unsatisfactory, and I had it done three times, each time with return of infleshed nail.

For two years I wore my shoe under my foot. I then concluded to remove the flesh from over the nail, and at my request this was done by Dr. R. T. Evans, with no anæsthetic, and positively it was bliss compared with the evulsion of the nail. We knew nothing at that time of carbolic acid or other antiseptics, but simply dressed it in the old way, and from that good hour to this I have been well. I have done the same operation a good many times with not a single failure.

The operation is perfectly simple. My manner of operating is to use a thin knife, laid flat, with the edge towards the distal extremity of the toe and the back to the proximal, leaving the nail uncovered. It is one of the most successful operations in surgery.

Very truly yours,

A. WEBB, M.D.

PHARMACY AND THERAPEUTICS.

ANTIPYRINE IN SUBCUTANEOUS INJECTIONS, AS A SUBSTITUTE FOR MORPHIA.—Professor Germain Sée has communicated to the Paris Academy of Medicine the results of his experience in the Hotel Dieu with antipyrine in subcutaneous injections, as an analgesic. The solubility of antipyrine in distilled water favors this mode of employment, eight grains being readily dissolved in a hypodermic syringeful of water. The injection causes a brief painful sensation of tension, then there is a considerable lull in the pain, whatever may be its cause. Professor Sée finds that these subcutaneous injections have none of the ill effects which almost constantly attend the hypodermic introduction of morphine, such as vertigo, or vomiting; there is no danger of too deep or too prolonged somnolence, and, moreover, to its calmative action, antipyrine often conjoins that of a curative action. He calls attention to a series of cases of acute rheumatism which were signally benefited by two or three injections of half a gramme of antipyrine; to one case of acute gout, very painful; to several cases of chronic gout and nodular rheumatism, which were in a marked manner relieved and favorably modified by antipyrine employed subcutaneously and taken internally.

Some of Prof. Sée's most signal successes were cases of neuralgia. Three patients suffering from tic douloureux of the face, one of three years standing, another of five weeks, and the third of six days, were permanently relieved in several hours; these cases came under the observation of several of Prof. Sée's colleagues. Several cases of zona of long standing were cured; and the same may be said of cases of

migraine (one of these was ophthalmic migraine). He considers as deserving of special mention the relief given in the lightning pains of locomotor ataxia; some of these sufferers were enabled by means of a daily injection of antipyrine, and three or four gramme doses by mouth, to dispense altogether with the morphine to which they had become accustomed. In bilious colic, where morphine injections have heretofore been deemed necessary (despite the fact that morphine diminishes the biliary and intestinal secretion), antipyrine injected subcutaneously has relieved the pain quite as effectually as morphine, and without any of the disadvantages above named. In three cases of nephritic colic, there was the same favorable result, without, of course, any arrest in the urinary secretion.

In painful affections of the heart, and angina pectoris in particular, hypodermic injections of antipyrine have markedly reduced the number and intensity of the attacks, without any disturbance in the cerebral circulation. In attacks of asthma, whether bronchial or spasmodic, antipyrine has afforded relief without suppressing the bronchial secretion; but it should be reserved principally for the acute paroxysms, when iodide of potassium has lost its effects, and when morphine succeeds only in large or frequently repeated doses.

Prof. Sée concludes that thus far his experience hardly indicates an instance where the hypodermic use of antipyrine may not profitably be substituted for that of morphine. We have thus at hand, he adds, a means of avoiding that fatal morphinism, with all its grave cerebral and other organic troubles, into which so many are led by reason of the physical suffering from which they are impelled to seek deliverance. Antipyrine seems to him to be the ideal analgesic, assuaging pain, and diminishing the reflex excitability of the chord; it ought to be of great use in the vague, general, nervo-muscular pains of hysteria and other neuroses. Being absolutely safe, it must tend more and more to supplant morphine.—*Med. and Surg. Reporter.*

PROPRIETARY MEDICINES—SHOULD PHYSICIANS PRESCRIBE AND RECOMMEND THEM?—The gist of the whole matter depends upon what is meant by the term "proprietary medicine." In its limited and best sense we understand by the term a remedy of which the ingredients and their proportions are made known to the profession, and the trade or proprietary name of which is alone protected by law. When such preparations are made exclusively for the use of the medical profession, and are advertized exclusively in medical journals, we cannot see any possible lowering of professional dignity or deviation from "time honored principles of medical ethics" on the part of the physician who uses them in his daily practice or who recommends them in his communications to medical journals. The name, in this class of proprietary medicines, is to be regarded simply as the guinea's stamp—a guarantee of the purity and genuineness of the product, and the registration of it—patenting it, if you please, is as much for the protection of the physicians who use it as for the parties who manufacture

the remedy. It in no sense makes the drug a "patent medicine" any more than does the writing of "Fairchild" before pepsin, "Merck" before or after an alkaloid, or "Schering" or "Squibb" before chloroform, transfer these chemicals into that category. * * * The question may be, and frequently *is* asked by the pursuists, usually by the very old, or by very young members of the medical or pharmaceutical profession, aspiring to be considered very scientific, "why should a physician resort to these ready-made prescriptions at all? Why does he not draw upon his own knowledge of applied therapeutics and write out his own formulæ in every case? Why does he prescribe this one's sugar-coated pills or that one's gelatine covered granules?" Why, indeed? Simply because he knows that these articles, being made in vast quantities, by improved apparatus and appliances, manipulated by highly trained and educated employés and directed by skilled chemists, can be made better, more accurately and far cheaper than they could be compounded by the more skillful prescriptionist. He does it for the same reason that he buys a watch ready made from the jeweler, or a buggy ready made from the carriage maker.—*St. Louis Med. and Surg. Journal.*

ADVERTISER'S NOTICES.

THREATENED ABORTION.—I have much pleasure in expressing my satisfaction with the result I have obtained by the use of Aletris Cordial. One of my patients who had miscarried three times previously took Aletris Cordial during the last three months of pregnancy, and was delivered of a fine, healthy boy. I ordered it at her own solicitation, as she expressed so much ease and comfort after the use of the first bottle. I am now giving it to two more patients, who have miscarried several times before, and I am in hopes of good results. I consider it a valuable addition to pharmacopœia, on account of its antispasmodic and nerve-tonic proportions, and I should not like to go without it.

M. D. MAKUNA,

M. R. C. S. Eng., Lic. Med. University, Bombay, 1876.

Trebeebut, Rhondda Valley, South Wales.

A NOVEL DEPARTURE IN ADVERTISING.—Believing that the advertizing of medicinal preparations often fails of its purpose, viz.: to clearly and intelligently present to physicians their special advantages, pharmacal or therapeutic, on account of the fragmentary and imperfect manner in which the facts are usually conveyed in such advertisements. Parke, Davis & Co. propose to inaugurate rather a novel departure in advertising. It is their intention to publish in the advertising pages they occupy in medical journals a series of what they term plain talks to physicians, in each issue taking up a certain class of preparations and pointing out the reasons why they deserve to be prescribed, until all their preparations shall have thus been presented. The excellence of the products of this house are well known and it is to be presumed that their long experience in the manufacture of medicines will enable them

to say in these informal talks something of real interest and benefit to their medical friends.

MESSRS. BATTLE & Co., of St. Louis, have secured a decree from the U. S. Circuit Court against David W. Gross and Edward Z. Gross, trading as D. W. Gross & Son, enjoining them from using the trademark "Bromidia" on the preparation which was sold in imitation of the original manufacture of Battle & Co.

MISCELLANEOUS.

THE CONTAGIUM OF SCARLET FEVER.—In a careful critical review of the researches and claims of Dr. Klein and Dr. Edington regarding the contagium of scarlet fever, Dr. Thin has shown that the identity of this contagium with that found in a certain disease of the cow's udder is not established. The view that scarlet fever may be derived from the cow is therefore still lacking demonstration. The claim of Dr. Edington to have discovered the specific virus is also shown to be wanting in positive proof.—*N. Y. Medical Record.*

A DISTINGUISHED WRITER'S ESTIMATE OF THE PROFESSION.—Robert Louis Stevenson, in the preface to *Underwoods*, pays the following tribute to the medical profession: "There are men and classes of men that stand above the common herd; the soldier, the sailor, and the shepherd not unfrequently, the artist rarely; rarer still the clergyman; the physician almost as a rule. He is the flower (such as it is) of our civilization; and when that stage of men is done with, and only remembered to be marvelled at in history, he will be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race: Generosity he had, such as is possible to those who practice an art, never to those who drive a trade; discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments; and, what is more important, Heracleean cheerfulness and courage. So it is that he brings air and cheer into the sick-room, and often enough, though not so often as he wishes, brings healing."

A DEFECTIVE RAILWAY MEDICAL SERVICE.—In sharp contrast with the admirable medical service provided by many of the great railway lines of the West and by some of those in the East is that of the Ontario and Western road, if we may judge by an article lately inserted in the *Advance*, a newspaper published in Middletown, N. Y. In fact, there seems to be no system at all worthy of the name. The company simply appoints medical men at various points, giving them no remuneration except free passage on its trains, but tacitly undertaking to collect their bills for them from its employees. The consequence is that proper men are disinclined to accept the appointments,

and, where there is no appointee, the medical practitioners of the locality are not eager to respond to calls from the employees. Of course, the brunt of the results of this lack of common fairness falls on the company's men, but the physicians suffer by their attempts to remedy it.—*N. Y. Med. Journal.*

A PHILADELPHIA ADVERTISEMENT.

JOHN BROADBRIM & SON,
Bakers and Confectioners,
Chestnut Street.

Only the finest Chrome Yellow used in our buns.

The Arsenic we put in our Pies is warranted free from the slightest adulteration.

Our Home-made Bread is carefully baked, and the strychnine which enters into its composition is of the best quality.

All of our Ice Cream is flavored with A 1 Croton Oil. *Give us a call.—Puck.*

"IT'S AN ILL WIND," ETC.—A man reading a newspaper in a car on the elevated road was observed to chuckle vociferously. Another man sitting alongside of him remarked: "You seem to be very much amused."

"You bet I am amused. I expect to rake in several thousand dollars."

"Rich relative dead and left you money?"

"Better than that. I have just read that the Board of Health is going to tear open the streets in my ward and lay new sewer pipes during this warm weather. That means typhoid fever, and I am an undertaker. I tell you, my dear sir, I don't know what we poor undertakers would do for a living if it wasn't for that Board of Health."—*Texas Siftings.*

MEDICAL NEWS.

THE AMERICAN GYNÆCOLOGICAL SOCIETY held its 12th Annual Meeting at the Hall of the Academy of Medicine, New York, September 13, 14 and 15, with the President, Dr. A. J. C. Skene, of Brooklyn, in the chair. Dr. Fordyce Barker delivered an address of welcome, and among the papers read were the following: "A Study of the Causes and Treatment of Uterine Displacement," by Dr. T. A. Emmet, New York; "Cystocele, Complicating Labor and Pregnancy," by Dr. S. C. Busey, Washington; "Are the Tubes and Ovaries to be Sacrificed in All Cases of Salpingitis," by Dr. W. M. Polk, New York; "Drainage After Laparotomy," by Dr. P. Mundé, New York; "The Therapeutic Value of Some Medicines in the Treatment of Hemorrhagic Conditions of the Uterus," by Dr. C. D. Palmer, Cincinnati;

"Alexander's Operation," by Dr. J. A. Doléris, Paris, France; The Treatment of the Pedicle in Supra-Vaginal Hysterectomy," by Dr. G. G. Bantock, London, England; "Acute Dilatation of the Stomach Following Laparotomy," by Dr. J. B. Hunter, New York; "The Intra-uterine Stem in the Treatment of Flexures," by Dr. A. R. Jackson, Chicago; "The Treatment of Uterine Fibroids by Electrolysis," by Dr. Apostoli, Paris, France; "The Operation for Ventral Hernia after Laparotomy," by Dr. J. R. Chadwick, Boston; "Battey's Operation—its matured results," by Dr. Robert Battey, Rome, Ga.; "The Infantile Uterus," by Dr. A. W. Johnstone, Danville, Ky.; "The Importance of Antiseptics in Private Obstetrical Practice," by Dr. Theophilus Parvin, Philadelphia; "Extra-Uterine Pregnancy, and Its Treatment by Electricity," by Dr. E. Van de Warker, Syracuse, N. Y.; "Vaginal Injections in Sims' Posture," by Dr. F. P. Foster, New York. An Address was also delivered by the President, Dr. Skene. The following officers were elected: President, Dr. Robert Battey, Rome, Ga.; Vice-Presidents, Drs. J. R. Chadwick, Boston, and A. R. Jackson, Chicago; Secretary, Dr. J. T. Johnson, Washington; Treasurer, Dr. M. D. Mann, Buffalo. The proposition to enter the American Congress of Physicians and Surgeons was not adopted.

During the meeting there were present a large number of distinguished foreigners who had been in attendance at the meeting of the International Medical Congress, in Washington. On the evening of September 13, Dr. P. F. Mundé, entertained these gentlemen, with a number of American guests, at a dinner at the Union League Club, and on the 15th the annual dinner of the Society was held at Delmonico's; while on the 14th Dr. Fordyce Baker gave a large reception at his house to the American Gynæcological Society, its distinguished foreign guests, the Obstetrical Society of New York, and the members of the Obstetric Section of the New York Academy of Medicine.

THE AMERICAN DERMATOLOGICAL ASSOCIATION held its 11th Annual Meeting in Baltimore on August 31, and September 1 and 2, with the President, Dr. H. G. Piffard, of New York, in the chair. The following officers were elected: President, Dr. I. E. Atkinson, of Baltimore; Vice-President, Dr. P. A. Morrow, of New York; Secretary and Treasurer, Dr. G. H. Tilden, of Boston. The report of the Committee on the Congress of American Physicians and Surgeons recommending union with this body, was adopted. Dr. I. E. Atkinson, of Baltimore, was appointed representative to the Executive Committee of the Congress, and Dr. C. H. Tilden, alternate.

THE ETHER ACCIDENT CASE IN PHILADELPHIA. In regard to the death of Dr. Agnew's patient under ether, mentioned in the last number of the JOURNAL, the *Philadelphia Medical Times* states that the coroner's physician, Dr. Formad, made an autopsy, and discovered evidences of long-standing inflammatory and degenerating disease in the brain and medulla oblongata. The lungs were not engorged, but

were collapsed. Death was probably due to the immediate shock of the operation or excessive apprehension; the lesions found were sufficient to cause death under any unusual excitement or emotion, but they did not correspond with the usual effects of ether when taken in a toxic dose.

DR. KWAI DING KWAI.—New Orleans, September 9.—At the meeting of the Board of Health last night the Secretary submitted the application of Kwai Ding Kwai, with a diploma from a Chinese medical college, duly authenticated by authority of the Chinese Minister at Washington, and by the Chinese Consul at New York, asking to be registered as a physician with the privilege to practice among his countrymen. Dr. Wilkinson, as a member of the committee on Registering Physicians, submitted that the Board had no power to restrict any physician in his practice. The applicant had a properly authenticated diploma, and he reported in favor of recording the same. President Holt held that if the board looked to the age of medical institutions, to China must be yielded the palm. By a unanimous vote the Chinese certificate was received and recorded.

A GOOD SIZED BILL.—It is said that Dr. Charles E. Simmons, who is at present one of the Commissioners of Charities and Correction of this city, has presented a bill of \$143,000 to the trustees of the estate of the late Samuel J. Tilden, for services rendered during the life of the deceased.

NEW YORK POLYCLINIC.—The sixth annual session of this popular school opened on September 19. Last year there were 301 in the class, which is certainly an unusually large number of practitioners to be engaged in courses of study in one institution, and shows the high esteem in which the Polyclinic is held. The two large lecture-rooms referred to some time since have been added to the college building, and a laboratory for the study of bacteriology has been thoroughly equipped.

A REMARKABLE CASE OF EXTRA-UTERINE PREGNANCY.—Dr. W. H. Fales reports in the *Boston Medical and Surgical Journal* a case of extra-uterine pregnancy in which the fœtus became changed to a lithopœdion and was retained for thirty years

NEW YORK CITY BOARD OF HEALTH.—The Board of Health recently appointed Drs. E. G. Janeway, A. Jacobi, C. R. Agnew, Stephen Smith, D. W. Stimson, G. F. Shrady, and J. D. O'Dwyer consulting physicians and surgeons to the Willard Parker and other hospitals of the department. Drs. T. M. Prudden, and H. M. Biggs were appointed pathologists to the department.

THE PHILADELPHIA MEDICAL TIMES.—Drs. Frank Woodbury and Wm. F. Waugh have purchased the *Times* from the J. B. Lippincott Company, who have hitherto owned it, and Dr. Waugh is to be associated with Dr. Woodbury in its editorial management.

M. PASTEUR.—The Emperor of Austria has conferred upon M. Pasteur the decoration of the Order of the Iron Crown, with the title of Baron.

DR. MORELL MACKENZIE.—The Queen has conferred the order of Knighthood upon Dr. Morell Mackenzie in recognition of his services to the Crown Prince of Germany.

NEW ORLEANS QUARANTINE.—A leading secretary of a leading State Board of Health made the statement on yesterday that "the system of quarantine adopted by Dr. Joseph Hoit, of New Orleans, is the best in the world." This is a strong expression, but one now indorsed by the leading live sanitarians throughout the country. The effectiveness of Dr. Hoit's methods have been well demonstrated by the fact that for three consecutive years yellow fever has knocked at the door of that city and failed to gain admittance.—*Medical Register*.

DR. WM. C. WILE has retired from his positions as editor of the *Medical Register* and lecturer on electro-therapeutics and nervous diseases in the Medico-Chirurgical College of Philadelphia, and taken up his residence in Danbury, Ct.

THE COLLEGE OF PHYSICIANS AND SURGEONS.—The superb new buildings of the College of Physicians and Surgeons of this city were inaugurated September 29, with an historical sketch of the school by J. C. Dalton, M.D., President, and an inaugural address, with presentation of portrait busts, by W. H. Draper, M.D., Trustee.

AMERICAN PEDIATRIC ASSOCIATION.—At the close of the session of the Section of Diseases of Children of the International Medical Congress, the initiatory steps were taken to form an American Pediatric Association, with Dr. J. Lewis Smith, of New York, and Dr. W. D. Booker, of Baltimore, Md., Provisional President and Secretary.

MEDICAL EXAMINING BOARD OF VIRGINIA.—The Medical Examining Board of Virginia will convene in the Senate Chamber, at Richmond, on Monday, October 17th, next ensuing, at 8 P. M. Applicants for permit to obtain license to "*Practice Medicine and Surgery in Virginia*," will please present themselves promptly at 8 A. M. on Tuesday, October 18th. A full attendance of the members of the Board is earnestly desired for the purpose of transacting business of importance.

By order of

H. GREY LATHAM, M.D., Presd't Med. Ex. Board.

HUGH T. NELSON, M.D., Sect. and Treas. Med. Ex. Board.

THE MEDICAL SOCIETY OF VIRGINIA will hold its eighteenth annual session in the hall of the House of Delegates, Capitol building, Richmond Va., beginning at 8 P. M., Tuesday, October 18, 1887, and will continue certainly through Friday night's session, October 21st.

A number of distinguished visitors will be present and add to the interest and benefit of the session by papers, discourses, and probably clinics. The President, Dr. Bedford Brown, of Alexandria, Va., writes very encouragingly as to the great success of the meeting, and if but one-half of the interest which members have expressed to the secretary be manifested, this eighteenth session will be *the* great session in the history of the society.—*Virginia Medical Monthly*.

INOCULATION AGAINST YELLOW FEVER.—In the paper of Dr. Freire, of Rio de Janeiro, read before the International Medical Congress, he gives the results of his inoculations as follows: Vaccinations practiced in 1886, 3,473; vaccinated who have died, 7; vaccinations practiced in 1885, 3,051; vaccinated who have died, 1; total vaccinated, 6,524; total deaths, 8; death-rate, 0.1 per 100. Mortality among the not vaccinated (official report) for 1885 and 1886, 1,667, many deaths being attributed to other diseases, malarial, etc. Most of the persons who were vaccinated were of the lower classes, living in bad sanitary conditions, and all were liable to contract the disease, being either foreigners or not acclimated. The statistics show the absolute innocuousness of inoculation even in young children, and that the highest number of vaccinations took place among those who, from their age, were most supposed to contract the disease.

THE AMERICAN ACADEMY OF MEDICINE, Dr. L. P. Bush, of Wilmington, Del., President, held its annual meeting at Columbian College, Washington, on Saturday, September 3. The annual banquet was given in the evening at the Arlington Hotel.

MORTALITY IN THE STATE OF NEW YORK.—According to the State Board of Health's *Monthly Bulletin* for July, the whole number of deaths reported during the month was 11,463, being the largest ever recorded in that publication for any one month. In each thousand deaths there were 320 from diarrhœal diseases, 8.88 from typhoid fever, and 32.68 from diphtheria.

THE CLIMATOLOGIST.—Dr. George H. Rohé, of Baltimore, has assumed the editorship of a quarterly journal, *The Climatologist*, devoted to the scientific and practical consideration of questions in the domain of medical and sanitary climatology, including Climato-therapy, Medical Geography, Epidemiology, Preventive Medicine, and the investigation of the merits of Mineral Springs and Health Resorts. Many of the most eminent climatologists, sanitarians, and practitioners have consented to act as collaborators on the new journal.

Each number will contain forty-eight quarto pages of reading matter, the subscription price will be fifty cents per year, and the place of publication, S. E. Cor. Baltimore and South Sts., Baltimore, Md.

SCARLET FEVER IN LONDON.—For some time past scarlet fever has been growing more and more prevalent in London, and on September 27 no less than 1,600 cases were reported in the hospitals.

CHOLERA IN THE PORT OF NEW YORK.—On the 23rd of September the Steamship *Alesia* arrived at quarantine from Naples with eight cases of cholera on board. Eight additional cases had died during the voyage. The cholera patients were taken to Swinburne Island, where two of them subsequently died; while the remainder of the passengers were removed to Hoffman Island, where two or three new cases were developed among them.

THE CHOLERA IN ITALY.—Rome, September 25.—The cholera returns for the past 24 hours are: Messina, 118 new cases and 49 deaths; Catania, 6 new cases and no deaths; Palermo, 3 new cases and 3 deaths.

ASSOCIATION OF AMERICAN MEDICAL EDITORS.—A handsome dinner was given by this body on the evening of September 5, in honor of the distinguished medical editors from abroad who were in attendance at the International Congress in Washington. Dr. W. C. Wile acted as toast-master.

DEATH OF DR. W. C. WILLIAMS.—Dr. W. C. Williams, one of the founders of the St. Charles Medical Society, and an old practitioner of O'Fallon, St. Charles County, died at his home a few days ago. The St. Charles Medical Society met at Wenzville, on Saturday, August 20, and passed a series of resolutions in the highest degree complimentary to the deceased. In the death of Dr. Williams the St. Charles Society has most truly, as stated in these resolutions, lost a most enthusiastic worker, a cultured gentleman and a warm and generous friend, whose wise counsel and broad experience the Society will certainly miss.—*St. Louis Med. and Surg. Journal.*



EDITORIALS.

THE INTERNATIONAL MEDICAL CONGRESS.—The great Congress is over, and in all essential particulars it has been a pronounced success.

In most years the heat during the first week in September would have interfered very seriously with the work and enjoyment of such a gathering in Washington, but the time selected was a positive necessity, and it was a most happy circumstance that the weather proved remarkably cool and delightful for that season; so that the many attractions of the beautiful capital city could be appreciated by all.

So far as numbers are concerned the attendance was the largest ever known at an International Medical Congress, except that in London, where no less than 1,145 resident physicians were registered. It is true that the number of foreign delegates was not as great as had been hoped; but among these were many men of the highest eminence, and the value and interest of the proceedings were greatly enhanced by their contributions. As was to have been anticipated, the

visitors from Great Britain far outnumbered those of any other nationality. The address of the President of the Congress and the addresses delivered at the general sessions were all of the highest order of merit and eminently worthy of the reputations of their distinguished authors. It is somewhat difficult to judge as yet of the character of the work done in the different sections; but while some fell short of others in the quality of the papers and discussions, their proceedings were in the main full of interest and characterized by a scientific excellence worthy of the occasion. The number of contributions by eminent foreign authorities was especially marked in the Sections of Obstetrics and Gynæcology, and many of these were of permanent value. In the Section of Public and International Hygiene the paper by the illustrious Dr. Freire, of Brazil, naturally attracted much attention, and it is gratifying to know that the subject of inoculation against yellow fever received the favorable consideration of the Section and the Congress at large. In the Section of Diseases of Children there was a very full and admirable discussion of the subject of intubation of the larynx, and while there was not perhaps very much that was new to American readers in it, it will no doubt have the effect of bringing the matter more prominently before the attention of the profession in Europe than has hitherto been done. In the paper read by Dr. Waxham, of Chicago, who has performed intubation more often than any one else, it was stated that within the last two years the procedure has been resorted to in a thousand cases, with the result of saving two hundred and seventy lives from certain death.

All the arrangements for the meeting of the Congress and the various sections were very satisfactory, and reflect the highest credit upon the Secretary-General, Dr. Hamilton, and the Chairmen of the Executive Committee and the Committee of Arrangements, to all of whom an immense debt of gratitude is due for their self-sacrificing and efficient performance of the arduous task devolving upon them. While the social features of the gathering had some drawbacks, owing to the unwarranted interference and rudeness of outsiders, there was much in the festivities to afford the greatest pleasure to the participants, and there can be little doubt that all who attended the Congress, whether Americans or foreigners, will long retain the most delightful recollections of their visit to Washington.

DIPHtheria FROM ANIMALS.—The recent investigations in England in regard to scarlet fever and its possible derivation from cows and other animals have attracted attention to diphtheria in the same connection. The inquiry made by Dr. George Turner, whose report to the Local Government Board of London has recently been published, has not enabled him to demonstrate conclusively the transmission of diphtheria from the lower animals to man, but it has yielded some very interesting circumstantial evidence. Five years ago there was brought to him a pigeon which was supposed to have died of strangles. But dissection revealed in its trachea a well marked and

consistent membrane "just as one may see it in the body of a child who has died of croup." Other pigeons inoculated with this membrane had the same disease. The first cases in an epidemic of diphtheria at Braughing, in 1883, were connected with a farm on which the fowls were dying of a disease like this from which the pigeons suffered, and diphtheria on other neighboring farms was preceded by a similar affection among the fowls. Three years later, in several epidemics of diphtheria—at Farnham, at Aldershot, at Long Eaton, and at Tongham—it was learned that the chickens, turkeys, and pheasants were suffering from a disease apparently identical with that which was killing human beings. At Tongham a man bought from an infected farm a chicken which had this disease. He took it home and diphtheria broke out in his house shortly afterward. This was the first case in the village where the man lived. "I have also seen," says Dr. Turner, "chickens and pigeons which had been inoculated with diphtheritic membrane from a child's throat attacked by a disease which in all respects resembled what I regard as natural fowl diphtheria."

Immediately after the diphtheria epidemic at Braughing he observed that the swine and horses there suffered from sore throat sickness. That was in 1883, when he did not suppose that such diseases were communicated to man from animals. But in 1886, while investigating an epidemic of diphtheria at Brent Pelham, he learned that in the cottage where the first cases occurred a kitten had previously suffered from a throat disease and had died of it. Several cats in the same place were found to have suffered in the same way. Two had died in a village shop, and its proprietor afterward had diphtheria. Similar disease was noticed among the cats at Aldershot and several other places during the prevalence of diphtheria. At Petersfield it was clearly shown, however, that the cats had not communicated the disease to children, but had been infected by them. At Blackwater, in Surrey, a case was reported in which children were attacked by diphtheria after their cat had been ill. In 1885 Dr. Renshaw succeeded in inoculating cats with diphtheria from the human subject. Dr. Turner is of the opinion that horses are attacked by diphtheria. At Moulton the first case of the disease at a farmhouse occurred shortly after a horse on the farm had died of a disease said to have been strangles. The second was that of a man working on the farm as horsekeeper. In a neighboring village a man who had recently recovered from diphtheria was temporarily employed to groom a mare, and in a few days the animal was affected with strangles. Several similar cases are noted. Diphtheria occurred in a shepherd's family shortly after a throat disease had prevailed among the sheep. An epidemic of diphtheria at Portsmouth was preceded by a great mortality among the lambs in the surrounding country. In the Australian bush diphtheria sometimes appears under conditions which apparently preclude infection by human beings or by prevailing winds. Dr. Turner thinks that possibly original cases may be found there among animals.

On the whole, the evidence that he has collected seems to indicate that diphtheria may be communicated from man to animals and from animals to man.

PRELIMINARY QUALIFICATIONS FOR THE STUDY OF MEDICINE.
—That there is still room for the improvement in the way of guarding the entrance to the medical profession in some parts at least of this great and glorious country is strikingly shown by the results of his investigations regarding the preliminary education required by the colleges of candidates for admission which Dr. F. H. Gerrish, of the Maine State Board of Health, reported at the recent meeting of the American Academy of Medicine at Washington. Dr. Gerrish conducted his inquiry through the medium of an eight-year-old girl, whose handwriting, though fair for a child of her age, gave ample evidence of the immaturity of the writer. This girl made written application for admission to various medical colleges, of course under an assumed name, and in each application she confessed her absolute ignorance of natural philosophy or some other study, proficiency in which is regarded as necessary to qualify a person for the study of medicine, and the answers to these applications form the basis of Dr. Gerrish's report.

About one-half the answers received by the child, and by her turned over to the doctor, informed her that she could not enter the course prescribed until she was able to pass the preliminary examination, including the studies in which she had confessed her ignorance. They all advised the applicant not to begin the study of medicine until the proper foundation for it had been laid. The other half, however, evinced a willingness to take the fee of the applicant, and promised to make a doctor of her in spite of her confessed inability to pass the examination prescribed in their prospectuses as necessary to gain admission to their halls. One college wrote encouragingly: "Our examination is not difficult; no one has yet failed to pass." Another kindly wrote: "Natural philosophy is not required, except as a suggestion in the line of a liberal education." A third, bent on quieting all anxiety on the part of the applicant, wrote: "The preliminary examinations are not difficult, and no deserving applicant is rejected on account of not being able to pass them. Call and see me when you are in the city, and I will fix it so you can enter."

That many incompetent physicians annually receive diplomas has long been known (though there is reason to believe that this number is steadily decreasing); but it has now for the first time, perhaps, been demonstrated in a public manner that persons are tempted by colleges to begin the study of medicine without having the requisite preparatory education.

In this connection it is gratifying to note as an encouraging sign of the times that the College of Physicians and Surgeons of this city announces that after the sessions of 1887-8 applicants for matriculation will be required to undergo examinations for admission, except in cases where the applicant is either not a candidate for a degree from

the college, or where he can produce a diploma from a recognized institution of learning or other certificate of proficiency in the preliminary studies required, or their equivalents. The examinations for admission are to be in writing and in the following subjects :

1. *English* : The writing of a composition in the form of a letter of not less than three hundred words, relating to some well-known recent event ; the subject to be announced at the time of the English examination.

2. *Latin* : At the option of the candidate, either—(a) The translation into English of a short passage of average difficulty from one of the first four books of Cæsar's " Commentaries on the Gallic War," and the answering of elementary questions relating to the grammar of the passage ; or (b) The translation of, and questions upon (as above), a short passage of average difficulty from the " Jugurtha " of Sallust ; or (c) Requirements as for (b), but the passage from the " Catilina " of Sallust.

3. *Arithmetic* : Prime and composite numbers ; factors, divisors, and multiples ; proportion ; decimals, including percentage, simple and compound interest, and discount, but not the technical parts of commercial arithmetic ; compound numbers and the metric system—the necessary tables and data being given on the papers.

4. *Algebra* : Definitions and notation ; entire quantities ; fractions ; simple equations ; as treated in the first two sections of Robinson's " New Elementary Algebra," or its equivalent.

5. *Plane Geometry* : Book I. of Wentworth's " Elements of Geometry," or its equivalent.

THE ABUSES ON WARD'S ISLAND.—The Committee on the Insane of the State Board of Charities, in the early part of July, made a thorough investigation of the City Insane Asylum on Ward's Island, and the report of this investigation, founded upon an immense mass of testimony, which has now been made public, reveals the existence of many abuses in the institution, among the chief of which are the overcrowding and improper feeding of the inmates and the insufficient number and unworthy character of the attendants. No reflection, however, is made upon the efficiency of the medical officers in charge, who have apparently done the best they could under the circumstances. Among the immediate measures recommended by the committee for provisional relief are the following :

1. The erection and fitting up of suitable buildings on the farm belonging to the city at Central Islip, Long Island ; these buildings to be on the cottage plan, none to exceed two stories in height, and all to be inexpensive and in accordance with principles illustrated by the Alt Sherbitz Asylum in Saxony.

2. The Board of Charities and Corrections, as soon as practicable, to provide adequate, healthy, and cheerful rooms for all the patients and attendants in the Ward's Island Asylum ; to provide food of greater variety and nutritious qualities ; to institute schools for the patients and training schools for the attendants ; to give increased

facilities for healthful and productive labor of the patients on the farm and otherwise; to secure a better classification of patients in the wards; to do all in their power to elevate the office, character and service of the attendants, by reducing their hours of duty, by increasing their means of rest and proper recreation, and so soon as improved accommodations and conditions will create the supply, to increase the number of attendants on acute, violent and filthy wards, and to substitute worthy and competent men in the places of the present large numbers of degraded and demoralized incumbents.

3. As soon as the new conditions and environments hoped for make it possible, a provision for the treatment of the acute insane, separate from the care of the chronic insane, under the advice of the General Superintendent of both city asylums, and of the State Commissioners in Lunacy.

In order to make the reforms permanent the committee recommends that either the management of the insane should be given to a Board of Trustees appointed by the Mayor, or, preferably, to that of a single Commissioner; in which case four single-handed departments would be constituted to have charge respectively of, 1, the insane asylums; 2, the institutions for children; 3, the hospitals and the almshouse; and 4, the workhouse, city prisons and penitentiary. On the omission of the city and county to provide such permanent as well as provisional relief, the committee recommend, finally, that the State shall intervene and assume the care of the city insane.

ANTIPYRINE AND ANTIFEBRINE AS ANALGESICS.—The hypodermic injection of antipyrine as a substitute for morphia, as practiced by Germain Sée, should certainly be given a fair and extended trial; but, judging from a very limited experience with its use in this connection, it would seem that the distinguished French professor is somewhat too sanguine in his expectation that the new remedy is likely to supersede morphia for subcutaneous injections in painful affections. There is no reason, however, why evidence on this subject should not be rapidly accumulated, and the profession will await with interest further reports in regard to it. In a recent lecture Dujardin-Beaumez has highly lauded antifebrine also as an analgesic, though he does not, apparently, employ it hypodermically.

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No matter how brief an article may be, so long as it is practical it is of interest to all physicians.

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GAILLARD'S MEDICAL JOURNAL.

VOL. XLV.

NEW YORK, NOVEMBER, 1887.

No. 5.

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ORIGINAL ARTICLES.

ARTICLE I.

ON THE USE OF VERATRUM VIRIDE IN KINGS COUNTY, NEW YORK; WITH ESPECIAL REFERENCE TO ITS CONTROL OF PUERPERAL CONVULSIONS. By J. D. RUSHMORE, M.D., Brooklyn, N. Y.

Read before the Kings County Medical Association, June 7, 1887.
Both the favorable and the unfavorable estimates put upon verat-

rum viride are fairly shown by the following extracts from Fordyce Barker on "The Puerperal Diseases" and from "The National Dispensatory." Barker says: "we have, however, two agents in our materia medica which act specifically as vascular sedatives. These are aconite and veratrum viride. Simply as a vascular sedative, I greatly prefer the veratrum viride, and I think this is the fact with all who have any considerable experience in the use of both, but I must tell you that this class probably constitute but a small minority in the profession. I meet with many who have a great fear of the veratrum viride, because it sometimes produces the appearance of dangerous collapse. But this is a very temporary condition, which, so far as I have heard, has never terminated disastrously. The appearance of one who has taken too much veratrum viride is almost precisely like that produced by tobacco in those unaccustomed to its use; I have often seen this, but now, when I do, it causes no alarm, as I am sure that the effects will soon pass off. There is no objection to assisting reaction in such cases, by carbonate of ammonia or small quantities of some alcoholic stimulant. In a small percentage of cases it is quite liable to cause nausea, but this is readily counteracted by giving it in combination with the tincture of ginger. As to its positive effects, I will say that you can, by it, absolutely and certainly control the frequency of the pulse of inflammation and irritation. Stillé says in "The National Dispensatory" in speaking of the medicinal uses of veratrum viride "the greater number of reports which have been published concerning the medicinal uses of green veratrum are, unfortunately, not only deficient in the details on which a judgment could securely rest, but exhibit great ignorance of the natural history of disease, and of the relations of medicines to its cure. The only conclusions to be drawn from a critical study of the mass of conflicting evidence respecting its use in the diseases referred to ("sthenic and asthenic diseases, inflammation and fevers") is that the patients would have been better off not only without its use, but also without that of the medicines associated with it. Green veratrum reduces the patient to a state of such wretchedness that he is unable to take food, or to digest it if he ate it, or even to find energy enough to cling to that last refuge of sufferers—hope.

In regard to the danger incident to the administration of veratrum viride it may be stated that Stillé, in his "Therapeutics and Materia Medica," reports one death of a child eighteen months old, suffering from catarrh, after taking a single dose of thirty-five drops of the tincture, and another case when death took place after sixteen drops

of Norwood's tincture in three-hour intervals in a patient "suffering from hepatic distress accompanied by occasional vomiting of bilious matter."

The following cases of poisoning by *veratrum viride*, with two deaths, are reported in this connection from records in the Surgeon General's office at Washington.

Female with bronchitis, general condition good, took undiluted, on empty stomach, Norwood's tinct. *veratrum viride*. Severe characteristic poison symptom developed in twenty minutes. Nausea, but no vomiting. Free emesis by mustard. Dorsal-decubitus. Brandy, friction, gr. 1-4 morph. sulph. Slight improvement in pulse, but patient suddenly exclaimed "I cannot breathe," and died. R. W. Walmsley in *N. O. Med. and Surg. Journal*, 1884-5.

H. C.— took a drachm (probably). Speechless and powerless for several hours. No treatment mentioned. Recovery. J. B. Buckingham.—*Amer. Journ. of Med. Sciences*. October, 1865.

Lawyer took same dose as above. In half hour speechless; incessant vomiting and retching. Pulse hardly perceptible at wrist. Administered tinct. *opii*, vomiting ceased, pulse increased, and recovery prompt. J. B. Buckingham. *Ibid*.

Negro girl, aet. 16, took Norwood's tinct. One hour after, nausea; no vomiting, pulse 40, very feeble. Emetic acted. Mustard externally, whiskey internally. No benefit. Pulse down to 30. Electricity employed with some immediate effect on pulse, but could not withdraw electricity until end of four hours.—E. Mason. *Trans. Med. Assn. Alabama*, 1877.

Male, aet. 30, took several doses (quantity not given) between 3 and 10 P. M. At 11.30 free emesis. Pulse about imperceptible—16 per minute; 1-2 gr. sulph. morph.; whiskey with gr. x. quin.; sulph. by rectum. Rapid recovery.—J. S. Bailey. *N.O. Med. and Surg. Journal*. 1877.

In cases of R. M. Kirk, one fatal in *Med. and Surg. Reg., Philadelphia*, 1879, and one case reported by L. N. Hornitz, in *Phila. Med. Journal*, 1883-4, are noted in above list of poison cases; but the details could not be found in the library of Academy of Medicine of New York, by Dr. J. K. Culkin, House Surgeon of the Brooklyn Eye and Ear Hospital, who kindly furnished for my use the above report of cases of poisoning by *veratrum viride*.

In order to learn to what extent *veratrum viride* was used by the profession of Brooklyn, personal inquiry at several of the old and large drug stores furnished such answers to the question How much do

you dispense of veratrum viride?" the reply was, "Seldom." "Very little." "So seldom that I cannot remember the last time," etc.

The following cases of puerperal eclampsia, treated by veratrum viride, followed by a brief statement in regard to its use in general diseases, is submitted for your consideration and discussion. These cases, both puerperal and others, are taken from about 140 replies to the 636 circulars that were sent to the regular physicians in the country:

Dr. W. G. Russell—two cases; both post partum; recovery; drug-administered hypodermically, in from five to fifteen minims every fifteen or twenty minutes; pulse-beats diminished, and convulsions controlled; no measures necessary to control nausea.

Dr. W. F. Swalm—one case died; primipara; seventh month of pregnancy, lower limbs and hands very œdematous; two convulsions before, and twelve or fifteen after delivery; drachm doses hourly for three hours by the mouth; pulse reduced in frequency; convulsions continued; stomach unable to retain anything after third dose; no measures used to prevent nausea or vomiting.

Dr. T. M. Loyd—one case; ante partum; one dose of ten or twelve minims Squibb's fluid extract hypodermically; reduced pulse to the forties in half an hour; chloroform used until delivered; two severe convulsions with tendency to return each time; chloroform was withdrawn when veratrum was administered.

Dr. G. W. Cushing—two cases; post partum; one recovery, one death; dose five to thirty drops; fluid extract (Squibb's), from fifteen minutes' to four-hour intervals by mouth and hypodermically; pulse promptly reduced and convulsions relieved; nothing necessary to relieve nausea; has seen no serious symptoms result from its use; it is quickly eliminated.

Dr. H. Enton—two cases; both ante partum; recovery in each; dose twenty, fifteen, and ten minims every fifteen minutes to two hours, by mouth, rectum, or hypodermically; pulse became soft and slow; convulsions less frequent and severe; patients vomited to some extent; one primipara, one multipara; urine loaded with albumen in each.

Dr. W. H. Randolph—one ante partum case; recovery; remedy given hypodermically; pulse below fifty; convulsions ceased; no treatment necessary for nausea.

Dr. J. E. Schroeder—two ante partum; both recovered; dose fifteen, ten, and fifteen minims tincture half-hourly by mouth; pulse de-

creased ; convulsions at wider intervals ; no measures necessary to relieve nausea ; chloroform used in one case, chloral and potassium bromide in the other. Delivery in an hour after last dose of veratrum, and convulsions ceased.

Dr. J. J. Terhune—four cases ; two ante partum, two post partum ; three recoveries ; one death ; twenty to forty minim doses every twenty minutes and upward—hypodermically ; tincture always reduced pulse, and no convulsions occurred ; pulse is below 90 ; no anti-emetics.

Dr. J. Corbin—one ante partum, one post partum ; each recovered ; five to ten minims fluid extract every half to one hour hypodermically ; pulse reduced and convulsions stopped ; no anti-emetics.

Dr. J. Fred Moore—one ante partum case ; recovery ; forty drops by the mouth every half hour until vomiting ; pulse not recorded ; subsiding of convulsions ; no anti-emetic used ; other agents had been employed before using veratrum ; would use it again in inception of trouble to relieve cerebral engorgement.

Dr. Benj. Edson—two ante partum cases ; one recovered ; five minim doses by mouth ; pulse lowered and convulsions ceased ; one case died ; fifteen minims hypodermically ; little effect on pulse or convulsions ; chloroform also used in this case ; intervals of administration irregular in each case.

Dr. Geo. A. Ostrander—one ante partum case ; died ; drug given frequently by the mouth ; pulse slowed ; convulsions continued ; no vomiting ; case seen many years ago ; has always been afraid of veratrum veride ; prefers to use other remedies.

Dr. E. A. Lewis—two post partum cases ; both recovered ; dose twenty to thirty minims fluid extract hypodermically at irregular intervals ; pulse came down ; convulsions ceased ; no anti-emetics ; one case apparently beyond hope but recovered.

Dr. Wm. Browning—one ante partum case ; seen with another physician ; drug used a day or two after phlebotomy ; recovery.

Dr. J. E. Richardson—four cases ; three ante partum, one post partum ; one post partum, two ante partum cases recovered ; other died ; dose four or five minims of tincture every two or three hours ; in two cases hypodermically, in two by mouth and rectum ; pulse reduced in force and frequency, and convulsions less severe and frequent ; chloroform used ; no trouble from nausea.

Dr. C. Fulda—two post partum cases; both died; one to three drops of Norwood's tincture every half hour by mouth; pulse lowered; convulsions continued; no anti-emetics.

Dr. Henry N. Read—one ante partum case; death; five minims (U. S. P.) half-hourly by mouth; pulse lowered slightly; no effect on convulsions; no anti-emetics necessary; case fatal twenty hours after attack began; chloroform, morphia, bleeding had no effect.

Dr. T. P. Corbally—two ante partum cases; one recovery, one death; dose ten minims, five minims, after ten hours hypodermically; case of recovery albumen coma; case of death had extensive pulmonary œdema, and probably cerebral effusion.

Dr. H. E. Durner—one post partum case; death; drug given by mouth; diminished rapidity of pulse, and convulsions slight; no anti-emetics.

Dr. Wm. Madden—two cases; one ante partum, one post partum; former recovered, latter died; dose five minims Norwood's tincture every fifteen minutes hypodermically; in ante partum case pulse fell to forty; convulsions ceased after eighty minims had been used; no anti-emetics; the post partum case complicated with epilepsy; chloroform used in each case.

Dr. J. D. Sullivan—two ante partum cases; one recovery, one death; drug given hypodermically in five to ten minim doses, p. r. m., in half to two-hour intervals; pulse was reduced in frequency, and controlled convulsions for a time; suspension of drug relieved nausea. In first case, after doing well for ten days, convulsions recurred, and death took place in a few hours. In second case pulse fell to sixty, and induced vomiting and copious perspiration.

Dr. Geo. R. Westbrook—two cases; one ante partum, one post partum; the former recovered, the latter died; dose ten minims tincture hourly hypodermically; pulse reduced to sixty in case that died; convulsions not controlled. In second case pulse sixty-four; convulsions ceased after second dose; no vomiting in either case. In the case that recovered only two ounces of urine were excreted in twelve hours; about sixty per cent. albumen, which disappeared after five days; loss of vision for ten days; death by asphyxia in a convulsion in post partum case.

Dr. Geo. H. Parshall—two ante partum cases; both recovered from convulsions but died later; the first of pleurisy, after two weeks;

the second pulmonary congestion, after three days; dose twenty to thirty drops Norwood's tincture; half-hour intervals by mouth; pulse reduced; convulsions ceased; no anti-emetics. In second case two doses given; pulse fell from 140 to 72; free perspiration; pulmonary œdema relieved; consciousness restored; weakness developed; pulse grew rapid; respiration rapid; lungs congested; death.

Dr. John H. Trent—two cases; post partum; recovery; half tea-spoonful of Squibb's fluid extract every two hours until relieved, given by mouth; convulsions soon ceased; pulse not noted; no anti-emetics.

Dr. E. W. Owen—several cases; recovery; dose two to four drops every hour or two by mouth; pulse slowed and temperature reduced; combined with aromatic spirits of ammonia to prevent nausea.

Dr. John Van Ness—during thirty-five years probably fifty cases; eight to ten per cent. of recoveries; dose two to four drops by mouth, often enough to keep pulse down to sixty; pulse and convulsions very satisfactorily effected; champagne and kumiss to relieve nausea.

Dr. F. W. Rockwell—has used it (*veratrum viride*) in a few cases, in the form of tincture and as recommended by Dr. Fearn, with excellent results; should use it again freely if other cases presented.

Dr. A. A. Shepherd—used it in half-drachm doses by mouth, or drachm doses by rectum until convulsions ceased; experience so satisfactory that he was almost lead to look upon *veratrum viride* as a sure antidote to the uræmic poison inducing puerperal convulsions; never felt that the tonic effect of the drug ever increased tendency to death.

Dr. Frank Baldwin—saw it used in post partum case (case of Dr. Corbin) with excellent results.

Dr. Benjamin Ayres—has not used it, venesection seldom disappointing him in suitable case.

Dr. J. F. Golding prefers to use chloral hydrate in puerperal eclampsia.

Dr. J. H. Barber—in post partum case; recovery; ʒss . dose by mouth every hour until half an ounce had been taken; convulsions ceased; pulse reduced; no anti-emetics.

Dr. Charles Jewett—twenty cases; sixteen ante partum; two post partum; one ante partum and post partum; one not noted. Three

deaths ; in ante partum cases ; in convulsive stage the other deaths were due in post partum cases to pulmonary œdema ; one case ; several days after last convulsions ceased ; none died of eclampsia in whom veratrum was used early (before eight or ten convulsions). Dose, ten to twenty minims, p. r. m. to hold pulse below sixty, given hypodermically ; prompt reduction of pulse nearly to or below sixty ; no convulsions while pulse was below sixty ; no attempt to prevent or arrest nausea or vomiting. In one or two cases in which twenty or thirty convulsions had occurred and the patient was moribund, veratrum failed to control the pulse.

Dr. W. H. Thayer—one ante partum case ; recovery ; dose nearly one drachm ; after a convulsion twenty-five drops of Squibb's fluid extract, which was almost immediately vomited ; given by mouth ; pulse reduced from 120 to sixty in two and a half hours, and rose to eighty-four in four hours ; convulsions at intervals of half an hour or more for five hours ; two within an hour after administration of drug ; none after that.

Dr. H. C. Rogers—three ante partum cases ; recovery in each ; dose eight to ten minims, hypodermically, from one-half to ten hours ; pulse reduced in strength and frequency ; convulsions arrested ; calomel in small doses to relieve nausea.

Dr. F. W. Wunderlich—one post partum case ; death ; dose six drops every two hours until three doses were given ; then the medicine, when intermitted ; feeble and irregular pulse necessitated the discontinuance ; convulsions not affected.

Dr. George H. Kuhn—five ante partum cases ; three recoveries ; two deaths ; in three, convulsions were arrested ; dose first every fifteen minutes, then thirty minims, hypodermically ; in all cases pulse reduced ; in fatal case chloroform was also given.

Dr. J. D. Rushmore—two post partum cases ; recovery in each. First case had only two convulsions following the eating of four boiled eggs. Pulse reduced to thirty-six by single dose (quantity not known) of Squibb's fluid extract, hypodermically ; distressing retching relieved by brandy ; kidneys not affected ; probably any other emetic would have given relief with less discomfort. Second case, primipara ; severe headache few hours after delivery, followed by four or five severe convulsions and total loss of sight for twelve hours ; some œdema of limbs and albuminuria ; fluid extract v.v. given by mouth at first, and afterwards hypodermically ; kept pulse between fifty-five

and sixty-five; no convulsions afterwards. Pulse sixty twelve hours after discontinuance of drug; nausea not excessive.

Dr. J. Watt—six cases; two ante partum; all recovered; dose ten to thirty grains, hypodermically and by mouth. When given hypodermically, only one convulsion followed; pulse kept below fifty-five; no anti-emetics.

Dr. J. C. Hutchison—verbal communication; one case apparently hopeless; fluid extract given; patient recovered.

Dr. S. Sherwall—verbal communication; one case; ante partum case; recovery; six minims, hypodermically; one dose; recovery; blood letting also employed.

The above forty-one reports furnish eighty-five cases of puerperal eclampsia that can be tabulated. Seven of these reports are general and cannot therefore be given in detail. Of the above cases fifty-six were ante partum and twenty post partum. Of the whole number of cases sixty-five recovered and twenty died, a mortality of not quite thirty-one per cent. Of the ante partum cases forty-three recovered and thirteen died, a mortality of thirty and one-quarter. Of the post partum cases twenty-two recovered and seven died, a mortality of a little less than thirty-two per cent. An examination of the reports of fatal cases shows that in one case epilepsy was present; in another there was extensive pulmonary œdema and probable cerebral effusion; in another death took place in spite of use of venesection, chloroform, morphia and veratrum. In still another case pulse and convulsions were not affected by the drug, and chloroform was also employed. In one case the pulse was reduced to sixty, but the convulsion continued. The remaining cases where death took place seem to have been ordinary cases of puerperal eclampsia.

In the cases of recovery and death as well, the drug seems to have been given, with one or two exceptions, in moderate rather than heroic doses—five to twenty or thirty minims of tincture or Norwood's tincture or fluid extract, preferably, hypodermically or by the mouth, in intervals varying from twenty minutes to several hours. The testimony, with few exceptions, shows that the remedy will reduce the pulse in frequency and sometimes in force, and the effect can be maintained by careful administration of the drug. It is also a notable fact that the nausea and vomiting were not sufficiently urgent to require relief, although the medicine was given in moderately large doses, both by mouth and hypodermically. The fatal results could never be attrib-

uted to the remedy. The results of eclampsia have, until recent years, shown a mortality of about one death to three or four cases. In 1855 Barker found the mortality to be thirty-two per cent. in cases occurring before and during labor, and twenty-two per cent. in those after labor. While since that date the mortality has fallen to fourteen per cent. Dr. Phillip Grey (Hospital Report, 1870) reaches the same conclusion, and shows that the substitution of chloroform for indiscriminate bleeding is to be credited with the diminished mortality. In view of these facts not much can be claimed for veratrum viride as regards final results in cases reported in this paper.

Further and much more extended experience is needed before a reliable and discriminating judgment can be found in regard to the efficacy of veratrum viride in the treatment of puerperal eclampsia.

To Dr. Herbert Fearn, of Brooklyn, belongs the credit of having first introduced to the profession the use of veratrum viride in large doses in the treatment of puerperal eclampsia. This experience was reported to the Kings County Medical Society in 1869, and his paper on the subject was subsequently published in the *American Journal of Obstetrics*, etc., for May, 1871.

Veratrum viride seems to have been used by the physicians in Kings County, to some extent, in acute inflammatory and febrile affections, when the heart was sound; in early stage of disease, such as pneumonia, pleurisy, peritonitis, bronchitis, acute catarrh, orchitis, rheumatism, malarial fevers, also in aneurism, uræmic convulsions of Bright's disease, both acute and chronic, cardiac disease when the heart was not weak, ephemeral fever with high temperature, and in other conditions as an antipyretic; in neuralgia, puerperal mania, epilepsy, compression of brain, etc. In these cases the doses given is almost always a small or medium one, varying from one-fourth to three drops (minims sometimes specified) of fluid extract, or two, six or eight drops of tincture (Norwood's sometimes specified) generally given by the mouth; and no nausea or vomiting, with two or three exceptions, is mentioned as having occurred in any cases reported. In general diseases, when convulsive action is manifested, the preference is given for method suitable in puerperal convulsive cases—five to fifteen or twenty minims of fluid extract or tincture, hypodermically. A few reporters have had unsatisfactory experience in failing to get desired effect, or in over action, sometimes of an alarming character, and given up the use of the drug and employ aconite in its place, or have used aconite from the beginning, and are disposed to stick to the use of a drug with which they are familiar from experience.

The following conclusions seem to be fairly deducible from the foregoing somewhat limited experience ; that *veratrum viride* is employed by the profession in Kings County to a very limited extent ; that, except in the treatment of puerperal convulsions, it is used in the method commonly recommended by the text books ; that, in the management of puerperal eclampsia, it has been administered in large and sometimes heroic doses with no poisonous effects in most cases ; and, where alarming symptoms have developed after its use, they have easily been relieved by usual remedies ; that in health a large dose may produce both very alarming symptoms and death ; that a tolerance of the drug is produced by vascular tension, common to many diseases ; that it is a safe, certain and manageable vascular sedative ; that, in order to control the convulsions of the puerperal state, it must be given in doses sufficiently large to bring and keep the pulse down to about sixty beats per minute, and that thus far it has given a mortality of thirty-one per cent.

DISCUSSION.

Dr. Jewett:—Mr. President, I am indebted to the Association for the honor and privilege of being present at this meeting. I am especially interested in the paper of the evening, as I have made considerable use of *veratrum viride* in the treatment of eclampsia. I have not had time to put my experience in writing, but I have tabulated my cases and will present briefly a statement of the results which are practically embodied in the paper.

The number of cases which I have treated by this means is twenty-one. I have used this measure in nearly every case that I have seen for the last few years, particularly for the purpose of demonstrating the value of this drug, and for this reason I have more confidence in this than in any other measure that I know of for this purpose. Most of these cases were cases which I have seen with other physicians, and many of them are doubtless included in the summary contained in the paper already presented. Of these twenty-one cases, six, I believe, died. That would make a mortality about as reported—about twenty-five per cent. to thirty per cent. There were only three cases which died directly or indirectly from the effects of the eclamptic attacks, and the three out of the eighteen would make a mortality of about sixteen per cent., which is a lesser mortality than the average obtained by ordinary estimates. However, statistics are unsatisfactory, and especially so in these cases, for the reason that other treatment has been used in nearly every case. For example, chloroform, which

is a very valuable agent, was used in almost all these cases, and is undoubtedly entitled to a considerable degree of credit; but it cannot be used for any continued length of time, as it would be liable to lead to injurious effects. Other treatment has also been used in these cases, and it would therefore be hard to say how large a measure of credit belongs to the veratrum.

But there are only two things in regard to veratrum viride I would like to state. In my experience in every case, with a single exception, the use of that drug has reduced the pulse promptly to about 60; it has been possible by the proper use of the drug in every case but one to bring the pulse below 60. That case was one in which the pulse could not be reduced below 100, and the eclamptic attacks could not be controlled. I have therefore come to regard this drug as a sheet anchor, for the reason that I can rely on it implicitly in any ordinary case to bring the pulse below 60.

The preparation which I have used has been, with two or three exceptions, Norwood's Extract. In regard to the dose: my experience leads me to think that the best method of administering the drug is in a fairly large dose at the start, in order to bring the patient promptly under its influence, and I have therefore given from 10 to 20 minims of the fluid extract as a beginning dose. The full effect of this dose will usually be developed within about thirty minutes, and then it may be repeated as may be required.

Another point in its administration which I think is equally important, is the necessity of giving it by the hypodermic method; it is ordinarily unreliable when given by the stomach, but you are quite certain, by the hypodermic method, of getting the full effect.

While, therefore, I hold in regard to the use of veratrum viride in eclampsia, that as it has been used with other agents, my experience is not conclusive as to the value of the drug altogether, I think it is conclusive enough as to the certainty with which we can control the patient's pulse.

In regard to the use of the drug in other cases, I have used it in a few cases of uræmia and with extremely satisfactory results. In those cases, however, the drug is used in a much smaller dose. In one of those cases there was a profound collapse; such that the by-standers supposed that the child was dying.

Dr. J. Watts.—Dr. Rushmore, in his first paper referring to veratrum, speaks of its being introduced in 1869 at a meeting of the Kings County Medical Society—at that meeting I was present. Two years

passed before I had occasion to use the *veratrum viride* in cases of puerperal convulsions. That case happened in the family, the wife of a prominent minister of this city, and I was very anxious about her. I gave her first five-drop doses, although Dr. Fearn had said teaspoonful doses. I found she had two or three convulsions before I came back again. I have ordered her five-drop doses every three hours. When I came back again I ordered 30 drops, and I found the pulse, in about two hours afterwards, came down to 60. I then gave her ten-drop doses, following that every two hours, and found the pulse came down to about 40. I became very much frightened and sent for Dr. Skene. In the meantime the family had become alarmed about her condition and sent for Dr. Gregory, who lived somewhere in New York, about Ninetieth Street, but who has since died. We met there, and her pulse at that time was 45. We talked the matter over carefully, and they said to me, "Doctor, give her 5 drops more." And I assure you, I breathed freer than before. In other cases I have been called in consultation and advised the gentlemen to give 15 drops hypodermically, and that has been refused in one or two cases for fear it would cause death, but I said I would assume the responsibility, and in any case I have given it I have not known it to fail. I have always used Norwood's tincture, I do not know why, but I have not had confidence in the other tinctures. I can tell Norwood's tincture when I see it, and I know whether I get it or not; but I have had no experience with the fluid extract.

One point in the matter is that when the patient's pulse reaches 60 or 65, he is sure to go into convulsions; there is no possibility of a doubt about it. His pulse must be kept below 55, or else you will have no good effect from the *veratrum viride*. I repeat that the pulse must be kept below 55 to get the effect. If it goes above 60 or 65, the convulsion is sure to occur.

I have so far been unable to ascertain, and I do not know at the present time what peculiar effect the *veratrum viride* has, and I ask if anyone here can tell me exactly. What is its peculiar effect upon the system, excepting that he says it controls the spasm?

But one thing I want to impress upon the gentlemen: that you must get the pulse below 55; but, while you are doing that, you must do something else; you must get the kidneys to working; you must not forget your potash and your hot water applications to the back to get the kidneys into condition; and then, as soon as the albumen disappears, then discontinue your *veratrum viride*.

Dr. W. H. Williams.—Mr. President: I have not had a case of

eclampsia since the veratrum viride has come into use. For many years I was accustomed, when I had cases of that kind, to treat them as I was taught in our student days—by bleeding, antimony, etc.; and for some fifteen years I think I did not see a single fatal case; but at a later period I did. I began to have doubts about the propriety of bleeding, and saw one case where I was sure that I did my patient harm by letting too much blood. The case did not terminate fatally, however. I am sure, if I should have a case now, I would try veratrum viride and would use it hypodermically; for, as you have stated, the stomach may be in such condition that it will not absorb the drug, which would thus be prevented from producing its proper effects. In one instance I gave to a man, some fifty or sixty years of age, the fluid extract of veratrum viride, five drops, which produced alarming prostration—no fatal or serious effect—but he was much alarmed and felt exceedingly bad at the time. It soon passed off, however.

Dr. W. H. Thayer.—Mr. President: In the paper read by Dr. Squibb, Dr. Stillé was quoted as expressing the opinion that veratrum viride was too dangerous to use, and yet, I am sure that Dr. Stillé in another place states that the veratrum is not a dangerous drug, could not kill, and that physicians need not be alarmed about it at all; that it passes off under the use of stimulants within an hour or half an hour, and, unless a large dose has been taken, the time alone, without any stimulant, will repair the damage. And in the "United States Dispensatory" I think Dr. Wood quotes the case of a physician who took by mistake an ounce of the tincture of veratrum viride and survived. Of course he used prompt measures to get rid of it; but he was relieved, and the depressing effects did not last for a very long time.

I have nothing to add to the paper in relation to the use of veratrum viride in puerperal cases, in the use of which I thoroughly believe, but I wish to say that I have been in the habit of using it, since it has been introduced for the treatment of such cases, with decidedly good effects, and it never produced any bad symptoms or any serious depression, and was followed very rarely with vomiting. I have relied upon it so much, for many years. I have almost always carried a little vial of it in my pocket, and in cases of children from three to five years old, with convulsions, I have sometimes left the medicine at the house with directions as to giving it. I have used three drops of the tincture of veratrum viride, and followed it with two drops every hour until the child was entirely relieved. Then, in cases where we had a right to expect convulsions, from the general history of the child, they have

been prevented, or, if they have occurred, they have been promptly relieved. I am sure, from the experience I have had in these cases, as in the cases of puerperal convulsions, I cannot regard it as a dangerous remedy to use.

Dr. J. H. Trent.—I would like to ask if there have been any statement of slough resulting from hypodermic injections of *veratrum viride*?

Dr. Rushmore.—When it was first used the question came up as to its being somewhat irritating. It was stated then to be irritating, but the testimony then was that it was not so, that no slough had occurred, that it was a perfectly safe and pleasant fluid to inject.

Dr. Jewett.—I have not seen a case of slough produced by the use of a hypodermic injection of *veratrum viride*, and I should be rather inclined to attribute such an appearance to the use of an unclean needle rather than to any fault of the drug. I have always put my needle into a gas flame before and after using.

Dr. J. B. Sullivan.—There is one effect of the drug which I have not heard mentioned here to-night, viz.: that it produces the most copious perspiration a few minutes after being administered. I think it also produces a saliva from the mouth. In the conversations I have had with other gentlemen who had used it their experience was the same, that it was very powerful.

In the two cases in which I have used it it acted very well. In the first case the convulsions were controlled until after the child was delivered, and the patient lived for three days; then the convulsions came on suddenly, and before the physician could reach her she was dead. The second case it was at the suggestion of Dr. Jewett, and in that case it controlled the convulsions, after the child was delivered, and the patient finally recovered. I do not think in either of those cases the pulse was brought down under 60. I have not used it much, because I was afraid to bring the pulse below that.

Dr. Williams.—About eight, ten, or twelve years ago I saw in one of the journals a caution in regard to the use of *veratrum viride* in connection with large doses of aconite; I would like to inquire whether any gentlemen has seen such an effect?

Dr. Sherwell.—There was a series of papers which extended over some years, which probably the old members of the Kings County Society will remember; and in one of those cases Dr. Bunker gave a record of a case of epilepsy in which there were ounces of *veratrum*

viride used hypodermically, and continued for a long time. I think Dr. Rushmore would remember that case. It was stated that there was used something like six drachms a day, hypodermically, continuously for days and even for a week or more.

Dr. P. J. Pendergast.—I would like to ask the gentlemen who have had experience with veratrum viride as to treatment. I have not used it in cases of convulsions. I have always combined whiskey with it as suggested, and I found that in those cases where I gave whiskey with it that I had very little nausea, even with considerable doses. Sometimes I found vomiting and nausea and discontinued it and gave the whiskey alone for a day or two with the desired effect, and then resumed the veratrum without any nausea.

Dr. McCollum.—Mr. President: It seems to me more than thirty years ago, when I commenced the practice of medicine, bleeding had not gone out of fashion, but it was growing into disfavor, and about that time arterial sedatives were studied with a great deal of interest, because we had to have something to take the place of the lancet, and veratrum viride was used to a considerable extent; used more, perhaps, than any other arterial sedative. I have used it for many years and find it an anti-febrile of great power, controlling the heart's action promptly and holding control over the circulation better than any other remedy that I have ever used.

I am sure I have cut short many an acute inflammatory attack by the prompt use of veratrum viride, but I finally abandoned its use largely for aconite.

Though aconite has not the power of the veratrum, in controlling the circulation, it is more manageable. I have seen veratrum produce very unpleasant collapse, marked prostration, nausea, and vomiting, and I found that the aconite was a much more comfortable remedy to use; that it did not require that intelligent and careful watching that the veratrum requires. So, as I said before, I finally abandoned the use of veratrum. But I can now recollect cases where I believe that the veratrum served me better than any other remedy I could have used. I still remember a case thirty years ago of a child ten years old that was in the second or third day of an attack of pneumonia, with the pulse 50 a minute; respiration 60 per minute, with a high temperature and almost livid look of the face. I put it on the veratrum viride, and the next morning, twenty-four hours later, feeling anxious about the child, I asked my partner, who was an older man in the profession, to visit the case with me. When we entered the room the child's face looked

pallid. I felt alarmed at once, and, as I went to the bedside, the respirations were very slow; the pulse beat only 50 per minute; and my partner remarked to me, "Your patient is in collapse, and will live only a little while." I said to him, "I am not sure of that, doctor. I am inclined to think it is the medicine." The mother, hearing this remark, did not compliment me very highly, but came at me quite furiously, and accused me of killing the child; but the child was convalescent from that day, and made rapid recovery. I have had no experience with this remedy in puerperal cases.

Chair.—One case is reported, I remember, of the accidental taking of a fluid ounce of tincture *veratrum viride*, and the reasons stated why it did not produce death was that the alcohol counteracted the *veratrum*. Is there any person present who knows of a case where it has been used with *aconite*, or used in a parallel way to *aconite*, so that it could be compared with *aconite*?

Dr. Watts.—Before answering that question, in relation to the ounce of *veratrum* having been taken by mistake, the reason given was that the alcohol was an antidote to the poison?

Chair.—Yes, sir.

Dr. Watts.—I can hardly believe that such could be the effect; because I cannot believe that an ounce of *veratrum* could be absorbed into the system, and that alcohol could not act as an antidote for the *veratrum viride*.

Dr. Lloyd.—Explained the symptoms in a case recently treated by him.

Dr. Segur.—I suppose the hour is past; but the interest I feel in the subject makes me bold to ask a moment's time. It seems to me that if you are going to have an experience in the coming year, or any time hereafter, more favorable for *veratrum* than it has been in the past, since it has been used in Brooklyn, what we want to be sure of is a method. It seems to me that it would be well for this meeting to formulate a method for the use of *veratrum*, so that we could use it uniformly. It has been noticed in the paper that Dr. Rushmore read that the mortality has been more than thirty per cent. in post-partem and ante-partem cases; that is to say, that the mortality experience of Brooklyn, in the use of *veratrum* has not been much different from the experience of various other methods of treatment, and the casual impression would be that there was nothing particular in it; but it is also to be noticed that it has been given in an extraordinary variety

of ways; from doses of one to two drachms or minims of various preparations, up to half a teaspoonful or a teaspoonful, and it has also been given by the stomach and hypodermically, and it was stated here to-night, by good observers, that it is unreliable by the stomach. The method, then, by which the agent has been used in times past, may have contributed to the uncertain showing of the statistics. It is further to be noticed that in the practice of Dr. Jewett, where we may suppose something like a more uniform method has been followed, the method of one observer that more favorable statistics have been secured, something like sixteen or eighteen per cent. being the mortality. That would seem to indicate that veratrum used methodically is much more valuable than the statistics of the general use of it in Brooklyn would indicate. If I understood Dr. Jewett—I was not quite clear—this method is to commence with from 10 to 20 minims of the fluid extract hypodermically. I would like to know what induces him to use ten, or induces him to use twenty. I would like to know why he limits it in that way.

Dr. Jewett.—In regard to the reasons for that dose, I could not say anything specifically and definitely, except that I make up my judgment from the general estimate of the character of the case, depending upon the rapidity of the pulse, and the degree of arterial tension of the patient. And yet I do not think there would be any danger, so far as my observation goes, in starting out with twenty-minim doses. A ten-minim dose, however, will in most cases bring the pulse close to sixty. As to the repetition of the dose, if the pulse doesn't go below sixty, as Dr. Watts has told us it should, the drug must be repeated in such doses as may be necessary to keep the pulse below sixty.

Dr. Segur.—How long does it take for the first dose to produce the effect?

Dr. Jewett.—The notes which I have preserved of the experience I have had in the use of veratrum, go to show that the pulse falls almost to the minimum in the course of thirty minutes. In some cases I have met, the pulse fell later to a lower point. Still, thirty minutes would be about the time necessary to develop whether a subsequent dose would be required. In regard to the certainty of this method of treatment, I will repeat one statement which I have made before in connection with this discussion in Kings County, and that is this: that in every case in which I have used the veratrum before the eighth or tenth convulsion, the patient recovered. Of course, that is a little unfair for the veratrum, however, as the chance to get well under, any

kind of treatment before the eighth convulsion would be better than later on.

Dr. Rushmore.—One point I wish to make, is in regard to the production of emesis. That is the only exception I take to the experience detailed here to-night. It does not seem to me that the production of emesis is the point to be obtained, but the reduction of the pulse. I think the relief of the tension of the pulse is the practical point.

Another point mentioned in the paper is that there is tolerance of the drug established by the disease, which is one of the safeguards against its poisonous effects. There is nothing peculiar in that. There is a tolerance of all sorts of drugs produced by diseases; and just as in other cases, there is a tolerance established for medicine, so there is a tolerance for this drug, established by the disease which it is intended to treat.

No further discussion took place on the subject of the evening, the time allotted to the same having expired by limitation.

ARTICLE II.

ANTISEPTIC TREATMENT OF INTESTINAL DISORDERS AT THE NEW YORK HOSPITAL. Compiled by WALTER VOUGHT, M.D.,
House Physician.

The following cases are presented as the results of the antiseptic treatment of intestinal disorders, where these disorders seemed to be due to germ action. They are not selected cases, but the whole number in which this line of treatment has been followed out during the last eighteen months.

Case I.—Edward S—, aged 52, United States, single, and machinist by occupation, was admitted on February 15, 1886, to service of Dr. Peabody. He has a slight beer habit. Denies nephritic symptoms, acknowledges syphilis. He has had a chronic diarrhœa for the last four years. About four months ago he began to have attacks of heart burn, waterbrash, and vomiting. He has had as many as four of these in a week. Soon after their commencement he began to get a little yellow, and this yellowness still persists. He had piles twenty years ago. On admission temperature, respiration, and pulse were normal. Examination showed no hepatic dullness, lung and abdominal resonance meet. Splenic area is enlarged. There is slight abdominal tympanites. Examination of urine showed it to be normal. He was ordered naphthaline gr. v., every three hours. Milk diet. The night of entrance

given castor oil \bar{z} ss. His movements were diarrhœal and small in amount. On February 17 he had two normal movements; on the 18th, none; on 19th, one. On this day he was allowed to sit up in blankets and given a small piece of meat, but he also obtained some oysters with vinegar. This was followed by one diarrhœal movement, when he was again kept in bed and on milk diet. On February 20 two normal movements. February 24, movements still being normal, was given meat. To the 27th his movements continued normal, when at his own request he was discharged, and further trace of him was lost.

Case II.—John T——, aged 50, United States, married, and carpenter by occupation, admitted May 29, 1886, to service of Dr. Peabody. He states that since he left the army, in 1865, he has had a chronic diarrhœa, which has continued to the present time, with occasional slight periods of improvement; but he says that he has never had less than seven movements per day. They are mostly composed of mucus and very small in amount. They have never contained blood. His health is good with this exception. On admission temperature, respiration, and pulse were normal. Examination shows arteries rigid and tortuous, hepatic area slightly diminished, splenic is undetermined. The cardiac sounds at the base are increased in intensity, urine is normal. Ordered naphthaline gr. v. every three hours. Diet—milk, meat and crackers. His movements are diarrhœal, but contain no mucus. On May 30 four diarrhœal movements; May 31, two diarrhœal movements; June 3—had two movements, the only ones since last note, both well formed and natural color. On June 4 he was allowed to dress and remain out of bed. On June 6 no movement. To-day he was given, through carelessness of the nurse, castor oil \bar{z} i, the result of which was seven diarrhœal movements. Treatment was continued, and on June 11 the movements were normal, and on this day he was given the ordinary diet of the hospital. On the 18th medication was discontinued, and June 29 he was discharged, his bowels being regular in every respect.

Case III. Margaret O'B——, admitted December 1, 1886, to service of Dr. Draper. Patient has always been a bright, healthy child until five weeks ago, when she developed a cough; with this she had frequent passages from bowels, accompanied by pain. The movements were small and composed of mucus with a little blood. These symptoms continued up to seven days ago, when the frequent passages stopped. Last night they commenced again; up to the present time, 2.30 P. M., she has had ten movements. Examination shows patient poorly nourished. There are a few bronchial rales, splenic area apparently enlarged,

tongue moist and coated. Movements are diarrhœal, greenish, and foul-smelling; contain some mucus. The day of admission patient had twelve movements. From December 1 to December 8 she had from nine to seventeen movements a day. Opium, chalk mixture, bismuth, and peptonized milk were all tried with no success. Her temperature varied irregularly between 99° and 103° F. On December 11 naphthaline gr. ij every three hours was ordered. December 18.—Since last note movements have been from five to nine daily. On this day the naphthaline was discontinued, and large enemata of cold water after the movements were ordered, with a very slight improvement, to January 1, 1887, when the enemata were discontinued and naphthaline gr. ij every 3 hours again ordered. To January 10 there was a slight improvement; on the 11th medication was increased to gr. v.; on the 13th to gr. vi. every three hours, and this was continued until January 15, when movements were normal, and one a day. On the 16th the mother smuggled in some fruit, which caused a relapse. This, however, yielded to similar treatment, and the child steadily improved until February 2, when the mother again caused a relapse, which yielded in three days, but the naphthaline had to be increased to gr. viii every three hours. On the 10th medication reduced to three times a day, and her diet was added to. Her diet since December 10 had been scraped beef and skimmed milk every two hours during the day, and every four hours at night. She left the hospital March 6—the picture of health.

Case IV.—John F. D—, 28, United States, single, and nurse by occupation. Entered on second day of typhoid fever. On the fifth day of his disease he was ordered naphthaline gr. v. every three hours; he has had no diarrhœa. On the eighth day the eruption appeared. On the fourteenth day his temperature was normal, and medication was reduced to three times a day, and on the eighteenth day discontinued. His temperature but once went to 104° and averaged to the eighth day 101.4 and then commenced to decline. He had no diarrhœa at any time, tongue moist throughout, and he presented no nervous symptoms and required no stimulants.

Case V.—William D—, 32, Ireland, married, and a laborer, was admitted to service of Dr. Peabody on the eleventh day of a typhoid fever. He has had some diarrhœa; eruption is present. Ordered naphthaline gr. v. every three hours on the fourteenth day of his disease, he having had from four to seven diarrhœal movements every day since entrance. His diarrhœa continued about the same for three days, when it commenced to disappear, and in two days, i. e., five days after commence-

ment of the naphthaline, had disappeared. His temperature at no time was over 103.4, and to the twenty-first day averaged 102. From the twenty-first to the thirtieth day it averaged 101, and then commenced to decline, reaching normal on the thirty-fifth day. Medication was reduced to three times a day on the thirty-second day, and stopped on the thirty-sixth. His tongue was moist all through; there was, at one time, slight delirium at night; he required no stimulants at any time, and on his forty-seventh day he was discharged cured.

Case VI.—Italian, age 30, and a bartender, entered service of Dr. Peabody on the eighth day of typhoid fever. Well-marked eruption present; on the next day had five diarrhœal movements; on the next two days he had seven diarrhœal movements each day; he was then ordered naphthaline gr. ix. every three hours; three days after he had one movement; four days after four slightly formed movements; on the eighth day diarrhœa had stopped; ten days after his medication was discontinued, his temperature being normal. He convalesced nicely.

Case VII.—William K——, age 20, single, and a waiter by occupation, entered service of Dr. Peabody on the twelfth day of typhoid fever. On the twenty-first day temperature was normal; had had no diarrhœa; the temperature remained normal for five days, when he started in on a relapse, with marked diarrhœa; this was allowed to continue two days, when naphthaline gr. ix. every three hours was ordered. After four days of this treatment, with but very slight improvement, resorcin gr. iv. every three hours was substituted for naphthaline; and, two days after this was begun diarrhœa ceased, and he had no return of it. His relapse lasted sixteen days, when his temperature being normal, the resorcin was discontinued.

Case VIII.—Fred. B——, 22, German, and mechanic by occupation, admitted to service of Dr. Peabody on seventh day of typhoid fever. Has had no diarrhœa; on his ninth day eruption appeared, and he was ordered naphthaline gr. x. every three hours. On the twentieth day of his disease his temperature was normal, and medication was discontinued. He has had no diarrhœa, no delirium; tongue moist all through.

Case IX.—Gretchen K——, 23, German, single, servant, admitted to service of Dr. Peabody on eighth day of typhoid fever. Has had no diarrhœa; eruption is present; ordered naphthaline gr. v. every three hours. To the eleventh day temperature was from 102°.4 to 104°.6; from the eleventh to twentieth day, average 101°; from this time it steadily fell, and on the twenty-fifth day was normal all day. She had no diarrhœa, no delirium; tongue was moist all through. She was

given, in addition to above treatment, a small amount of whiskey for a few days.

Case X.—B. B——, age 65, Canada, entered service of Dr. Draper five days after the beginning of a dysentery contracted in Florida. Fairly nourished; temperature and respiration normal; pulse 112; examination shows dullness and resistance over colon; no hepatic or splenic change; arteries somewhat atheromatous. Urine, specific gravity .1020; contains a trace of albumen. He was given a large enema and castor oil, which brought away a very large amount of fecal matter. His movements contain mucus but no blood, and are small in amount. He was treated with quinine, opium, oleum gaultheria, bismuth, and Squibb's mixture in succession, for seven days, with no improvement. During this time his movements varied from ten to eighteen a day, small in amount and containing much mucus. He was then ordered naphthaline gr. viii. every three hours. On the next day this was increased to gr. ix. This treatment was continued for seventy-two hours with no improvement, and then stopped. He was then ordered warm rectal injections of solution acid boracic (saturated), ℥viiij each, after every movement. At this time his general condition was very poor, and there was extreme prostration. He commenced to improve from this time, slowly, but every day it could be seen the movements diminished in frequency, and the mucus disappeared entirely; and, after twelve days of this treatment, were slightly formed, and he commenced to convalesce; but, three days after its commencement he developed facial erysipelas, which was epidemic at the time in the hospital. He died of the erysipelas, and no autopsy was obtained.

Case II. had been from doctor to doctor without relief. He returned four weeks after his discharge, and stated that there had been no return.

Case III. was a most persistent case of inflammatory diarrhœa, which had resisted treatment of all kinds, and finally yielded to the naphthaline.

In Case X. naphthaline failed, but boracic acid succeeded.

TRANSLATIONS.

EFFECTS OF HOT WATER UPON THE UTERUS.

As a result of his experiments upon rabbits, M. Milne Murray has arrived at the following conclusions:

I. The non-gravid uterus of the rabbit is subject to rhythmical contractions—one contraction every two minutes.

2. The introduction of water at a temperature of 105-110° F. produces an immediate state of tetany of the uterus, lasting from five to thirty minutes.

3. The muscular contraction is accompanied by simultaneous contractions of the smaller vessels and the organ becomes exsanguine. The contraction of the vessels disappears gradually before the muscular spasm, and is not followed by dilatation.

4. Water at 32-42° F. produces after 30-50 seconds a less energetic spasm than water at 105-110° F.

5. When the vascular constriction is followed by dilatation, the organ assumes a scarlet hue.

6. The spasm of the uterus is easily reproduced at short intervals by stimulating the uterus with hot water. It is not reproduced at a long interval by hot water.

7. A faradic current of short interruptions acts in the same way as hot water and produces tetany.

These results serve to explain the employment of irrigation in the treatment of uterine affections.—*Revue Médicale*, June, 1887.

GILLET DE GRANDMONT: A CASE OF DIPHTHERIA TRANSMITTED FROM THE PHARYNX TO THE EYE, AND FROM THE EYE TO PHARYNX. (*Jour. de Méd. de Paris*, May 8, 1887.)

Whether diphtheria of the eye is the same as diphtheria of the throat is a question which has been much discussed, and not yet entirely settled. Two forms of conjunctivitis with the formation of false membrane are recognized. In the first the membrane is slightly resistant, easily detached from the underlying mucous membrane, and possibly separated from it by a thick layer of pus. In the second, the false membrane is closely connected with the conjunctiva, and cannot be removed without tearing the conjunctiva. In the first the mucous membrane bleeds at the slightest touch; in the second the conjunctiva has a lardaceous consistency, and loses its vascularity so that it does not bleed even when scarified. The first form is the croupous, which is frequently met with in children suffering from purulent ophthalmia, and is due to exudation of the fibrin out of the vessels; it occurs at the same time with diapedesis of the leucocytes. The second form is diphtheritic ophthalmia, which is apparently of the same nature and the same origin as diphtheria of the pharynx. It develops in the same conditions, causes the same necrosis, presents the same tenacity, and is likewise transmitted by contagion.

While croupous ophthalmia is benign, diphtheritic ophthalmia is

equally malignant. The two diseases should therefore be carefully differentiated.

The cases in question occurred in a family in which there were three children, one of whom, a boy five years of age, was suffering from croup with diphtheritic angina when seen by the author. Tracheotomy was performed, but the boy died two days later. The day after the boy was first seen his brother, fifteen months of age, was brought to the author's clinic, having suffered two days with diphtheritic ophthalmia. The lids were much swollen, their internal aspect was grey, infiltrated, very thick, and showed ecchymotic patches surrounded with a grayish exudate, which could not be removed with the forceps. Not a drop of blood could be drawn by scarification. The conjunctiva of the globe was also infiltrated, of a grayish color, streaked with small ecchymoses, but without any purulent secretion. The corneæ were infiltrated, and there was a prospect of a sphacelus which would result in perforation of the cornea, and destruction of the globe. The treatment consisted in carefully washing the eyes once in twenty-four hours, with equal parts of water and Van Swieten's solution, with instillations of the same into the eyes every two or three hours. After the eyes were washed they were anointed with a mixture of carbolic acid and vaseline, one to three hundred. Eight days after this affection of the eyes began, the child's mother, who was suckling him and also attending to his eyes, aside from the daily treatment at the clinic, was seized with diphtheritic angina, the membrane being successfully treated with caustics. These cases, in the author's opinion, furnished strong evidence of the identity of diphtheria of the eyes, and diphtheria of the respiratory passages.

CLINICAL RECORDS.

CASE OF SUPPURATIVE PYLEPHLEBITIS AND ULCER OF THE VERMIFORM APPENDIX. BY D. COLQUHOUN, M.D., M.R.C.P.,
London, Lecturer on the Practice of Medicine, Otago University,
New Zealand.

James D—, aged forty-eight years, was seen by me first on December 22, 1886, in consultation with Dr. A. J. Fergusson. He had then been ill for about seven days. He was a man of exceptionally good physique, had never had any serious illness, had suffered twice from attacks of ague in Canada twenty years before, but, except that he had a somewhat irritable digestive system, his health had always been very good. His habits were temperate and regular. On December 11th

he had dined more freely than usual, and had been exposed a good deal on a cold and wet day. On the 14th he felt a good deal of pain in the abdomen, and was slightly sick. The weather at this time was unusually cold, and he believed that he had taken a chill. On the 17th he began to have a series of shivering fits, "exactly like his ague attacks twenty years before," and recurring at regular intervals of about eleven hours. In about twenty-four or thirty-six hours jaundice set in. The bowels were freely opened, and the motions appeared at first normal in character.

When I saw the man on December 22d the jaundice was very deep. He was in a state of great mental and physical depression. Temperature 101.4° ; pulse 96, fairly regular. He had had one attack of epistaxis, and there was a slight expectoration of mucus tinged with blood, not unlike the rusty sputum of pneumonia. The heart sounds were normal, and the lungs seemed to be quite healthy. The abdomen was distended with flatulence; there was no pain complained of in any region, but deep pressure over the region of the gall-bladder seemed to give rise to some discomfort. Owing to the flatulent distension the liver dullness was less than normal. The bowels were rather constipated, and the stools seen at this date were apparently quite devoid of bile. The urine was deeply tinged with bile pigment. On the 24th he was much weaker; the temperature in the evening reached 104° and he had had several attacks of extreme prostration, especially occurring in the early morning. During these attacks the pulse became intermittent and feeble. On the 25th he was distinctly delirious. The weakness was increasing, but the pulse remained regular—96 to 100. The stools contained no bile, and the urine was very deeply colored with bile. On the 26th there was a very slight trace of bile in one stool. Jaundice continued intense. He was pretty constantly in a state of low muttering delirium, or sleeping uneasily by fits and starts. There was no vomiting. At 1.10 P.M. the pulse was 96; temperature 98.4° ; respiration 36. The meteorism was more marked than before. On the 27th there was some vomiting after taking extra nourishment which had not been ordered, but otherwise his condition was unaltered. The feebleness and delirium became more marked, and on the 28th he passed into a state of coma and died in the evening.

A post-mortem examination was made two days later. The body was well nourished. The abdomen was distended by gas in the intestines. The liver was normal as to size, but, on cutting into it, was found to be studded with small points of purulent deposit. The portal vein and its radicles were filled with greyish pus, the points above noted being the vessels seen in transverse sections. The gall-bladder was very nearly empty, and it and the gall-duct seemed normal. The intestines were congested in parts. In the stomach were a few small inflamed patches near the pyloric orifice, but, on tracing the intestine down to the cæcum, no ulceration could be found to account for the suppuration in the portal vein. Round the vermiform appendix,

however, a wormy mass could be felt, and on removing this with the cæcum and vermiform appendix, it was found to consist of apparently a mass of congested or strangulated tissue. On opening the cæcum, no ulcer could be seen there; but on laying open the vermiform appendix, it was found to be ulcerated for about an inch from the entrance to the cæcum; the ulcer became continuous with the outside congested mass, which was composed mainly of inflamed veins. The mesenteric veins were not noticeably enlarged. Only these parts of the body were examined.

Remarks.—The post-mortem examination cleared up what had been a very doubtful case during life. The sequence of events seemed then plain enough. Some foreign matter—not detected post-mortem—gave rise to an ulcer of the vermiform appendix; this was followed by a local phlebitis, and that again by a phlebitis of the portal vein by embolism. All the radicles of the portal vein were more or less involved, but circulation through it was free enough, as there was no ascites or other sign of impeded portal circulation. The jaundice may have arisen from retention of bile elements in the blood, or bile may have been secreted as usual by the liver cells and immediately reabsorbed. The gall-bladder was empty, and little or no bile had found its way for some time into the intestines. Very little notice seems to have been taken of this condition by British writers. It is not mentioned at all in most of the various English works on medicine. In Quain's Dictionary there is a brief notice of the disease, and a passing reference to it in the article on Jaundice. I have not been able to find any cases reported in *The Lancet* or the *British Medical Journal* of the last eight or nine years; and yet the condition cannot be very uncommon. There is an account of it in Frerichs' "Diseases of the Liver," derived from twenty-five reported cases. In Ziemssen there is a very large number of references given to cases of suppurative pylephlebitis, mostly from German sources, but partly also from English and French; and in Pepper's "Practical Medicine" the disease is spoken of as a common one. Concerning the diagnosis of the disease there seems to be a good deal of difference of opinion. Von Schueppel, writing in Ziemssen's Encyclopædia, says: "Some consider it a rare stroke of good fortune to recognize the disease; others maintain that nothing is simpler and easier than the diagnosis of suppurative pylephlebitis." Frerichs says that jaundice occurs in three-fourths of the cases of pylephlebitis. Dr. Bartholow, writing in Pepper's works, says that three-fourths of the cases are free from jaundice. The most important factors upon which the diagnosis should be based are stated by Von Schueppel to be the following, or some of them: 1. The presence of an affection which we know may act as a starting point of pylephlebitis. 2. Pain at the epigastrium or any situation in which the pylephlebitis may start. 3. Rigors at irregular intervals, with high temperature, and *during the intermissions* abnormally high temperature. 4. Recent painful enlargement of the liver. 5. Considerable

enlargement of the spleen. 6. Jaundice, with biliary diarrhœa. 7. Rapid emaciation and loss of power. 8. The occasional development of diffuse peritonitis and typhoid symptoms in the latter stages of the disease. Comparing these diagnostic factors with the history of the case reported above, hardly any of them could be said to be present. There were no antecedent or existing symptoms pointing to the presence of any exciting cause of pylephlebitis. There was some diffuse pain all over the abdomen early in the disease, and tenderness on pressure about the portal fissure, but no local pain was complained of. The rigors occurred pretty regularly at first, then were replaced apparently by attacks of collapse, and the temperature was not abnormal in the interval. The liver was neither enlarged nor painful, nor could the spleen be traced owing to the flatulent distension of the intestines. The jaundice was not accompanied with biliary diarrhœa, there was little or no emaciation, and there was no peritonitis. In this case the symptoms which seemed most characteristic were the quick interference with the functions of the liver, the jaundice, the biliary toxæmia, and the ague-like rigors, occurring in a previously strong and healthy man, not exposed to any malarious or other poisonous agencies.—*Lancet*.

A CASE OF FRACTURE OF SKULL; TREPHINING; RECOVERY. BY
A. J. POPERT, M.R.C.S.

On the afternoon of June 3d a young farm laborer, whilst "skylarking" with other lads in a stable, fell, and was kicked on the head by a horse and rendered unconscious. He was dragged out of the reach of the animal's hoofs, but remained insensible for about ten minutes, when he slowly regained consciousness, and was carried into the neighboring farmhouse. I saw him about two hours after the accident. His condition was then as follows: He was conscious, suffering apparently from shock; very pale; temperature 97.5° ; pulse 48; and he was bleeding from a ragged wound in the scalp about the region of the middle of the anterior border of the right parietal bone; there was no paralysis. An examination of the wound by the finger discovered a sharp edge of broken bone about half an inch long, with depression of neighboring bone. My brother, Mr. Alfred Popert, who saw the patient with me, and who all through the case rendered me much assistance, agreed that the trephine was indicated, not so much with a view of raising the depressed bone as to remove the loose fragments and splinters which the concentrated localized nature of the blow rendered probable, and accordingly the patient was anæsthetized, the scalp wound opened and the injured bone exposed. The depressed surface was less evident to the eye than to the finger, and, indeed, the whole extent of damaged external plate was comparatively trifling—a sixpenny piece would have covered it; but on raising the circular disc, loose fragments of the inner table were found in every direction round the wound. In all, twenty-three pieces were removed; some

with extreme difficulty, for more than one piece was found too large for extraction through the trephine-hole, and had to be cut with bone forceps; and several sharp spiculæ had penetrated the dura mater and were sticking firmly in it. The scalp was sutured and the wound lightly dressed with dry lint. The patient, who bore the operation and somewhat prolonged administration of chloroform extremely well, was then carried home (about two miles) on an improvised stretcher, and put to bed in a dark room. His progress to recovery was uninterrupted, the treatment being low diet and quietude. In eleven days the scalp wound had almost entirely healed, with scarcely a trace of suppuration, and in fourteen days from the receipt of the injury the patient was up and convalescent; since then he has been an intelligent member of an ambulance class I organized in his village. He wears a vulcanite plate as a protection over the scar; but the dense and strong cicatricial tissue which is rapidly forming will probably of itself soon afford all protection necessary for what the patient facetiously calls the "only soft spot in his head."

The interesting features in the case are (1) the very slight damage sustained by the external table of the skull when compared with the condition of the inner; the separated pieces of the latter weighed 130 gr., and covered a superficial area greater than that of a five-shilling piece; (2) the entire absence of symptoms of intra-cranial mischief, except the immediate insensibility due to concussion. The temperature never rose above 99°, though the dura mater was lacerated in several spots. The circumstances of the operation were somewhat unusual, the patient lying on a low and narrow settle fixed to the wall in a badly lighted farmhouse kitchen, and the only available nurse a gamekeeper. The case bears an interesting similarity in some particulars to the one that came under my observation when house-surgeon at our local infirmary, and which I reported in the *Lancet* at that time. In that case, which ended fatally, the blow was concentrated on one spot, having been administered by a lusty Irishwoman with the knobby end of a kitchen poker. There being no urgent brain symptoms, and not very distinct evidence of depression and comminution of bone, the expectant treatment was adopted, but the necropsy revealed abundant evidence of meningitis, cerebral abscess, and a depressed comminuted fracture with very sharp edges.—*Lancet*.

THE TREATMENT OF MASTITIS. By CHARLES J. WRIGHT, M.R.C.S., Surgeon to the Hospital for Women and Children at Leeds; Lecturer on Midwifery at the Yorkshire College.

My object is to direct attention to the beneficial effects of pressure in the treatment of milk-engorgement and ordinary inflammatory diseases of the breast. In cases of painful lactation and puerperal mastitis, where the breast is swollen and indurated—whether suppuration threaten or not—we have been accustomed to direct that the mammary gland should be raised and supported by a suspensory bandage

or handkerchief. Strapping with ordinary adhesive—or sometimes lead or belladonna—plaster, has been practiced both before and after supuration, to the great comfort of the patient; but I doubt whether we have hitherto realized the benefit derived from a firm and equable pressure by a carefully adjusted bandage placed over the opposite shoulder and round the chest, so as not only to support, but to uniformly compress, the mammary gland, or that we have sufficiently profited by the results of this practice systematically carried out. The comfort to the patient is immense; and, whether suppuration take place or not, the treatment may be continued up to the moment that the pus is evacuated, and from that time until the part is well. Dr. G. Ranney, of Michigan, U. S., in a paper read before the Section of Obstetric Medicine at the Brighton meeting of the British Medical Association, drew attention to the good results of the pressure treatment, and I bring it before this society, as the method I advocate does not receive much, if any, notice in the English or American text-books.

The following cases will illustrate the points to which I wish to direct attention :

Case I.—Mrs. —, aged 43, was delivered of her eighth child, after a natural labor, on October 3d. She made a good recovery, and I paid my last visit on October 18th. She had suckled all her children but two, one of which was still-born. With her fourth child the milk failed her; this time there was from the first a good supply. October 27th, the twenty-fourth day after delivery, I found the right breast hard, hot, and tender. A belladonna lotion was applied, the gland was slung up after being emptied with the breast-glass, and the child cut off from it, and allowed to take from the other just sufficient to prevent it getting too full. On October 31, finding it difficult to support the breast with comfort, I proceeded as follows: Having laid on a piece of lint moistened with belladonna lotion, and padded the breast with wadding, I took a calico roller, four inches wide and six yards long, and wrapped it firmly and evenly round the chest and over the opposite shoulder, alternately fixing the folds with safety pins as I proceeded, thus getting an uniform pressure over the whole of the affected mammary gland. The comfort was very marked and immediate, and it was no less interesting than remarkable to notice that deep finger pressure on any one spot gave acute pain, but immense relief was experienced on uniformly applying firm pressure with the bandage. The right arm was kept as much as possible in a sling, but not bandaged to the side. This process was repeated daily for the next five days, the nipple being drawn slightly by an exhausting glass on each occasion.

On the sixth day of the application, finding fluctuation, I made an opening near the areola, under the carbolic spray, and let out about one ounce of pus. A drainage-tube was inserted, covered by a dressing of warm, moistened, sublimated, wood-wool wadding, and a flannel bandage applied as before. This dressing was changed under spray on the second, fourth, seventh, and eleventh days after the opening

was made, the part each time being firmly bandaged. No more pus exuded, and on the fourth dressing the abscess was completely healed. A piece of Gamgee tissue, powdered with iodoform, was placed over the nipple, and the pressure treatment continued. As the other breast contained much milk, and the patient was anxious to nurse, the child was allowed to use it. This caused a little difficulty in applying the bandage, as it had to be fixed with safety pins, chiefly round one side, so as to avoid constricting the actively secreting gland. For two days I tried a broad elastic bandage, and, although it was a great comfort to the inflamed organ, it pressed too much on the active one, and had to be discontinued. As some thickening and hardness remained a month after the pus was evacuated, some firm strapping was applied in addition to the bandage. A continuation of this treatment cleared up the case. Some milk exuded from the nipple of the affected breast at each dressing, and it still (March 1887) oozes at intervals, but it has not been deemed safe to resume the nursing with it.

Case II.—An unmarried girl, aged 17, came to my out-patient room at the hospital on December 14. Six weeks previously she was struck by a friend in play with the back of the hand over the right breast, which on admission was large, hard, and tender, feeling boggy, as if about to suppurate, on the outer side and near the nipple. She was taken in and put to bed, and a long, soft double napkin bound round both breasts, and firmly fixed with safety-pins. Two days afterwards the broad flannel roller was applied, and changed every few days. The temperature, which was 102.6° F. upon admission, came down to normal on the third day of the treatment. At first I hoped that we should avoid suppuration; but the temperature again rose, and I had eventually to make an opening, nearly four weeks after admission, and evacuated a large quantity of pus. This case is now well, after somewhat prolonged drainage, combined with bandaging or strapping throughout. It was, however, worthy of note that in this case the pressure was such a comfort to the patient that it rather masked the condition when suppuration had actually taken place. It is, therefore, essential to be more especially on the watch for fluctuation where pain is practically in abeyance.

I have found this method of great use in other cases of painful breasts—1, in which a lady tried to nurse her child, but failed to have milk enough; 2, where milk was present in the breasts, but the mother was unwilling to persevere with lactation; 3, in a case of persistent mammary pain after abortion at two months; 4, in a patient who had reasons for not nursing a first child, though the milk was plentiful and the breasts very full and tender. In these cases the napkin fastened with pins was sufficient, and the tighter it was drawn the greater was the comfort to the patient. In the latter case, plasters also were used; but in future I shall endeavor to dispense with them in cases of simple suppression of lactation. It seems as if the pressure upon the acini and lactiferous ducts prevents, or at all events limits,

secretion and accumulation in the gland, and encourages the absorption of inflammatory products, limiting considerably the area of suppuration when this takes place, and favoring the healing process after evacuation. The relief experienced in all my cases was most marked.

I have also tried the pressure treatment in other painful conditions of the puerperium; for example, in a case of severe perimetritic pain occurring within a week of delivery, where there was undoubtedly some peritonitis, pressure carefully applied over a poultice with a pad of wadding over the most tender ovarian region gave decided relief. It is now, I hope, unnecessary to dwell upon the advantages of opening mammary abscess antiseptically, the great saving in time, trouble, suffering, and cleanliness to both patient and nurse admitting, I think, of no question; a small Siegle's steam-spray or a hand-spray is sufficient if the ordinary apparatus is not available; and Sir Joseph Lister has described a plan by which antiseptic precautions may be maintained without even using any spray. Further experience will define the cases to which the pressure treatment is inapplicable; but at least in the cases I have noted it is pleasant to contemplate the difference between pressure with comfort and Listerism, with rapid recovery, on the one hand, and the troublesome discomfort of slings and prolonged poulticing, with discharge for weeks or months, and the sinuses and re-formed abscesses healing with ugly scars, the result of the older treatment.—*British Med. Journal*.

DRESSING FOR THE CORD.

As soon as the child is born, I lay it between the woman's legs, as far away from her body as the cord will allow without stretching it. As soon as the pulsations in the cord cease, not sooner unless an unforeseen accident necessitates it, I tie the cord about two inches from the navel with coarse or heavy surgeon's silk, and again an inch further away. I then cut the cord with a scissors curved on the flat between the two ligatures, and hand the newborn infant to the nurse to be wrapped up in flannel. The nurse is now ordered to anoint the infant with lard, and then to wash it. By the time she gets through with this process I can safely leave the woman. I now wash off the navel end of the placental cord with equal parts of Listerine and glycerine, retie it within an inch of the navel with a ligature of No. 13 iron-dyed surgeon's silk, and cut off the superfluous part of the cord containing the first ligature. Then I wrap the cord in borated absorbent cotton and apply the bellyband in the usual way. The band must be reapplied occasionally, but the cord is not touched again until the sixth or seventh day, when if it does not come off easily, it is snipped off by the scissors. If this article will induce the reader to try this method in one case, he will not go back to burnt muslin, linen with a hole in it, etc.—*Dr. E. J. Kemp in the New England Med. Monthly*.

SELECTIONS.

GLEDITSCHINE (STENOCARPINE), THE NEW LOCAL ANÆSTHETIC.

By J. Herbert Claiborne, Jr., M.D., Instructor in Ophthalmology in the New York Polyclinic; Clinical Assistant in the Vanderbilt Clinic, etc.

The *Gleditschia triacanthos*, or thorny locust, is the tree from which the new local anæsthetic, discovered by Mr. Goodman, is obtained.

This conclusion has been reached in the following wise:

Soon after making the experiments recorded in my first article on this subject in *The Medical Record*, I searched all the literature afforded by the Astor Library relative to the American flora.

The description of the tree given by Mr. Goodman exactly corresponded to that of the *Gleditschia triacanthos* as found in the authorities mentioned. Just at this time a letter was received from Dr. W. P. Copeland, of Eufaula, Ala.; therein it was stated that in his opinion the tree could be none other than the honey-locust. At my request Mr. Goodman sent home for some of the leaves. After some delay leaves were forwarded, which were not recognized as those from which the anæsthetizing principle was extracted. Another order, more explicit, was given. In the meantime a communication, addressed to Prof. F. W. Snow, of the University of Kansas, relative to the tree, elicited a very courteous reply.

Professor Snow recognized in the description given by Mr. Goodman the *Gleditschia triacanthos*, or honey-locust.

The second batch of leaves from Louisiana having been received, specimens of the leaflets were forwarded to Mr. Sereno Watson, of the Harvard University. He stated that from the scanty specimens sent, he could conclude only in favor of the *Gleditschia triacanthos*.

Dr. L. P. Walker, of this city, said that he recognized in the description the thorny locust of his native State, Alabama, and that the tree could be found in great abundance in Central Park. Under his direction I found several clumps of the tree there.

Unsatisfied, I requested Messrs. Goodman and Seward to accompany me to the Park. A clump of trees was recognized by them as being identical with the one from which they had obtained their leaves, save that the trees in the Park did not possess any pods, whereas those in West Feliciana Parish, La., did. A branchlet of one of the clump in the Park, recognized by these gentlemen, and leaflets, pods, and spines of the specimen sent Dr. Goodman from Louisiana, were presented to Dr. H. H. Rusby, Curator of the Herbarium of the Columbia College, N. Y. He recognized them as identical, and the tree as the *Gleditschia triacanthos*, or thorny-locust.

A letter addressed to the Tulane University of New Orleans remained unanswered for some time, owing to the absence of the Professor of Botany. Finally, a very full answer was received from Prof. Jos. F. Joor, M.D., Professor of Botany in said institution.

Professor Jones stated that the description given by Mr. Goodman *exactly* tallied with that of the *Gleditschia triacanthos*; but that the name "Tear-blanket-Tree" was applied locally to various prickly trees and shrubs, chiefly Texan and Arizonian, and that one of these was the *Acacia* (*Vachellia*) *farnesiana*, which grows along the Mississippi, between Baton Rouge and New Orleans; that he had never heard the name "Tear-blanket" applied to any tree indigenous to Louisiana. He stated, however, that the *Acacia farnesiana* never grew over seven or eight feet high in Louisiana, possessed *white* spines that were straight and *unbranched*, and bore a pod that corresponded in no respect with the one described in my article.

He would, however, make inquiries if I requested. This was earnestly suggested immediately by letter.

The last link in the chain of indisputable evidence was furnished by a telegram from Prof. Joseph Jones, stating that "*Gleditschia triacanthos* is correct beyond peradventure.



FIG. I.

At the dictation of Dr. H. H. Rusby I wrote the following:

"*Gleditschia*, Genus; Natural Order, Leguminosæ; occurs in temperate and subtropical Asia and North America. Consists of four or

five species; there are two in this country, which are quite readily distinguishable one from the other.

"*Gleditschia triacanthos* Linn. has a long pod with a number of seeds in it. The pod may be straight, sickle-curved, or even twisted spirally.

"*Gleditschia monosperma* Walt. has a short pod containing but a single seed, or very rarely two.

"In this section leaves are deciduous, the tree being bare in winter. It is said that along the Gulf the leaves persist during the winter.

"Inasmuch as it has been stated (by Dr. Seward) that the winter leaves in Louisiana contain a larger amount of the alkaloid than the summer ones, it is possible that in this section, where the leaves never reach the winter stage, they may be much less rich in alkaloidal properties."

From "Gray's Botany," last edition, I quote the following :

"*Gleditschia*
Linn. Honey-locust. Flowers polygamous. Calyx short, 3-5-cleft, the lobes spreading. Petals as many as sepals, and equalling them, the two lower sometimes united. Stamens, 3-10, distinct, inserted with the petals on the base of the calyx. Pod flat (G. T. many-seeded). Seeds flat. Thorny trees, with abruptly once or twice pinnate leaves and inconspicuous, greenish flowers in small spikes. Thorns above the axils.

"(Named in honor of J. G. Gleditsch, a botanist contemporary of Linnæus.)

"*Gleditschia triacanthos* Linn. (three-thorned Acacia, or Honey-locust).

"Thorns stout, often triple or compound; leaflets lanceolate, oblong, somewhat serrate; pod linear, elongated (1° - $1\frac{1}{2}^{\circ}$ long), often twisted, filled with sweet pulp between the seeds.

"Rich in woods from Pennsylvania to Virginia, Illinois, and southwestward. Common in cultivation as an ornamental tree, and for hedges."

Accompanying are presented cuts of the leaf, spines growing from a branchlet, and a part of one of the pods.

The leaf and branchlet from which the

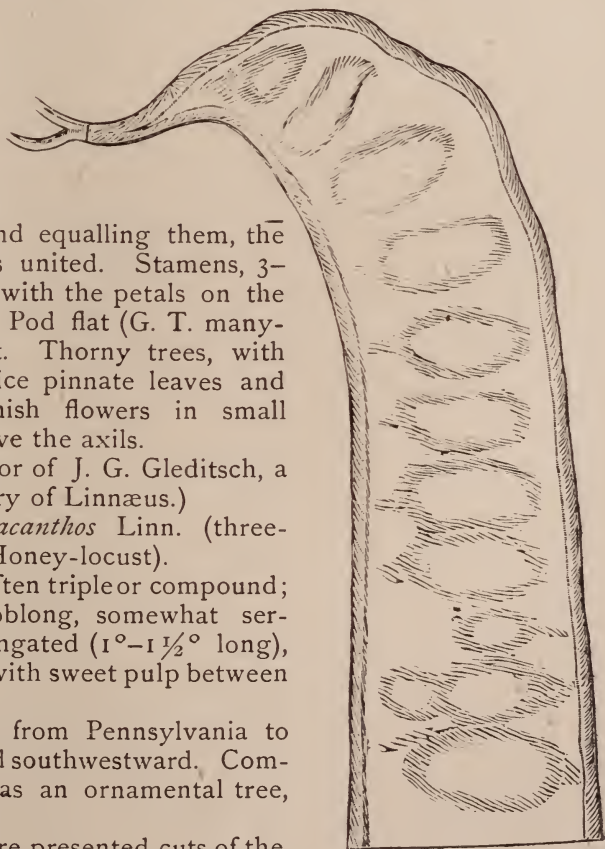


FIG. 2.

cuts were drawn were clipped from one of the group of trees in the Park, recognized by Drs. Goodman and Seward.

The clump above referred to did not possess any pods, as stated.

The one from which the cut was made was taken from a tree in the vicinity. Leaf and spines are of the natural size, while only a part of the pod is shown. This was ten inches in length and curled upon itself. This curling is not shown in the figure.

If anyone be sufficiently curious, he may find a clump of the thorny-locust just to the right of the bear-pit in the Park; or he may find a hedge of the thorny locust skirting the wall facing on Fifty-ninth Street, between the Broadway and Sixth Avenue entrances to the Park.

According to Dr. Rusby, there is no reason to assume that the thorny-locust and honey-locust are not identical. Certain it is that the pods of some trees contain a sweet, viscid juice, and that those of others do not. In my native section, the eastern part of Virginia, the name wild locust is applied to those trees whose pods do not contain any juice, and honey or domestic locust to those that do.

As a boy I have frequently eaten the juice of the honey-locust, and considered it a great delicacy. I have never observed any unpleasant after-effects. The fruit is not considered edible till it has been nipped by frost.

Dr. Copeland writes to me that as a boy he has experienced an unpleasant sense of intoxication after eating freely of the pods. It has been stated in a recent issue of the *Times-Democrat*, by Dr. Phares, of Louisiana, that the juice has been used in that State to make beer.

It would be interesting and pertinent to observe that the active principle was reduced on the banks of the Mississippi, in the vicinity of the tree from which the first poultice was made. Dr. Seward and Mr. Goodman inform me that the simplest domestic utensils were used.

Mr. Goodman has just written me that "the new alkaloid is not, strictly speaking, a powder, but a semi-liquid mass, of a greenish tint."

Dr. Seward tells me that the leaves were treated before they became dry, and that he was not able to extract the alkaloid from them after they had dried.

All the solution of the alkaloid at present possessed was made before leaving Louisiana. Only a few leaves, spines, and pods of the tree had been brought to New York, hence my desire for accurate specimens had to remain for a time ungratified.

This historical notice would be incomplete if I failed to express my thanks to the gentlemen who have assisted me in presenting the foregoing facts to the medical public. I wish to express my sense of gratitude to Dr. Copeland, Dr. Walker, Dr. Rusby, Professor Jones, Prof. F. W. Snow, Mr. Sereno Watson, and to my friend Mr. W. T. Thatcher, by whom the drawings were made.

I have abundantly corroborated the statements made in my former article with reference to the effects of the alkaloid on the eye and

nose. No operations other than that of removal of foreign bodies from the cornea have been performed under its influence. The irregular dilatation of the pupil of the treated eye I have observed so constantly that I deem it worthy of repeated record, although it may not have any peculiar significance.

The contraction of the opposite pupil has occurred sufficiently often for me to be compelled to note *it* again. A diminution in tension when the mydriatic effect was at its height, I have noticed in every case since my former report. The eye of the rabbit, upon which my first experiments were made, presented a dry and glazed appearance, similar to that produced by cocaine. This has not been observed in any case on the human eye; the latter class of eyes have invariably remained humid under its use. In testing the anæsthetic effect of the drug on the cutaneous surface, five or six drops of a two-per-cent. solution were instilled upon a small piece of absorbent cotton; after this had dried it was removed and placed in a two-drachm bottle that had formerly contained some of the two-per-cent. solution; one drachm of hydrant water was poured into the bottle, shaken well, and allowed to stand for an hour. Two drops of this were instilled into a patient's eye; there was no such recoil as is often observed from the instillation of the two-per-cent. solution. In five minutes the conjunctiva and cornea were completely anæsthetic, and remained so for twenty minutes. At the end of an hour the pupil was dilated almost *ad maximum*.

This solution has been used in a number of cases, and always with the same result. A calculation has been made of the percentage of this solution; supposing that none was lost on the skin the strength cannot be more than one grain to the ounce of water (one-fifth of one per cent.).

This indicates a very remarkable power. The bleaching of the conjunctival vessels was marked; more so, I must confess, than under the effect of a two-per-cent. solution. The palpebral fissure was rendered by no means as great as by the two-per-cent. solution. From these facts we may infer that the latter solution is not necessary to cause anæsthesia in the eye.

I have obtained the most brilliant results, therapeutically, by its use, in relieving the pain of iritis and the photophobia of trachomatous pannus and phlyctenulæ. For these purposes it is eminently indicated, since it combines the action of atropine and cocaine. Unfortunately no case of glaucoma has fallen into my hands since I have been in possession of the drug. One pair of glasses had been prescribed under its use. The case was one of compound myopic astigmatism in which there was a severe spasm of the accommodative muscle.

On the first morning five drops were instilled into each eye within a period of three hours. The patient complained at one time of dryness of the throat. This was relieved by drinking a little water. At the end of three hours the patient could only read the larger prints of Jaeger's test-book within his far point, but, owing to a lack of uni-

formity in the results gotten by the functional examination, I suggested that he return on the morrow. On that day five more drops were instilled into each eye. In three hours the results of examination by the functional method, retinoscopy, and the direct method tallied. On the morning of the fifth day the pupil and accommodation were normal. The examination now corresponding with that under the use of the drug, the glasses were prescribed and relief was given.

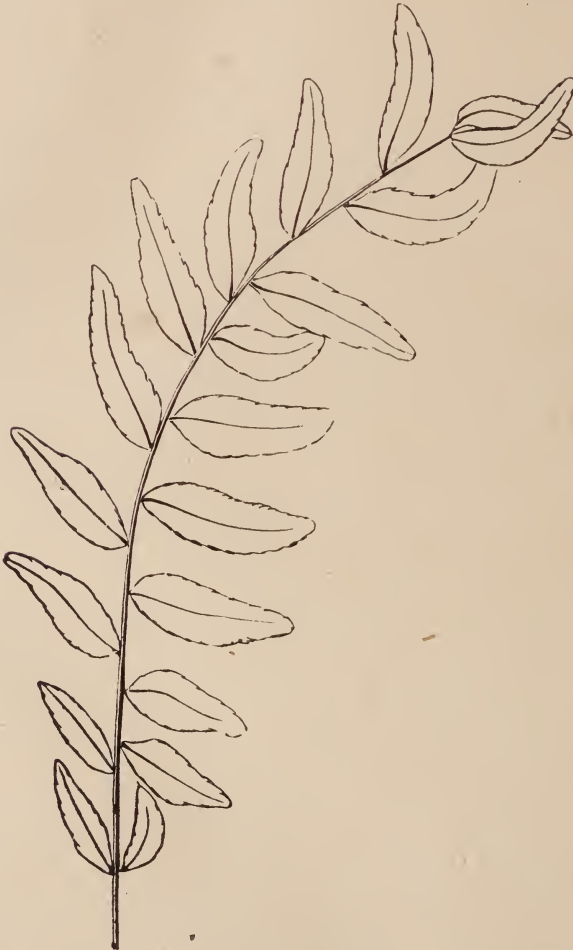


FIG. 3.

The dilatation was never any greater than that obtained from two drops in other cases, and the effects passed off equally as rapidly.

In order to determine the influence of eserine over a pupil, and accommodation under the effect of the alkaloid, I had one drop instilled into my left eye. As soon as the mydriatic and paralyzing effect

became evident, frequent instillations of a solution of the sulphate of eserine (gr. $\frac{1}{4}$ -f $\bar{3}$ j.) were made. After a few minutes the eserine would enable me to overcome the effect on my accommodation, and I would be able to read with an effort for a short time. The pupil would become somewhat smaller, but never, on the first day, returned to its normal size. For several hours before retiring the instillations of eserine were discontinued, and at midnight the pupil was practically dilated *ad maximum*, and the accommodation completely paralyzed. On the following day both pupil and accommodation could be managed by frequent instillations of the eserine, but the change of the accommodation and the pupil did not keep pace; in fact, at one time the left pupil was rendered smaller than the other, while I was able to read only Jaeger's number five or six at ten inches.

It has been employed in a number of cases of acute myringitis, and in acute middle-ear catarrh associated with myringitis.

In a case of the latter, where the drum was excessively swollen and bulging, the external auditory canal was half filled with the solution, and it was allowed to remain half an hour; paracentesis was performed in the lower and posterior quadrant, the Schwartze incision being made. The patient seemed to suffer the utmost pain; evidently *no* anæsthetic effect was produced.

In numerous cases of the above affection in which the drum was greatly reddened, a few drops allowed to rest on the drum caused evident bleaching, so that the vessels that ran over the drum from the periphery, which were very marked before the instillation, could scarcely be seen. These cases all improved under treatment. In view of this effect, I feel warranted in suggesting it as an indication in the two affections mentioned. One patient complained of a "numb feeling in the ear." I have not used it at all in purulent middle-ear disease.

In my former report I settled the anæsthetic effect upon the nose, through the assistance of Dr. L. P. Walker. This experience has been amply verified in my own case and in that of a patient. Some of the two-per-cent. solution was freely painted on the exceedingly swollen mucous membrane of the inferior turbinated bone of a young man. In five minutes the swelling had entirely disappeared, the mucous membrane clung closely to the bone, and was rendered pale. Tactile sensibility was entirely eliminated.

Suffering from a severely acute attack of coryza, I painted with a cotton-armed probe the whole of the interior of my anterior nares on both sides with the solution. In ten minutes my breathing was perfectly free, and all sensibility to touch in the nose was removed. The entire organ felt deadened—not unlike the sensation produced by frost-bite. This remained, gradually diminishing, for three hours. The coryza was completely relieved until five or six hours after treatment, when it returned slightly. Another application before retiring relieved it entirely. I have frequently had cocaine applied in the same way in stronger solutions, and can safely say that the anæsthetic effect of Gleditschine is decidedly more profound and lasting than that of cocaine.

Dr. Knapp has obtained anæsthetic effect upon the throat and the other mucous surfaces of the male human body, under its use.

With reference to the effect upon the skin, my results since my former report have been somewhat contradictory. I have applied it twice to inflamed surfaces in the manner first employed; that is, by saturating a piece of absorbent cotton with it and allowing the cotton to remain twenty to thirty minutes on the part. In each case there was decided evidence of pain when the incision was made. Bearing in mind the pathological condition by which the nerve-filaments are surrounded in inflammation, I was not sanguine of success in these cases. My friend, Dr. George T. Harrison, applied it in the manner suggested by myself, in a case of ingrowing toe-nail. He states that in his opinion the pain of the operation was considerably diminished. It was attempted to remove a chalazion (fibroid tumor) from the upper lid of a man thirty-five years of age, under its use. The cotton, saturated with the solution, was laid on the skin covering the tumor and allowed to remain thirty-five minutes. At the end of that time a small incision was made in the skin over the seat of the tumor. The patient complained bitterly both of the incision and the consequent manipulation. Soon after the publication of Dr. Knapp's article, in which it was stated that absolutely no anæsthetic effect was observed under its use on the unbroken cutis, Mr. Goodman brought me another sample of the solution. I immediately noticed that this was colorless and possessed scarcely any smell, while the taste, though like that of my first sample, was less pronounced. He stated to me that the first sample, with which I had obtained anæsthetic effect upon the skin, had been preserved with salicylic acid; that which Dr. Knapp had used, with boric acid. He then dissolved some salicylic acid in a solution of the alkaloid which had already been prepared with boric acid, and noticed that a gummy sediment was precipitated. He then filtered the supernatant fluid till it became perfectly clear. This was brought to me and used on the patient with chalazion. Several days after I received it, a few beads of some deposit were discovered on the sides of the bottle. This was examined under the microscope. There was no evidence of fungoid growth, and, judging from the stringy nature of the sediment when disturbed with a platinum needle, it has been presumed that it is the same gummy substance which was observed by Mr. Goodman.

The odor and taste of the solution have invariably increased with age.

The solution which failed to give anæsthesia in the case of the man with the chalazion, I used on my own person seven days later. Its anæsthetic effect upon my own cutis has been unequivocal, and equally satisfactory with that obtained by the first experimentation mentioned in my former article.

With this same solution I have just obtained complete anæsthesia on the inner surface of a rabbit's ear in seven minutes. Puncture of the ear in the vicinity not touched by the solution was followed by vigorous struggles from the animal.

It is impossible for me to explain these facts; I consider it my duty, however, to record them as they are.

I feel confident that all observers will finally agree on this point—in favor of its anæsthetizing effect on the unbroken, uninflamed cutis.

Dr. Knapp has experimented with the alkaloid, with reference to its systematic effect, by hypodermic injection in rabbits and in man.

I have taken a number of doses by the mouth. Below are recorded the effects observed:

Five drops of a two-per-cent. solution (about one-ninth of a grain) have been taken three times. On the first occasion my pulse, which is usually between 75 and 80, went up, just before taking the dose, to 98 beats per minute, owing to excitement. In half an hour the pulse was still 98, but fuller and stronger. In three hours it had fallen to 66, was stronger in general than before taking, but was somewhat irregular in force and rhythm. On the other two occasions of taking five drops the pulse fell 18 and 20 beats in two or three hours. The effect on its character as to force and rhythm was the same as after the first dose.

A slight sense of constriction in the soft palate persisted fifteen minutes after each dose. A sense of well-being and surface-glow was experienced; there was also invariably slight drowsiness; these symptoms wore off in several hours, and left me with a dry throat and husky voice, which persisted two or three hours.

On one occasion five drops were taken, and three hours afterward eight more drops (about one-fourth of a grain in all). In one hour the additional eight drops reduced the pulse only 6 beats lower than five had reduced it.

Five drops were taken, and repeated in an hour; two hours and a half after the first dose the pulse had fallen 18 beats. After all doses it recovered its normal beat and character in from four to six hours. After the ten and thirteen drop doses the surface-glow and well-being were more marked—also the drowsiness. The dryness of the throat and huskiness of the voice were more pronounced, and lasted from the forenoon until sundown. A marked sense of fulness in the head after the larger doses is worthy of mention. The appetite was invariably blunted. No dilation of the pupil was observed at any time.

Each afternoon following the morning of experimentation I felt depressed in spirits. I remained seated for two hours following each dose.

It is deemed pertinent to observe that I am very sensitive to the effect of all potent drugs.

Five drops administered to a phlegmatic adult, of twenty-five years of age, reduced the pulse 12 beats in an hour and caused a slight dryness in throat and voice which passed off rapidly. The character given the pulse was exactly that observed in my own case. The temperature was not taken either in his or my own case.

In conclusion, we would draw attention to one peculiar fact: Neither ten nor thirteen drops of the solution taken into the stomach reduced the pulse much lower than five drops taken in the same man-

ner. The effect of ten drops, instilled into each eye in two days, wore off as rapidly as that of two drops introduced into the eyes of others. As complete an anæsthetic effect seemed to be obtained from a solution of the strength of one-fifth of one per cent. as from a two-per-cent. solution. Mr. Goodman and Dr. Seward have presented to the medical profession and the world at large a remarkable discovery, whose wide field of usefulness time and experience will limit.

130 *Lexington Avenue.*

THE BERGEON TREATMENT OF CONSUMPTION. By Owen Pritchard, M.D.

I enclose notes of two cases of phthisis treated in private practice by gaseous injections into the rectum, after the plan advocated by Dr. Bergeon. All the details of this treatment being so lucidly and minutely described by Dr. Burney Yeo in his lecture published in *The Lancet* of April 16th, it would be an entire waste of time to enter into the particulars of it. I would only say that, having obtained the necessary apparatus, I endeavored as nearly as possible to follow the directions so explicitly given by Dr. Yeo.

Case I.—Mrs. E——, aged sixty (her usual weight 10 st. 5 lbs.), says that in July last year she began to lose strength, had a slight cough, her appetite became indifferent, and she noticed that she was losing flesh. After a fortnight at Hastings she was much improved, but on her return to London about the end of August, she soon began to lose flesh again, and her cough became very troublesome, with a persistent sore throat. She attended the Throat Hospital until the end of December, gradually getting weaker. Becoming very uneasy, she tried one or two other institutions; but during January, February, March, and April she was still rapidly losing flesh, the cough was much more troublesome, the expectoration thicker and more profuse, and the night sweats exceedingly severe. In the beginning of June, when I first saw her, she weighed 8 st. 5 lbs., having lost 2 st. from her usual weight in eight or nine months. She complained so much of the cough and night sweats that she declared she never could sleep more than half an hour at a time, and even this amount of sleep was much disturbed by frightful dreams, such as tumbling over cliffs, fancying herself fighting bulls or tigers, or assisting to put out fires, etc. On examination her left lung was, as far as I was able to judge, normal, but the right was quite solid from apex to base, and a portion about midway between the nipple and axilla had actually broken down into a cavity. Her temperature varied from 101° to 103°. The expectoration was purulent, very copious, and full of bacilli. The first operation was performed on June 9th, and repeated each day from then until now. For the production of the sulphuretted hydrogen a solution of sodium sulphide and caustic soda similar to that advised by Dr. Yeo was used, and the sulphuretted hydrogen liberated by throwing in a small quantity of tartaric acid. Now, as is the case with nearly all the victims of consumption, one was not at all surprised to find this patient

declaring herself much better at the end of the first week of a new treatment. She, however, knew exactly in what way she was better. Her cough, she said, was easier, and the expectoration somewhat diminished; the night sweats had almost ceased to trouble her; but, above all, her sleep had returned and the frightful dreams had gone, and she could now, she said, sleep for four hours right off, and then only wake up to cough and bring away the accumulated phlegm, and turn over and go to sleep again. Several weeks thus went on, the patient assuring herself and everybody around her that she was daily improving. She got up, she said, every morning refreshed after her beautiful night's sleep. Her temperature, however, still kept up, and the tubercle bacilli remained in the expectoration as numerous and robust as ever, but the amount of expectoration diminished, and for many weeks she continued to lose weight rapidly. Her temperature for some weeks past has been considerably lower, seldom over 100° , and she has in the last week or two actually gained a little in weight. A table of her weight with dates as taken is as follows:—June 9th, 8 st. 5 lbs. 14 oz.; June 24th, 8 st. 3 lbs. 8 oz.; July 12th, 8 st. 1 lb.; July 22d, 8 st. 10 oz.; Aug. 4th, 7 st. 13 lbs. 15 oz.; Aug. 15th, 8 st.; Aug. 22d, 8 st. 1 lb. 8 oz.; Aug. 29th, 8 st. 3 lbs. From the foregoing it will be seen that she was losing very rapidly at the beginning of her treatment, but her loss gradually became less marked, and for the last three weeks she has actually gained some pounds in weight.

Case II.—Mrs. T—, aged thirty-four. Last October she had a sharp attack of bronchitis, from which she has never quite recovered, a troublesome cough remaining through the winter. During the first four or five months of this year she had been getting thinner, her appetite being very bad and her night's rest greatly disturbed by the cough and the severe night sweats. When I saw her in the beginning of May she was considerably emaciated; temperature 99° to 100° ; moist râles over both apices; right apex slightly dull on percussion; expectoration was abundant; breathing short and asthmatic; her face livid. On May 28th her weight was 8 st. 10 lbs., when the first operation was performed, and continued daily until July 30th. After the first week her cough was much improved, and, the night sweats having disappeared entirely, she slept well, her breathing was quite free, and consequently the color of her face was much healthier. But, like Mrs. E—, her great pride was that she slept so much better, being undisturbed by cough and night sweats. During the first four weeks of treatment she lost 3 lbs. in weight, but during the last five weeks she gained 6 lbs., and left town for Devonshire in the beginning of August, and I have just received information from her that from August 3d to 19th she had gained another 3 lbs.

These cases are, of course, at present incomplete, but they seem to me to prove very distinctly that this treatment, even if it does not positively cure, very greatly retards the progress of the disease, and almost entirely removes its most trying symptoms.

Southwick Street W.

ABSCESS OF GALL-BLADDER.—CHOLECYSTOTOMY.—RECOVERY.
By Henry L. Elsner, M.D., Syracuse, N. Y.

Read before the Central New York Medical Association at Syracuse, N. Y., May 17th, 1887.

On the 31st day of October, 1886, at about 9.30 P. M., I was hurriedly summoned to see W. S., aged 52 years, a furrier by occupation, a good liver, previously healthy, with the exception of constitutional syphilis thirty years ago, and two attacks of biliary colic—one twenty, the other ten years ago. The day upon which I was called was Sunday. He had rested, felt well, his bowels had moved regularly, and he had no symptoms which might lead him to anticipate the approach of disease. About 9 o'clock P. M. he was suddenly taken with a severe and acute pain, radiating from the right hypochondriac region backward, downward and upward. The pain was so severe that with every paroxysm of pain he had tonic and clonic contractions of the muscles of the extremities. He was unable to take the recumbent posture, but sat on a sofa bent forward, his elbows resting upon his thighs, while his hands were pressing forcibly and continuously against the abdominal wall. There were moments when the pain was less severe, but at no time did he enjoy freedom from it. The severe pains recurred at intervals of from three to five minutes, with the convulsive movements attending. He vomited large quantities of a grass-green fluid, with abundant mucus. At times the free emesis seemed to relieve him for a few moments. The pain was so intense, the suffering so acute, added to the inability of the patient to lie down, that I was unable to make an examination of the abdominal organs or take his temperature. The pulse was 113 R. 20. A quarter of a grain of morphia was injected hypodermically, and repeated in half an hour, the first having failed to ameliorate the pain. In about twenty minutes after the second injection, the pains recurred at longer intervals, but the patient complained of great tenderness and soreness over the region of the gall-bladder. It was almost one o'clock A. M. before he could lie down, and then the pain recurred at intervals of one-half hour, with decreasing severity. He vomited several times during the night, and slept about one hour; by morning the acute pains had disappeared, the patient was able to walk out into the street contrary to my orders, and rode in a coupé to his place of business. These acute pains never returned during the subsequent history of the case.

November 1st—Able to sit up; unable to stand erect; the region of the gall-bladder seems swollen, abnormally prominent, very sensitive to pressure. He was ordered 10 grs. of blue mass, followed by an alkaline cathartic; also the phosphate of soda with a bitter tonic. T., P. and R. normal; no vomiting.

November 2d—Able to walk up-stairs to his room in the second story, but bent forward.

November 3d—Slightly jaundiced; some nausea; no vomiting; T. normal.

November 4th—Complains of pains when moving; no other noteworthy symptoms.

November 5th—T., P. and R. normal. Still walks bent forward; no pain, but tenderness as before. Physical examination negative.

From the 6th to the 13th there were no new developments, but the patient seemed to improve and to gain strength, though he did not walk as erect as formerly. On the 13th of November the glands in the right axilla were enlarged to the size of a goose egg, and the chain of glands extending to the elbow was also enlarged and tender. Tincture iodine was used locally, and the iodide of potassium internally.

December 8th—The swelling of the glands somewhat improved. A tumor can now be felt, occupying the right hypochondriac, right lumbar region, extending downward to the left, into the umbilical region, an inch beyond the umbilicus. It is hard, smooth, not painful to the touch, without fluctuation; the fingers can reach around its free border, and it is continuous with the liver dullness. The K. I. was continued.

December 11th—The axillary and brachial swellings have disappeared. The abdominal tumor has increased in size, while both extremities are œdematous, the right more than the left. From the 11th to the 29th of December the symptoms remained much the same; there was a continuous dragging sensation, referable to the right hypochondriac region; the extremities continuing œdematous, the right more than the left; the bowels confined except when relieved by Carlsbad salts. The pulse averaged 110°, T. 100. R. 20. Emaciation was progressive, appetite good, food well digested, and no vomiting.

December 29th—Dr. Didama saw the patient with me in consultation. The diagnosis was not made positive, though the doctor thought the tumor had an amyloid feel and might possibly be due to an amyloid and enlarged liver. The even enlargement with the previous history of constitutional syphilis seemed to strengthen this conclusion. The iodide was continued.

February 7th—The swelling can be distinctly outlined. It lies in the right hyp., lumbar and umbilical region, further downward and to the left than when last seen. Upon careful palpation, a slight fluctuation is perceptible to the right and about one-eighth of an inch from the umbilicus. This fluctuation extends upwards towards the median line for about one-inch. Around this line of fluctuation the tumor presents the usual hardness. Introducing a hypodermic, I withdraw a yellowish green fluid and pus. The pus looks healthy, the fluid contains abundant cholestrine plates, visible on microscopical examination. This aspiration, with previous history and microscopical examination, convinces me that we have a distended gall-bladder and abscess with which to deal. The patient growing more feeble and pressure symptoms developing, I decided to carefully, and under strict antiseptic precautions, cut into the swelling, following the line of fluctuation, introduce a drainage tube and wash out the cavity, as a last resort. The patient consented, and on the 9th of February I

carefully dissected through the abdominal walls, and following the line of fluctuation, caught the distended gall-bladder, incised it (the walls of the gall-bladder at point of incision were adherent to peritoneum), and gave exit to one pint of pus and bile. The pus was laudable and thick, the bile of a yellowish green color. Air rushed in and out of the cavity freely; the finger being introduced, could not feel the bottom of the gall-bladder. The cavity was washed out with a 1:5000 solution of chloride of mercury. A drainage tube was introduced and an iodoform dressing fastened over the opening by means of a roller bandage. This abscess cavity was washed out daily with a 1:3000 solution of carbolic acid. At no time was there elevation of temperature; the sallow color of the patient disappeared; the tumor gradually became smaller; the œdema of the extremities was relieved; the draining and washing out was continued until there was no further discharge of pus, and by March 1st the tube could no longer be introduced.

On the 9th of March there was considerable redness and tenderness along the original line of incision. This was again opened and a drainage tube introduced, two ounces of pus escaping. The drainage tube was left until March 30th. For a few days there appeared to be a small fistulous opening, but this granulated and healed. Since April 3d the patient has been perfectly well, the gall-bladder has contracted, become adherent, or possibly obliterated. There is no sign of the original tumor, while physical examination fails to reveal the slightest abnormality.

THE TREATMENT OF FELON WITHOUT INCISION. Dr. L. Duncan Bulkley in the *Journal of the American Medical Association*.

The treatment which I would advocate, and which has proved valuable in my hands, consists both of general and local measures, and has for its aim the checking of the inflammatory and suppurative process rather than the encouragement of suppuration, as is ordinarily done by poultices. Patients even with a beginning felon are commonly found to be in a state of lowered vitality, often with more or less of a sluggish condition of the digestive organs, coated tongue, loss of appetite, etc. Unless it is contraindicated I generally begin the treatment with a mild cathartic, the following being that commonly employed:

℞. Ext. colocynth comp.
 Mass hydrarg. - - - - - āā gr. x
 Pulv. ipecacuan. - - - - - gr. ii

M. Div. in pil. No. iv. Sig: Take two at night and two on the second night after.

A tonic is administered from the first, one containing iron being preferred; that usually given is a combination known as Startin's mixture, which has considerable power in controlling inflammatory affections of the skin. The formula of this is as follows, the proportions being somewhat altered to suit individual cases:

R.	Magnesii sulphatis	- - - - -	ʒi
	Ferri sulphatis	- - - - -	ʒi
	Acidi sulphurici	- - - - - dil.	ʒiv
	Syr. zinziberis	- - - - -	ʒi
	Aquæ, add	- - - - -	ʒiv

M. Sig: Teaspoonful in water, through a tube, after eating.

In addition to this it is my custom to administer the sulphide of calcium (calx sulphurata) from the beginning to the end of the treatment. I usually give it in the form of $\frac{1}{4}$ grain gelatin coated pills, one being given every two hours irrespective of food or other medicine. In order to have any good effect from this latter drug it is essential that it should be fresh and pure, for, as it is well known, when exposed to the air it rapidly loses its free sulphur and becomes converted into the inert sulphate of zinc, or gypsum. It cannot, therefore, be well given in powders or tablets, nor even in extemporaneous pills, but is best administered in those well coated with gelatin, which preserves the drug unaltered; it is well, however, to test the pills by biting them, when the characteristic odor of sulphuretted hydrogen becomes at once noticeable if the article is good. Some attention to the diet should also be paid in these cases, and specific directions should be given. Alcohol in all forms should be absolutely interdicted, and the malted liquors appear to be also very harmful. The diet should be full and nourishing, but not stimulating. Milk is often given, sometimes in the form of punch and egg-nog, but, as I have elsewhere explained very fully, I believe that milk is not a desirable article to take in connection with other food, and my constant direction is that it should be avoided at the meals. On the other hand, it serves a most admirable purpose in raising the vital tone of these patients if given separately and alone, in the interval between the meals, preferably one hour before each meal, and late at bed time, avoiding, however, taking it within half an hour of the granules, or of any other substance in the stomach. Tea and coffee may be taken in moderation, but unnecessary and indigestible articles should be avoided.

The local treatment of felon which I have followed has the merit of great simplicity, and is one which can be readily followed out by every one. It consists simply in the constant and very thorough envelopment of the affected part in a protective ointment from the beginning to the end of treatment. The application used is the diachylon ointment of Hebra, which, when properly prepared, forms a most agreeable and soothing dressing. Of late years it has been suggested to make the diachylon ointment by melting lead plaster with various oils, or vaseline, and much that is supplied on prescription will be found to be prepared in this manner. But this by no means answers as well in many conditions of the skin as that prepared according to the original formula given by Hebra, probably because the added portion of the oil has not undergone decomposition with the litharge. I am therefore very particular to have the ointment prepared according to the original formula, which is as follows:

R.	Olei olivarum optimi	- - - -	℥xv
	Plumbi oxidi	- - - -	℥ij ℥vj
	Olei lavendulæ	- - - -	℥ij

M. Add the oil to two pounds of water and heat it with constant stirring; the litharge is to be slowly sifted in while it is well stirred, fresh water being added as required. The ointment is to be stirred until cold, and the oil of lavender then added. In winter a slightly larger quantity of oil is required to make a soft ointment.

When properly made according to the above directions the ointment is soft and unctious, and not very sticky. It is to be spread upon the woolly side of lint *very thickly*, even a quarter of an inch or more in thickness, so as to completely envelop the end of the finger in a thick mass of the ointment; this is then lightly bound on and left undisturbed as long as possible; generally it is best to renew the application twice daily, and if there is no discharge the same dressing may have fresh ointment spread upon it, and be replaced quickly. The affected part should not be handled at all, nor the ointment scraped off even, the idea being simply to keep it continuously in the mass of bland, protective and absorptive ointment, to allow the inflammatory process to subside. The first application of the ointment is described as being soothing and pleasant in the extreme; in mild cases just beginning, it allays the irritation and pain at once, and even in those who had had sleepless nights from the pain, I have had them tell me that the relief was almost complete, and that they had slept the night after the application, although in one or two instances the relief was more gradual.

Under the treatment above described some suppuration commonly takes place. In lighter cases, where the inflammation has begun superficially, one or more small points appear beneath the epidermis, which either break themselves or may be opened absolutely without pain through a slight prick in the dead covering. In those where the disease has begun more deeply, or where it has penetrated to some depth before treatment, the progress is more slow, and a week may be taken before the pus comes near the surface; but then it shows itself also in one or more points, never very large, and the discharge may be hastened by a slight prick through the dead epidermis. In one or more cases under my care small spiculæ of bone have been discharged, but still the case progressed satisfactorily without deep incision. After the opening, the ointment is to be still continued in the same manner, the dressing being renewed more often if there is much discharge, until finally the openings close and the parts resume a normal condition. The duration of the treatment of these cases compares very favorably with that of those treated in the ordinary manner with poultices and incision. I do not think that any of them have been obliged to use the ointment more than three weeks, and in the milder cases all trouble has sometimes subsided in a week or ten days. My first cases were treated in this manner fully ten years ago, since

which time I think I have applied the treatment to a dozen or more cases in public or private practice. I cannot, of course, vouch for all the cases I have seen, as to the final results, as all know the uncertainty attending out-patients in hospital practice; but I know of the complete success in a number of this class, and could give histories from notes of cases seen in private practice if time permitted.

A single case may be briefly mentioned: Mr. J. B., a gentleman aged 38, is now under treatment for another trouble, two years after his felon, for which I treated him in this manner. In this case there had been intense, deep pain, which was relieved almost entirely by the ointment. About a week after beginning treatment, pus was discharged and several spiculæ of bone followed, but all healed quite rapidly, and now, when examined recently, the scar on the right fore-finger is seen to be supple, and the integrity of the finger perfectly preserved.

I am quite aware that there may be cases in which this plan of treatment may not be applicable, but such have not as yet come under my observation. I shall look with interest for the experience of those who have opportunities for seeing more cases, and more severe ones, perhaps, than have come under my care, and feel confident that if the plan of treatment I have sketched is carried out thoroughly, it will be found to give good results certainly in a share of cases, and will certainly prove more acceptable to the patient than the annoying application of poultices and the much dreaded incision with the knife.

A NEW CAUSE OF DEATH BY DROWNING.—By Edward P. Roche, M.D.

The city of Bath is nearly surrounded by water—the Androscoggin and Kennebec Rivers on the north, the sea in the form of creeks and inlets on the south. The ice forms in the rivers about December, and goes out in April. The population is largely made up of people familiar with the water. My profession brings me in contact with all classes of the population; and I am, for some ten years past, accustomed to bathe in these waters from the last of April to the last of November. These opportunities and experiences, I believe, fit me to express an opinion as to some of the causes of death by drowning.

A careful analysis and examination of cases and bodies dead from short or long immersion under water, fully warrants me in asserting that cramp is not a cause of death in drowning. I have sought in vain for evidence of a body showing signs of cramp in the death-struggle, no matter how soon it was rescued from the water. I am familiar with the appearance of bodies killed instantly while under great effort, as in the dead of the infantry charges during our last war.

Dismissing cramp, and introducing three typical cases, I believe a new cause of death by drowning will be admitted.

A. A small trader crossing a wide river in November, the ther-

mometer at zero, was seen by the steersman to disappear over the chain drawn across the end of the boat. The boat was a side-wheel, and must have passed over the man. With great difficulty, amidst new-made ice, in some four to six minutes' time he was rescued. He made no outcry in going over, and, after the boat passed over him, rose to the surface and remained there, throwing his arms wildly about, but aimlessly as to the direction of the boat, and without outcry of any kind. The extreme end of the boat was of a rounded form, and extended some two feet beyond the chain over which he fell; the chain hung about two feet and a half above the deck. The man died from the accident. He was found to be heavily insured. The insurance companies demurred payment, on the ground of suicide; making strong claims of fraud, because the man had made no outcry or call for aid while in the water, and, if any thing, swam away from the boat, in place of towards it. As attendant and expert, I was called for the defence, but believe the statement presented satisfied the companies, and the widow received—justly—the amount of the insurance.

B. On a warm, clear summer afternoon, at a watering-place known as Wells' Beach, with summer guests and relatives or friends walking in close proximity, and watching the bathers in the very gradually deepening water, a healthy, strong, more than commonly good swimmer suddenly began to act strangely, throwing his arms wildly about, apparently making great effort, but no outcry. The onlookers deemed the action sport; but when the young man sank beneath the shallow water, and failed to return to the surface, the scene changed, but too late. In water that a tall man could almost stand in, a young, vigorous, and courageous youth had drowned, in the very sight of his friends, without a single outcry. This case is briefly told, but correct in particulars as reported to me at the time.

I have carefully studied this case in connection with a parallel one that occurred on the Pacific coast, and unhesitatingly pronounce it an exact counterpart and answer as to the mode of the banker Ralston's death in the Bay of San Francisco. As an expert on oath, I would feel bound to deny the insinuation of suicide in his case.

C. On a warm July noon two boys, aged respectively sixteen, undressed beside a pond to bathe. Both could swim fairly, and were familiar with the spot. One, whose attention for a moment was called to the bushes that fringed the shore, on turning missed his companion. Running a few feet to the shore, he saw him on the bottom, in less than six feet of water. An alarm was quickly given, the body rescued; but too late. The family physician declared the cause of death to be from going into the water with the blood heated, as though the blood could be heated or cooled like a metal. The duration in time of the whole action could not have been more than a minute. The companion was at no time beyond a few yards from the spot, yet heard no outcry or splash of the water. So far as could be known, the drowned boy made no effort to rise, but sank to the bottom, and remained there.

In my own mind I was satisfied of the cause of death in all these cases; but they remained among my notes for over five years, before I found a demonstration, with proofs, that I could make plain and public.

One bathing-place selected for a series of experiments in floating was a cove in which the tide rose some six feet; into this was built a pier of logs, cob-fashion, and filled in with earth. The pier rose but two feet above high water, was a good spot to jump from, and the knots on the sides served as points to draw one's self out by.

Shortly before or after high water, by standing erect, I could just touch the bottom with my toes and keep my nostrils above the surface.

Under these conditions, at this spot, I found myself eighteen feet from the shore—a sloping, slippery, rocky one—and the same distance from the side of the log cob-work. The tide was up, so that, by straightening myself on my toes, I could just clear my closed mouth from the surface of the water. While in this position, a ripple, made by the plashing of a fish-pole in the hands of a small boy on the pier, broke against my upper lip, and in an instant, without the slightest warning, I found myself speechless and struggling for my life, as I never have before nor since.

After what seemed a long period of indcision as to shore or pier being the nearer, I swam for the pier, and just succeeded in dragging myself upon the top log, and fell over on the ground, face down, my feet in the water. I could make no sound of any kind; my chest and diaphragm were immovable, and felt like an iron tube with an iron bottom. The veins in my neck did not feel prominent. I could use all my limbs, but they were very heavy, with a strange feeling in them of immense size, and a mental idea that I could not move them, on account of their size and weight. The body and head appeared the same as to size. The heart, instead of beating or throbbing, was whirring.

Just after the attack in the water, there was a strong disposition to cease effort, and sink face downwards, or if on land to fall forwards.

I estimated the whole attack to have lasted twelve minutes before I felt collected and strong enough to walk and talk. The ability to make a vocal sound returned in about four minutes; to form words that could be heard above a whispering tone, some two or four minutes later.

From my condition on reaching the pier, I estimated the limit of endurance of a cool-headed man, used to emergencies, under the same conditions as mine, to be the power to swim from twenty to forty feet before the body would sink from lack of buoyancy and intelligent effort.

At the instant of attack I raised my hands from the water to my face and neck, in an instinctive, aimless effort similar to what I have noticed in children dying of croup. The boys on the pier said I did not at once swim for the pier, but threw my arms about and splashed the water, and then struck out for the pier. They thought I was “fooling.”

Now, what I *know* happened, and what has remained unthought of or discovered, to baffle medical experts and juries in those unaccountable cases of death by drowning, especially of those known to be good swimmers, or business men whose affairs are found to be involved, was this: The top or spray of the ripple that broke against my upper lip was inhaled through the nostrils, and, passing in the air current of the pharynx, was drawn into the trachea, or windpipe. It passed *behind* the epiglottis, thus eluding the acutely sensitive guard established by nature for the protection of the individual, and the result was instant spasm of the whole respiratory organism—an accident rare and serious under the most favorable circumstances; but to a person alone in the water, terribly so. In order to designate this from other accidents of the larynx, I term it “swimmer’s spasm of the larynx.”

In the case *A*, the following I believe to be the facts: The man slipped, and in falling over the chain, in order to protect himself from injury in striking upon the iron-shod portion of the deck that projected some two and a half feet beyond the chain, had no time to cry out, but exhausted the amount of air in his lungs in the effort, and, at the close of the next inspiration, met the spray from his splash into the water, inhaled some of it, and had the spasm of the larynx with the lungs *full*. A suicide would have chosen the rear end of the boat, where he could drop into the water unseen. A man thickly clad in dry woollens, with the lungs completely full and spasmodically closed, would float a reasonable time, and would be to a great degree incapable of making any outcry or intelligent effort to assist himself or rescuers.

The case of *B* was similar to my own and Ralston’s. A ripple broke into spray in front of the nostrils; a portion of the spray was inhaled, carried into the windpipe, and produced an instant spasm of the larynx. It *probably* occurred about midway of the inspiration, leaving some air and oxygen for action in the lungs.

In the case of *C* the boy drew a long breath and slid into the water *expiring*, met the spray at the very commencement of his next *inspiration*, and inhaled some of it; the spasm of his larynx occurred at the commencement of the inspiration, when the lungs were entirely empty. A growing boy, with no more air in the abdomen than usual to his age, he sank at once.

In *A* the lungs were full, hence he floated and struggled some six minutes, until rescued; in *B* the lungs were probably not more than half inflated, and the final struggle was shorter than in the case of *A*; while in *C* there was no air of any amount in the lungs, and his body immediately obeyed the law of gravity. Had the spasm of the larynx occurred to the boy at his home, undoubtedly he would have fallen to the floor speechless, and been pronounced in a fit. It should be noted this accident and article do not refer to cases of drowning after great exposure or prolonged effort, but rather to those heretofore classified as due to cramps, fits, heart disease, etc.

Bath, Me.

ABSTRACTS.

LATENT GONORRHŒA.—Fritz Levy, in *Hospitals' Tidende*, publishes an elaborate article on this subject. The following are the conclusions of his paper :

1. The gonococcus of Neisser must be considered the specific cause of gonorrhœa.
2. The gonococcus is found both in chronic and acute gonorrhœa, and may be concealed in urethral discharges of many years' standing.
3. The presence of the gonococcus in the secretion is intermittent.
4. The intensity of the gonorrhœal inflammation is not always proportionate with the number of gonococci.
5. In females the normal appearance of the vaginal and urethral mucosa is not a proof that the gonorrhœa is cured.
6. Uterine gonorrhœa is a dangerous affection in women, as the inflammation may extend through the Fallopian tubes to the ovary, and even into the peritoneal cavity. In these cases a contagious discharge is secreted at intervals for many years.

THE EXPLORATION OF THE BLADDER BY THE SUPRA-PUBIC METHOD (F. S. Dennis M.D., Surg. to Bellevue Hosp., New York). Supra-pubic lithotomy is simple in technique, safe in execution, free from injury to the reproductive organs, radical in results, curative in application, and brilliant in statistics. The many serious accidents attending the lateral operation are avoided. For a few days before operation a milk diet should be employed. The day previous to operation the bowels should be moved with castor oil. The morning of the operation an enema should be used, so as to empty the rectum for the introduction of the rubber bag. The parts should be washed with antiseptic solution. After the patient has been etherized, the surgeon should introduce a rubber bag into the rectum so as to be above the internal sphincter. Into this twelve ounces of warm water is to be introduced. This quantity will have to be increased or diminished according to circumstances. The danger of rupture of the rectum in elderly people and young boys should be borne in mind. The urine should be withdrawn and six ounces, more or less, of an antiseptic solution introduced into the bladder. The catheter may be left in the bladder and stopped with cork, and this will serve as a guide to cut upon. The distention of the rectum and bladder increases the distance from the pubes to the anterior cul-de-sac of the peritoneum to three inches. The incision should be made in the median line and extend for three or four inches above the pubes. When the transversalis fascia is reached, the use of retractors, on the principle of the eye speculum, facilitates the operation. Having divided the fascia, the end of the catheter can be felt and cut upon as a guide. The bladder may then be seized with two tenacula and opened. Where free exploration is desired, sutures are introduced on

each side of the incision. The stone is removed either with the fingers or forceps. The bladder may then be washed out. A catheter should be introduced through the urethra, but not be left longer than twenty-four hours, on account of the danger of exciting traumatic urethritis. In the majority of cases the wound of the bladder should be left open. In cases of calculi the condition of the tissues is such that primary union is unlikely. In certain other conditions, such as rupture, the wound may be closed. The abdominal opening is to be closed and a tube introduced.

This operation is indicated (1) for hard, large, calculi, and in persons suffering with paraplegia and deformities rendering lateral lithotomy difficult; (2) for removal of certain foreign bodies, such as hair-pins, etc., and for the treatment of chronic cystitis; (3) in cases of tight stricture, fibroma of prostate, tumors of the bladder, and for rupture. In its extraordinary simplicity, its reduced mortality, its freedom from danger, and safety for the general practitioner, it compares well with the litholapaxy.

The speaker had collected 124 cases of supra-pubic operation for stone done since 1879. Previous to this date the rate of mortality was thirty per cent. Since then the mortality has been reduced, there being eighteen deaths, a mortality of fourteen per cent. Seven of these deaths may be justly excluded, giving a mortality of nine per cent. According to Sir. Henry Thompson's statistics, the death-rate from the lateral operation is twelve per cent. According to the same authority, the mortality of lithotripsy is six per cent. In considering the mortality of this operation, two facts are to be considered. The mortality may be improved by more rigid antiseptic precautions. The second fact is that the operation has been limited to the largest stones. When the smaller stones are included, the death-rate will be reduced.—*Albany Med. Annals.*

TO WHAT EXTENT CAN WE CLASSIFY VESICAL CALCULI FOR OPERATION? (A. Van De Veer, M.D., Prof. Surg. Albany Med. Coll. N. Y.)—He briefly gave the detailed histories of forty-one cases on which he had operated. The various methods employed were lithotomy, rapid dilatation of the urethra, and Bigelow's operation (litholapaxy). The cases presented represented every variety of stone, as to location in the bladder, prostatic, membranous and spongy portions of the urethra. The kinds as to formation of hard and soft calculi was singularly complete, while the extremes as to size were remarkable.

After a review of the literature of the subject, he formulated the following conclusions: Can we yet classify our cases with certainty as to what is the best and most certain course to pursue for the safety of the patient's life and future comfort? In attempting to do this with his own cases, he said there were seven cases of perineal lithotomies, with two deaths and five recoveries, the former being very old men with large stones. Of attempted litholapaxies and immediate perineal lithotomy there were two cases, both resulting in death, one occurring

in the speaker's practice, the other in that of the late Dr. Snow. Both were severe cases of large stone, the patients presenting a history of much suffering through many years. Of dilatation of the urethra in the female, and washing out of fragments or removal of stone entire, there were six cases, all recovering, with no complication whatever. Of urethral calculi in the male there were four cases, all recovering. Of simple lithotripsy in the male there was one case, followed by recovery.

Of attempted litholapaxies, but which were not completed, there were four cases, three ending in death and one, the stone hiding in a sac, later underwent perineal lithotomy and recovered. One was probably complicated with some form of tumor of the bladder, and a history of chronic disease of the kidneys. One was a case of chronic alcoholism, one was complicated with sacculated bladder, and the last two were cases of surgical kidney of the gravest kind.

Of the litholapaxies in the male there were eighteen patients having twenty-two operations, four requiring a second operation. Of the number, sixteen recovered and two died; of the latter, one after the first and one after the second operation.

With reference to supra-pubic lithotomy, the author said that, with the excellent results we are likely to obtain from rapid lithotripsy, he did not believe that we should ever expect from it as great a per cent. of recoveries as from lithotripsy. The operation must necessarily deal with severe cases of large, and in some instances sacculated, stone. A table of reported cases of supra-pubic operations were given, showing in 142 adult cases a mortality of twenty-two per cent.; in children under fifteen years of age 113 cases gave a mortality of 10.5 per cent. We must remember the fallacy of all tables, since many cases never return to the first operator.

The operation of litholapaxy is certainly indicated where the stone is small or of moderate size, and, contrary to the teachings of a few years since, can be done in very young male children with proper instruments. In male adults, if there is severe chronic cystitis, no matter what is the size of the stone, the supra-pubic or some form of perineal lithotomy seems best. The cystitis can be successfully treated, and there is less danger of a re-formation. The speaker thought that it would be found by future statistics that cystitis has much to do with the necessity for a second or third operation. He thought that contracted bladder in the male, with adhesions, had not received the attention which it demanded. This must, in some instances, embarrass supra-pubic lithotomy. On anatomical grounds, the supra-pubic operation will be much simpler in the youth, as the bladder is much higher in the pelvis at this time of life. In girls, rapid dilatation or supra-pubic lithotomy will undoubtedly reach all cases. In adult women, vaginal lithotomy may be added.

He closed with a few remarks on the difficulty of securing a proper examination of the urine, such as would reveal the true condition of the kidneys. Casts are very generally absent; albumen can very often be

traced to the presence of pus, and he expressed the conviction that we have much to learn from the surgical kidney.

THE PYOGENIC MICROBE IN CORNEAL ULCERS.—The microbe plays in no part of ophthalmology a role more intimately connected with the work of the practitioner than in *ulceration of the cornea*. Until comparatively recently the development of corneal abscesses and ulcers has been involved in mystery, which disappeared during the mycological developments of the last decade.

It has been ten years since some steps have been taken toward the rational treatment of these troubles, but only since the discovery of cocaine has it gained a strong foothold.

Within the last few years importance has ceased to be attached to descriptive adjectives, and the question now is: Is it septic, where is the source of infection, what is the nature of the micro-organism, and what will destroy it?

As often happens, diseases receive intelligent treatment without a correct knowledge of their pathogenesis. So, in ulcers of the cornea, the clinical results of empiricism have been guiding the treatment of suppurative processes in the eye to better and better results, without any knowledge that the element of antiseptics was the element of success. Up to 1871 the best results from the practice of the day (atropine, eserine, chlorine water, fomentation, pressure bandage and paracentesis) were published by Horner, in which there was a total loss of 11½ per cent. of the eyes, and a favorable termination in only 57.4 per cent. The introduction of the practice by Saemisch of treating malignant cases by making puncture and a counter-puncture in the sound tissue, cutting through the ulcer and establishing a drainage of the aqueous humor through the wound, reduced the ratio of lost eyes to 9 per cent. Up to this time treatment had been empirical, but based on the acquired bacteriological knowledge; iodoform was submitted to an extensive trial with still a loss of 6 or 7 per cent. of the eyes. The germicide in value immeasurably above all others is heat, and without a knowledge of the role played by bacteria in corneal ulcerations, the actual cautery has been advocated as long ago as 1873. The instruments used later were heated pins and strabismus hooks. The application was exceedingly painful except under the influence of general anæsthesia, and an insuppressible dread always attends the thought of the eye being burned with a red-hot wire. Against these adverse influences the recommendations of none of the advocates of this practice had any effect in securing its general adoption.

In the meantime the researches of Horner and Leber demonstrated the mycotic influence of fungi in the destruction of corneal tissue, and based on this, Sattler, in 1883, repeated the recommendations of the use of the heated wire, and advocated the galvano-cautery in place of the crude instruments formerly in use.

This powerful influence, together with the introduction of cocaine, which removed the dread of pain, secured for the cautery an extensive

trial, which has won for it the first place in the therapeutics of septic corneal ulcers. In 1885 Dr. A. Needen reported his first 100 cases treated by the galvano-cautery without a single failure to arrest the destruction and save the eye.

In view of the manipulative difficulties attending the use of the galvano-cautery, Gruening, of New York, has recommended the use of the heated platinum probe. The probe may be held in the flame of a spirit lamp or Bunsen burner, and when brought to a glow transferred immediately to the ulcerated area of the cocainized cornea, reheated and reapplied until the surface is absolutely sterilized and all the fungi killed. The lightness of the probe facilitates the manipulation, and every purpose is served, except when *paracentesis* of the cornea is required.

The observation of Dr. G. V. Black, who is one of the foremost workers in the field of bacteriology, has developed the significant fact that many micro-organisms will not commence a growth in an alkaline solution. This harmonizes with successful empirical practice in the treatment of stys and corneal ulceration by the use of alkalis. The use of lemonade, bicarbonate, or bitartrate of soda, or Siedlitz powders, has been found to be an unmistakable aid to the healing process, and an explanation may be found in Dr. Black's observation. A *colyrium of atropia sulph.* is prescribed if the ulcer is central, and *eserine*, if a peripheral perforation exists, or is contemplated, and it should be made up with bichloride or mercury $\frac{1}{1000}$ or Pannus' solution (biniodide of mercury, gr. 3-4, alcohol 3 v, water 2 pts., which I prefer, and of such strength that it can be dropped in every two hours without producing constitutional effects—one to two grains to the ounce. In the commencement of treatment, application of a small bag of flaxseed frequently dipped in very hot water is to be recommended for the relief of pain. Vaseline and iodoform, 2 per cent., twice a day in the eye will be grateful and useful. When the acute stage is passed, the recovery is hastened by the use of the ointment of yellow oxide of mercury, one-half to one per cent., at night.

The tendency to conceal ulceration often lies in a diminished vitality of the cornea, which debilitates it for the battle against the ever-present pyogenic microbes. One essential portion of the treatment must, therefore, ever be the fortification of the general system and improvement of its condition. In many cases in which ulceration of the cornea is found to frequently recur, it will be found that there is a chronic condition of trachoma, or a neglected inflammation of the lachrymal sac, or obstruction of the duct, causing the cornea to be constantly bathed in stagnant tears. These collateral relations should ever be borne in mind, for no treatment can be successful which does not include a rational attention to the general physical, as well as the local health of the cornea and its adjoining tissues.

THE INFLUENCE OF ALCOHOL ON THE DIGESTIVE FUNCTIONS IN THE NORMAL AND IN THE PATHOLOGICAL STATE.—Gluzinski has

recently undertaken a series of experiments on human subjects, to ascertain the influence of dilute alcohol on the stomachal digestion. He gave to fasting individuals, some of whom were healthy, and others of whom were suffering from digestive troubles, a certain quantity of coagulated albumen, with a definite proportion of alcohol. At certain periods of the digestion, he syphoned out the contents of the stomach for chemical analysis. He was thus able to follow the march of digestion in its several stages. The results of his experiments are as follows :

Alcohol rapidly disappears from the stomach, leaving not a trace of its presence behind. The digestion, as influenced by alcohol, is divided into two phases in healthy individuals: The first phase is characterized by a marked retardation of the digestion of albuminoid matters which, in fact, fail to undergo peptonization as long as any alcohol remains in the stomach. The second phase begins after the elimination of the alcohol. It presents an absolute contrast with the first, and makes up for the slowness of the first period by increased functional activity of the stomach, so that the digestion is terminated about the same time as when no alcohol has been ingested. In the first period, alcohol retards the pepsin digestion. On the other hand, it causes a certain degree of excitation of the glandular elements, which is followed in the second period by a more abundant secretion of hydrochloric acid. This excitation persists, even after the albuminous elements have disappeared from the stomach.

The first period, that of showing of the digestion, is generally very short. Experiments, in fact, show that one hundred grammes of albumen, containing twenty-five per cent. of alcohol have, in many instances, completely disappeared from the stomach at the end of fifteen minutes. The second period, during which digestion is accelerated, supervenes quite speedily.

The conclusion which Gluzinski draws from these experiments is that, in reality, the ingestion of small quantities of alcohol exercises a favorable influence on the digestion in individuals in good health.

In the pathological state, the two phases of digestion are much less marked after the absorption of a certain quantity of alcohol. The second period, that of excessive functional activity, is almost completely wanting in most persons. These facts show that in cases of dyspepsia (for example) physicians should not recommend, with the intent of promoting digestion, the usage of beverages which contain a large percentage of alcohol.

THE MECHANICAL TREATMENT OF HIP-JOINT DISEASE (Newton M. Shaffer, M.D., Surgeon N. Y. Orthopedic Hospital).—One of the objects of Dr. Shaffer's paper was to prove that it was not only possible, but comparatively easy to treat hip-joint disease successfully and satisfactorily with the means offered by a well-equipped dispensary. To be sure there were many cases which required hospital facilities, but there were very many bad cases which could be cured by dis-

pensary treatment with an occasional visit in addition to the general supervision of the surgeon. Dispensary treatment meant an interested parent or friend who would carry out the directions of the supervising surgeon.

The objects aimed at in treatment had been (1) to overcome, by mechanical means, any acquired deformity which existed before treatment was commenced; (2) to protect the diseased joint from traumatism; (3) to permit the patient to have an almost unlimited amount of out-of-door life; (4) to maintain that position of the limb which would reduce the deformity to the minimum, and at the same time favor locomotion if anchyclosis occurred.

Abscesses as a rule were not interfered with. They did the best when allowed to open spontaneously. The mechanical treatment consisted in the use of the long hip-splint, without a joint, from beginning to end. An intermediate splint would be used sometimes in the course of treatment in private practice.

In three cases there was free motion in every direction. Of these there was abscess in two, and no abscess in the other. But the amount of motion *grows less* as time passes. As to the position of the limb, *adduction* was a very serious ultimate result. In only one case, notwithstanding the shortening of the limb, was there true lateral rotary curvature of the spine. The amount of shortening does not depend upon abscess. The muscular atrophy never entirely disappears.

Conclusions.—*First*, that the conservative method of treatment promised better ultimate results than the exsection of the hip-joint; *second*, that of the 51 patients discharged cured, 4 died, 2 presumably of tubercular disease, and 2 of acute affections; 6 relapsed, and of these 2 had been cured the second time, and two were under treatment; *third*, of the 41 who recovered no one had been incapacitated for doing a full day's work, and none of these had given any evidence of tubercular disease.

THE MANAGEMENT OF FECAL RETENTION UNCONNECTED WITH ORGANIC DISEASE (George Dalton Hays, M.D., of New York).—In acute constipation the best remedies are clysters, salines, and castor-oil; in those forms denominated "bilious," lavage, emetics and abstinence, and the use of cholagogues. Impaction of the colon results from causes of a chronic nature, but is apt to develop acute symptoms. Our chief reliance here rests upon intestinal irrigation. This should be employed in the manner indicated. In chronic constipation a thorough trial of all the hygienic and mechanical aids should precede the use of drugs, and, where recourse to the latter has eventually to be made, such aids are always to supplement all other forms of treatment. Medicines having a curative tendency should always be chosen in preference to those which merely relieve the symptoms. Enemata are also of great value here. Aloes, rhubarb, belladonna, strychnine, cascara, ipecac, physostigmine, ergot, and the occasional use of the salines, are the most efficient remedies of this class. Various combinations

and alternations of these produce effects not otherwise attainable, but it is essential to bear in mind that our remedies should be directed to the cause and not to its effect. In constipation of a chronic nature large faecal accumulations may occur at any time, and no examination of a patient is complete which does not include a careful exploration of the colon through the abdominal walls.

When constipation has been diagnosticated as the cause of the group of symptoms for which our aid has been sought, it is frequently very difficult, especially in the case of young women, to sufficiently interest the patients in their own cure. They are apt to view the attention to these details as in some measure humiliating.

HEMORRHOIDS.—Mr. Whitehead describes the following operation for the cure of hemorrhoids in the *British Medical Journal*, and reports three hundred cases so operated in. In no case did death, secondary hemorrhage, ulceration, abscess, stricture, or incontinence of faeces occur after the operation.

The patient is anæsthetized and placed in lithotomy position, and the sphincters are paralyzed by stretching. The mucous membrane is then divided at its junction with the skin very carefully round the entire circumference of the bowel. The mucous membrane is then dissected up and pulled down, with the attached hemorrhoids, until the latter lie below the margin of the skin. The mucous membrane is then divided above the piles, a portion at a time, and the free margin of mucous membrane is attached immediately to the corresponding free margin of skin. In this manner a complete band of hemorrhoidal mucous membrane is removed, and relapse is much less likely than after the use of the ligature or clamp. The after-pain is slight, and patients can resume work within a fortnight.

MICROSCOPY AND PATHOLOGY.

Professor Metschnikoff publishes in the *Annales de l' Institute Pasteur*, a very interesting study on the fight which is carried on in living organisms between bacteria and similiar beings brought from without and the cells of living organisms—cells which he calls *phagocytes*, and are of two orders: the *leucocytes*, or white blood-corpuscles, and the conjunctive cells, which are similar to the preceding, except that they do not move about, but keep always quiet. This fight Metschnikoff has witnessed for the first time on some daphnia—small fresh-water crustaceans which are subject to become victims to a *monospora*, a fungus of inferior order. As soon as a monospora invades a daphnia, the leucocytes swarm around it, surround it, and destroy it by a process of intracellular digestion. In eighty per cent.

of the cases the leucocytes are successful, and entirely kill the monospores; in twenty per cent. the monospore gets the best of them, and the daphnia perishes, being unable to sustain the fight. In all cases of parasitic disease the result to the organism depends on the result of this fight, which occurs more or less in all cases, from man downwards.

In some rare cases there is no fight; for instances, in cases of *choléra des poules* the bacteria multiply and grow freely, without any show of fight on the part of the phagocytes of the hen; in the guinea-pig, on the contrary, the phagocytes work in a very energetic manner, and the consequence is, that they generally succeed in destroying the bacteria, and the guinea-pig is saved. In some cases, such as that of *charbon*, caused by *bacillus anthracis*, the leucocytes take no part at all in the fight, and it is only the phagocytes of the spleen who do something; but they are not numerous enough, and are nearly always defeated. When an *attenuated* virus of *bacillus anthracis* is locally injected, on the contrary, the leucocytes fight well, and it is easy to see within their envelope a number of dead bacilli.

In order to ascertain whether this fight between parasitic fungi and the phagocytes of the body is a regular circumstance, notwithstanding some exceptions, Professor Metschnikoff has extended his investigations to a great number of parasitic diseases; and he has seen that the fight takes place in erysipelas, in malarial fever, in typhus-fever, and other diseases. In other cases it also takes place, but without any very marked result; because, although the phagocytes do take the fungi into the interior of their cell, they cannot digest nor destroy them, on account of the thickness and vitality of the exterior membrane of the fungi. Such is the case, for instance, with tubercular or leprous bacilli. The fight between phagocytes and fungi is, therefore, a common phenomenon; the differences in the result of it being due to the fact that it is not always successful, and that it does not always begin soon enough. Professor Metschnikoff draws an interesting parallel between the inflammatory reaction in warm-blooded animals, which consists in a migration of leucocytes out of the blood-vessels, and the reaction which takes place in animals which are deprived of blood, or of cold blood, in which there also occurs a migration of phagocytes. In both cases the phagocytes surround the foreign bodies, and try to destroy them. This process is quite similar to that which obtains in sponges for digestive purposes; all foreign bodies, whether alimentary or not, are soon surrounded by amoeboid cells, which are real phagocytes. This very interesting theory of Metschnikoff throws an entirely new light on a difficult question—that of the *modus agendi* of parasitic fungi—and completes Pasteur's theories on that point, showing that parasitic diseases are merely the result of intercellular warfare going on between cellular fungi and elementary cells, very similar in many points to amoebas and such organisms.

SANITARY.

THE DISPOSAL OF THE ORGANIC MATTER.—It is a valuable fact that as sanitary knowledge advances there is on the part of its best authorities a tendency to study closely the methods of Nature. We cannot afford to be without a precise acquaintance with the natural modes of disposition. Where departing from these, we need to know accurately the lines and degrees of departure and justify them by the necessities of the case or by showing how compensatory arrangements have been made.

Dr. Poore, of London, has recently set forth with admirable clearness what we are doing when we mingle decayable or organic matter of any kind with water as a vehicle. No doubt the natural way to dispose of excretions and secretions and such like refuse is to put it in the ground and aid this first process as far as necessary by tillage. This is the beautiful round of animal and vegetable life by which the one is the analogue of the other. Each is meant to feed the other, and to conduce to its most perfect health. In itself considered, about the worst use you can put organic matter to is to cover it with water and keep it so. If, for convenience, we use it as a carrier or for a temporary cleanser, we must all the more remember that when organic refuse is mingled with water it undergoes changes very different from those it undergoes when mingled with soil, or even from those it undergoes when kept dry. When placed in soil it has access to air, to moisture, without soakage and to soil itself, with its absorbing or neutralizing constituents. It has also the chance for that wonderful alchemy of Nature by which it feeds vegetation, and so is harmlessly converted into life. In this decomposition in proper ground, it is a breaking up and distribution in perfect accord with human and animal welfare. But if the process goes on in water, it is in the direction of *putrefactive* changes always hazardous to animal life. So true is this, that our author contends that whole departments of modern sanitation were only made necessary by the various water-carriage systems. Instead of the carbon dioxide and the nitrates which feed the plant we get more water and ammonia and carbonaceous matter.

We get products not ready for plant assimilation and many of them apart of the process of putrefaction or a series of compounds ready, in their turn, to administer thereto. Instead of the class of microbes that are conservative of health, we get all of those mongrel species and vicious growths which do not remove evils, but in their own decay add thereto.

When we keep such products in a *dry state*, we allow the air to reach them and to carry on a series of transformations far more conservative of health than the water mixtures. The air, far sooner than stagnant water, becomes the medium of their transfer to vegetable life. It is well for us to realize fully what all this putting of refuse into excess of water means. It is an arrest of Nature's methods, and a sub-

stitution of a putrefactive, and so of a hazardous system. We do it in the use of the water-closet and of all water-carriage of filth *unless* we land it far away from human habitations, or where some porous soil can restore the material to air and ground and moisture, in place of solution in or covering with water. We do it with every cesspool in a most hazardous way. We do it in all dissolving of organic materials in water-supplies. This is probably the reason why these are so often the mediums of disease. Here we subject it to the care of a putrefactive, instead of a healthy decomposing agency. We are doing the same in all undrained soils soaked with water and filth. If we cannot prevent refuse to some degree getting in the ground, we can dry the ground by drainage and so enable it to work off its load naturally instead of viciously.

There are reasons why these facts need not wholly dismiss water from use as a conveyancer of decayable matters. But what we insist upon is, that it is to be used with these facts in view, and that compensations are to be made for these risks. There must be planning for return of the material promptly to conditions allied to those in which harmless and conservative changes take place. How this can be done may be presented at another time.

OBITUARY.

At a meeting of the medical staff of the Brooklyn Hospital, September 24, 1887, the following minute was adopted :

The long and active connection of our friend and associate, the late Dr. Jos. C. Hutchison, with the Brooklyn Hospital was characterized by earnest and unfaltering devotion to its interests. His pre-eminent professional skill, his conservative and accurate judgment, his large and varied experience, his genial manner and the inspiration of his native kindness and Christian manhood were ever ready for his professional associates, as well as for those who sought the shelter of this institution for help, and were ever intent on all suggestion that served to keep the Brooklyn Hospital first and most liberal among the charitable institutions of the city.

Contributing, as he did, by his dignified presence and his many graceful accomplishments to the adornment and advantage of the enterprise, culture, and benevolence of the city, the Brooklyn Hospital was nearer to his heart than any other, and to it were given his utmost care and the best of his gifts.

D. E. KISSAM, *President.*

ARTHUR R. PAIN, *Secretary.*

PROCEEDINGS OF SOCIETIES.

AMERICAN DERMATOLOGICAL ASSOCIATION.

*Eleventh Annual Meeting, held in Baltimore, August 31, and
September 1 and 2, 1887.*

WEDNESDAY, AUGUST 31ST.—MORNING SESSION.

The Association was called to order by the President, Dr. H. G. Piffard, of New York.

Dr. R. W. Taylor, of New York, read a paper on

THE TOXIC EFFECTS OF IODOFORM.

He reported the details of twenty-four cases, nine of which came under his personal observation. Sixteen of these cases were accompanied by constitutional disturbances, while in nine the rash existed alone without any apparent systemic symptoms. A large number of cases have been reported in which toxic constitutional effects have followed the use of iodoform. It is evident that the toxic effects of iodoform are more frequently manifested by systemic irritation than in cutaneous manifestations.

The skin affections may be classed under the general head of dermatitis, but for the sake of accuracy may be further subdivided according to their relative frequency, into erythema, eczema, and purpuric spots. The erythema due to iodoform may present many of the features of similar eruptions. Its mode of invasion is prompt and extension rapid. It may commence at the point where the application has been made, or other patches of erythema may begin in other parts and extend to meet that from the original point. Erythema may follow from simply smelling the iodoform. The eruption completes its evolution in a few days, and under favorable circumstances this eruption rapidly undergoes involution, behaving very much as an ordinary exanthematous eruption. Various forms of erythema have been noted. Sometimes it is very superficial; in other cases it is still superficial but of a deep red hue, and may be termed scarlatiniform. In exceptional cases, usually those presenting grave constitutional symptoms, the erythema presents points of resemblance in hue and brawny feeling to erysipelas. Other cases may be placed under the head of erythema multiforme.

The eczema resulting from the use of iodoform is usually of severe form and rapid evolution, and may begin at the point of application or in parts at a distance. It may also result from simply smelling the drug. Its character is pronounced from the first. A large surface is

involved and in all respects it is similar to ordinary eczema malidans. The involution is, as a rule, almost as rapid as the evolution, if the drug is removed. In some instances, however, the eruption shows a tendency to become chronic. It is usually amenable to treatment. Eczema occurred in nine of the twenty-five cases reported.

The time of the appearance of the eruption was noted as follows : in twelve cases it began within a few hours or within the first day ; two on the second day ; three on the third day ; one on the ninth day ; one on the twelfth day ; and two on the fourteenth day. This is in contrast with the statistics of the onset of the symptoms when systemic poisoning results. In the majority of these cases the morbid symptoms begin in the second week. As a rule, it may be stated that in proportion as the rash is slow in appearing, so are the concomitant symptoms severe. Statistics seem to show that the cutaneous manifestations are most frequent in youth and middle age, while the systemic symptoms occur most frequently in the aged. The erythema appearing upon the hands of dressers in hospitals as a result of the direct contact of the iodoform was regarded as being related to the ordinary hyperæmia induced by mustard and other irritating applications and not to be considered as belonging to the class of cases just described.

Dr. J. Nevins Hyde, of Chicago, had seen the eczematous form of eruption, and also erythema multiforme, and in one case there was a bullous type of eruption resulting from the use of iodoform. This occurred in a young man who had an operation performed for necrosis of the tibia. Iodoform was used in the dressing of the wound. The recovery was complicated with recurrences of erythema upon the surface of the body. This occurred in the form of large areas of a vivid bright color, afterward becoming dull. Scattered over these surfaces were large bullæ containing a clear, transparent fluid, and when ruptured produced superficial excoriated surfaces. The condition was finally traced to the iodoform application and within ten or twelve days after the discontinuance of the iodoform the eruption disappeared and did not recur.

Dr. J. C. White, of Boston, had seen a number of cases of eruptions due to the free use of iodoform in the treatment of surgical injuries. He had never seen systemic manifestations where there was dermatitis. The form of eruption has varied from simple hyperæmia up to the vesicular form and going no further in most cases. In occasional instances there appeared a furuncular form of inflammation owing possibly to mechanical obstruction of the cutaneous follicles by particles of the powder. The eruption is almost always found in the immediate vicinity of the point of application.

Dr. I. E. Atkinson, of Baltimore, then presented

A CLINICAL STUDY OF ERYSIPELAS IN CHILDREN.

He considered erysipelas to be a contagious, infectious disease.

During the first month it is extremely fatal, but the mortality gradually diminishes up to the end of the first year. The fatality at this period is probably to be attributed to its dependence upon the poison of puerperal fever. He reported the detailed histories of three cases of erysipelas in young children. In two a cellular, board-like induration occurred as the result of intense œdema and cellular infiltration. In neither of these cases was there suppuration. He thought that erysipelas should be considered the expression of the effect of one of a number of specific causes, and in that sense should be regarded as a symptomatic inflammation. Dr. J. C. White asked if the author personally knew of a case in which erysipelas was directly transferred from one person to another; and if he regarded the tincture of the chloride of iron as having any specific therapeutic action in the treatment of the disease.

Dr. Atkinson replied that he had not seen an instance of the direct contagiousness of erysipelas, but there are a number of well-authenticated cases on record. He could not say that the tincture of the chloride of iron was a specific, but in his experience it has had a more favorable influence on the course of the disease than any other remedy that he has employed.

Dr. J. C. White had never seen a case of facial erysipelas transferred from one individual to another. If at all contagious, it must be so with extreme rarity. He regards tincture of the chloride of iron, and all other internal remedies, as useless in the treatment of this form of erysipelas. For five years he has given no internal medicine in the treatment of erysipelas, and has not seen a case in which the erysipelatous eruption did not disappear in from five to ten days. In his experience, infantile erysipelas has been so wholly different in its clinical aspects and course, with or without treatment, from ordinary traumatic erysipelas, that it seems to be quite a distinct disease.

Dr. Hyde had seen one case which seemed to indicate the contagious nature of erysipelas. A young mother, soon after confinement, had her ears pierced for ear-rings. This was shortly followed by typical erysipelas, spreading over the face and scalp. Soon the nursing child was affected with the disease, and presented typical erysipelas, from which it died. He agreed with Dr. White, that tincture of the chloride of iron is useless in the treatment of this affection.

Dr. Atkinson said that in those cases of erysipelas which may be termed septic, whether the disease depends upon ordinary septic poison or not, he had no doubt that benefit is derived from the administration of the tincture of the chloride of iron in large doses, as much as half a drachm, three or four times a day.

Dr. R. B. Morison, of Baltimore, then read a paper on
LEUCOPATHIA UNGUICUM, A PECULIAR AFFECTION OF THE NAILS.

The ordinary white spots found upon the nails are well known.

These are gradually forced to the outer edge of the nail by the growth of new nail behind. The time occupied in this process varies from four to six months. These spots are usually irregular in shape. A lady, twenty years of age, recently came under the author's observation, in whom these spots presented a uniform appearance. Examination of the nails showed white bands one-sixteenth of an inch in width, extending across the nail, from border to border. The nails were perfectly smooth, and in other respects normal. The general health was good, and there had been no acute disease. These white bands across the nail had been regularly appearing for many months. During her previous summer the lines had disappeared almost entirely, the toenails were not affected and the hair was not gray. Portions of the nails were subjected to microscopical examination. Sections were made, cutting the white lines at right angles. By direct light these lines appeared of a pure white, while the rest of the section was of dark color. The application of acetic acid and other agents caused a gradual disappearance of the lines. Canada balsam also caused their rapid disappearance. It therefore seemed plain that these white lines were due to air spaces in the nail; the disappearance being caused in the one case by the swelling of the adjacent cells, induced by the acetic acid, and in the other, by the filling of the spaces with Canada balsam. Examination of several white spots gave similar results.

Dr. Hyde then reported

THREE CASES OF SIMULTANEOUS HAND AND FOOT DISEASE.

Dr. L. A. Duhring, of Philadelphia, has regarded the affection as dependent upon a want of nutrition in the nail tissues, and had employed arsenic with satisfactory results. This acts upon the nervous system, improving the nutrition of the whole member, and of the fingernail in particular.

Dr. P. G. Unna, of Hamburg, said that the presence of air in the horny tissues is always a secondary phenomenon. The horny masses must be changed before they will allow the entrance of air. These white spots in the nails are analogous to medullary substances.

He had seen cases similar to those described by Dr. Hyde, and had allied them with eczema. His principal reason for so doing was that in some cases he had seen combined with the disease of the hands patches of eczema on various portions of the body.

Dr. R. W. Taylor, of New York, regarded Dr. Hyde's cases as cases of tylosis of the hands and feet.

Dr. Le Grand N. Denslow, of St. Paul, regarded the cases as instances of callosities. In his last case, in the person of a hotel porter who was unable to perform his duties on account of the tender condition of the soles of the feet, he first removed the callosities by the ap-

plication of a saturated solution of salicylic acid in collodion, and then made a false sole for the feet by the application of a belladonna plaster spread upon kid. By this means he is able to attend to his work in comfort.

Dr. E. Wigglesworth, of Boston, had now under treatment a case similar to those described by Dr. Hyde. He regarded it as a case of tylosis. In the treatment he employed a twenty per cent. solution of salicylic acid in emplastrum saponis until the callosities were removed. He then dressed the parts with equal parts of belladonna and mercurial plaster spread on kid. Regarding the condition as dependent upon lowered nutrition, he also employed tonics with good effect.

Dr. Hyde, of Chicago, stated that he had at first regarded these cases as instances of tylosis, but a large experience showed that this view was not correct. In one case he had watched the course of the disease for three years. The parts have been macerated for days and weeks at a time. He knew that there is a constant new formation of these masses, and that the nails are continually undergoing a similar process. These cases are entirely different from the ordinary forms of tylosis and callosities.

AFTERNOON SESSION.

Dr. L. D. Bulkley, of New York, presented some

CLINICAL NOTES ON PRURITUS.

Pruritus may be defined as a functional disturbance of the nerve elements of the skin, resulting in itching not dependent upon local irritation or local lesion. Out of a total of 5,000 cases of general skin diseases he had records of eighty cases of pruritus, a proportion of about 1.75 per cent. Thirty of the patients were females and fifty males. In the majority of cases there was some chronic disease, such as gout, albuminuria, and chronic bronchitis, or marked evidence of lowered general vitality. Temporary benefit was obtained in some cases, while in others no relief resulted from treatment. The author was of the opinion that in many cases the condition resulted from reflex irritation. In 115 observations which he had made, in all but three the reflex occurred on the same side as the point of irritation.

Dr. F. B. Greenough, of Boston, presented some

CLINICAL NOTES ON PEDICULOSIS.

He had been induced to examine this subject on account of the fact that the statistics of the Association had shown that there was a

greater proportion of cases of pediculosis reported from Boston than from any other city. The only explanation of this fact that can be offered is that the difference is more in observers than in the number of cases of the affection. An observer in one city may put under the head of *eczema capitis* a case which would be considered in Boston as one of *pediculosis capitis*.

Dr. J. C. White, of Boston, said that in the treatment of pediculosis of the pubic region and of the head he always used crude petroleum. This does not produce the slightest irritation upon the most inflamed surface. It is allowed to remain in contact with the hair for two or three hours.

Dr. J. C. White then read

AN INTRODUCTION TO THE STUDY OF THE INFLUENCE OF DIET IN
THE PRODUCTION AND TREATMENT OF SKIN DISEASES.

Many articles of diet are considered, both by the people and by the profession, as injurious in certain affections of the skin. He held that in regard to many of these articles there was no evidence of their injurious effects, with the exception of popular belief, and that they should not be discarded until more proof was advanced against them. Among various substances considered injurious in skin diseases butter was mentioned, but he regarded pure, uncooked butter as entirely harmless so far as the skin is concerned. Oatmeal and buckwheat have been classed in the same category, but there was no foundation for such a belief. The same remarks apply to fish and meat, which have been regarded as harmful by some dermatologists. He then mentioned certain articles which in his experience had seemed to be prejudicial in certain skin affections. Alcohol aggravates the course of inflammatory conditions of the skin. In some lager beer will produce a crop of acne over the lower part of the face. The eating of acid fruits may cause an acute eczema. Strawberries often cause urticaria. Apples are said to produce an acne form efflorescence about the mouth. Some nuts, especially the English walnut, may produce inflammation of the mucous lining of the mouth. Shell fish and crustaceans may occasionally give rise to urticaria. Other meats may at times produce similar effects. The worst case of giant urticaria that he had seen had followed the use of roast turkey.

Dr. Hyde agreed with the speaker in regard to most of the articles mentioned. He should, however, put oatmeal on the black list. Where urticaria follows the use of the grape, he thinks that it is principally due to the fact that the seeds and skin of the grape are also swallowed.

Dr. P. G. Unna, of Hamburg, had seen urticaria produced by strawberries in cases where the berry had not been swallowed, but simply placed in the mouth.

Dr. Bulkley had more than one patient who cannot take raspberries without having urticaria. In some cases pineapples have a similar effect. He had seen many patients in whom injurious effects have followed the use of milk with the meals. If taken between meals it produces no injury. He had found that nearly almost every case of acne is aggravated by soup taken with the food.

THURSDAY, SEPTEMBER 1ST.—MORNING SESSION.

At the business meeting the following were elected

OFFICERS FOR THE ENSUING YEAR :

President—Dr. I. E. Atkinson, of Baltimore.

Vice-President—Dr. P. A. Morrow, of New York.

Secretary and Treasurer—Dr. G. H. Tilden, of Boston.

The report of the Committee on the

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS

was received and adopted. Dr. I. E. Atkinson, of Baltimore, was appointed representative to the Executive Committee of the Congress, and Dr. G. H. Tilden alternate.

Dr. L. A. Duhring, of Philadelphia, read a paper on

THE DIAGNOSIS OF DERMATITIS HERPETIFORMIS.

He had been led to believe, from the perusal of various reports of cases, that this affection was not thoroughly understood. Its chief characteristic is the multiformity of the lesions manifested in the natural evolution of the disease. Blebs, vesicles, and pustules may appear together or separately. Mixed eruptions are the most common, vesicles predominating. In one attack or another only one kind of lesions may be present. The disease presents clearly defined characters in distinct elementary lesions and certain distinctive abortive lesions. Secondary forms of lesions also exist. Pigmentation of a dirty yellow or brownish hue, and variegated, is usually a marked feature in chronic cases. In no other affection are such varied combinations of lesions met with as in dermatitis herpetiformis. Erythema and vesicles, or vesicles and blebs, or blebs and pustules, frequently exist side by side in close proximity, with more or less pigmentation, excoriation, and secondary changes. Itching is usually a most distressing symptom, and is most severe in the vesicular variety. In the purulent form subjective symptoms may be wanting. The disease is extremely chronic, extending over a number of years. In two cases under the author's observation the duration had been thirteen and eleven years respectively, and the disease was still active, with no prospect of cure.

Some cases of dermatitis herpetiformis closely resemble cases of

erythema multiforme, but the lesions of the former disease are less sharply defined, and the course of the two affections is different, erythema multiforme being an acute disease of short duration. The disease occasionally resembles herpes iris, but the chronicity of the affection would exclude herpes iris. The lesions are also more virulent, and accompanied with a more profound degree of cutaneous disturbance. Herpes iris is a benign affection, running an acute course, and terminating in recovery, although subject to relapses. When the bulbous varieties exist alone they may resemble pemphigus vulgaris, the combination with other lesions will, however, prevent any confusion in the diagnosis.

Dr. P. G. Unna, of Hamburg, read a paper on

THE TREATMENT OF LEPROSY.

After referring to the fact that leprosy was usually considered incurable, and that, as a consequence, treatment was not resorted to, he stated that he had recently treated five cases of this affection with encouraging results. The treatment consists in the external use of the following ointment :

Chrysarobin,	-	-	-	-	-	5 parts.
Ichthyol,	-	-	-	-	-	5 "
Salicylic acid,	-	-	-	-	-	2 "
Vaseline,	-	-	-	-	-	100 "

This is applied to the nodules on all parts of the body with the exception of those on the face, neck, and hands. In the latter situations pyrogallic acid is substituted for the chrysarobin in the above formula. Such an application may be continued for months. For some of the older nodules this is not sufficiently strong. For these the author employs salicylic acid or salicylic acid and chrysarobin in the form of a plaster on muslin. This is allowed to remain two or three days or a week. Under this application the tubercle drops out.

In the five cases treated by this method there has been a rapid disappearance of the leprosy matter in the skin. There also was in these cases a decided improvement in the general condition, although no internal remedies were given, the object being to test the efficacy of the external applications.

Dr. P. A. Morrow, of New York, had recently had the opportunity of treating a number of cases of leprosy, and he believed that certain cases of leprosy are as responsive to chaulmoogra oil as are cases of syphilis to mercury. In the case of a Norwegian, the subject of tubercular leprosy, the lesions had disappeared, and he had apparently recovered under the use of chaulmoogra oil. On a number of the nodules of the face he used caustic potash, and they disappeared very rapidly. Some cases, however, fail entirely to respond to this treatment.

Dr. Piffard some time ago treated a case of leprosy in a young man from Bermuda. When he entered the hospital he was unable even to

dress himself. He was given a preparation containing strychnia, and in six weeks was engaged in rowing the boat across the river. He also used nux vomica in as full doses as the patient would tolerate. He was in the habit of associating this with the external use of chaulmoogra oil.

AFTERNOON SESSION.

Dr. H. W. Stelwagon, of Philadelphia, read a paper on
THE USE OF MEDICATED RUBBER PLASTERS IN CERTAIN CUTANEOUS
DISEASES.

Dr. Unna said that in the plasters which he employed the plastic mass was spread upon muslin much more flexible than that on which the rubber plaster is spread. The adhesive material which he employed had been either the oleate of aluminium, or the best India-rubber. As little of the adhesive material as possible was employed, not more than two to five grammes to the square metre. The strength of the plaster is reckoned, not by percentages, but as so many grammes of the active agent to the metre.

Dr. H. G. Piffard then read a paper on

SALT IN DERMAL HYGIENE AND THERAPEUTICS.

In vigorous individuals psoriasis and chronic eczema will often be benefited by a short sea-bath, followed by rubbing. If the patient be feeble, or the bath prolonged, the result will be unfavorable. Prickly heat, pruritic affections, and furuncles are often benefited by sea-bathing.

In acute eczema the use of ordinary water is, as a rule, followed by temporary aggravation of the trouble. In these cases a full bath of five per cent. to one per cent. salt solution had been used with great comfort to the patient. In subacute eczema, psoriasis, furuncles, in irritable summer rashes, whether papular or pustular, and in ulcerating syphilides, a five per cent. solution of salt may be used with great advantage. The salt water bath should be used as hot as can be borne, continued fifteen to twenty minutes, and should be taken just before retiring. Genuine sea salt is not so good for the bath as coarse white salt, on account of the slimy feeling which is left. The therapeutic effects are identical.

Adjourned.

AMERICAN GYNÆCOLOGICAL SOCIETY.

At the twelfth annual meeting of the American Gynæcological Society held in New York, Sept. 13, 14, and 15, 1887, Dr. Thomas Addis Emmet, of New York, read a paper entitled

A STUDY OF THE CAUSES AND TREATMENT OF UTERINE DISPLACEMENT.

Version cannot be regarded as the disease. It is but a symptom.

If we examine a woman suffering with prolapse, the pulsation of some branch of the cervical artery can be readily detected. When the uterus is raised to the health line a sense of relief is felt, and if it be held there for a few minutes the pulsation ceases. If, however, the uterus is raised beyond this point, distress is again experienced. Anteversion is certainly not an abnormal position. Retroversion to a marked degree is frequently detected through accident where it has not given rise to the least inconvenience. With reference to the causes, he wished to refer to the influence of pelvic inflammation in inducing displacement. The only fixed point is in front of the neck of the bladder, where the sub-pubic ligament binds down the urethra. Any traction on this point leads to irritation and a desire to empty the bladder. This often results from inflammatory adhesions. The uterus may be retroflexed or anteflexed, but the traction will be upon the urethra. Prolapse is the more usual consequence of pelvic inflammation, resulting from the increased weight due to the obstructed circulation. The degree of displacement is usually in proportion to the extent of the cellulitis. The effect of peritonitis involving Douglass' cul-de-sac is to raise the uterus, while versions always result from pelvic cellulitis. In cases where the inflammation is confined to the utero-sacral ligaments there will be anteversion.

In a case of backward displacement, the uterus is usually comparatively free, so that the displacement can be corrected with the finger. If the organ be held in what is supposed to be its correct position, pulsation will soon be detected in some of the neighboring vessels. If a pessary be introduced under these circumstances it will soon be necessary to remove it. In extreme anteversion, the displacement cannot be corrected by means of any instrument without making traction upon the utero-sacral ligaments, and if this is done inflammation will be the result. In the treatment of cases of displacement the result of inflammation, the general practitioner should not resort to pessaries, but should, if treatment is necessary, apply iodine, use cotton and glycerine pads and order hot water injections.

The pelvic circulation presents certain peculiarities. In no other part of the body can so much blood be received in case of disease. The veins are without valves, and their course must be tortuous in order to overcome the force of gravity. The author had observed that if the uterus be drawn down to the floor of the pelvis and held there the cervix and vaginal tissue become congested as the result of obstruction of the venous circulation. If, however, the traction be increased until complete procedentia is induced, the tissues become blanched as a result of the narrowness of the arteries from the traction.

The whole skill in the use of the pessary consists in constructing it of such size and shape that while it relieves the prolapse it will just dispose of the overstretching. The relief is not dependent entirely upon relief of the version. Its effect is indirect, consisting in the relief of congestion. The speaker had also used cotton saturated with glycerine to lift the uterus. The quantity used was never more than suffi-

cient to correct the prolapse. If a large quantity is employed, it is liable to cause irritation. The profitable range for the use of pessaries is not extensive. If not employed with great caution and judgment the effects to the patient may be very serious. He believed that nothing can take the place of pessaries when properly fitted and used in the proper class of cases. He thought that their field of usefulness was more limited than is generally supposed. The displacement should not be corrected on its own account nor until the history of the case has been ascertained. No attempt should be made to correct the displacement so long as any evidences of recent inflammation are present. In tracing the histories of a large number of women, no instance of permanent cure has been found from the use of pessaries, in cases where there was reason to believe that previous inflammation had complicated the case.

Dr. Graily Hewitt, of London, said that the subject of displacements of the uterus had occupied his attention for a considerable period. There seems to be a difference between American and English women with reference to the frequency of cellulitis. He had not found this complication in a large number of cases of uterine displacement. The question of the general causes of displacement is very important. The speaker has attributed the sufferings of the patient to pressure by exudation. He has not alluded to a point which Dr. Hewitt considers important, and that was that the flexure in the uterus interferes with the circulation and causes pressure upon the nerves. To this cause he would attribute a large part of the pain. Simple straightening of the uterus relieves the discomfort. In cases of acute flexion where the sound has been used in the treatment, when the instrument reaches the internal os this part is found excessively sensitive. By completing the introduction and straightening the uterus, the tenderness disappears within twenty-four hours and does not return.

There was something more to be said with reference to the use of pessaries when there is no pelvic cellulitis. He agreed that pessaries should not be used if there is acute congestion present, but that there may be cases in which there is contraction and hardness associated with displacement in which pessaries may be very valuable in leading to absorption of the exudation. The pessary must, of course, be fitted carefully and properly applied.

Prof. A. R. Simpson, of Edinburgh, remarked that it had been suggested that there must be a difference between the females of America and of England with reference to pelvic cellulitis. He thought that the difference was more with the mind of the individual who examines these cases. The same woman going to several different observers might get a different opinion from each. He agreed with Dr. Hewitt that the author had not taken a very large view of uterine displacements. He seemed to confine himself to the results of inflammation and to displacements occurring in women who had had

children. We also have displacements occurring in women who have been married two or three years and have not conceived. In some of these cases we have inflammation, and this is not to be overlooked. Even after we have done all that we could in the way of relieving the inflammation, it is necessary to put the uterus in proper position to fit it for impregnation.

Dr. G. Bantock, of London, was unable to agree with the author with reference to the frequency of pelvic inflammation. Experience is teaching us that pelvic inflammation is less common than we have generally supposed. Many of the cases regarded as pelvic cellulitis have been instances where the inflammation was confined to the Fallopian tubes or the peritoneum lining Douglass' cul de sac, and especially the peritoneum covering the Fallopian tubes. He had not seen the utility of paying so much attention to the causes of displacement. In a case of a broken arm we do not inquire particularly as to the exact manner in which the injury was received. So in cases of displacement of the uterus, we need not trouble ourselves with regard to the cause of the trouble. The patient comes to be relieved and we proceed to relieve her as best we can. His experience was that in the majority of cases perfect and permanent relief can be afforded by the proper use of the pessary. The proper adjustment of the instrument is the whole secret. After confinement, where there is retroversion, he recommends, where the uterus is not adherent, replacement by the sound and a pessary properly applied. Where there is much tenderness it is not desirable to at once apply the pessary, but the congestion should first be relieved. Where adhesions have formed the use of the pessary must be set aside altogether.

Dr. T. A. Emmet, of New York, said the causes of displacement of the uterus are many, and most of them are well known. His object was to call particular attention to one class of cases which are overlooked and which are complicated with inflammatory troubles, which will not be discovered unless an examination by the rectum is made. This is the reason there is such a diversity of opinion. There is no one who uses pessaries more than he does, and in the majority of cases pessaries should be used and nothing else can be used, but there is a class of cases in which the use of pessaries is improper. As regards the frequency of pelvic inflammation, he believed that it was less common abroad than in America. Our young women go into society earlier and they contract pelvic inflammation as a result of imprudence in dress. He had found the effects of pelvic inflammation more commonly among the unmarried than among the married.

NEW BOOKS AND PAMPHLETS.

A REFERENCE HAND-BOOK OF THE MEDICAL SCIENCES, EMBRACING THE ENTIRE RANGE OF SCIENTIFIC AND PRACTICAL MEDICINE AND ALLIED SCIENCES. By various writers. Illustrated by Chromo-lithographs and fine Wood Engravings. Edited by Albert H. Buck, M.D., New York City. Volume V. New York: William Wood & Co. 1887. Pp. v-813.

This large and handsome work is, on account of its costliness, out of the reach of very many physicians who would appreciate it and find it of great use to them. It is hoped, therefore, that it will be purchased by medical libraries and institutions so that the largest possible number of physicians may have access to it.

It is very gratifying to see that among the most important papers contributed to this great work are several from the pen of one of the most distinguished collaborators of this JOURNAL, Dr. D. B. Delavan.

A SYSTEM OF GYNÆCOLOGY. By American Authors. Edited by Matthew D. Mann, A.M., M.D. Vol. I. Philadelphia: Lea Brothers & Co., 1887. San Francisco: Payot, Upham & Co.

The publishers of this work deserve great credit for so well elaborating a plan for placing before the profession the ideas and practice of leading medical men of this country on the subjects of gynæcology and obstetrics. This volume is one of four, two of which will be devoted to each subject. Each volume will be a royal octavo of about 900 pages, and will be sufficiently, but not profusely, illustrated with valuable plates and engravings. The price per volume varies with the binding, from \$5 to \$7.

LESSONS IN GYNÆCOLOGY. By William Goodell, A.M., M.D., Professor of Clinical Gynæcology in the University of Pennsylvania, etc. Third Edition, thoroughly Revised and greatly Enlarged. With 112 Illustrations. Philadelphia: D. G. Brinton, 1887. Pp. xvi-17 to 579.

RELATION OF THE NERVOUS SYSTEM TO HÆMOPHILIA, MALARIAL HÆMATURIA, ETC. By C. H. Hughes, M.D., St. Louis.

NEURITIS PLANTARIS. By C. H. Hughes, M.D., St. Louis.

RECENT ADVANCES IN PREVENTIVE MEDICINE. By Geo. H. Rohe, M.D., Baltimore.

IRITIS. By A. G. Sinclair, M.D., Memphis.

TWO YEARS IN EUROPE. By Prof. Rodney Glisan. G. P. Putnam & Sons.

This volume will be found to be very agreeable reading, and remarkably free of the egotism which generally disfigures such publications.

- ANÆMIA. By Frederick P. Henry, M.D.
- PUBLIC HEALTH. The Lamb Prize Essay, 1886. Second edition.
- MATERNITY, INFANCY, CHILDHOOD. By John M. Keating, M.D.
- LIGAMENTS, THEIR NATURE AND MORPHOLOGY. By Dr. John Bland Sutton.
- TREATMENT OF DISEASE IN CHILDREN. By Angel Money, M.D., M. R. C. P.
- ELEMENTARY MICROSCOPICAL TECHNOLOGY. By Frank L. James, Ph.D., M.D.
- EVACUANT MEDICATION, CATHARTICS, AND EMETICS. By Henry M. Field, M.D.
- THE PHYSICIAN'S DOSE AND SYMPTOM BOOK. Seventeenth edition. By Joseph H. Wythe, M.D.
- A PRACTICAL TREATISE ON THE DISEASES OF THE HAIR AND SCALP. By George Thomas Jackson, M.D., Instructor in Dermatology in the New York Polyclinic, etc. 8vo, pp. 356. New York: E. B. Treat. 1887. Price, \$2.75.

This book is very thorough, as may be seen from the very extensive bibliography with which it ends, and also from the amount of information which is crowded into the volume. It would be impossible to analyze its contents. But it is far the most complete and satisfactory work on the subject in the library.

SYPHILIS. By Jonathan Hutchinson, F.R.S., LL.D. Philadelphia Lea Brothers & Co. San Francisco: W. S. Duncombe & Co.

This work on syphilis will be sure to be appreciated by scientific medical men, whatever specialty they may be practicing, for syphilis is preëminently a general disease, attacking any of the tissues of the body with seemingly wonderful impartiality. It is to be regretted, however, that Mr. Hutchinson still adheres to the theory of unicism, and regards the simple venereal ulcer as due to the same poison as the initial lesion of syphilis. As this view differs from that of most of the American authorities it will not find very wide acceptance in the Profession.

PRACTICAL LESSONS IN NURSING—MATERNITY, INFANCY, CHILDHOOD. By Dr. John M. Keating, M.D., Visiting Obstetrician and Lecturer on Diseases of Women and Children, Philadelphia Hospital, Philadelphia, etc. 8vo, pp. 221. Philadelphia: J. B. Lippincott & Co. 1887. Price, \$1.00.

An admirable treatise, well and agreeably written, and valuable to mothers and nurses. Physicians may safely recommend it to their patients.

PHARMACY AND THERAPEUTICS.

BRONCHIAL SEDATIVE: PALATABLE AND CONVENIENT FORMULÆ
FOR THE TREATMENT OF BRONCHIAL INFLAMMATIONS.

BY B. W. PALMER, A.M., M.D.

(FOR GAILLARD'S MEDICAL JOURNAL.)

If one reviews the treatment recommended by the standard authorities for the different varieties and stages of bronchial inflammation, he must be impressed with the number of remedies suggested, and cannot but infer from this that no specific treatment has yet been discovered, and that almost every physician has his favorite compound of expectorants, demulcents, sedatives or stimulants. Some of these formulæ are doubtless good; some are, however, if not unreliable from a therapeutic point of view, at least pharmacally inelegant, unpalatable and even nauseating, and cannot be taken by the patient as frequently or in such quantities as the requirements of the inflammation demand. As illustrating these facts we quote the following formulæ advised by eminent medical teachers as useful in the treatment of bronchitis, acute and chronic:

R̄

Vini ipecacuanhæ,	- - - - -	2 drachms.
Liq. potassiicitratis,	- - - - -	4 oz.
Tr. opii camphoratæ,	- - - - -	2½ oz.
Syrupi acaciæ, āā	- - - - -	1 oz.

M.

Sig.—A tablespoonful thrice daily in the first stage of acute bronchitis.—Dr. J. M. Da Costa.

R̄

Ammon chlorid.,	- - - - -	2 drachms.
Potassæ chlorat.,	- - - - -	1 drachm.
Aquæ cinnamo,	- - - - -	3 oz.
Syr. senegæ.		
Spts. æth. nitrosi āā,	- - - - -	1-2 oz.
Ext. glycyrrhizæ,	- - - - -	1½ drachms

M.

Sig.—A tablespoonful every two hours.—Dr. J. R. Leaming.

R̄

Liq. ammonii acetat.,	- - - - -	2 oz.
Tr. opii camphorat,	- - - - -	2½ oz.
Vini antimonii,	- - - - -	½ oz.
Tr. veratri viridi,	- - - - -	1½ drachms.

M.

Sig.—A teaspoonful in tablespoonful of water every two, three or four hours until symptoms are ameliorated.—Dr. N. S. Davis.

R

Carb. ammon.	- - - - -	1 drachm.
Fl. ext. squills,		
Fl. ext. senega, aa	- - - - -	2 drachms.
Paregoric,	- - - - -	1 ½ oz.
Water,	- - - - -	1 oz.
Syrup tolu.	- - - - -	5 oz.

M.

Sig.—Three to four teaspoonfuls as required.—Dr. A. B.

Palmer.

R

Potass. citrat.,	- - - - -	1 drachm.
Syr. ipecac,	- - - - -	1 to 2 drachms.
Tr. opii camph.,	- - - - -	1 to 2 drachms.
Syr. simplic,	- - - - -	½ oz.
Aquæ ad.,	- - - - -	3 oz.

M.

Sig.—A teaspoonful every two or three hours for a child from two to four years.—Drs. Meigs & Pepper.

R

Ammoni carbonat.,	- - - - -	5 gr.
Tincture nucis vomicæ	- - - - -	10 minims.
Tr. scillæ,	- - - - -	½ drachm.
Inf. serpentariæ,	- - - - -	½ oz.

M.

Sig.—This amount three times daily.—Dr. J. Milner Fothergill.

R

Ammon. carbonat.,	- - - - -	10 gr.
Syr. ipecacuan.,	- - - - -	1 ½ drachms.
Tr. opii camph.,	- - - - -	1 drachm.
Syr. pruni virg.,	- - - - -	½ drachm.
Aquæ ad.,	- - - - -	½ oz.

M.

Sig.—Teaspoonful every two to four hours.—DR. BEVERLEY ROBINSON.

R

Liq. ammon. acetat.,	- - - - -	3 drachms.
Potass. acetat.,	- - - - -	20 grs.
Aceti scillæ,	- - - - -	
Spts. æth. nitr., aa	- - - - -	½ drachm.
Tr. camph. co.,	- - - - -	20 minims.
Mist. camph.,	- - - - -	6 drachms.
Syr. aurant,	- - - - -	1 drachm.

M.

Sig.—A draught to be taken thrice daily.—DR. WM. AITKEN.

℞

Potass. iodidi,	-	-	-	-	-	3 drachms.
Tr. tolutani,	-	-	-	-	-	1 drachm.
Fl. ext. pruni virg.,	-	-	-	-	-	1 drachm.
Syr. simplic,	-	-	-	-	-	1 oz.
Spts. æth. comp.,	-	-	-	-	-	2 oz.
Aquæ.,	-	-	-	-	-	1 oz.

M.

Dose, a teaspoonful.—DR. E. G. JANEWAY.

℞

Acet. scillæ,	-	-	-	-	-	½ oz.
Fl. ext. ipecac,	-	-	-	-	-	½ drachm.
Tr. opii deodorat,	-	-	-	-	-	1 drachm.
Syr. tolutani,	-	-	-	-	-	10 drachms.

M.

Sig.—Teaspoonful every two, three or four hours.—DR. ROBERT BARTHOLOW.

The remedy or combination of remedies employed in any pathological condition should of course be modified to meet the phase or state of the disease presented, or the individual idiosyncrasies of the patient.

This fact every intelligent physician recognizes. Nevertheless there are certain diseases which pursue in the majority of cases a stereotyped course, and which are often amenable to routine treatment. In this class of diseases, to which bronchitis belongs, it is often desirable and convenient to prescribe so-called routine formulæ which are usually such as have been proven by the experience of the most competent observers to best meet the most marked indications for treatment. When such formulæ have been submitted to the experts in pharmaceutical compounding attached to the laboratories of our manufacturing chemists, and without sacrifice of medicinal efficacy, presented in attractive, palatable form, their intelligent employment in practice is certainly to be commended.

While we cannot too strongly condemn the foisting upon the profession of inelegant and impure ready-made compounds, which have been manufactured without due care for the preservation of the therapeutic value of the ingredients, that such preparations exist seems to us no stronger argument against the use of properly made formula than the existence of morphinism is against the legitimate employment of morphine as a medicine. This being premised, we can without fear of misinterpretation call attention to a formula for the treatment of bronchial inflammations which embodies nothing essentially new, but presents in convenient palatable form a combination of familiar therapeutic agents which have been found to speedily control the most marked symptoms of bronchitis and without offense to the palate of the patient or gastric disturbance. The cough in bronchitis is often the most distressing symptom, paroxysms being excited by the

slightest change in temperature, even in mild cases the cough being most persistent in character. The indications for treatment are to restore the dry mucous membrane in the first stage of the inflammation to a condition of normal secretion, to allay the inflammation and irritation by sedatives and demulcents, to overcome the interference with respiration by stimulating the respiratory centers, and to promote expectoration and resolution, when the products of inflammation accumulate and excite the spasms of cough. The following formula has been found admirably adapted to meet the four-fold indications specified :

Rx.

Ammonium chloride,	-	-	-	30 grains.
Fluid tolu, soluble,	-	-	-	8 minims.
Fluid opium, camphorated,	-	-	-	4 minims.
Elixir licorice aromatic Q. S. Ad.,	-	-	-	1 fluid ounce.

In this form, or with slight modifications, as the exigencies of the individual case may have demanded, it has been widely used in the hospitals of this country and Europe, and in private practice. It is palatable and readily taken by children and more faithfully by adults than the nauseous mixtures so often prescribed. It does not interfere with digestion and may be administered as required in most cases of bronchial inflammation, without developing any untoward symptoms, and with marked benefit. The writer has been accustomed to resort to it in all cases of irritating cough, in fact for general use, when what is popularly called "a cough mixture," is demanded. At his suggestion, Parke, Davis & Co., the manufacturing chemists, experimented with the formula, and with some slight modifications of the original prescription given them; securing greater pharmacal elegance, they have placed it before the profession under the name of bronchial sedative, under which name it may be conveniently prescribed by physicians.

GAVAGE OF THE NEWBORN.—Gavage was first employed by Tarnier in the case of infants born prematurely; and it is recommended also for those who, though born at term, suffer from coryza, or who have just been operated upon for harelip, the former not being able to nurse, while in the latter the movements made in sucking interfere with primary union. In the *Archives de Tocologie* for March 30th, we find a description of the method of gavage advised by Bar. Human milk is, of course, preferable, and next that of the ass. But instead of these cow's milk may be used, prepared according to the following method advised by Tarnier. One part of sugar is added to twenty parts of water, and this is added to cow's milk in the proportion of three to one. The mixture is kept in boiling water for half an hour; then the sterilized liquid is decanted, and placed in a suitable vessel of glass or of porcelain.

The simplest form of apparatus, advised by Bar, for administering this food to the infant is composed of a glass funnel to which a sound (No. 14), or a rubber tube of the same diameter, but twice as long, is attached. The funnel and tube being filled, pressure is made upon the tube just below its attachment to the funnel, in order to prevent the escape through the lower end. The infant is placed in the lap of a nurse, the head moderately extended, and the physician holding the apparatus in his left hand, takes the free end of the tube in his right hand and, after moistening it, passes it into the back part of the throat, and thence by gentle pressure into the œsophagus; when about six inches of the tube have passed the lips the end is in the stomach, and the compression of the tube is stopped, and the liquid passes simply by gravitation into the stomach. The tube should be removed immediately after the funnel is emptied, in order to prevent regurgitation; the quantity of nourishment used should be, if the infant is very small, only two or three drachms; and in that case the gavage should be repeated every hour. Fermentation of the nutritious mixture should be prevented by the proper preparation of the latter, by washing out the apparatus with a one-per-cent. solution of boric acid, and by keeping the apparatus in the intervals between its employment in a similar solution. The results of this treatment have been so satisfactory in Paris—many infants having been saved by it that would otherwise have perished—that it is worthy of a more extensive trial.—*Med. News.*

MISCELLANEOUS.

PROF. I. BARNEY YEO, ON ANTISEPTIC MEDICATION IN PHTHISIS.—It is untrue to state, as some physicians have not hesitated to do, that the idea of antiseptic medication in phthisis has failed to be of much benefit. On the contrary, it has been productive of enormous benefit; and when the professional mind has overcome some of its prejudices, and its narrowness of view and mode of thought, it is destined, I feel certain, to be of the greatest possible service. In connection with this subject, I was struck with the report by Dr. Neale in the *British Medical Journal* of December 4, 1886, of the excellent results he had obtained from what he called the “open-air treatment of phthisis.” But what else had the patient besides a freely-ventilated apartment? “Iodine is freely distributed about the apartment, and a pad of terebene placed under the chin when the patient is in bed. Food is pushed; cod-liver oil, with iodoform pills, and iron and belladonna, and oxide of zinc to control the night perspirations.” I congratulate Dr. Neale on the signal success of his vigorous antiseptic medication. I could not wish a more thorough application of its principles: iodine vapor and terebene vapor to the respiratory passages; iodoform internally; fresh air always.

About the same time that Dr. Neale was pushing antiseptic treatment in the case he has reported, Mr. Pollard, of Queen-Anne Street (in October last), brought a young gentleman to see me whom we both thought had but a very short time to live. He presented an aspect of marked cachexia, a temperature of 103° F. at midday, and rising even higher in the evening; physical signs of infiltration of the upper part of the left lung, with patches of dullness over both lungs behind, accompanied with blowing respiration and a pleuritic friction here and there. It is true the disease was of comparatively recent date, and there was no evidence of extensive destruction of lung tissue, but the fever was so considerable, the cachexia so marked, and the infiltration apparently so diffused, that we arrived at a very unfavorable prognosis. We declined to sanction his leaving home, and I pointed out to my friend, Mr. Pollard, that I considered the only chance of improvement, and that but a faint one, rested in antiseptic medication. We gave him, internally, four minims of creosote in two teaspoonfuls of cod-liver oil three times a day, and prescribed the continuous inhalation of equal parts of terebene and eucalyptol. He had also had a quinine and strychnine mixture as a general tonic, and some powders at night of bismuth and oxide of zinc to check the night sweats and tendency to diarrhoea. About three months afterwards, I own I was somewhat surprised to see Mr. Pollard reappear with his young patient, and transformed. The results of this treatment had been most remarkable. Beyond the continued existence of the physical signs of some infiltration of the left apex, and some irregularity in the inspiratory expansion of the chest, as though from pleuritic adhesions, his condition was most satisfactory. He had gained much flesh; he had no fever, no night sweats, no dyspnoea, and not much cough. The cachectic appearances had vanished. I asked Mr. Pollard how he had contrived to obtain so striking a result. He replied that it was by a most thorough, painstaking, and conscientious adherence to all the details of the treatment we had agreed upon. When, gentlemen, we encounter such results as these from a method of antiseptic medication rigorously carried out, I think we are saying, in the words of Dr. Leudet, "There is something in it."—*Lancet*.

HYPNOTISM.—The Paris correspondent of the *Lancet* speaking of M. Luys's experiments in hypnotism says: M. Luys's experiments in hypnotism, an account of which was recently given by our Paris correspondent, are made the subject of the following comments by the Paris correspondent of the *Lancet*: "There can be no doubt that these experiments have been performed with the results published; and, if the experimenters think that the application of their tubes and the symptoms which follow have a relation of cause and effect, they are, of course, entitled to that belief. But in my opinion the experiments are carried on in the very worst possible conditions for a scientific test, and in many cases the observers seem not only to ignore the psychology of hysteria, but also to be unacquainted with the most elementary

principles of hypnotism. I have seen the operator guilelessly whisper to a visitor that such and such an effect would be produced, apparently unaware of the fact that in the hypnotic condition there is a state of hyperacusia which makes the faintest sound audible. When the subject does not actually hear what is the name of the medicine under experiment, she is almost sure to have to go through her performance in a certain order. The experimenter generally shows the phenomena *crescendo*, from the less to the more astounding, and should there be any change in this respect to the trained subject, the expression of the face and the inflexion of the voice are very sufficient guides. There is also such a thing as auto-suggestion, and, from what I have seen, it is very often the would-be suggester who comes away from the *séance* with a delusion."

HOT WATER AND THE APPETITE.—It is a specialty of sanitary reformers, who are among the more useful of the many intellectual nuisances in the world, to be deficient in the quality of humor. One of them, some years ago, recommended that a man's dead relatives should be burned at the corners of the streets, to save gas-lamps; another, not two years ago, lectured on the unhealthiness of boots in bedrooms, and recently Mr. Mansergh, at the close of a most sensible address to the Sanitary Congress on water supply, brought in his views on teetotalism in the oddest way. He told his audience that "systematic hot-water drinking had been proved in America to be destructive of the appetite for alcohol." We entirely believe him, and if he extended the destructive effect to the appetite for mutton chops, fruit, or wheaten bread, we should believe him also. But why limit us to hot water, when tartar emetic, ipecacuanha, unrefined cod-liver oil, and perhaps twenty other drugs, would be at least equally potent? The old remedy of Rechab, total abstinence, is an easier one than that, and as perfectly effective as long as it is pursued. The difficulty of the temperate is not to leave off alcohol, but to believe in the use of leaving off. They do not find that the most perfect abstainers in the world, life convicts, become better people.—*London Spectator*.

TREATMENT OF SCIATICA BY REFRIGERATION OF THE SOUND LIMB.—Some time ago M. Debove announced that he had been able to afford marked relief in a case of obstinate sciatica by means of a spray of chloride of methyl applied along the course of the sciatic nerve in the unaffected member. At a recent meeting of the Société de Biologie (*Le Concours Médical*, August 6, 1887), M. Raymond reported that he had obtained favorable results by a similar method in three cases. He found, however, that the effect was the same even when the spray was directed to any part of the limb, and not necessarily along the course of the sciatic nerve. This would seem to prove that the relief of the pain was due to an impression made upon the spinal centers by refrigeration of the peripheral nerve terminations, rather than to a direct influence exerted upon the trunk of the affected nerve itself, or of its fellow in the opposite limb.

THE TREATMENT OF TUBERCULOSIS OF THE JOINTS BY ACID CALCIUM PHOSPHATE.—At a recent meeting of the Society of Physicians of Vienna, Kolischer, of Vienna, exhibited four cases of tubercular joints, three of which had recovered, while the fourth was in process of recovery, under a method of treatment which he had recently introduced, which aimed at the destruction of tubercle bacilli and the induction of calcification in tuberculous matter, in imitation of the process often observed in healed lung cavities. It is supposed to act by producing a mild grade of inflammation and cicatrization which destroys tuberculous matter. The method consisted in the injection into the diseased joints of a solution of acid calcium phosphate, whose strength and dosage are not reported.

In one class of cases a prompt inflammatory reaction followed the injection, lasting from four to seven days, and was succeeded by a period of calcification which continued from two to four weeks, ending in absorption; the final result was a restoration of the contour of the joint. In the other class of cases—those in which cheesy degeneration was rapidly progressing—injections into the joints were followed in about a week by the breaking down of tubercle and the rupture and discharge of the abscess; and healing by granulation resulted promptly. Cicatrization of tuberculous ulcers and separation of necrosed bone were readily caused by the solution. Tuberculous fistulæ and cavities were tamponed by gauze saturated with the solution.

The cures exhibited were two cases of acute tuberculosis of the elbow-joint in children; the results were normal contour, good motion, absence of all general symptoms. Also a case of knee-joint tuberculosis, under treatment six weeks, whose gait and symptoms were greatly improved. The fourth case was a man whose carpal joint had been acutely tuberculous; result normal contour, the joint capsule filled with calcified material; slight movements of the fingers possible.

Albert, Maydl, and others of the surgical staff of the Vienna Krankenhaus, fully endorsed the favorable statements of Kolischer.

While these cases are too few to base a final judgment upon, they are highly suggestive. The results of this method, so far as contour and mobility are concerned, are greatly superior to ankylosis or excision. The danger to life is apparently less than even under antiseptic resections; the time consumed by the treatment is no longer than by excision. It remains to be proved, however, whether the nidus of the tubercular infection is as thoroughly destroyed by this method as by excision and the use of iodoform.—*Phila. Med. News.*

RESULTS OF THE UNILATERAL REMOVAL OF THE UTERINE APPENDAGES.—In the May number of the *American Journal of Obstetrics* there appears a lengthy communication from Lawson Tait, in which he gives the histories of twenty-six cases from whom he removed the uterine appendages upon one side only, out of the first one thousand he operated upon. Earlier in his experience he has advocated the removal of only such of the uterine appendages as he found diseased,

thus leaving those that he found healthy. The results of this unilateral removal he has been able to observe, and he now has occasion to change his mind, and advise the removal of both appendages, even if one is healthy. He has operated upon several a second time and removed the diseased tube, which at the first operation appeared perfectly healthy. Besides, several of the twenty-six died because they were not operated upon the second time, and the remaining eight of the twenty-six he is now satisfied need the second operation. His conclusion is more forcible, to use his own language :

“So far as I know, the present contribution is the first and only evidence to be obtained on the subject, and it is quite likely that opinions may vary as to the conclusions to be derived from this, and I, for one, am quite prepared to admit that, so far as it has gone by itself, it is not large enough to base any absolute conclusion upon. But the opinion which I have formed from it, and which I substantiated by more recent experience not yet mature enough for publication, and which has made an increasingly strong impression on my own mind, is that, if a patient is suffering sufficiently to justify an abdominal section for chronic inflammatory disease of the uterine appendages, and only one side found to be affected, the operation, to be of that lasting and complete benefit to the patient which we desire all operations should be, must be made bilateral. On such a point as this, of course, the desire of the patient must be paramount, as upon most others; and if a patient placed herself under my care for such an operation, and made it an imperative condition that I should not, under any circumstances, remove the second set of appendages if they were found healthy, I should yield to her decision; but I should argue the question with her, and advise her not to subject herself to the risks of a second operation, as seems to be by far the greater tendency in unilateral operations. The list that I now present puts such incomplete operations in a very unsatisfactory light.”

DIRECT OXYGENATION IN CROUP AS A SUBSTITUTE FOR TRACHEOTOMY.—Dr. W. G. Wagner, of Indiana, writes to the *British Medical Journal*: Having seen in the *Journal* of December 18, 1886, the article “On the Employment of Rarefied Air in Lung-Diseases,” by A. Gamgee, M.D., I venture to think that a short description of my treatment for membranous croup will be accepted. Having a case in which the parents refused to have tracheotomy performed, I was forced to cast about for other means of relief. Intubation not having been advocated at that time, I resolved to furnish the required amount of respirable air by generating oxygen. Conducting the current of oxygen beneath a cone placed over the child's face, I was soon gratified by seeing him fall asleep. This and two other successful cases with one reported to me by my friend, Dr. J. B. Greene, is the extent of my observation; but from the fact that the object of tracheotomy and intubation is to furnish oxygen to the

blood, the direct application of pure oxygen seems to me to be worthy a more extended trial. The relief afforded seems to be about the same, perhaps a little more rapid than in tracheotomy. I think the method has these advantages. The membrane cannot extend below the incision, and thus render the operation useless; it does not cause broncho-pneumonia, as intubation sometimes does; and all physicians are not prepared to tracheotomize or intubate, while anyone can generate oxygen and apply it. Also oxygen seems to lend more strength to cast off the membrane, and the trachea is not encumbered by a tube, or a false outlet for expulsive air from the lungs.

NAPHTHALIN IN DIARRHŒAL AFFECTIONS AND AS AN ANTI-PYRETIC.—The most frequent cause of failure has been the use of too small a quantity, less than sixty grains daily being a needless waste of a very good medicine. We have given even one hundred and twenty grains per day, in divided doses, usually in starch capsules with a little oil of bergamot to conceal the rather unpleasant odor of the drug. If the drug be carefully washed with alcohol I have never met the second cause of failure, viz.: the development of untoward symptoms. Frequently the urine becomes smoky, resembling the urine of acute nephritis, but a careful examination failed to detect either casts or albumen. In chronic diarrhœa naphthalin has been the only drug used in twenty-three cases. Nearly all degrees and all varieties except the diarrhœa of tuberculosis have been represented. Some could be traced back to a cholera morbus of the preceding summer; others were the results of improper food or followed debilitating diseases. All the cases were relieved in periods of from one week to two months; generally about ten days were sufficient for a cure.

In chronic dysentery I have used naphthalin in seven cases with excellent results. The most noticeable case was that of James C——, sixty-six years old, who contracted dysentery while serving in the Federal army in 1862 to '64. He had never been free from the disease, except for a few weeks at intervals. He could remember no day during which he had not had more than one passage. He was emaciated, with sallow, dirty skin; suffered from marked tenesmus; abdomen very painful on pressure; no appetite. His stools averaged seven daily and were slimy, blood-stained, and of extremely foul odor. This man had ninety grains of naphthalin daily and at the end of a month he would barely have been recognized as the same man. Four months later he reported himself so much improved that he considered himself a well man.

My experience in the diarrhœa of typhoid fever has been limited to two cases, Chas. B. and John F., whom I saw for the first time in the third week of the disease, the diagnosis being firmly established. In both there were commencing tympanitis and diarrhœa to the extent of six to ten motions in the twenty-four hours. Naphthalin was

administered, sixty to ninety grains in the day, with the result of "stiffening up" the discharges and reducing them to two daily. The odor of the stools in both cases was destroyed by the use of the drug. In fact, so confident was I that the intestinal canal, and consequently the fæces, were thoroughly disinfected in the body that I did not direct any other disinfection.

In passing I wish to call attention to the antipyretic effects of the drug. In general, the use of antipyretics in typhoid fever I consider unsafe, but if the practitioner is thoroughly imbued with the idea that he must use an antipyretic, let him use naphthalin, which reduces temperature, indirectly, by disinfection of the intestines. Its absolute safety will compare favorably with thallin, antipyrin, and antifebrin. Whether typhoid fever has ever been abated by this or any other drug I am unable to say, but, if such can be done, it seems that naphthalin would be as likely to accomplish this as any at our disposal. Of the use of naphthalin in acute intestinal catarrhs, as well as in the intestinal catarrh of children, I have had no experience. In all my twenty-three cases of chronic diarrhœa I was able to exclude tuberculosis as a cause, while all of my tubercular cases have been free from diarrhœa, so that I can not, from personal experience, indorse Rossbach's recommendation.

I would emphasize the claims of naphthalin in all cases where it is necessary to disinfect the intestinal canal or in typhoid fever, intestinal indigestion and catarrh, chronic diarrhœa and dysenteries, because I believe its comparative insolubility gives us only a local action. It has proved to be a vigorous antiseptic and its use, unlike that of corrosive sublimate or of resorcin, is entirely devoid of danger.—*Dr. K. W. Wilcox in the St. Louis Med. & Surg. Journal.*

THE TREATMENT OF MALARIAL HÆMATURIA (Dr. J. M. Baker in the *North Carolina Medical Journal*).—In the beginning a brisk cathartic, either vegetable or mineral, should be administered. One preferable to any other is a combination of podophyllin, aloin and extract of belladonna; or calomel may be given alone or in combination with rhubarb. Great difficulty will be met with here in producing free catharsis on account of the irritable stomach, and if you can do no better, give an enema containing castor oil and warm water. At the same time that efforts are directed toward moving the bowels, quinia in some form should be administered, and as the excessive irritability of the stomach will prevent its administration by that way it will not do to attempt it, but commence at once with other means; above all other methods, the hypodermic is to be preferred, and a solution of bi-sulphate or hydrobromate of quinia used by this method. It is a useless waste of time to wait and see if the stomach will not get quiet; commence at once the use of the hypodermic method, and to the aqueous solution of bi-sulphate it is advantageous to add a few minims of pure carbolic acid. Five grains of bi-sulphate should be thus given every three or four hours, until

twenty-five or thirty grains are administered. If improvement takes place this is gradually diminished; if not, it should be continued. When it is not practicable to use the hypodermic method, quinia may be administered by rectum in suppositories or solution, or may be used by inunction; but no method is so reliable as the hypodermic. Careful alimentation is necessary but almost impossible on account of irritability of the stomach; here, too, hypodermics of beef, milk, cod-liver oil, etc., may be used to advantage, and likewise rectal alimentation practiced according to orthodox methods. To relieve the irritable stomach and introduce food and medicine by the natural channel would be a great advantage gained; sometimes this can be accomplished, but oftener it cannot. While not relying on the stomach, efforts should be directed toward relieving the agonizing nausea by application of sinapisms over epigastrium and internal administration of oxalate of cerium and bismuth sub-nitrate, and such other remedies as are generally used for such purposes; the remedy above all others to be relied upon to relieve the nausea is a solution of hydro-chlorate of cocaine; this sometimes acts like a charm, relieving at once the troublesome symptom, but, like all other remedies, it sometimes fails; it should always be tried. It is well, however, even if the stomach does become retentive, to continue the administration of quinia hypodermically and burden the organ only with the necessary nourishment or stimulant; the latter it is necessary to use in all cases and use freely, but with judgment; iced champagne, milk punch, and egg-nog are preferable. When it is possible to administer medicine by mouth digitalis infusion in one to two table-spoonful dose is indicated for the double purpose of sustaining the weak heart and for its diuretic effect. It may be combined with aromatic spirits of ammonia or alkaline diuretics. The lumbar region should be rubbed repeatedly with spirits turpentine and every effort made to overcome the tendency on the part of the kidneys to strike work. No remedy is equal to twenty or thirty grains of calomel for this purpose. Morphia and atropia in combination should be administered as occasion requires to procure sleep and relieve pain, and the tendency to constipation overcome by continued administration of cathartics. As soon as the urine clears up and convalescence is ushered in a general tonic treatment should commence, continuing the administration of quinia in tonic doses for several weeks. After this such remedies are indicated as are usual in recovery from acute diseases and which it is unnecessary to mention. I must call special attention to the use of cocaine in this disease. I have often seen it have the happiest effect in relieving nausea, stimulating the kidneys to increased activity, and causing an increase in force of the heart's action. It has frequently happened that improvement commenced from the first dose of cocaine. It should be given in solution, using ten or fifteen minims of 4 per cent. solution, repeating every few hours until the desired effect is obtained.

HYPERIDROSIS PEDUM.—In the experience of the editor of the *Journal of Cutaneous and Genito-Urinary Diseases* in the treatment of habitual hyperidrosis pedum, the best results have been obtained from the employment of footbaths of a strong solution of extract of pinus canadensis (Kennedy's) every night, and the use of powdered boracic acid, or salicylic acid mixed with lycopodium, oxide of zinc or other inert powders, constantly applied inside the stockings. Hebra's treatment with diachylon ointment undoubtedly constitutes a most efficacious method, but the inconvenience attending its application, often temporarily interfering with the occupation of the patient, renders its employment impracticable in many cases.

ANTIPYRIN AND ANTIFEBRIN IN "NERVE STORMS."—Evidence is rapidly accumulating, says the *British Medical Journal*, that in antipyrin we have a remedy of real use in the treatment of various painful affections, especially those which are of the so-called "nervous character." Dr. John Ogilvy, Surgeon General, has found good results in cases of "bilious headache." Prof. Germain Séé finds it useful in facial neuralgia, migraine, headache, sciatica, and neuritis. Dr. T. S. Robertson, of New York, gave the drug successfully in migraine, good results being noticed in from one-half to an hour. The dose is about eight grains, given at intervals of an hour until three or four doses are given. Or a decided dose of 20 grains may be given, and repeated it in two hours if necessary. Cerebral anemia appears to be the main indication of either antipyrin or antifebrin.

MEDICAL NEWS.

MEAT TO BE BOLTED NOT EATEN.—Mr. Gladstone is "out of it" again. Everybody has heard how the late Prime Minister ascribes his splendid health to having learned one simple physiological lesson—namely, to make twenty-five bites at every bit of meat. Mr. Lyttelton has recorded the fact in his little book on training, and Sir John Lubbock repeated it the other day in an address on technical education. And now there comes a "Physiologist, F. R. S.," who writes to the *Times* to say that the pretty little tale is merely "another illustration of great ignorance of natural things in the presence of high and even wonderful conceptive faculties." So far from needing twenty-five bites, meat does not need any bites at all, for it is digested not by the mouth juices (as vegetable substances are), but by the stomach juices, and as the secretions of the mouth are alkaline, whereas the digestive fluid for meat is acid, too much mastication actually interferes with digestion. So Mr. Gladstone must go to school again after all and learn the old nursery saw, "to bolt the meat, but chew the potatoes."—*Pall Mall Gazette*.

AN interesting feature of the exhibition which has been recently opened in Havre consists of a collection of venomous and poisonous fishes—those which are unhealthy to eat, and those which are endowed with poisonous glands. There is also a fine collection of bacteria, prepared by Professor Cornil, of Paris. A new canal has just been opened between Havre and the Seine River. It is a short one, of only twenty-five kilometers length, but will render good service in furnishing a better route for boats than that afforded by the lower part of the Seine.

THE ACADEMY OF SCIENCES has recently appointed Pasteur *secrétaire perpétuel* in the late Vulpian's place. The choice is said to be unanimously disapproved. Pasteur is not the man to fulfil the duties of the post, which is an important one, and requires an active and pleasant man. Pasteur is too busy to be active outside of his own field.

In the Medical School M. Ch. Richet has been elected to the professorship of physiology in the late Beclard's place, and in the Scientific Faculty M. Dastre is elected in Paul Bert's place.

A FRENCH investigator, M. Quinquand, has recently studied the influence of cold and hot baths upon the respiratory and nutritive processes. His conclusion is that under the influence of cold baths more oxygen is absorbed and more carbonic acid is expelled. At the same time more air passes through the lungs. Hot baths act in a similar manner, but in a less marked degree.

IT is a well-known fact that drug-stores are inclined to degenerate into liquor saloons when prohibition closes the ordinary channels of the traffic. But this degeneracy pays its penalty in Kansas. One James A. Stewart, a drug clerk in that State, has been sentenced to seventeen years and four months' imprisonment and to pay a fine of over \$20,000 for violation of the liquor law. This is the kind of sentence to drive the druggists out of the saloon business.

VON NUSSBAUM, OF MUNICH.—This well-known surgeon has recently performed his five hundredth ovariectomy. The occasion was celebrated by a banquet, tendered him by the students of the university.

A PRIZE BEQUEST TO THE ACADEMY OF SCIENCES OF FRANCE.—The French Academy of Sciences has recently been given a legacy of 40,000 francs (\$8,000), the income of which will be given as a prize for the best essay on any subject proposed by the Academy relating to the healing art.

PRANZINI'S BRAIN.—The brain of Pranzini, a murderer recently guillotined in Paris, weighed 1,280 grammes (between three and four pounds). An interesting phenomenon was the presence of air bubbles in the arachnoidean spaces, and between the convolutions, which

is seen in the bodies of those guillotined. It is caused by the vacuum produced by the sudden withdrawal of a large quantity of blood from the vessels.

BILLROTH.—This distinguished surgeon has steadily regained health and strength during the summer, and, it is believed, will resume his lectures in the autumn.

PROFITABLE PRACTICE IN RUSSIA.—Dr. Potain, of Paris, was recently summoned to attend an eminent Russian journalist, with whom he remained two days. He received 20,000 francs (4,000 dollars) for his services.

NIGHT MEDICAL SERVICE IN VIENNA AND PARIS.—In imitation of the Paris system of medical night service, the Superintendent of Police has decided to establish stations for such service in Vienna, where a physician shall be constantly in attendance, and to which messages for attendance at night may be sent.

The report of the Prefect of Police for the three months ending June 30, 1887, shows in the night medical service of Paris a total of 1,712 visits, an increase of 112 over the same period of the last year.

AN INDUCEMENT.—An Australian doctor advertises to pay one-half the funeral expenses in cases in which he is not successful.

A NEW EDITION OF SCHROEDER'S DISEASES OF WOMEN.—The eighth edition of this standard work has recently appeared, edited by Veit, and containing Schroeder's picture and a short account of his life by the editor.

PROFESSOR VIRCHOW'S REJECTION.—Professor Virchow, as a candidate for Rector of the Berlin University, was recently rejected because, it is stated, of his liberal political opinions.

ROOSA ON THE EAR.—Dr. D. B. St. John Roosa's treatise on the ear has been translated into German by Dr. Ludwig Weiss, and is to be published by Hirschwald, of Berlin, early in the coming year.

ANTISEPSIS IN DUELS.—In a recent duel between French journalists, the seconds had taken the precaution to dip the swords of the combatants in carbolized solution; as the result, their wounds healed without suppuration, and they were about in a few days after their encounter. *Le Progrès Médical* suggests that in duels with pistols bullets which had been sterilized by immersion in proper liquids, or treated at proper temperatures, be employed. We suggest that germs previously agreed upon by the combatants be selected in place of bullets and swords, and that duels by inoculation be instituted as a refinement characteristic of Nineteenth Century medicine.—*Phil. Med. News.*

AMPUTATION OF THE CERVIX UTERI DURING HYPNOTIC SLEEP.—In July last Dr. Pio Masetti, at the hospital of San Giacomo, at Rome, amputated the cervix uteri while the patient was hypnotized. The experiment was completely successful. No evidence of pain was given by the patient.

A CONGRESS AT AMSTERDAM.—There will be a Congress for Natural Science and Medicine, at Amsterdam, on September 30, and October 18. Professor Donders will be President of the Section on Medicine.

THE CREMATION OF INFECTIOUS BODIES.—It is now an imperial regulation in Brazil that persons who die from yellow fever shall be cremated, the State bearing the whole expense. This decree might be extended judiciously to all contagious diseases.—*Sanitary News*, September 10, 1887.

THE NEW SURGEON-GENERAL OF THE STATE OF NORTH CAROLINA.—Dr. Hubert Haywood, of Raleigh, has been appointed to fill the vacancy caused by the resignation of Dr. Eugene Grissom. In North Carolina the name of Haywood is associated with all that is best and most advanced in medicine.

DEDICATION OF THE NEW BUILDING OF THE COLLEGE OF PHYSICIANS AND SURGEONS OF THE CITY OF NEW YORK.—The new buildings of the above college, the gift of the late Mr. Wm. H. Vanderbilt, with the building entitled the Vanderbilt Clinic, the gift of his sons as a memorial to their father, and the Sloane Maternity Hospital, the gift of Mr. William D. Sloane, were dedicated September 29, 1887. The three buildings, situated on Tenth Avenue and 59th and 60th Streets, in this city, represent a total expenditure of more than double the original endowment of \$500,000. The main college building, modelled in the general style of the old structure on the corner of 23d Street and Fourth Avenue, is devoted to cabinets, lecture rooms, dissecting rooms, and chemical and biological laboratories, all of the most advanced type. The dissecting room will accommodate thirty-six tables, so that 180 students can work at once in it. It is lighted by skylights, and incandescent electric lamps are supplied for all the tables, so that work can be done in it by night as well as by day. The lecture rooms are large enough to accommodate 450 students each at one time. The clinic intended for demonstrations by actual operations includes the necessary rooms and the amphitheatre to be the scene of many conflicts with accidents and disease. The Maternity Hospital, severely finished in its interior with white marble, contains thirty beds free in perpetuity. The exterior of the buildings is of brownstone and brick. In the dedication the leading members of the medical profession and many leading citizens participated.

DR. SAMUEL G. DIXON has been elected Professor of Hygiene in the University of Pennsylvania, to succeed the late Dr. N. Archer Randolph.

DR. ARMORY CHAPIN, of New York, writes to the *N. Y. Journal* that cocaine in solution has a tendency to lose its strength after a day or so. In order to get good results, a solution should only be used when freshly made. He suggests that failures to obtain good results are probably due to inattention to this point.

"TRUE SCIENTIFIC MEDICINE," said an eminent physician to a patient a few days ago, "is of very recent origin. It dates back about forty years. Well, in fact, only since the profession have been able to make post-mortem investigations. Bed-side observation is of all things the most unsatisfactory." "Then," said the patient, "a sick man is really never quite satisfactory until after death?" "Ah, just so," responded the scientist, delighted to find so intelligent a listener.

GERMS.—"Well, doctor, and how are the germs?" said a friend to a young scientist, just returning from his summer vacation in the mountains. "Why, to tell you the truth," said the doctor, "I believe in them in the city, but I cannot find one of them in the country."

THEATRE PHYSICIANS.—The ordinance recently put in force in Paris for the regulation of theatres provides that each theatre must have a corps of physicians proportionate to the size of the theatre, one of whom must be constantly in attendance during the performances. In the physician's office must be placed an ambulance call.

WIRING A FRACTURED KNEE CAP.—A new method of treating a fracture of the knee cap, "wiring the patella," as it is called, was successfully demonstrated at Bellevue Hospital a day or two ago. The operation was performed by Dr. W. F. Fluhrer, assisted by the house surgeons of the hospital, Drs. M. A. Crockett and W. C. Braisted, and before many prominent members of the profession, some of whom were returning from the Medical Congress on their way to their homes in Kansas City and St. Louis. The liveliest interest centered in Dr. Fluhrer's treatment, not merely on account of his remarkable success in treating fractures of this kind, but as offering an admirable illustration of the careful and complete system of antiseptics used in the hospital. Every possible thing was done toward perfecting the aim and the conditions of the operator.

After that portion of the leg to be operated upon was thoroughly lathered and shaved, an incision was made across what is familiarly known as the knee cap. The two sides of the fracture thus revealed were now to be brought together. A sort of crochet needle passed

through at carefully sought and directly opposite points on either side was made to carry threads, and these in turn were used to draw through a wire by means of which the two sides of the fracture were pulled closely and firmly together, carefully leaving the tissue outside, which was sewed together in position. Antiseptics were used uninterruptedly during the entire process of the operation. The operation lasted over two hours and a half.

ATTENTION is called to the editorial note in regard to Gleditschine.

EDITORIALS.

THE RETIREMENT OF DR. PORTER.—It will be seen with regret by the readers of the JOURNAL that Dr. Porter's editorial connection with it has been severed. The fact that he will in future occupy the position of Collaborator gives ample assurance, however, that the JOURNAL will continue to be enriched by contributions from his pen, and that his active interest and best wishes will always be with it. The publisher cannot let this opportunity pass without placing on record the fact that Dr. Porter has done very faithful service to this JOURNAL, and that he has shown in every department intelligence, activity, and the best of judgment. The many friends he has made among the subscribers will long remember his work with pleasure, and will be always glad to welcome future communications from him.

THE NEW YORK STATE MEDICAL ASSOCIATION held its fourth annual meeting at the Hotel Brunswick, September 27, 28, and 29, the session proved to be a valuable one in every way.

The admirable provisions by the committee of arrangements rendered the meeting much pleasanter than that of 1886, when the noise of street traffic so seriously interfered with the reading of papers. In view of the fact that the meeting came so closely after the adjournment of the International Congress, the attendance was larger than was expected, the register showing nearly two hundred as having been present during the sessions. It would seem that in the future it would be wise to arrange the social entertainment for the second instead of the third evening of the meeting, for, in order to remain for two or three hours of social intercourse, it is necessary for those residing in the western part of the State to lose the entire following day. The character of the papers contributed was of a high order, and it is safe to say that the forthcoming volume of transactions will be fully equal to those which have preceded it, and which, taken all in all, are notable examples among the publications of medical organizations. It is impossible to properly review here the papers read, which began with a thorough study of the question

of "Epithelioma of the Vagina and Cervix," by the President, Dr. Isaac E. Taylor.

The paper by Dr. Theodore R. Varick, on "The Use of Hot Water in Surgery," brought out very clearly his views on that subject, in which he makes an important distinction between *hot* and *warm* water. It is his custom to use *hot* water, *i. e.* water at the "diminution of temperature it would suffer during that time occupied in transit from the fire to the operating-room," and the antiseptic and hæmstatic properties of water thus used were shown by ample statistics in a series of amputations for rail-road injuries, which constituted as severe a test as could be applied.

Dr. C. S. Wood reviewed the "Uses and Abuses of Bi-chloride of Mercury," and Dr. R. H. Sabin gave his personal experience with gall-stones, and created considerable interest by showing a collection of small bodies passed with the *feces* after symptoms of tirpatic colic, but which many present considered to be the seeds of some vegetable or fruit rather than gall-stones.

The paper by Dr. Nathan Jacobson, "A Contribution to the Study of Hip-joint Diseases," was a thorough review of the subject with the aid of the most recent pathological investigations. His views were pointed by the relation of interesting cases, and illustrated by excellent chromographs.

The "Discussion on the Management of Compound Dislocation of the Ankle Joint," was opened by Dr. E. M. Moore, and participated in by Drs. Lynde, Bryant, Hyde, Brown, Dennis, and Carmalt, and it is safe to say that the combined papers on the subject will constitute a complete review of that important injury.

Dr. H. D. Didama illustrated a new method of applying cold in cases of fever, without irksome disturbance of the patient.

One of the most striking papers was by Dr. N. Bozeman on "A Case of Pyelitis Treated by Kolpo-uretero Cystotomy, Irrigation of the Pelvis of the Kidney, and Drainage." This was the first full consideration in public of the details of this procedure by its author, Dr. Bozeman. As to the frequency and success with which the procedure can be applied in cases of pyelitis, no opinion was expressed by the author, but that it is feasible, in fact quite easy in performance, was demonstrated by the successful cases related. In connection with this paper one may well pause to ask, "What next"?

The second day was opened by an address by Dr. J. W. S. Gouley, on "Nosography," in which the errors and inconsistencies of the present nomenclature of disease were illustrated. The paper showed a large amount of labor, and a ripe scholarship, and was referred to a committee to report at the next annual meeting. A subject with such broad relationship can only be properly considered by a committee, and it is to be hoped that the seed planted may bear fruit in influencing the nosography of disease, through the report of the committee and subsequent action.

Dr. U. C. Lynde read a paper on "Dislocations at the Elbow Joint,

Illustrating the Obstacles to, and Methods of, Reduction." This paper will be published in full in this JOURNAL in the near future.

The afternoon session of the second day was devoted to a discussion on typhoid fever, which was admirably opened by Dr. A. L. Carroll, who propounded seven "questions," which covered all the practical points connected with the disease. The "questions" were discussed by Drs. Janeway, Biggs, D. E. Salmon (D. V. S.), Leale, Ferguson, and Stockton. While nothing notable marked the discussion, it proved exceedingly interesting to the audience, as was shown by the large number of attentive listeners.

The third day was opened by the "Address on Medicine" by Dr. John Cronyn, (who was subsequently elected president for the ensuing year.)

The address was notable for the material presented and its polished composition.

Dr. B. L. Hovey considered the use of "cold as a therapeutic agent," in particular as applied by means of cold water and ice, and Dr. Nelson L. North gave his experience on "the small-pox in Brooklyn; defective isolation and defective vaccination," recalling attention to facts which it seems necessary to report in relation to preventive measures.

Dr. H. C. Van Zandt read a pungent and yet good-natured essay on "Specialists," and Dr. T. H. Manley reported two cases of cancer of the vulva which recovered after excision.

The discussion in the afternoon of the third day was opened by a scholarly and scientific paper from Dr. George Tucker Harrison on "Placenta Prævia," and was participated in by Drs. C. C. Frederick, Isaac E. Taylor, Darwin Colvin, S. B. Wylie McLeod, William T. Lusk, Rollin L. Banta, William H. Robb, John G. Orten, and John Shradly, which should be read in the forthcoming volume of transactions to be appreciated at its full value. Dr. Harrison's paper was soon to be published in this JOURNAL. It is a matter of regret that there is not space for the whole discussion.*

The history of "a case of acute mania," which resulted fatally, was given by Dr. J. C. Harman, and the closing paper was read by Dr. Charles S. Allen, on an interesting "Case of Intra-rectal Larvæ, with Gastritis in an Infant."

A notable feature of the meetings of the State Association has been the "discussions," whereby a subject is considered in a methodical manner by carefully prepared papers on several "questions."

This method of treating medical topics in medical meetings is becoming somewhat common since its adoption by the Association.

The amount of activity displayed in these discussions is perhaps a better test of the strength of the Association than is the production of even a large number of independent papers.

*The Association was disappointed that Dr. T. G. Thomas did not take part in the discussion as had been expected, owing to his recent return to the city after an absence of some months in Europe.

IRREGULARITIES IN INSANE ASYLUMS.—Nothing is more common than to see reports in the daily press in regard to the abuses practiced in Insane Asylums. These reports come now from Texas, now from the far West, sometimes from the extreme North, and again from our very midst and in sight of our doors. What is more rarely heard, but what should be listened for with strained attention, is the report of abuses in the more private “retreats,” and in the poor-houses in thinly populated districts, where the insane poor suffer evils of every kind and with no hope of ameliorating their condition. In these reports sometimes it is the Superintendent who is at fault, but more often the attendants. The general public has never been able to divest itself of the belief that behind the walls of these unhappy homes cruelty and neglect are the rule and not the exception; but the physician must know that many seeming cruelties are not really such, but are accidents such as ecchymoses and fractures in paretics and epileptics.

And yet the best friends of these institutions do not hesitate to acknowledge that wrong and abuse are frequently present in the wards, owing in most cases to the irascibility of attendants, and that patients thereby suffer a great deal which might and should be avoided.

In looking for the causes of this unfortunate state of affairs, the most striking is the insensibility to compassion which rapidly gains upon the attendants of the insane, who are generally taken from an unpromising class of people. This loss of sympathy is due to constant association with the insane. It is to be expected, and is strictly in accordance with the laws of human nature, against which denial and protestation are useless. These laws, however, must be counteracted as far as possible. It is not always possible very far. Provision for ample supervision of these attendants is rarely made by the physician in charge, because he is generally hampered and controlled by the trustees and guardians of the Institution. However faithful and efficient the Superintendent may be, he is unable to cope with the ignorance and presumption of the body of business men who have the real authority in most of these asylums. This directing board embarrasses the physician in charge by misplaced economy, and by a careless execution of their supervising duties. They disregard his advice so frequently that he ceases to urge points which he knows to be important, and no matter what his talent, industry, and executive ability may be, he cannot do justice to his charge unless the directing board of the asylum possesses equal merit, and is animated by an intelligent liberality, as well as by a strict sense of duty. His salary should be ample, so that he should not suffer from insufficient income, as well as from the painful character of his work and his generally isolated life. He should have on his staff, assistant physicians in sufficient numbers to maintain a constant surveillance over the keepers of the insane. In point of fact there are not nearly enough of these assistants, and the salaries paid them are too small to command, as a general rule, the services of any but young and inexperienced physicians.

The life of young physicians in asylums is a painful one necessarily, and the inducements offered them are insufficient to retain able men. Constant change in the medical staff becomes therefore a source of great evil, and is entirely due to the very poor pay which the assistants receive for their services.

As these asylums are at present managed, the Directing Boards are often unaware of the details of the Institutions until some "great horror" is made public, and then they carry on an active investigation, and discern evils which are for the most part due to their own disregard of the advice of the Superintendent.

It is a very great evil, too, that asylums should be built on such immense scales. Arguments in favor of more asylums and smaller ones are too familiar to need enumerating here, and thoughtful persons are pretty well agreed as to their force.

In view of these facts it becomes the duty of physicians everywhere to speak frankly, in private and in public, as to the real causes of the evils of which so much is heard. It is through this influence alone that more efficiency can be obtained and preserved in the supervising boards, whose responsible duty it is to guard the insane from neglect and violence.

OPENINGS.—These desirable but very intangible necessities are still mentioned by the recently made physician with awe and respect. But in this rapidly growing country they should not be so difficult to find. At the worst, it is only a few years now before an energetic, well prepared, enthusiastic physician, however young, gets into full work if not into remunerative practice. Let all who feel inclined to be discouraged remember that Sir Andrew Clark, of London, said: "I worked twelve years for bread, twelve for butter, and twelve more for the luxuries of life." No man of ability need fear such a length of unrewarded labor in this country.

THE ACCOMPLISHED MICROSCOPIST, Mr. Jas. E. Reeves, of Wheeling, W. Va., is still investigating the identity of lupus and tuberculosis. He will be very glad indeed to receive lupus material for microscopical examination from physicians throughout the country. He is constantly in search of the bacillus tuberculosis in such tissue, and will not give the subject up until the question is settled for all time.

ONE OF THE MOST pleasing features noticeable at the recent Medical Congress, was the readiness with which the ablest men acknowledged past mistakes and declared themselves open to conviction on the many disputed points in discussion. In these times of disintegration and rapid change, it is well to hold such a mental attitude and to keep the mind well open to side lights on all subjects.

THE *New York Commercial Advertiser*, along with a good many other secular papers, amuses itself greatly at the expense of the "Doc-

tors in Council" in Washington during the recent Congress. After alluding to many of the triumphs of the Profession, attention was called to the fact that, notwithstanding these advances, doctors still differed, and that no two physicians could be agreed about the course and treatment of any disease whatsoever. The article closes by saying that "it will not do to fall back on the old excuse that one man's food is another man's poison." Now it is exactly here that this critic makes his chief blunder. Scientific medicine treats the case, not the disease in abstract, and it seems impossible to teach even the faintest glimmering of this truth to the general public, and to the editors of daily papers in particular.

STATE TRANSACTIONS.—At this season of the year the editor's table is laden down with volumes of transactions of State Societies from all over the country. Some of them are very handsome in style and appearance, while most of them are modestly attired, but with neatness and taste. All of them carry within them evidences of careful investigation and research. While there is very little record of original experimentation, signs of intelligent adaptation are to be met with everywhere. But the one prominent thought evoked by the sight of these volumes is a regret that so much accumulated labor of the leading men in the Profession should be destined to no more extended circulation than that given by the sending out of these volumes to the medical press, and to members of the different Societies which they severally represent.

And in this connection it is well to mention that at the recent meeting of the New York Medical Association the council resolved to rescind the restriction concerning the publications of papers in journals, prior to the issue of the volume of transactions.

It is earnestly hoped that the same ruling may be adapted by all of the medical associations in the United States.

WAVES OF THOUGHT.—It rarely happens that a certain idea is suggested in one quarter of the thinking world without similar ones coming into notice about the same time, from entirely different directions. Thus, some weeks ago, a very sensible article appeared in some of the journals, advising physicians who saw many cancer patients never to allow any such to leave the office without either giving them, or requiring them to take for themselves, exact notes as to the treatment prescribed, and especially as to the opinion of the physician. This is a good practice with cases of many kinds, but particularly is it important with cancer cases, because such patients and their friends invariably come to a physician laboring under much excitement and distress. Even when most calm outwardly, there must of necessity be great agitation, and not the less strong because suppressed.

Generally, when such patients leave the physician's office, they

report his opinion and diagnosis to many friends, all of whom very naturally repeat it with more or less accuracy (generally less, and lessening the further the report goes) to all who are cognizant of the case. The result is that the physician is always misrepresented, and injury to his reputation is almost certain to occur. He has repeated to him opinions said to be his, which he hears for the first time. To deny them, is to reflect upon the accuracy of the patient; to fail to deny them is, in many instances, to acknowledge himself ignorant and careless.

In view of these facts, therefore, the suggestion is an excellent one, and it is hoped that the readers of this journal will remember it and give it a careful trial.

But a Brooklyn physician goes much farther than this, and urges upon the profession to adopt the method of giving written directions in all cases, and says that after a trial of many years he finds that such a system is valuable both to the patient and physician, and specially so in chronic cases, where both parties are inclined to grow careless, and where patients have always the tendency to go off to newer physicians, preferring sometimes to be "cured irregularly than killed in proper fashion."

And now another voice, this time from France, advises that a physician should be careful always, when raising his fees, to give written notice of the fact before taking charge of obstetrical cases, and cites a case of warning where the physician had failed to do this, and where much trouble resulted.

These are practical thoughts, and each physician can find use for them, though perhaps in a modified form.

GLEDITSCHINE.—The subscribers will be greatly interested in reading the paper of Dr. Claiborne, published as the first selection in this JOURNAL on the action of gleditschine.

They will see that his investigations have been most carefully and conscientiously made. No one can be more anxious than he to have exact truth known in regard to the authenticity of this drug. In this connection it is well to explain that Messrs. Parke, Davis & Co, while at first endorsing gleditschine without reserve, have on further investigation had reason to doubt its authenticity.

Drs. Knapp and Claiborne will be the first to warn the profession if the doubts of this firm prove to be correct. Till this is proven the subscribers are requested to suspend their judgment.

THE FUTURE EDITORS OF THIS JOURNAL.—The publisher is very happy to be able to place this journal under the supervision and editorial management of Dr. Geo. Tucker Harrison and Dr. J. Herbert Claiborne, Jr. Their scholarly attainments, and frequent contributions to medical literature have made them widely known, while they are in every respect unusually fitted for the task before them.

The subscribers may feel confident that the old JOURNAL, to which

they have adhered with a faithful friendship, will continue worthy of it, and they will not be disappointed in any respect. They will still receive the freshest literature in all of the branches of medical science, and they will find that the editorial direction will be as frank and manly as the most independent of them can desire.

Under these circumstances the publisher does not hesitate to remind the subscribers that the time is fast approaching when subscriptions are renewed, and when the influence of each subscriber is of great importance.

A medical journal cannot be managed as other business enterprises are, because it appeals to but a small portion of every community. If its own readers cannot say to their friends, "Take this journal; it is the best one I know," there is but little chance for its successful continuation.

It is believed that hundreds of subscribers can and do say this very thing of GAILLARD'S MEDICAL JOURNAL, and they are only reminded now that the present is the time for calling the attention of their friends to it, and for assuring them that, however good it may have been in the past, there is every reason to expect it to surpass even itself in the future.

SUBSCRIBERS are cordially invited to send in reports of cases and original communications.

No matter how brief an article may be, so long as it is practical it is of interest to all physicians.

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GAILLARD'S MEDICAL JOURNAL.

VOL. XLV.

NEW YORK, DECEMBER, 1887.

No. 6.

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ORIGINAL ARTICLES.

ARTICLE I.

PROPER METHODS IN THE TEACHING OF ANATOMY. By A. H. P. LEUF, M.D., of the University of Pennsylvania, Philadelphia.

Read before International Medical Congress, Section on Anatomy, at Washington, D. C., on Friday morning, September 9, 1887.

The object of this paper is to point out briefly the defects of the present plan of anatomical instruction, and to show that in fact it is

not a plan, for it lacks method. There seems to be no objective point except that of cramming facts into unwilling heads, with the trite information that it is most likely to be of subsequent use.

The defects of the present method, or lack of method, may be summarized as follows :

1. The instruction is special, though complete only as regards certain organs or parts of the body.
2. It is too general as regards other organs or parts of the body.
3. It is neither the one nor the other, as regards still other organs or parts of the body.
4. It is the custom to generally overlook these relations of organs to one another which, if properly taught, would be very useful to remember.
5. There is a general failure to prepare the student's mind with a proper incentive to acquire anatomical knowledge before it is imparted.
6. Too little is said of the philosophy or principles of anatomy which, if properly taught, would make remembrance easier.
7. The failure to always clearly show the relations of anatomy to the other branches of medicine.
8. Incompetent teachers or such who, though competent, are indifferent, or have not sufficient time to do their duty.

The remedy for this state of affairs may be tersely summarized as follows :

1. Teach the special anatomy of every organ or part of the body distinct from all others, and do it thoroughly and completely.
2. Give also a general idea or outline of each organ or part of the body.
3. Never fail in any instance to do this in the case of every organ or part of the body, as far as our knowledge will admit.
4. Invariably show the true and exact relations of the parts to each other.
5. Always try to create in the student's mind a desire for the knowledge to be acquired by showing its necessity.
6. Show in a natural way, without too much mnemonics, how many anatomical principles and associations there are which, if remembered, will do alike for many or all parts of the body.
7. Give thorough instruction as to the relations of anatomical study to the other branches of medicine.
8. Obtain the services of thoroughly competent teachers, and only such as can attend to their whole duty.

My purpose now is to separately consider these summarized teachings in outline, so as to more clearly bring out their meaning.

DEFECTS OF THE PRESENT METHOD.

1. *The instruction is special, thorough, and complete only as regards certain organs or parts of the body.*

The heart, blood and lymph-vessels, stomach, gut, bladder, seminal vesicles, Fallopian tubes, uterus, vagina, gall-bladder, and ducts generally, are all hollow, contractile organs, having essentially the same structure, and yet are pointed out to the student individually as separate and distinct organs, and as though to have studied one was not in a way to have studied all. Now the individualization of parts of the body is extreme, and leads to many impressions which too often are never removed. In the study of one or a few of these organs, an effort is made at generalization by a passing remark, for instance, to the effect that they all have muscular coats composed of longitudinal and transverse fibres, and that the longitudinal fibres are external to the transverse. Yet just now there is a failure to impress the fact that this is a general rule that affects the arrangement of muscle bundles throughout the body—transverse fibres internal to those that are longitudinal.

The anatomy of the nervous system, as generally taught, is behind the times. While considerable is said about the stomach, gut, and liver, the spleen and pancreas are passed over in a few words.

2. *It is too general as regards other organs or parts of the body.*

Thus muscles are apparently described with considerable minuteness, and their actions taken up in the same way, whereas many of their important anatomical features are overlooked and an analytical study of their actions avoided. Let me instance the deltoid. It is said to abduct the arm. Some books give it credit for doing more. No book, however, credits it, so far as I am aware, with all its actions, and these are abduction, adduction, anteduction, retroduction, inrotation, and artrotation. That it is of great importance to implant this accurate knowledge, no one who has kept abreast of modern research can deny. Great attention is given to the formation of the axillary plexus, but comparatively little is said of the exact muscular and cutaneous distribution of its branches. In the medicine of the present day, when we often have to locate pathological processes through our knowledge of the significance of anæsthetic and hyperæsthetic areas, of motor points, and our knowledge of the nerve supply of muscles, it is of extreme importance that every one be taught accuracy in anatomy. This shows the necessity for accurate anatomical knowledge for the physician. So also is it necessary to know exactly the various collat-

eral channels of circulation, and the exact attachment, action, and location of muscles.

3. *It is neither the one nor the other as regards still other organs or parts of the body.*

For instance, we fail miserably in reaching even the usual standard of either specific or general instruction in teaching the anatomy of the lymphatic apparatus, the sympathetic nervous system, and the venous system. Especially is this true as regards their connections with each other. The failure in this instance is more with teachers than with books. The confusing nomenclature helps to increase the obscurity of what little is taught in this direction.

4. *It is the custom to generally overlook those relations of organs to one another which, if properly taught, would be very useful to remember.*

Let me call attention to how few appreciate the small interval between the liver, stomach, and spleen, on the one hand, and the right lung, heart, and left lung, respectively, on the other hand. How many realize the relative proportions of the œsophagus and trachea, or the relations of the inferior vena cava to the liver, diaphragm, and right auricle? Again, how many can tell with reasonable accuracy the distance between the anterior and posterior lacerated foramina of the cranial base, or between the supra-orbital and mental foramina? How does a man turn his body and head half-way round? What muscles do this? Is this often taught? Witness the making of a *post-mortem* examination by what is usually considered a well-informed medical man and see his utter helplessness. See where he gropes for the kidneys or spleen, and note with what perseverance he searches for a pancreas where it was never intended to be. How many men have grasped the bodies of the lumbar vertebræ, ready to cry "Eureka!" in the fond belief that they had discovered an abdominal scirrhus? The fault here lies at the door of the teachers of anatomy.

5. *There is a general failure to prepare the student's mind with a proper incentive to acquire anatomical knowledge before it is imparted.*

This is a great, and I believe universally prevalent, defect. Occasionally, especially with reference to some parts of the body, it is done, but as a rule it is either wholly neglected, or but feebly attempted. It is not sufficient to state that such and such knowledge is imperatively necessary to the making of an ideal physician or surgeon, but

every statement should be backed by at least one good example. This failure to show a reason for the attainment of difficult facts seems to be one of the most deplorable and most damaging of the present defects in anatomical teaching. Its disadvantages cannot be overestimated. Anatomy is usually a dry branch of medicine, whereas it should be the most interesting. Let students see why they should learn these facts. Beautify anatomy in their eyes by showing its usefulness and application. Give the students pegs of demand upon which to hang anatomical facts. The present prevailing method is to thrust at learners innumerable isolated and partly connected facts, with the repeated advice that it is knowledge that will prove of much future use; and as they advance in their studies it is the rule not to show them how this knowledge, not only of anatomy, but other branches as well, helps them in the acquirement and retention of additional information.

6. Too little is said of the philosophy or principles of anatomy which, if properly taught, would make remembrance easier.

For example, not enough attention is paid to the common structure of mucous membranes and their annexa—glands. How many students understand that glands are indented and modified mucous membranes? In the enumeration of the parts of the body developed from the blastodermic layers, no special effort is made to inculcate the principle of the development in such a way as to make it easier to understand and remember. The rule too often is for teachers on the day before the lecture to memorize what structures are developed from the various blastodermic layers, and then give it to their hearers like a parrot, and feel relieved when they have successfully passed through the ordeal. Here again much more should be said than is usually done about the general plan of our bodies and their parts, and they should constantly be compared, both as regards structure and function. It is of vast importance to know the physiological relations of one part of the body or organ to another, and yet this is most imperfectly taught. The fascination of anatomy to those who feel its attraction is in the wonderful mechanism it brings to view, and the incentive it offers for the satisfactory exercise of the reasoning faculties. To bring about a reasoning habit is, therefore, one of the many ends to be attained in the dissecting-room, in addition to the common one of imparting dry anatomical facts.

7. The failure to always clearly show the relations of anatomy to the other branches of medicine.

Let me instance the relations of the lungs to the heart in heart-

disease; or, of the liver to the heart under the same conditions. Again, of the alimentary tract and portal system to the liver. Also the necessity of remembering mere distribution and motor points by giving examples of imaginary or actual cases. Students are permitted to get and retain the idea that thorough anatomical knowledge is only necessary to the surgeon, and only slightly so, and then only for special reasons, to the physician; whereas the fact is, that this knowledge is equally necessary to both, and can never be either too minute, accurate or extensive. It must be remembered that these defects are lasting. If not eradicated during college life they become permanent fixtures of one's professional character. No one can gainsay me when I affirm that the mass of practitioners fail utterly to comprehend the true relations of different parts of the body, or of the body itself as a whole; and this fault is principally due to a cause summed up in the few words, incompetent or careless instructors, at all events, defective instruction.

8. *Incompetent teachers, or such who, though competent, are indifferent or have not sufficient time to do their duty.*

Of those who are indifferent, or who have not sufficient time to do their duty, it may be said that they should resign and give places to men equally as competent, and more willing to do their full duty. Of the incompetents it may be said that they should never be appointed. College faculties commit a great wrong by appointing men to teach this important branch who themselves confess that the only object in taking the position is to make capital and to compel themselves to learn anatomy to the extent which seems to them desirable and necessary. This is an imposition upon the students who confidently place themselves in the care of a trusted institution for the purpose of acquiring a medical education at a par with the medicine of the times.

THE REMEDY.

This is simple enough, and consists in overcoming the defects just indicated. For this purpose it is not only necessary that teachers of anatomy be good, practical, and thinking anatomists and *students*, but that they be philosophical, as well as practical, physicians in every sense of the word. At no time in a medical education is instruction so potent for future usefulness, or its neglect so certain of ultimate failure, as the period which should be spent in the dissecting-room under a capable teacher.

1. *Teach the special anatomy of every organ or part of the body distinct from all others, and do it thoroughly and completely.*

While in following this plan the student may not recall all that is told him, he has the benefit of thorough instruction, and enough will remain to leave a clear outline around which future studies will cause to crystallize those additional facts which at first failed to secure a thorough hold. Thoroughness and repetition are of prime importance in teaching this difficult branch. Innumerable facts are not memorized with ease, and never to any decided advantage unless their relations to each other are mastered in the smallest detail. The instruction covering any part, therefore, should be specific, detailed, and thorough.

2. *Give also a general idea or outline of each organ or part of the body.*

This is necessary, as it emphasizes the most important facts to be remembered, and thus insures the attainment of the main object of the preceding paragraph. Of mucous membranes, for instance, it might be said that they all are composed of three layers, i. e., a superficial one of cells, a middle one or basement membrane, and a deep one or submucosa. For the liver, the five fissures, five lobes, five ligaments, and five vessels could be briefly summarized. For the thigh a single mention of its form could be followed by the statement that it is composed of a bone, muscles, vessels, nerves, loose connective tissue, fat, fascia, and skin. The bone is the femur; the muscles being the four leg extensors, four adductors, two flexors of the thigh, a superficial group of three, three extensors of the thigh, six out-rotators, and four flexors of the leg; the fascia lata and its intermuscular septa; the anterior and posterior sets of vessels; the anterior and posterior nerves; the loose connective tissue and fat variously predominating in different portions of the thigh, notably in the groin and upon the inner side; and lastly the skin over all.

3. *Never fail in any instance to do this in the case of every organ or part of the body, so far as our knowledge will admit.*

By adhering to this rule, it is much easier to show the relations of different parts of the body to each other, and so make the whole mechanism more easily comprehensible. It also lessens the chance of students receiving false impressions of the relative importance of parts of the body. It is natural to suppose that those organs that are most thoroughly explained are the most important, whereas this rule is by no means always followed. Because it is more difficult to teach the anatomy

of certain organs or regions, is no reason why the task should be shirked. A true and competent teacher would be all the more anxious to desire means for its simplification, so as to bring it before students in a manner to make it easy of comprehension and remembrance.

4. *Invariably show the true and exact relations of the parts to each other.*

This facilitates still more the comprehension of the whole mechanism. For instance, how many students ever have it impressed upon their minds that the upper fibres of the pectoralis major and the anterior fibres of the deltoid act alike? How often is a student made to realize the difference in the action of the anterior, middle, and posterior fibres of the deltoid? Again the same may be asked of the upper and lower fibres of the pectoralis major or trapezius. Note the great similarity of action between the posterior fibres of the sterno-cleido-mastoid and the anterior fibres of the trapezius, and this being both supplied by the one nerve. Are students ever permitted to realize that the deltoid is a downward continuation of the trapezius, and that both muscles may be viewed as one large, triangular, fleshy mass having its base of origin from the posterior median line of the body from the occipital protuberance to the last thoracic vertebra, whence its fibres converge over the shoulder, forming its cap, to be inserted into the middle of the outer side of the humerus? In its course over the shoulder, it has the long interruption of the shoulder girdle. Anatomy taught in this way has its fascination. Many and many a dull man have I seen develop a lively interest in the work of the dissecting-room after pointing out facts of this kind and affording an opportunity for the exercise of reason. We are too apt to teach that the action of a muscle is to produce that effect which equal contraction of all its fibres necessarily yields; but this is fallacious. Parts of muscles may and do contract independently. Contiguous borders of muscles contract, while the remaining portions are passive. This is not generally taught, but should be. These few illustrations suffice to show my meaning, and similar ones may be had from all parts of the body.

5. *Always try to create in the student's mind a desire for the knowledge to be acquired by showing its necessity.*

This can be done by supposing fictitious cases or citing actual ones; preferably such as have been seen by the students themselves. Suppose a fracture of the humerus with a large effusion of callus and consequent compression of the musculo-spinal nerve and the incidental wrist drop and radial anæsthesia. Suppose muscular atrophies or

disease of motor and sensory nerves. Suppose disease of the cerebro-spinal axis. Give symptoms and exercise the student's mind in locating the lesion, or suggest a lesion and let the symptoms be marked out by the dissector. Suppose again an oral hæmorrhage, and then let the student say, if possible, whence the blood came. Show them the different places from which it may have come. They can be taught how a nasal hæmorrhage may give rise to bloody vomit, and will be only too glad to master the anatomy of the nares and learn how to plug them in case of nose bleed. In this way they will be anxious to learn, will do it readily, and will retain it better than in the usual way. They can be told that a bronchial hæmorrhage does not necessarily imply phthisis, and then they will be only too eager to learn how this can be a symptom of heart-disease. These examples, I hope, are enough to clearly convey my meaning.

6. *Show in a natural way, without too much mnemonics, how many anatomical principles and associations there are which, if remembered, will do alike for many or all parts of the body.*

Thus, for instance, all organs, whether bones, muscles, or viscera, are composed essentially of a supporting framework of connective tissue containing essential cells, nutrient vessels, co-ordinating nerves, and, sometimes, efferent ducts. Again, to quote from a former paper of mine: (This paper entitled "Additional Factors Concerned in Fractures of the Humerus in the Vicinity of the Elbow Joint," and appeared in the *Annals of Anatomy and Surgery* for July, 1881.) "It is an invariable rule for muscles to act on every joint they pass over." "It is evident, also, that the action of a muscle on a joint depends upon its relations to that joint." Now, inasmuch as moving a joint will often change the relative positions of it and its motive muscle, it follows that the actions of muscles may change during contraction, or act either with increased or diminished effect. These will suffice as examples of principles. I will instance association as follows: Each bicipital ridge has attached to it a muscle, to the inner, or posterior, the *teres major*; and to the outer, or anterior, the *pectoralis major*, *i. e.*, a "major" to each ridge, the anterior ridge having inserted into it the anterior or pectoral "major" muscle, while the posterior ridge gives attachment to the posterior or round "major" muscle. The association is a simple one. Again, take the scapula; it is *three*-cornered, has *three* borders, and *three* great fossæ (supra-spinous, infra-spinous, and sub-scapular). Attached to it are *three* muscles arising from these fossæ and having corresponding names (supra-spinatus, infra-spinatus, and sub-scapularis). The anterior border gives attachment to a group of

three muscles (teres major, teres minor, and triceps). The posterior border affords insertion to another group of *three* (rhomboideus major, rhomboideus minor, and levator anguli scapulæ). The coracoid process gives origin to *three* muscles (short head of biceps, coraco-brachialis, and pectoralis major). Then there remain *three* unclassified muscles (long head of biceps, omo-hyoid, and serratus magnus). There still remain a pair of processes (coracoid and the acromio-spine) and a pair of muscles (deltoid and trapezius). Another association is noticed in this way: going from below upwards on both the anterior and posterior scapular borders, the first muscle is a "major" and the second a "minor," being the teres muscles in front and the rhomboids behind. Associations of this kind are not too artificial, aid remembrance, and are possible in all parts of the body.

7. *Give thorough instruction as to the relations of anatomical study to the other branches of medicine.*

Take the liver for example. Show its structure and let the student realize that the blood of the whole alimentary tract, from the cardiac orifice of the stomach to the anus, inclusive of that from the spleen and pancreas, must pass to the heart through the capillaries of the liver. Show clearly that in so doing it must pass through the central vein of the lobules. Show also that every lobule is surrounded by connective tissue. Explain that if this tissue is inflamed, it proliferates, increases, and eventually contracts, and that in doing so it compresses, squeezes the lobule and its central vein, and so obstructs the flow of blood through the liver to the heart. Tell them that this compression or constriction may become so excessive as to lead to marked damming back of blood in the veins of the alimentary tract and cause turgescence, elongation, and convolution of the veins; hemorrhoids; gastro-intestinal hæmorrhage; alternating constipation and diarrhœa; anasarca; inevitable failure of the digestive power; loss of appetite; failing strength; and ultimate death. Thus the study of anatomy would become objective and interesting throughout.

8. *Obtain the services of thoroughly competent teachers and only such as can attend to their whole duty.*

The too prevalent custom in this country is to appoint dissecting room teachers from among those who admittedly only desire to learn a little anatomy themselves and who want to use the demonstratorship as a stepping stone to what in their eyes is a better position. The dissecting room is the place where can be laid to best advantage the foundation of the medical education of every student. It is, therefore,

of the utmost importance that demonstrators be thoroughly competent. The importance of the position in this country is far below what it is said and appears to be in Europe. Our practical anatomy is too often in the hands of incompetents who are appointed to their positions through injudicious and vicious influence, in the place of such as have the requisite ability and would give sufficient time to the scientific advancement of this branch besides teaching it in a manner making it a pleasant, in fact a fascinating, study. It is an outrage upon the students, who confidently pay their money, as well as upon the public at large, who will have to employ them when they graduate, to entrust the very foundation of their medical education with those who have hardly begun to realize the scope and depth of medical science. Time and again have I seen demonstrators compelled to "read up" for special demonstrations, or even to correctly answer an ordinary question; for instance as to the attachment of a muscle or the branches of a blood-vessel. That the existence of facts like these is a disgrace, no one can deny. That every such appointment is a fraud upon the student and community, all must admit. That it lowers the grade of institutions that tolerate it, is inevitable. That it keeps ambitious, competent, and able talent in the back-ground, and thus retards the advancement of anatomical science, goes without saying. Weed out the incompetents; appoint the able, willing, and ambitious; remove these when their ardor cools and when their attention is diverted by other interests, or, make it to their advantage to devote themselves exclusively to the work for which they have proven their fitness. Good teachers are worth saving at even considerable expense, and not over-plentiful at any time. Never appoint an incompetent to teach anatomy, or for that matter any branch, but train and grow the teacher. Prove fitness before appointment, and then let the position be first held for a definite period on trial. The excuse that there are not enough in our ranks of those who like or are well versed in anatomy is fallacious, for there are many.

ARTICLE II.

THE ABORTIVE TREATMENT IN ACUTE DISEASES. By R. C. VAN WYCK, M.D., Hopewell Junction, N. Y.

Read at the third annual meeting of the Fifth District Branch of the New York Medical Association, held in Brooklyn, May 24, 1887.

By the abortive treatment in acute diseases is meant that treatment by which the course of the disease is shortened, or its action

modified in such a manner that the convalescent stage is reached at once, or in a much shorter space of time than if left to itself. It is of the utmost importance to see the disease in its incipiency, before any changes have taken place in the tissues or organs, in order to abort it.

The agents to be employed in this treatment appear to me as follows: 1st. Medicines which act first as alterative and sedative, and finally cathartic, such as *calomel*.

2d. Medicines which act on the circulatory system and the sympathetic system, called arterial sedatives, such as aconite, veratrum viride, tartar emetic.

3d. Medicines which reduce bodily temperature, such as anti-pyrene, quinine, sponging, the cold bath and cold pack.

4th. Local and general blood-letting.

In this list of medicines nothing new is offered; it is only the manner of their use that the writer wishes to bring before your notice and invite your criticism upon. As regards *calomel*, the grandfather of the writer, now long since dead, often said that if he had to practice medicine without calomel he would retire from the field, and the writer is of the same opinion.

In the acute inflammatory diseases, like pneumonia, the writer can cite cases where the course of the disease was aborted, the fever broken up, expectoration established, and the convalescent stage reached in a few days by the action of this drug alone. I will cite two cases.

Case I. Mrs. A——, a very anæmic lady suffering from dyspepsia, uterine troubles, and chronic malaria, was taken at 2 A. M., January 17, 1887, with a chill, vomiting, high fever, and pain in the left side. I saw her at 10 A. M., January 17. Pulse 96, feeble; temperature 103½; respiration 24. Has pain in the left side; coughing incessantly; feels deathly sick at the stomach, and faint.

The slightest movement would cause her to faint; tongue coated with a yellowish fur. There was slight dullness on percussion over the posterior inferior surface of the left lung, with prolonged expiration and crepitant râles. Gave calomel, 2 grains; sodæ bicarb., ½ grain, repeated every two hours, sprinkled dry on the tongue; mint soda *ad libitum* to relieve sickness at the stomach.

8:30 P. M. Temperature 102½; pulse 84; less pain in the side; stomach less irritable; commencing to expectorate; bowels have not moved. Gave calomel, soda, and rhubarb each 2½ grains by the stomach, to be followed by a seidlitz powder should the bowels not move.

January 18—9 A. M. Temperature 99; pulse 72; respiration 20. Bowels have moved; feels better; stomach settled; tongue clean; coughs considerably and raises a thick, tenacious mucus, mixed with blood. Pain in the left side marked; slight dullness on percussion, with subcrepitant râles; blister applied.

8 P. M. Temperature 100; pulse 84. Gave quinine 4 grains every four hours, and carbonate of ammonia 5 grains every four hours alternating.

January 19. Pulse 84; temperature 99; respiration 18. Pain has almost disappeared; expectoration free; is feeling much better.

January 20. Temperature 98½; pulse 72. Sitting up in bed. From this time on convalescence progressed, and she was soon around again.

Case II. Mr. McG—, laborer. Has never been sick before; a strong and healthy man. Was taken with a chill at 9 A. M., April 13, 1886. I saw the patient the next day at 4 P. M. Pulse 96, irregular, and inclined to be feeble; temperature 104; respiration 28. Lips and nails of a cyanotic hue; delirious and inclined to sleep; tongue coated with a thick fur, and breath offensive. Breathing irregular and catchy. The left lung was dull from the bottom to the lower border of the scapula, with crepitant râles and pleuritic friction. Pain in the left side on taking a deep inspiration; coughing incessantly, but does not expectorate. Gave calomel dry on the tongue 5 grains, with 3 grains of soda every two hours; ordered that if the bowels did not move in nine hours he should be given calomel 5 grains, with 2½ grains each of sodæ bicarb. and pulv. rhei, to be followed in four hours by a saline. Also prescribed the following ℞: Potass. citratis, grs. xxx; spts. etheris nitr., ℥ss; liq. amm. acetatis, ℥iiss. One teaspoonful every two hours.

April 15—10 A. M. Temperature 101½; respiration 22, and regular; tongue cleaning; expectorates a thick, tenacious mucus, tinged with blood. Complains of pain in the left side. Blister 4 x 4 applied, to be left on eight hours. Continue the citrate of potash and acetate of ammonia every three hours, alternating with 3 grains of Dover's powder and 2 grains of quinine every three hours.

April 16. Temperature 99; pulse 78; respiration 21. The patient continued to improve from this time, and was soon well. I saw him the 21st sitting up and going about the house. Left him some cod-liver oil with the hypo-phosphites, and on the 24th inst., ten days from the first day of his illness, was at his work, though feeling weak.

In pneumonia, the third stage, when the tongue and lips become dry, and sordes collect on the teeth, when expectoration has ceased, the skin is hot and dry, and the patient is restless and delirious—in fact, in a typhoid condition, when you have perhaps given up all hopes of his recovery, drop 10 to 20 grains of calomel on the tongue dry, repeating it every four hours if necessary, and withholding all liquids for an hour. Watch the effect. In less, I think, than two hours you will find a gentle perspiration creeping over the skin, and by the time the four hours have rolled away and the time for the second powder has arrived, the patient's tongue will be moist and he will take some nourishment, provided he was not moribund at the time the first powder was taken.

Dr. Howell White, of Fishkill, N. Y., related to me the following case which happened recently in his practice: John C—— passed through an attack of double pneumonia, and on the second or third day of convalescence, when to all appearances he was rapidly improving, without any known cause developed acute mania so as to be almost unmanageable, two or three strong men having to hold him in bed. He was given morphine without any good result, yet in large doses; also bromide of potassium and chloral hydrate, 20 grains of the former and 10 grains of the latter, every half hour with very little effect. The third day of his delirium, all hopes being given up of his recovery, and as a *dernier resort*, 35 grains of calomel was given dry on the tongue at 6 P. M. The next morning all delirium had ceased; the bowels only moved once. From this time on his mind cleared up rapidly, and in a day or two he entirely recovered.

In acute herpetic tonsillitis there is nothing in the writer's experience that will cut short an attack like calomel given in small doses and frequently repeated. One-tenth grain of calomel rubbed up with bicarbonate of soda and sugar of milk, half a grain of each, dropped dry on the tongue every half hour, will often in twenty-four hours effect a cure. When the trouble is associated with much fever, small and frequently repeated doses of tincture of aconite root, used conjointly with the calomel, will prove a very valuable addition to the treatment.

In that dread disease diphtheria the writer has had the most gratifying success from commencing in the initiatory stage with calomel, combined with bicarbonate of soda, 5 grains of calomel with 3 grains of soda being given every four hours for twenty-four hours, sprinkled dry on the tongue.

For the fever which precedes and accompanies the deposition of

false membrane there is nothing that the writer has found so effectual as small and repeated doses of tincture of aconite root, combined with the potassium chlorate, in similar doses. When the membrane has commenced to form, the writer has found the following inhalation very effectual, sprayed in the throat by a steam atomizer: ℞. Aquæ calcis, Oj; liq. potassæ, ℥j; tr. cubebæ, tr. opii camph., a a ℥j. This is to be used every two hours, alternating with the following gargle: ℞. Potass. chlor. liq. ferri per sulph., a a ℥j; glycerine, ℥j. M. Sig.—One teaspoonful in three-fourths of a glass of ice-cold water, and used as a gargle every half hour.

For the use of cubebæ in the treatment of diphtheria we are indebted to Trousseau.

Typhoid fever, when seen early, before diarrhœa has taken place, or becomes excessive, can often be aborted or at all events very much modified by administering a free dose of calomel with sodii bi carb., say five grains of the former and three grains of the latter, the first powder placed on the tongue, the second given by the stomach, and repeated every four hours until it operates, or after the third powder a saline may be given. In bilious remittent fever it is of the greatest importance to act freely on the liver and the intestinal tract by some cathartic, and that drug most useful in my experience for this purpose is calomel.

To illustrate—in September last, I saw a young man who had had a chill four days before, and whose temperature when I saw him was 103, pulse 96, and the tongue coated with a yellowish fur. His mother had given him *six Warner's Safe Pills*, in two doses; and he was so thoroughly purged that further purgation was out of the question; still, I ventured to give him small doses of calomel at long intervals, one-quarter grain every four hours, but this had to be abandoned. In spite of the best treatment with quinine, mineral acids, etc., the disease ran a course of thirty-five days.

Another young man, taken sick about the same time, had malaise for four days, creeping chills, and some slight fever, but kept about. He was taken at 8 o'clock A. M. with a very severe chill, which lasted until 12 M. I saw him at 1 P. M., when the temperature was 105½, pulse 120. There was vomiting, restlessness, and he was becoming rapidly delirious. I gave him ten grains of calomel on the tongue, dry, with five grains of bi-carbonate of soda, to be followed in four hours by five grains each of calomel and soda by the stomach, and repeated every four hours if necessary.

I saw him at 8 P. M., when the bowels had moved some twelve

times; temperature 102, stomach settled, feeling better, but weak. Quinine was given in solution, four grains every three hours. On the third day the fever was broken, and on the fifth day when I made my call the patient had gone out for a drive. I never now treat a case of malarial fever without acting on the liver and the intestinal secretions before administering quinine. In the so-called condition known as biliousness, associated as it sometimes is with hepatic congestion and catarrh of the gall ducts and small intestines and stomach ("*gastro-intestinal catarrh*"), when the patients have been purged by podophyllin and liver pills, with which the market is flooded, without any permanent relief, two doses of calomel and a blister placed over the hepatic region have in my hands effected a cure. In acute cholera infantum, and in a form of vomiting met with in young children, I have often checked the trouble as if by magic by dropping on the tongue dry 1-12 of a grain of calomel, one grain each of sub-nitrate of bismuth and bi-carbonate of soda, every hour or half-hour, according to the severity of the symptoms.

Calomel, when put on the tongue dry, acts as a sedative, alterative, diuretic, and diaphoretic. It never produces ptyalism. Cases have been reported where patients have taken at least one ounce without producing ptyalism. In the *Medical Record* for January 31, 1885, Dr. Thomas J. Handerson relates a case of cholera where fifty grains were given at one dose, and after it had been repeated three or four times the vomiting ceased, the cramps disappeared, and the alvine discharges became less frequent and much smaller. In twelve hours bilious stools made their appearance; the calomel then was discontinued. In a few days the patient was on his feet, of course very weak, but eventually recovered. Dr. S. J. Murray read a paper at Poughkeepsie, May 19, 1885, in which he advocated the treatment of diphtheria by calomel dropped on the tongue dry, ten grains every four hours. This was given to a child eight years of age until the patient had taken 160 grains; the patient recovered, and four other cases were reported. In all of the cases where this treatment has been tried there were symptoms of ptyalism present, and all of the cases so treated recovered.

The late Dr. Frederick A. Lente, of Cold Springs, N. Y., read a paper entitled the "Sedative Action of Calomel" before the Dutchess County Medical Society. Dr. Lente's first experience with this remedy was in epidemic dysentery, an account of which was published in the *New York Journal of Medicine* for March, 1856. Large doses of opium, three to four grains, and large anodyne enemata, $\mathfrak{z}\text{i}$ to $\mathfrak{z}\text{ij}$, failed to bring any relief to the distressing tormina, and tenesmus. The efficacy of

scruple doses so highly recommended by Johnston, Anesley, and others, and recently indorsed by the high authority of Dr. Dickson, of Charleston, was then tried and with signal success. It was generally administered in the early stages of the disease. In the severe cases it was very often the first prescription. The patient would be suffering the most intense cutting pains across the abdomen, often accompanied by considerable tenderness on pressure, distressing tenesmus, and passing blood, or bloody mucus every ten to fifteen minutes, and earnestly desiring some immediate relief. One scruple of calomel was then given, when generally (sometimes in half an hour—once in fifteen minutes) relief sometimes complete would be obtained. For five to six hours after, frequently eight to ten hours, there would be no discharge from the bowels, and very little uneasiness of any kind. In a few cases the bowels were constipated for twelve hours or more, requiring a dose of oil to move them. Generally after two or three hours relief, the patient would have two or three bilious evacuations, brownish or greenish, sometimes attended by some pain and griping, and sometimes not. In not a few cases the distressing symptoms did not recur at all, and convalescence commenced. In a majority of cases, however, in from twenty-four to thirty-six hours after the operation of the calomel the dysenteric symptoms returned, though in a decidedly mitigated form, there seldom being any pain or griping when a second dose of calomel was given, but generally the case was completed by a drachm or two of oil, or a few small doses of opium or Dover's powder. In but very few of them did the mercury produce any severe mercurialization. The dose was given in forty-seven cases, and seldom repeated, showing a marked difference in obstinacy in epidemic dysentery here and that which prevailed in India. Calomel exerts its sedative influence almost, if not quite, as remarkably and successfully in membranous croup as in dysentery. Indeed, judging from my own somewhat limited experience with it in this disease, I may ascribe to it, in proper doses, and aided by such appliances as will keep at bay the urgent danger while the calomel is acting, the powers of a specific.

Dr. Lente says further, "I have discovered from a larger acquaintance with the use of calomel in full doses that half drachm doses are, for adults, safer (and are less apt to irritate, and not more apt to salivate) than scruple doses."

Prof. W. Parker mentions a case which occurred under his observation in which a delicate child, almost hopelessly ill with membranous croup, took in three or four days half an ounce of calomel in scruple

doses and perfectly recovered. Dr. Lente then relates his experience with a boy five years old. After his assistant, Dr. Hardaway, had exhausted all his ingenuity and resources, and apprehending a fatal result, scruple doses of calomel were given. It was at bed-time when the first dose was given, and several smaller ones were left for the mother to administer, should the symptoms become alarming. In the morning he found the child much better, cough becoming loose, and inspiration quite easy. The mother stated that within half an hour from the time the first dose was given the child fell into a quiet sleep and breathed easily, that in a couple of hours he aroused, and the paroxysm became quite urgent, whereupon she gave a powder with a similar result. And so she found it necessary to continue until he had taken four doses (80 grains) in ten hours. Suffice it to say that he was threatened once after that and a scruple more was given. The following day he was quite well except a slight affection of the gums, which yielded to chlorate potash.

Dr. Knapp, of North Glen, N. Y., told the writer that while practicing in the eastern part of the county some years ago he had a case of croup under treatment which was to all appearance in a desperate condition. At this juncture the friends insisted on calling an old practitioner from Connecticut. He immediately prescribed a teaspoonful of calomel, and the child recovered.

Dr. E. L. Keyes, of New York City, considers mercury useful by increasing the number of the red blood-corpuscles, and maintains a high standard of the same. It also acts as a tonic to individuals in fair health, not syphilitic. In such individuals it increases the number of the red blood-corpuscles. (*American Journal Medical Sciences*, January, 1876.) Calomel when dropped on the tongue dry is absorbed by the mucus of the mouth, and converted into a soluble albuminate. The addition of soda makes it still more soluble (the secretions non alkaline) and allows the calomel to be absorbed. Lister has shown that the bichloride of mercury, when dissolved in the serum of the horse's blood, can be applied to the skin in the strength of 1 to 50, or even 30, without irritation, when a solution of 1 to 1,000 in water will irritate and make many skins sore.

Second.—In regard to arterial sedatives such as aconite, veratrum viride, tartar emetic, etc., the writer holds that their action is much better, less depressing, and not so apt to depress the system when they are given in minute doses frequently repeated, and that their therapeutical effects are entirely different when given in this way, than when given in full doses at long intervals. In inflammatory diseases we have

stasis of the capillary blood-vessels taking place in the affected part, and as a result vascular dilatation at the distal end of the capillaries, this being due to an irritation applied directly to the part, or acting indirectly through the great sympathetic system. The vascular system being in a state of semi-contraction, sedatives paralyze the vasomotor system, dilate the arterioles, and increase the capacity of the vessels, and by this means drain the blood from the inflamed organ. In fact their action bleeds the patient into his own blood-vessels.

Sedatives in moderate doses make the pulse slower and render it fuller, stronger, and less compressible. The slowing of the pulse is useful by increasing the heart's period of rest and nutrition. Ringer advises the use of the thermometer to determine the necessity for giving aconite. No unnatural heat can exist without inflammation, and if the temperature is normal sedatives are not required. In acute inflammatory diseases, such as pneumonia, pleurisy, peritonitis, etc., etc., and in acute specific diseases such as measles, scarlet fever, diphtheria, etc., sedatives may be appropriately administered in conjunction with any other remedy which may be indicated. They are held by some authors to be contra-indicated in pneumonia when consolidation has taken place, yet I have seen two cases apparently saved by the judicious use of arterial sedatives.

Case I.—A boy of ten years, after being sick five days, was apparently getting worse, delirious; pulse 130, temperature 105, respiration 40; skin hot and dry. The condition yielded to one-half drop doses of Squibb's fluid extract of aconite given every hour until the physiological effects of the drug were produced. The pulse promptly dropped to 70 and became full and regular. The skin was bathed in a profuse perspiration, which lasted for thirty-six hours, and from this time on he made a very rapid recovery.

Case II.—Lewis M., æt. 45, American, was taken with a chill Nov. 20, 1885, at 10 P. M., which lasted until morning. I saw him at 9 P. M. Nov. 21st. He then complained of pain in the right side and was raising sputa mixed with blood. Pulse 120, feeble.

3d day, pulse 87, R. 22, T. 104, at 10 A. M.

“ “ “ 80, R. 19, T. 103, at 7:30 P. M.

4th “ “ 96, R. 20, T. 103 $\frac{1}{4}$, at 9 A. M.

“ “ “ 100, R. 21, T. 104, at 2:30 P. M.

“ “ “ 120, R. 22, T. 104 $\frac{3}{4}$, at 8:30 P. M.

Carb. ammonia, grains vi, every two hours, and quinine 2 grains; Dover's powders, 3 grains every three hours, at 9:30 P. M. Carbonate of ammonia stopped and the following ordered: R Potass.

citratris, grains lxxx; spts. etheris nitrici ʒij ; tr. veratrii viridis (Squibb's) xxxij; aquæ q. s. ad. ʒij . One teaspoonful every two hours.

5th day.—9: 30 A. M. Temperature 102; pulse 84; respiration 16. Has some pain in the side, but sweating profusely. Veratrum mixture given every four hours instead of every two hours. 7: 30 P. M., temperature 102; pulse 84; respiration 16. Tongue cleaning; bowels have moved. Has considerable pain in the side, sweating so profusely that veratrum was stopped, ordered amm. carb. amm. mur., a. a., grains vi, every four hours and two grains of quinine every four hours. Liquid Dover with bromide of potassa to make him sleep.

6th day. Slept well and took considerable nourishment. Pulse 90; respiration 16; temperature $101\frac{1}{2}$; expectorates easily, and has very little pain in the chest; applied a blister to the side (right).

7th day. Slept well with only one dose of Dover's powder. Pulse 84, regular; temperature $99\frac{3}{4}$; respiration 16. Tongue coated, feels weak. Same treatment continued.

8th day. Pulse 84; temperature $99\frac{3}{4}$.

9th day. Pulse 78; temperature 99; feels better, but very weak; bowels have moved, has considerable pain in the side; blister applied; ordered \mathcal{R} ammonia carb. gr. lxxx; potass. iodidi, gr. xxxii; infusi senegæ, ʒij . One teaspoonful every four hours with 4 grains of quinine every four hours alternating.

10th day. Feels better, slept well last night, tongue cleaning, pulse 78, temperature 99.

11th day. Temperature $98\frac{3}{4}$; pulse 78.

12th day. Temperature $98\frac{1}{2}$; pulse 76; tongue clean.

Third.—*Antipyretics*, such as the cold bath, cold pack, douche and sponge bath, and medicines such as antipyrine, quinine, etc. These are remedies which reduce the temperature in acute inflammatory diseases and also in specific fevers. They do not abort the disease, but modify its severity, and spare the body tissue waste. The application of cold, especially in the form of cold bath, requires great care and judgment. If properly used and with properly selected cases, it is an agent capable of doing much good; used indiscriminately, and simply because there is high temperature, without finding out the cause, it will not only do harm but often is responsible for a fatal termination. In my experience, sponging the body with tepid water slightly cooler than the body is more grateful to the patient than the cold bath or cold pack, especially in young children and nervous and delicate persons.

The benefits of baths are due to the restoration of the functions of the vaso-motor system in the capillary network, which are so pro-

foundedly disturbed in fevers. Of all agents to reduce temperature antipyrin certainly takes the front rank. It reduces the frequency of the pulse, but not the number of respirations. The process of oxidation is said not to be interfered with. The writer has found it more effectual given in divided doses than in a single large dose. Fifteen grains in an ounce of whiskey, given every two to three hours, has appeared to him the best. Antipyrin does not cure or eliminate the poison, but moderates its intensity. The diseases in which antipyrin is indicated are those which are self limited, and in which there is a persistent high temperature.

Quinine and salicylate of sodium in large doses should not be used indiscriminately. The heart's action is weakened by large doses of quinine, and the bad effect upon the hearing should not be forgotten. As a tonic, in small doses, repeated every three to four hours, in conjunction with antipyrin, it will often produce good results.

Fourth.—I have purposely put blood-letting last. It is a remedy of great power, and one of the very best in aborting disease that we have, especially when the bleeding is done from a large opening, so as to make a profound impression upon the system.

There are four diseases at least in which blood-letting, practiced early, and in selected cases, will certainly relieve a vast amount of misery and prolonged suffering, as well as many sudden deaths. These are "*pneumonia*," "*pleurisy*," "*puerperal eclampsia*," and "*apoplexy*," but the cases should undoubtedly be carefully selected, and the physician should have the judgment to determine *when* and the knowledge *how* to bleed freely.

In pneumonia, when seen early, when the face is livid, the finger nails blue, the respiration short and catching, and the lips cyanotic, the patient being unable to lie down, and the pulse irregular and feeble, a full, general blood-letting will often relieve these embarrassing symptoms and check the disease in its incipiency. A directly opposite condition from this may exist where venesection may also be practiced with excellent results.

A condition of high fever, bounding and rapid pulse, extreme restlessness and delirium, often yields to a full and copious blood-letting. In puerperal eclampsia, one of the first things to be practiced is blood letting.

I know from some little experience that eclampsia can often be avoided, after other means have failed, such as saline cathartics, diuretics, and warm vapor baths.

When the urine contains albumen, the limbs swollen, and a slight

diarrhœa exists, and especially when the patient complains of a dull headache, a full venesection practiced one week or ten days before the expected confinement will save the physician much anxiety and trouble.

The prodromal symptoms which threaten an attack of apoplexy, such as sleepiness, pain, or a sense of fullness in the head, bad dreams and tingling in the limbs, associated with a full plethoric habit, will be much relieved and the fit retarded by a copious venesection.

Such, then, gentlemen, are the means for aborting disease that suggest themselves to me. Had I had more time, and the opportunities for extensive research, I might, perhaps, have rendered this paper more valuable and interesting, but I trust that it may at all events be the means of invoking a discussion which may prove instructive, and that I may profit by your suggestions or criticisms.

THE PREVENTION AND CURE OF PERFORATIONS OF THE MEMBRANA TYMPANI. BY J. G. CARPENTER, M.D., Stanford, Ky.

Read at Washington, D. C., before the American Rhinological Association, September, 1887.

Repair of the drum-head after perforation should be a subject of great interest to the general practitioner as well as the specialist, and it is of vital importance to the afflicted. To fully appreciate the process of repair, it is of prime importance to consider the origin of perforations.

The cause may be traumatic or constitutional, the perforation occurring during an attack of scarlatina, measles, diphtheria, whooping-cough, variola, pneumonia, bronchitis, mumps, typhus and typhoid fever, phthisis pulmonalis, Bright's disease, diabetes, and chronic naso-aural catarrh, for the predisposing cause, and acute otitis media for the exciting, give rise to perforations of the membrana tympani more frequently than other affections.

If these constitutional diseases do not cause perforation of the membrane *per se*, they leave the naso-aural tract in an irritable, chronically congested and relaxed state which eventually terminates in a chronic catarrh, with recurrences of acute or sub-acute otitis media with perforation; if the otitis is checked and cured, no injury is done to the drum-head, though should perforation take place, the essential treatment will be to cure the inflammation, arrest the discharge, and heal the lesion; on the contrary, should the disease pass into the chronic stage with otorrhœa, the latter becomes decomposed, acrid, and

irritating; the membrane, from being constantly bathed in this offending fluid, gets more congested, softened, relaxed, and the opening is enlarged by ulceration of its margin. To successfully restore the drum-head, the treatment must be directed towards removing the cause or its effects. Should perforation take place during an attack of any of the constitutional affections enumerated, the patient must have the local treatment necessary then and during the convalescence, and not be allowed to go for months or years with a chronic otitis, otorrhœa, perforation and impaired hearing; generally, after the victims have been affected for a considerable time, they become irritable, melancholic, and life really seems a displeasure. They finally go to a specialist, and, as a rule, are cured in several weeks, a few months, or a year or two, when the practitioner might have as easily accomplished it in less time.

If there exists a naso-aural catarrh, which is generally the case, it must be properly treated by local and constitutional measures, and should be of primary consideration to the aurist. A cure cannot, in the majority of cases, be effected by attacking the disease *vis a tergo*, through the ear, but, *vis a frontis et vis a tergo*, both through the nasal cavities and the auditory canal. Should the tympanic affection be of local origin, it should be treated locally, and the treatment should consist in the removal of any foreign substance through cleansing of the ear, douching or syringing it with water as hot as can be tolerated, then drying it and tamponing the auditory canal with antiseptic absorbent cotton; if much pain is present, cocaine muriat., 4 per cent. solution, grs. v—x, every five or ten minutes, or one-fiftieth gr. of atropine in solution, every half to one hour, applied to the membrane until relief is obtained. Hot water applied locally usually has proven, as a rule, to be the essential and trustworthy anodyne. It is seldom necessary to use leeches locally or to give anodynes. Acute otitis media or externa with perforation ought to be treated on the above plan.

The Webber, or Thudicum nasal douch and the post-nasal syringe cause acute otitis media with perforation of the membrane, and ought not to be used; but in their stead Rumbold's catheter nasal douche, or the Devilhis spray producer. It is of the utmost importance that the practitioner be quite familiar with the diseases of naso-aural tract, because he first sees the local results of the examthemata and other constitutional affections, and if he would give proper treatment at the beginning there would be much less work for the specialist; besides, incalculable good would be done the patients, who would more highly appreciate the physician, and, in addition, present an extra compensation.

The premonitory symptoms of perforation are those of acute, or subacute, otitis media, viz., otalgia, pain at first in the naso-pharyngeal regions, pressure on the tragus; lying on the affected ear increases the pain, from hypostasis, fullness and throbbing, crepitant sounds, deafness, coughing, sneezing; deglutition and mastication increase the pain. By the otoscope, the drum-head appears bulging and convex; blood-vessels may be seen pulsating, the color is red, or pinkish white; or if the tympanic affection is not arrested, perforation of the membrane occurs; if perforation seems inevitable paracentesis should be done.

The diagnosis of perforation may be made by observing the following: if perforation exists, the tuning fork cannot be heard when the auditory canal is closed by making pressure on the tragus, though in the sound ear it can be heard; on inspection a drop of liquid discharge or a few bubbles of air can be seen passing through the rent, or the latter may present a "jagged spot" or appear as a bright spot. With the aural diagnostic tubes on inflation a cracking or whistling sound is heard.

Relapses occur quite often, especially if a chronic naso-pharyngeal affection has preceded the aural, and so long as the former exists or remains unchecked, just so long will there be a tendency to acute inflammation of the tympanum with perforation of the drum-head; if during an attack of any of the constitutional diseases enumerated a chronic naso-aural catarrh is present, tympanic inflammation with perforation is more likely to result.

Prognosis of perforation of the membrane of late years has been quite favorable in the majority of cases, though in phthisis pulmonalis, diabetes, Bright's disease, and after malignant scarlatina, it is often impossible to restore the drum-head. Patients with an otorrhœa, perforated drum-head and deafness will deny having chronic naso-pharyngeal catarrh unless it is in an aggravated form, and direct their remarks to the ear only, though they may have had the former for a long time. Suppurative inflammation of the middle ear with perforation is a treacherous foe, and should be arrested and cured by proper treatment as soon as practicable; it may cause meningitis, cerebral abscess, thrombosis, pyæmia, septicæmia, hemorrhages, obliteration of the sinuses, necrosis of the bony structure of the ear, paralysis of the facialis, internal and external ear diseases. The "old idea that a suppurative inflammation of the middle ear with a discharge should be allowed to continue without treatment, and that nothing can be done for the ear or hearing when the membrana tympani is perforated," is one of the greatest absurdities ever advanced by the practitioner; yet this idea holds good

to-day with many physicians. Roosa states, even if a large portion of the membrane is swept away, we may usually, if the ossicles remain, by prompt, energetic, and patient treatment restore it and with it the hearing power.

Chronic suppurative inflammation of the middle ear with perforation is certainly a subject for earnest reflection, and doubly so, since it not only jeopardizes health and life, but insurance companies refuse to take policies on persons thus affected. Chronic otitis media with perforation of the membrane is often accompanied with albuminuria, and if the suppuration lasts a number of years, will doubtless produce the granular kidney.

The naso-pharyngeal and aural discharges afford most favorable culture fluid for the propagation and growth of the bacillus tuberculosis. When this fact is fully known and appreciated by the general profession and the laity, it will be the exception for specialists to find patients who have been afflicted for years with inflammatory affections of the upper respiratory and aural passages; by allowing the catarrh to go without treatment it becomes worse in the fall, winter and spring, new secretion is poured out from day to day, which readily decomposes and vitiates the respired air, and by being a suitable medium for the reproduction and growth of the consumption microbe, the susceptibility to contract consumption in catarrhal patients is greatly increased. In consequence of the decomposition of the otorrhœa, B. Loewenberg in the *Archives of Otology* for September, 1881, speaks of the production of micrococci in very great numbers. (Micro-phytes formed concentric gelatinous envelopes about every minute particle of decomposed matter; these were composed of the spherical bacteria, together with a few of the sod bacteria.) (Pomeroy.)

Otologists and rhinologists, as well as other physicians, should be good microscopists to fully appreciate the scientific facts which are demonstrated so beautifully under the objective piece. The lining of the external auditory canal from the irritating and decomposing otorrhœa gets inflamed, and macerated, desquamates, and fills the canal; added to this are incrustations of pus, blood, and cerumen, which may close the canal, or through cell proliferation and hypertrophy of the lining, the canal may become closed.

Two or more perforations may exist in the same membrane. The repair of perforation may be accomplished in this manner: the edges of the perforation become attached to the promontory, reparative material is thrown out in filling up the aperture and causing still further adhesions of the membrane to the inner wall of the drum-cavity. If

the perforation has extended so as to involve most of the membrane in a given meridian the cavity of the tympanum may be divided into two chambers, and if only one of these communicates with the portion of the tympanum in communication with the eustachian tube, that only can be inflated. Occasionally the edges of the perforation come in contact with the ossicula and form adhesions with them instead of with the promontory. In the repair of the membrane the process may be observed step by step. I have seen fibres shoot across a perforation, gradually closing it in, and evidently, from their radiating appearance, entering into the formation of the fibrous layer of the membrane. Great care should be practiced at first so as not to break up these incipient formations, for at first the material is exceedingly soft and is easily ruptured by rough manipulation. It is well to be always on the lookout for any redness, swelling, or fistulous opening on the posterior wall of the meatus near the membrane, for here is frequently found a communication with the mastoid cells, which lie directly in contact with this portion, and which may be the source of this persistent discharge. It is well to look over every part of the middle ear as far as possible, to find any minute polypus or granulation which might give rise to the trouble. (Pomeroy.)

Three very interesting and instructive cases, selected from a number of others in private practice, will illustrate the subject forcibly. J. B., age ten years, is feeble and anæmic, and has been so ever since he was three years old, when he had the measles, during which time he contracted naso-aural catarrh, with acute suppuration of the tympanum, with perforation of the membrane, otorrhœa and deafness of the left ear. Since the attack of measles there has also been conjunctivitis and asthenopia. Watch is heard on contact; tuning fork by bone conduction; constitutional treatment consisted in restoratives, massage, and anointing the skin with vaseline; local treatment in mild astringents; cleansing and detergent applications in the form of a spray to the upper air-passages and aural tract, inflating the eustachian tube, cleansing the auditory canal with warm water, drying it with absorbent cotton, and distilling argenti nit. grs. xl to oz.; gtts. v-x every seven to fourteen days, and daily cleansing the canal with absorbent cotton, and using zinci sulph. grs. v-x to 1 oz. aqua; dropping gtts. v-x into the ear and blowing it into the tympanum by Hinton's method, and keeping the ear tamponed with absorbent cotton, and removing it as often as it gets soiled.

Recovery from the tympanic disease and from the perforation occurred in three months, but relapses of the perforation resulted from

subsequent attacks of acute naso-aural catarrh several times, but soon healed again under the above treatment. Patient was under treatment about eighteen months, in the spring, fall, and the next spring. Forty treatments were given to the naso-pharyngeal and aural passages in the spring, twenty in the fall, and ten the next spring. When recovery was complete in every respect, no special treatment was given the conjunctivitis and asthenopia other than removing the cause, viz., the naso-aural catarrh.

During the intervals of treatment the upper air passages were cleansed with chloride of sodium solution daily, if a cold existed; otherwise, two or three times a week.

Case second was A. F., age seventeen years. Is anæmic and in feeble health, melancholic, indifferent to company, pleasure, or work, and has a blank expression; has had naso-aural catarrh with chronic suppuration of the tympanum with perforation of the membrane, otorrhœa and deafness fourteen years, since he was three years old, the result of scarlatina, at this time audition; watch on contact, tuning fork by bone conduction.

Patient has been treated frequently for months, by several practitioners during the fourteen years, with little if any benefit, who confined their treatment to the ear *per se*, and never even examined the upper air-passages to ascertain if they were affected, though there have been present the subjective symptoms of naso-pharyngeal catarrh all the time. On rhinoscopic examination, chronic catarrhal inflammation was diagnosticated. Treatment consisted in applying locally mild, astringent, soothing, and cleansing medicines, with Rumbold spray producers, Nos. 1-5 inclusive, to the naso-pharyngeal catarrh every day for two weeks, every other day for two weeks, and twice a week for four weeks, and once a week for six weeks. A mixture of glycerine and listerine equal parts. Dose, one teaspoonful, with one of chloride of sodium in a pint of warm water to be snuffed through the nose from a sponge, with head in three positions, as advised by Rumbold, was used daily to remove the ropy, tenacious muco-pus, and keep the parts cleansed. Constitutional treatment was tonics and restoratives internally, the anointing of the skin with vaseline and massage externally, every night for a week, every other night for two weeks, twice a week for a month, and once a week for another month to invigorate the system, equalize the circulation by causing determination of blood to the skin, and to fortify against future attacks of cold or acute catarrh.

When the patient contracts a cold, tr. belladonna, gtt. v-xv and

quinine grs. ii-v every three or six hours until the naso-pharyngeal and aural lining is dry, the morbid secretion arrested, and the skin has the physiological blushing of atropine. One to four days is long enough to give it this way, then two or three times a day for a week to prevent a relapse of cold. Small anodyne doses of morphine should be prescribed with the belladonna and quinine if much pain exists in the naso-pharynx or ear or headache is present.

The perforation occupied the posterior and inferior quadrant of the drum-head, was half by one-fourth of an inch in diameter, was bathed in pus, the membrane was red, infiltrated, sodden, and relaxed; the auditory canal was in the same condition and desquamating. The ear was cleansed with dry absorbent cotton, after the naso-pharyngeal catarrh was treated, the eustachian tube was inflated, and the ear again dried, and argenti nit. grs. lx to aqua \bar{z} j, gtts. v-x, dropped into the canal and blown through the perforation into the tympanum by Hinton's method, once every seven to fourteen days; during the intervals the tympanum and canal were dried and packed with biborate of soda and absorbent cotton every day for a week and every other day for a week, twice a week for a month, and once a week for two weeks longer, when the tympanic and drum-head lesions were restored.

At the end of four months the catarrhal inflammation of the aural and upper respiratory passages had been cured.

1st. The indications for the treatment of chronic otitis media with perforation of the membrane are the proper treatment of the throat and ear complications accompanying the constitutional diseases on which they depend at the commencement and during the convalescence.

2d. When the ear affection exists, always examine the upper air-passages and see if a chronic catarrhal inflammation in one or more of its stages exists; as a rule they are involved.

3d. If they are, special treatment must be given to the naso-aural catarrh of a mild, astringent, antiseptic, soothing, and cleansing kind, to arrest inflammation and remove engorgement, before dressing the local treatment of the ear before it can heal.

4th. Cleanse the ear by the "dry" or "wet method," or both, as suits each case.

5th. If the middle ear affections are due to local traumatism or extension of outer ear affection, treat it locally, as already described.

6th. After the naso-pharyngeal cavities and ear are cleansed, inflate the middle ear by Politzer's, Gruber's, or Hinton's method.

7th. Biborate of soda, subnitrate of bismuth, oxalate of cerium, powdered alum, calomel, tannic acid, sugar of lead, and iodoform are as

useful in the dry treatment as boracic acid; besides, the latter hardens and forms concretions which are difficult to remove. The aural discharges when first formed are laudable, do not contain micrococci and bacteria; therefore, dry aseptic and antiseptic astringent medicines should be used which will control the inflammation, dry up the secretion, and prevent its decomposition.

After the auditory canal and tympanum are cleansed by the syringe or aural douche, the astringent solutions to be mentioned should be dropped into the ear, viz.: zinci sulph. grs. iij-x, aquæ ℥j, zinci chloridi grs. i-v, aquæ ℥j; plumbi subacetat. grs. x-xx, aquæ ℥j; pv. alum grs. x, aquæ ℥j; potass. permang. gr. j-v., aquæ ℥j; dose of each gtts. v-x, once or twice a day dropped into the auditory canal; the canal must be kept closed during the intervals with antiseptic absorbent cotton.

It is impossible in all cases to dispense with the argenti nitras; it may be used in from grs. xl to the ℥j, to a saturated solution. If necessary the ear should be cleansed hourly, though generally one to three times a day is sufficient. The writer is convinced that in the majority of cases the "dry" is preferable to the "wet" treatment; the inflammation, congestion, and the discharge is arrested quicker and repair of the drum-head is much more rapid by the former than by the latter method. The tympanum, membrana tympani, and auditory canal absorb moisture by endosmosis from the wet treatment, which has a tendency to increase the disease instead of arresting it.

ARTICLE IV.

A REPORT OF FOUR CASES OF SUNSTROKE. By E. GAILLARD MASON, M.D., Junior Resident Physician St. Mary's General Hospital, Brooklyn.

The following cases occurred in the service of Landon Carter Gray, M.D., visiting physician to the Department of Nervous Diseases, St. Mary's General Hospital, Brooklyn :

Case I.—A. F., æt. 29, single, native of Scotland, laborer. Patient was admitted to the hospital about 5 P.M., July 27, 1887, unconscious, breathing stertorous, moaning at times, sighing, tremors of the muscles of the upper and lower extremities and contractures of the same, involuntary evacuation of fæces and urine, and vomiting. Axillary temperature, 106° F.; pulse, 140. Twenty-five grains of antipyrine were administered hypodermically, after which patient was wrapped in a sheet, placed on a bed, and sprinkled without stint with ice-water from an ordinary garden watering pot. The cold water was

kept up for nearly an hour, until his temperature fell to $101\frac{1}{2}^{\circ}$ F., when the sprinkling was stopped, in order to be on the safe side.

As his temperature continued to fall, he was then taken out of the sheet, and wrapped in a blanket and put to bed. Between this time, 6:30 P.M. and 11 P.M., he was given three hypodermic injections of antipyrine, 10 grs. each. At the latter hour, temperature was 100° F., pulse 98, but weak, for which reason he was given tr. dig. m. x. hypodermically.

Ice-bags had been kept to his head since admission.

July 28th, 9 A.M.—Temperature 99° F., pulse 80° . Patient conscious; complains of feeling weak; drank some milk with apparent relish.

July 29th.—Patient feeling quite well, but somewhat weak. He was questioned about prodromata, but said he remembered nothing except feeling very warm and dizzy just before the attack.

Discharged cured.

Case II.—C. H., æt. 48, native of Ireland, occupation plasterer, admitted July 27, 1887, was sunstruck while at work, about 4:30 P.M.; breathing very labored and stertorous, moaning at times. Axillary temperature $108\ 1-2^{\circ}$ F.; pulse 140° and weak; antipyrine freely used, 40 grs. being given hypodermically during first hour; ice-bags were placed to his head. Patient placed in a sheet and sprinkled with ice-water for an hour and a quarter, when temperature fell to 102° F.; digitalis and whiskey freely used hypodermically to sustain the heart.

8 P.M.—Respiration greatly modified; temperature $101\ 4-5^{\circ}$ F.; patient was given antipyrine gr. x. hypodermically; projectile vomiting.

11 P.M.—Temperature risen to 104° F., the cold water sprinkling was again resorted to for twenty minutes, when temperature fell to 102° F.; was given antipyrine gr. x. tr. digitalis m. x. hypodermically.

July 28th, 9 A.M.—Temperature $101\ 3-5^{\circ}$ F.; pulse 100° ; breathing much easier; pupils much contracted; antipyrine gr. x. tr. digitalis m. x. were given hypodermically.

7 P.M.—Pupils still contracted; breathing much easier; temperature $101\ 1-5^{\circ}$; pulse 98° ; was given antipyrine gr. x. hypodermically. Ice-bags have been kept to his head since admission.

July 29th, 9 A.M.—Patient regained consciousness this morning. Temperature, 99° F.; pulse, 80° ; breathing easy, pupils normal; he was able to drink two cupsful of milk.

7 P.M.—Temperature, 100°; pulse, 90°. Is taking a fair quantity of milk.

July 30th, 9 A.M.—Temperature, 101 2-5°; pulse, 80°. Takes milk without difficulty. Headache, which he has had since regaining consciousness, has disappeared.

July 31st.—Patient much improved; temperature, 100 1-5°; pulse, 80°; appetite fairly good.

August 1st.—Temperature, 100°; pulse, 80°; still on milk diet, and is getting potass. iodide gr. x., quin. sulph., gr. viij., t. i. d.

August 2d.—Temperature, 99° F.; pulse, 84. Milk diet continued.

August 3d.—Temperature normal; pulse, 80°. Milk diet discontinued.

Under this treatment, patient steadily improved, and was discharged August 7th.—Cured.

Case III.—T. M., æt. 28, single; native Ireland; laborer.

Admitted July 29, '87.

About 4 o'clock this P.M. patient was stricken down with sun-stroke. Axillary temperature, 108 2-5° F. Pulse, 160. Respiration, increased in frequency, stertorous, tracheal râles, tremors of the upper and lower extremities; convulsions and opisthotonos. Involuntary evacuation of fæces and urine. He was given two hypodermic injections—one fifteen minutes after the other, each containing antipyrine, gr. xxx, spts. frumenti, m. xxx. Immediately on admission, patient was placed in a sheet and sprinkled with ice-water for more than an hour, when the temperature fell to 102° F.; pulse, 116. He was then taken out and placed in dry bed, and blankets put over him. Ice-bags were also kept to his head; was given antipyrine, gr. xx, which was followed at intervals by hypodermic injections of whiskey according to cardiac indications.

Eight P.M. Projectile vomiting. Temp. 102° F. Pulse, 120.

July 30th, 7 A.M. Patient has regained consciousness. Temp., 103° F. Pulse, 120. 9.30 A.M., temp. 103 3-5 F.; pulse 120. In spite of large doses of antipyrine, and ice-bags to head, temperature remained the same until 8 P.M., when it fell to 101° F. Has taken some milk to-day.

July 31st. Patient much better but weak. Some light gruel was ordered for him, but he vomited it almost immediately after taking it. Is now on milk diet with a little stimulant.

At 9 A.M. Temp. 101° F. Pulse, 115.

August 1st. Temp. 101° F. Pulse, 115. Patient weak. Milk diet continued.

August 2d. Somewhat improved. Temp. $99\frac{1}{2}$. Pulse, 100. Was placed on potass. iodide gr. x, quin. sulph. gr. vj; t. i. d.

August 3d. Temp. normal. Patient steadily improved until August 8th, when he was discharged cured.

Case IV.—G. I., æt. 40; native Italy; laborer.

Admitted August 3, '87.

Received a sunstroke about 4 P.M. Temp. in axilla, $108\ 3-5^{\circ}$. Pulse, 162. Involuntary evacuation of fæces and urine. Muscular contraction; tremor; opisthotonos; tracheal râles; projectile vomiting; pupils contracted. Temp. was reduced to 102° F. by means of the ice-water, antipyrine, and ice-caps. Temp. was retained at 102° F., but he never recovered consciousness, and died at 7 A.M. August 4th.

Autopsy disclosed the lesions usually found in sunstroke. In conclusion I will say, although the antipyrine was given entirely by the hypodermic method, there was in *no case* any local result, and during the past summer, in St. Mary's Hospital, we have frequently given it hypodermically without any local result, i. e., so far as the induction of abscesses is concerned.

ORIGINAL TRANSLATIONS.

NEW MODE OF TREATMENT BY MEDICINAL OXIDATIONS. Read before the Medical Society of Paris, July 9, 1887, by Dr. Quimus. Translated for GAILLARD'S MEDICAL JOURNAL from the *Union Médicale* by H. MCS. GAMBLE, M.D., Orlando, Fla.

The idea of causing medicinal substances to act upon the respiratory tracts induced us several months ago to make some investigations by aid of the apparatus called the flameless lamp, and which consists essentially in the evaporation of rectified alcohol upon a platinum plate, or a platinum wire twisted in the form of a spiral. This is the apparatus that has been offered to the public as a generator of ozone, and that was to serve to purify apartments. It is certain that it has a real effect upon ozonometric paper, and that the atmosphere is rapidly modified by its action.

About the month of March, 1886, we dissolved some terpene in the alcohol of this lamp, or we added other substances to it with the view of ameliorating affections of the respiratory tract. But this lamp presented several inconveniences; very often the wick could not be made

to work properly, for, instead of serving solely to carry little by little the alcohol necessary for evaporation, it acted like the wick of the ordinary alcohol lamp—that is to say that the flame persisted, and thus prevented oxidation upon the incandescent platinum. We have, however, succeeded, thanks to the skill of M. Collin, in securing a lamp working regularly, lighting easily, losing its flame by itself as soon as the platinum becomes incandescent, and there is nothing more to do except to add thereto the medicinal substances desired.

When the lamp was first manufactured one had thought only of purifying the air of rooms, but our idea was altogether different. We wished to cause to be respired little by little certain therapeutic agents, and solely by placing the apparatus in the chamber of the patients.

We tried it at first by placing above the lamp a small metallic reservoir in which evaporation took place slowly, and as the source of the heat is constant we thus had a slow and continuous action. But we have entirely abandoned this method, because we thus get a too pronounced action of the products of evaporation of the alcohol, and because the medicinal substances do not act otherwise under these conditions than when they are evaporated by an ordinary process. It would be preferable, and this has been done for a long time, to have some source of heat that would facilitate the evaporation, or simply allow the substances to be disengaged little by little in the free air.

In the evaporation upon platinum there is more than a simple evaporation, for a super-oxidation of the products takes place, and the latter assume a considerable activity. The best evidence is that one can for a long time respire the air in which alcohol is burning, or even the air in which alcohol is vaporized, without feeling the effects that are experienced when alcohol is evaporated upon platinum. In this case one quickly experiences a sort of excitation, and a more or less pronounced stinging of the eyes, at the same time that the sense of smell is agreeably affected; but it would be very difficult to recognize the odor of alcohol, and the impression of the ethereal products is evident.

We have seen in animals—in guinea pigs, for example—the respiration of these products of alcohol rapidly produce convulsive symptoms, and if the experiment is prolonged one determines phenomena of paralysis of the posterior limbs, of suffocation, of meteorism, and death supervenes. Only, however grave may be the symptoms, as soon as the animal is withdrawn it quickly returns to perfect health. These symptoms, moreover, appear only when the animals are placed

in a pretty restricted space of air, and when the action of the apparatus is very intense.

With our new apparatus with sponge platinum, which acts less energetically, one can with difficulty produce accidents of this nature.

If essences are mixed with the alcohol, as essence of thyme, of lemon, of eucalyptol, etc., the odor of these essences becomes more lively, more penetrating, and often more agreeable; but it is necessary to avoid employing too strong a dose, for in this case congestion of the head and attacks of migraine are often induced.

As we have already said, the base of these proceedings is the slow evaporation of medicinal products upon incandescent platinum, and the apparatus called the flameless lamp or fumivore appeared to us, with some modifications, to be the only one that could be employed, when chance made us acquainted with a more advantageous apparatus, and which is simply the perfume-burner of the Orientals. It can always be found among articles of perfumery, but we do not know that any one had ever thought of using it for medicinal substances.

This little apparatus which we have had modified by M. Collin is composed of a flagon, into which plunges a glass tube which holds a wick, above and at the middle of which is found the platinum sponge.

On lighting this wick there is at first a flame which goes out sometimes of itself, or which can be extinguished as soon as the platinum is red, for this flame ought only to serve to render the platinum sponge incandescent. The incandescence of the platinum continues as long as there is any alcohol in the lamp, and we have had the flagon graduated so that one can estimate the amount of the medicine. Concentrated tinctures may be added. Thus we have introduced, with success, tincture of belladonna and tincture of aconite. In simple hoarseness it suffices to place in the chamber or near oneself this little lamp, set in action by the alcoholic tincture of aconite.

In coryza, with terebene and the essence of eucalyptus, or even with the mixtures of which we shall have occasion to give the formula, one succeeds in quickly arresting the mucous discharge. In coryza with fever, if the catarrh, properly speaking, is arrested, the general condition persists, and we have been able to demonstrate upon ourselves the very clear line of separation that exists between these two pathological manifestations. A rheumatic angina has been cured in one night by allowing the apparatus to perform its functions in the bed-chamber.

In spasmodic cough, in asthma, the relief is equally rapid by em-

ploying the tincture of belladonna with terpine and aromatic essences. One person suffering with asthma even walked about with the apparatus in his hand.

We have not had occasion yet to employ this method of medication in whooping cough, but it is almost certain that the results would be favorable. We will say as much for diphtheritic angina and even for phthisis.

In a rebellious case of hay fever we have obtained an almost instantaneous improvement, but, as in influenza properly so called, if the discharge has ceased, the general symptoms have not disappeared so rapidly.

The inconveniences of this mode of treatment depend precisely upon its properties, for it dries the mucous membranes. When we wish to obtain this latter effect in affections of which coryza is the type, and even in some cases of naso-pharyngeal polyps (for we have thus been able to dry up these polyps), the apparatus needs no other modifications than to add to the alcohol of 96° such substances as one may desire to secure the effect of. But, should one wish to obtain a less caustic effect, a real difficulty is presented, which we have tried to eliminate.

We have, with this view, sought to introduce into the alcohol, substances capable of attenuating its effects, or we have sought to obtain the same effects of incandescence with other products. The presence alone of terpine (4 to 5 grammes to 50 grammes of alcohol) or of morphine (20 centigrammes to 50 grammes of alcohol) suffices to attenuate this irritating action; but the incorporation of the essence of turpentine or of mineral essence is preferable, because it permits the special action of all medicines.

These two essences even without alcohol cause the apparatus to act, only the incandescence is not so lively, and the turpentine especially allows a layer of soot to be deposited which soon obstructs all the pores of the platinum sponge. Their association in the proportion of one-half or one-third is, on the contrary, very advantageous, for they mutually lend their properties to each other, the alcohol facilitating the incandescence and the essences removing from the products of oxidation of the alcohol their irritating effect upon the mucous membranes.

In bronchitis, in angina, in coryza these mixtures are much more advantageous; and after having, in our first experiments, employed alcohol alone, we at present use only one or the other of these mixtures; the better is that with the mineral essence.

The presence of these essences by no means prevents the absorption of the active agents, and we have performed several experiments

in which we have observed, upon young rats and upon guinea-pigs, the rapid influence of strychnine or of morphine in solution in these mixtures.

Certain substances, even with alcohol of 96°, extinguish the fire; such, for example, are chloroform, chloral, and iodoform.

On the other hand, the alcohol may with great advantage be replaced by ether. No substance reddens the spongy platinum so energetically as ether. This is a valuable resource, for all medicines dissolved in ether may be employed in this manner.

We do not wish to dwell longer upon these experiments and upon the clinical observations that we have had the opportunity of making. We will have occasion to recur to these with fuller details, and to lay before you facts of experimental pathology absolutely confirmatory. We have merely wished to-day to describe to you this mode of treatment, which we believe is destined to render valuable service.

We know how easily the pulmonary mucous membrane absorbs various substances, and with this easy and essentially hygienic procedure, medicines not only come directly, rapidly, and without fatigue into contact with the diseased organs, but above all, and this is an essential point, these medicines have thus acquired a more energetic action.

CLINICAL RECORDS.

OBSERVATIONS IN CHIARA'S CLINIC AND THE HOSPITAL ST. MARIA NUOVA, FLORENCE, ITALY.—By CHAS. WARRINGTON EARLE, M.D., Professor of Obstetrics, College of Physicians and Surgeons; Professor of Diseases of Children, Woman's Medical College, Chicago.

With the exception of an occasional paper, an abstract of which may appear in some of our journals, we hear but little of what is being done by members of our profession in Italy. It is true that a few names of Italian writers and teachers may be seen in our works, but as a place for medical study it is rarely, if ever, suggested.

It was my good fortune to be able to remain nearly two weeks in Florence, and to form the acquaintance and friendship of Dr. Dominic Chiara, Professor of Gynæcology in the University, whose courtesy and kindness I shall ever have occasion to remember. It was my purpose to remain but a single day in the city, but I found it impossible to leave under three days, and so made inquiry for a hospital at which I expected to make only a passing visit. I was directed to the

Hospital St. Maria Nuova, where I found Dr. Chiara and Dr. Kirsch, one of his assistants, both speaking some, and the latter very excellent, English. I soon found that I could take a course in operative obstetrics and see a number of the larger gynæcological operations, and so decided to remain.

This is the largest hospital in Florence, founded in 1288 and enlarged in 1574. It has a large library, and can accommodate one thousand eight hundred.

The buildings are old, about three stories in height, and built almost entirely of stone. The place is full of yards, squares and trees, passages and corridors.

The director of every department occupies rooms in the hospital, as do also his assistants. There are very few rooms set aside for students, who can obtain them by making application some time in advance. The meals of the directors, assistants, and students are all taken in neighboring restaurants. Among the students were several from South America, who spoke some English. There is in the hospital a large class of young women, who are in training for nurses and midwives.

The reception rooms for the use of patients, and those where the admission to the hospital are made, are closed two or three times every day and thoroughly fumigated by burning sulphur, and throughout the entire building at very close intervals are placed basins for washing hands and arms. These are all provided with hand-brushes and soft sublimate soaps.

When the director of the clinic and his assistants go through the wards they are dressed in dark-colored gowns, and wear their hats and caps, which are not removed while around the bedside of the sick.

Dr. Chiara, President of the Medical School, and Director of the Department of Gynæcology and Obstetrics, was educated in Turin, and then served for a time in the army. The two following years were spent in Paris, and then two years in the medical clinic in Turin, and the same number of years in the obstetrical clinic. He was Professor of Obstetrics at Parma for five years, and for ten years Professor and Director in the Maternity Hospital in Milan. For the last four years he has been Professor of Gynæcology and Diseases of Children, and director of this department in the University of Florence. He has written a work on obstetrics for midwives which has been translated into French, the edition being now exhausted. He has also written an essay on spontaneous evolution, and articles on deformities of the pelvis, Cæsarean section, fibroids of the uterus, extirpation of the ovaries, and antiseptics in obstetrics.

The method of teaching in this hospital is entirely clinical, and the work in the wards and operations in the amphitheatres are always spoken of as the clinic, and not the hospital.

Chiara is authority in regard to the subject of spontaneous evolution. The following is

AN ABSTRACT OF HIS THESIS,

printed in 1878: In February, 1877, a woman was admitted to his hospital in Milan who had been in labor twenty-four hours, and had been sent to him from the country in a very uncomfortable conveyance. A midwife had seen her early, ruptured the membranes, and found the shoulder and cord prolapsed, and had called a surgeon to assist her, who tried in vain to turn. She was now started for Chiara. When she arrived at his hospital she was in a fainting condition, and died twelve moments after, while means were being resorted to to resuscitate her. It was found on examination that the left arm was thoroughly protruding, and to determine exactly what nature had done toward delivering this woman, it was determined to congeal her and make exact drawings.

After the "twenty-four *post-mortem* hours" she was kept in ice and salt, and then divided in an antero-posterior direction by means of the saw. A large blood clot was found around one of the legs of the fœtus, and an abundant extravasation of blood (1200 grammes) in the peri-uterine connective tissue. These may have been produced either by the doctor in trying to turn, or in her journey to the hospital over the rough roads.

What should have been done? If the shoulder was not impacted too much, it was the duty of the surgeon who first saw her to try to turn. If the shoulder had been wedged into the pelvis when Chiara first saw it, and the child had been alive, he would have let it alone, trusting to nature, but helping along as best he could. If it had been dead he would have performed embryotomy and delivered at once.

If he had tried to save the child he would have watched the mother carefully, and if her life was endangered he would have sacrificed the child.

He believes that some cases of turning by those not particularly skilled are more dangerous to the mother than the crochet, a very dangerous instrument, as he says, much more difficult and pernicious to the mother than cephalotripsy in cases of not very narrow pelvis; more difficult and hazardous than embryotomy.

Dr. Chiara's conclusions, with slight alterations in order to overcome the peculiar Italian expressions, are as follows: First, the general law is that shoulder presentations, the seventh month of pregnancy being past, require version. Second, the necessary conditions for the operation being absent, this is contra-indicated. Third, there are absolute contra-indications to turning; deep shoulder impactment is a permanent contra-indication, and the sticking of it to the pubic arch shows that the second stage of spontaneous evolution has already been accomplished. Fourth, spontaneous evolution is a phenomenon of more frequent occurrence, and less dangerous and difficult than authorities admit. Fifth, finding an absolute and permanent indication for turning in shoulder presentation, we ought, if the fœtus is

alive, to look for spontaneous evolution, helping the latter with means that do not injure the fœtus. The fœtus being dead, we should resort immediately to embryotomy.

Obstetrics is practiced here with the utmost antiseptic precaution, even in a greater degree than in Vienna.

THE LYING-IN CHAMBER.

This is a large, airy room, with hard wood floors and with walls that can be thoroughly disinfected. The bed is made so that it can be folded upon itself, making it one-half as long as usual. This arrangement is so that when the bed is folded on itself all the ordinary obstetric operations can be performed with ease, as the bed is now the height and length of the usual operating table.

A primipara is brought into the lying-in chamber when the os uteri is well dilated; a multipara is brought in somewhat earlier. If time is permitted, she has a carbolic acid bath before being brought into the lying-in room. The bed-clothes are used only once. During the early stages the woman is left to do about as she pleases, but no unnecessary examinations are made, and *never* until the hands are thoroughly disinfected. A vaginal injection is given about the time the head begins to press against the perineum, and as soon as the vulva begins to open the spray is turned on to the parts, and kept constantly going until after the completion of the third stage. During the latter part of the confinement the attending physician is busy making all manner of measurements of the abdomen and pelvis. He also listens carefully for the fœtal heart sounds, from which he decides in regard to the advisability of hastening the labor. The placenta is always expressed, and the fingers or hands never passed into the vulva unless absolutely necessary.

The immediate delivery, with all its details, is done by a midwife, and no pulling or tugging or dilating of the os or perineum is attempted at any time. The parts are frequently washed, and the occiput made to hug the pubic arch by pressing the head up, the tissues of the perineum being between the hand and the head.

If a rupture is threatened, the parts are supported by the extended hand and the edge reinforced, if I may use the term, by drawing down more tissues. The cord of the child is tied by passing around it a little rubber tape, and the child is removed from its mother to be weighed, then washed, and measured in every part of its little body, length, breadth, and thickness, head, thorax, pelvis, and legs. But very little, if any, ergot is given to the mother, and in the course of a few hours she may be seen in the general ward, with her baby in a little cot by her side.

THE OPERATING ROOM.

The operating room in this hospital has been recently erected, and I did not see a more elegant one in Vienna, Berlin, Paris, or London. It is about fifty feet square. Two tiers of seats for students are built

away from the wall, but with room enough within the square for the operator and his assistants. The temperature is raised from 80 to 100° F., and for twenty-four hours previous to a large operation sulphur is burning in the room.

All clothes and linen to be used about the patient are fumigated and placed in closed baskets. Instruments are boiled in a ten per cent. solution of carbolic acid, and then soaked in a seven per cent. solution. Inside of the raised seats is the operating table. The floor is of stone. Upon one side is a pile of disinfected linen. Next to it a table containing hemostatics; next one upon which all kinds of restoratives are placed, with a hypodermic syringe filled with brandy or ether ready for use. In a remote corner is a receptacle to receive all soiled clothes.

Upon the other side of the operating table are all the instruments in trays, and a battery for emergencies is in a convenient position. At one end of the room are two or three places for washing, around which the director of the clinic and his assistants are seen for some time previous to the operation, scrubbing their arms and hands and cleaning their nails. Two or three instruments for spraying are placed in an appropriate position, and are worked during the entire operation.

CÆSAREAN SECTION.

It was here that the most interesting operation, if I except Bill-*roth's* operation for extirpation of the pylorus, that it was my good fortune to witness, was performed. It was Cæsarean section in which both mother and child were saved. The operation was delayed until the os uteri was fairly dilated. The operating room had been thoroughly prepared and the woman properly disinfected. An anæsthetic was given and the abdomen repeatedly disinfected, even the hairs along the median line being plucked out.

The incisions through the abdominal walls were the usual ones, the only additional procedure being that a thread was passed through the tissues at the upper and lower end of the abdominal opening. The peritoneal covering of the uterus was incised and dissected back about one-third of an inch, so that a small piece of the uterine wall could be removed and the peritoneum folded over the end. The position of the placenta was carefully ascertained and an opening made into the membranes surrounding the child, and the feet seized and the child extracted. It was given at once to a nurse for resuscitation, who shook it violently, its head hanging downwards.

The placenta was now taken out of the uterine cavity, and carbolized water was used in great quantities. The incision through the walls of the uterus was very carefully closed with interrupted sutures, then a layer less widely separated, and to keep this secure the chief midwife sewed over and over with catgut sutures the peritoneum, until it seemed absolutely impossible for anything to get into the abdominal cavity from the uterus, or from the abdominal cavity into

the uterus. The external wound was closed by the usual method. Neither cotton-batting nor any other of the usual dressings were applied on the outside, but a flat bag of shot, weighing from two to six pounds, was laid on the abdomen. Drainage through the vagina; ice over the hypogastrium. The woman made a good recovery.

I had the opportunity of examining this woman's pelvis a few days before the operation. I could feel very plainly the promontory of the sacrum, and should judge that the conjugate was about two and one-half inches. The os was dilated to the size of a half dollar, and craniotomy could have been well performed; but Chiara was intent on saving not only the mother's but also the child's life. He succeeded in doing both.

None of the grave complications which are dreaded were present in this case. The hemorrhage after the incision through the uterine peritoneum was very slight, and after the extraction of the child only a moderate amount of blood was lost. After the wound in the uterus was closed, friction was made over the organ till it was firmly contracted; the abdominal opening was then closed, as I have stated. My notes do not state whether or no a rubber cord was placed around the uterus at the supra-vaginal junction.

PRACTICAL WORK.

OCCIPITO-POSTERIOR POSITION.

Coming to speak of practical work, the first thing I noticed was the management of occipito-posterior positions. I was sorry to find that they knew nothing of our Dr. Sawyer's method, and the usual way of treating these cases is to apply forceps; first along the side of the mother until rotation has taken place. This brings one blade of the forceps under the symphysis, when they are taken off and again applied along the sides of the mother.

IN DIFFICULT BREECH PRESENTATIONS

they do not favor the use of the forceps, as has been suggested by some excellent authorities, but simply bring down one of the feet. In other cases they even recommend the blunt hook, which is a practice we would hardly suggest until many other procedures had been tried and proved of no avail.

ALBUMEN IN URINE.

A patient with uræmic poisoning was in the eighth month of pregnancy, and commenced to have dyspnoea. Albumen was discovered in the urine, and a purge was administered. No relief came, and it was decided to take no more risks in regard to the mother's life, and a catheter was introduced, and in the course of eight or ten hours labor commenced. She had no convulsions, and the child was born alive. The albumen rapidly disappeared.

INVERTED UTERUS.

Attempts had been made to reduce an inverted uterus according to the usual methods, but without success. The tumor in the vagina was pulled down and a wire ligature placed around it, which was daily tightened a little, until about the eighth to the twelfth day the mass came away. Antiseptic precautions are taken throughout this operation to prevent septicæmia.

REMOVAL OF UTERUS.

I did not witness this operation, but I saw the patient a few hours after. The cause of the removal of the uterus was a stenosis of the pelvis from a bony growth. The operation lasted about three-quarters of an hour, and the child was saved. The Porro was done in preference to the Cæsarean section in order to save the woman the danger of a second operation. In a slightly contracted pelvis the Cæsarean section would have been done, and in the case of pregnancy the second time the labor would have been induced at the seventh or eighth month, and the child saved. On the eighth or tenth day after the operation the stitches were all removed, and the patient was around the ward doing well.

LACERATION OF THE CERVIX.

This accident is treated by the cautery, or, as they say, "burning." The operation which is done so frequently in our country is not well thought of there, the particular argument used against it being that if a woman has another child there will be another laceration. The curette is frequently used, and all hypertrophied tissues either upon the neck of the uterus or within the canal are scraped away.

EXTIRPATION OF THE SPLEEN.

This abdominal tumor was supposed to be ovarian. Usually a diagnosis is made by tapping and the fluid examined by the microscope, but in this case the precaution was not taken. Upon opening the abdomen the tumor was found to be a cyst of the spleen filled with echinococci. These were thoroughly scraped out, the cavity cleansed, and the edges of the cyst stitched to the abdominal walls. A glass drain was placed at the bottom of the wound, and it was thoroughly washed out with bichloride and dressed with iodoform, and the woman made a good recovery.

ABDOMINAL TUMORS.

The diagnosis of tumors within the abdomen was not usually made out until after the abdomen was opened. A case was presented with two growths within the abdomen. It was supposed from the pallor of the patient, and the rapidity with which the tumors increased, that they were sarcomatous. The abdomen was opened with all antiseptic precautions. Preparations for every possible emergency were

arranged, and upon opening the abdomen it was found that the growths were fibroids. The stump was transfixed by a large double thread and tied on either side. The top of the stump was cut out so that it was cup-shaped, and the peritoneal covering brought over it and stitched with ordinary black silk. Everything was dropped back into the cavity and the abdominal wound closed. The temperature rose $1\frac{1}{2}^{\circ}$ the third day; an excellent recovery.

DERMOID CYST.

Abdomen opened for supposed fibroid, but found to be a dermoid cyst. The other ovary was also found to be cystic. The diseased part was amputated, the hemorrhage controlled by Paquelin's cautery, and the healthy part of the ovary dropped back into the abdominal cavity, which was then closed in the usual method. Chiara was particularly conscientious in regard to the extirpation of the ovaries. He always saved enough healthy ovary, if possible, so that the woman could conceive if she had the opportunity and it was her duty to do so.

SARCOMA OF THE OVARY.

At this operation it was found that extensive adhesion had taken place, and only a part of the neoplasm could be removed. The covering of the growth was stitched to the abdominal walls and the cavity thoroughly drained, and an iodoform dressing applied twice each day. It was estimated that it would take about six weeks for this cavity to fill in. Iodoform was the principal dressing used, and she had but little, if any, fever.

PELVIC HÆMATOCELE.

If a woman goes into collapse with symptoms of hemorrhage, and continues to get into a more critical condition, the abdomen would be opened. If she rallies quickly, there would be hopes that it would be absorbed without operation. If the fluid remained, it would be regarded as good practice to draw it away. The same idea in regard to extra-uterine pregnancy as a cause of pelvic hæmatocele obtains with them as with us.

PELVIC CELLULITIS AND PERITONITIS.

Ice on the abdomen, with enough morphine to quiet pain, is the treatment during the early stage. When the inflammatory stage is past use hot poultices; keep the patient still, and if any hardened points can be felt they are painted over with iodine, and iodine water douches are ordered. But little confidence is placed in such remedies as iodide of potassium and muriate of ammonia as absorbents. If fluctuation is detected the antiseptic needle is used, and the pus or serum is drawn away. If the pus continues to collect a drain is inserted.

CASES OF CHRONIC INFLAMMATION OF THE UTERUS

are treated by application of iodine and hot water douches, to which the tincture of iodine is added. Pastils of alum and sulphate of copper are sometimes introduced into the cervical canal. Intra-uterine injections, particularly of the tincture of iodine, are very frequently used. If done antiseptically, and rest insisted upon after, no bad results occur.

CLOSING THE VAGINA FOR PROLAPSE.

After the menopause, if the uterus and appendages are prolapsed to such a degree as to cause great trouble and suffering, the vagina is closed by a plastic operation. I saw operations of this kind, and they appeared *to be perfectly successful, the patient being relieved.*

TARNIER FORCEPS.

The following objections are made to the Tarnier forceps: First, they cannot be made antiseptic; second, if applied and force exerted, you do not make this force in the line of the axis of the superior strait; third, you are making traction without knowing how much compression force you are using.

HYPNOTISM.

Hypnotism was practiced to some extent, particularly in nervous diseases. One case of hystero-epilepsy was particularly interesting. It was of long standing, and had been treated with electricity, tonics, etc., with the hope that, as the young woman developed, the attacks would become diminished. But they continued, and the question of extirpating the ovaries had been considered and was still under advisement. After an intermission of weeks she began to have these again. She would fall upon the floor, kick violently and cry out, and presented in every respect all the phenomena of this distressing disease. Dr. Kirsch, one of the assistants in the clinic, after calling her attention sharply to a little looking-glass or the ticking of a watch, would place his thumbs over her eyes, when she would become perfectly still and sleep in a moment. She was put to bed and remained perfectly quiet for some hours, until the same doctor approached her bedside, spoke her name rather sharply, when she opened her eyes and again became perfectly quiet, and was soon around the wards. They do not pretend to know the pathology of hystero-epilepsy, nor make any pretensions to any particular power in order to produce hypnotism. It is believed that almost any person with a well-balanced nervous system could produce this state in a hysterical woman. Hypnotism was becoming very frequent, and public exhibitions were being given to such an extent that some time last year the government authorities in Italy prohibited its performance except for medical purposes.

SELECTIONS.

A FEW PRACTICAL OBSERVATIONS UPON THE TREATMENT OF THE LATE NEOPLASMS OF SYPHILIS. By Algernon S. Garnett, A.M., M.D., Little Rock, Arks.

There is no subject which has occasioned me more thought than the late neoplasms of syphilis, nor any which has shown a greater want of prescience in the treatment instituted for their relief. Their origin is often coincident with the second stage of syphilis, and under a temporizing treatment they have been evolutionized, until functional activity and organic integrity have been destroyed under their erosive power—the different types of paralysis being their product. With rare opportunities for seeing examples of the treatment pursued by the different medical men of this country, I am forced to the conviction that, with a few notable exceptions, the whole theory of the treatment of syphilis, particularly in its later stages, is somewhat erroneous; that remedial agents are not used to their higher potentialities, deference to authority halting the surgeon before he has made more than a fleeting impression upon the condition sought to be relieved, the fear of the remedies which he uses constituting one of the chief obstacles to successful treatment. The hypothetical procrustean bed in which every patient must be laid, with his allotted dose, is unscientific and absurd. Text-books for the guidance of the inexperienced should do away with *fixed maximum* doses, in chronic diseases, where opportunity for experimental tests are given, and the educated tolerance of remedies may become the measure of the quantity required. This tolerance may be reached without endangering life by careful supervision. As illustrative of this statement, I have had the most brilliant results from the use of from six hundred to a thousand grains of potassium iodide daily, when an initial dose of five or ten grains, three times in twenty-four hours, was borne with the greatest discomfort. When the large dose is once attained, the irritation of the mucous membranes is much less than is often witnessed in the use of the smaller quantity. Affections of the kidneys, which have been frequently ascribed to the large doses of the iodides, have, so far as my observation goes, been due to the specific trouble, and coincident with the other pathognomonic symptoms of that disease. I believe in removing neoplasms, whether slight or grave, and I consider no patient safe so long as there is the slightest evidence of disease present. I believe in stamping the disease out, and keeping it subjected, knowing how easily destructive processes develop grave proportions. As between too much medicine and treatment on the one hand, and syphilitic manifestations on the other, I choose the former always; few patients are overtreated, while thousands suffer from not having received treatment enough. The iodides and mercury should be pushed in the treatment of every stage of syphilis, and in as large doses as can be borne. If the cachexia of the later stages pre-

vents the free use of mercury, tolerance of the drugs must be cultivated until the patient can be put under the full influence—this being the only plan of safety. My own experience is so opposed to the partial relinquishment of mercury in the latter stages of syphilis that I can hardly understand how many learned surgeons who have discussed this subject could have fallen into the grave error of confining their treatment chiefly to the iodides. Their perpetual use only, in large doses, would give protection. I do not believe that syphilis is a benign disease, nor that, in many cases, its tendency is to self-limitation. I question the statistics, in many instances, and doubt whether the supervision of the cases has been accurate which would point to such a result. The benignancy of to-day is formulated in the paralysis of to-morrow. The seeming health of a few years is brought to a final catastrophe by the horrors of dementia. In a case-book containing some ten thousand cases or more of syphilis, I might quote numbers which would prove interesting, but shall confine myself to one or two only:

E. D., æt. 32, a young man of healthy parentage, had contracted syphilis four years previous to the paralysis which brought him to me. After some unusual exposure on the Western plains, he was stricken with paralysis, causing complete loss of power in the muscles of locomotion, as well as in the sphincters of the bladder and rectum. This condition had lasted for nearly a year when he came under my observation and care. To complicate the difficulty and render the case still more unpromising, he had a bad stomach which performed the processes of digestion very imperfectly. With watchful care, after three years of treatment, the patient was restored absolutely to all of his functions, and is now well and healthy, and in the active pursuit of business. This result was achieved by the administration of, in the aggregate, about two hundred thousand grains of the potassium iodide and the inunction of sixty ounces of mercury. Had I temporized with the treatment, by giving insufficient doses, I should have expected structural lesions of the cord to have ensued.

I. B., æt. 44, a miner, from Arizona, presented himself for treatment while affected with aphasia and mental imbecility, the result of syphilis contracted ten years previously. This case was treated for four years with large doses of the iodides [as much as eight hundred grains a day being given for a part of the time] and mercurial inunctions. This treatment was pursued interruptedly, the patient resting from all drugs for two months at a time. The result was extremely gratifying, as all of the symptoms were relieved and the patient restored to health and vigor. These patients were treated under the benign influence of the thermal baths of Hot Springs, for which I claim decided merit in the face of an adverse opinion entertained by some of my scientific friends. The action of these waters is reconstructive, stimulating and tonic, bringing into renewed activity energies that had long lain dormant. Chemical analysis shows that this water is undergoing constant changes, while losing its heat, by liberating gases and precipitating solids from the solutions in which they have been held,

and, as from every chemical action electricity is evolved, this might account for the highly stimulating effects of these waters in contrast to water artificially heated. Practical results are the crucial tests by which we judge of the value of all remedies, all hygienic methods and treatments, and those agents are stamped as curative which achieve beneficent ends, however much in the dark we may be as to the how and why.

CIRRHOSIS. By THOS. O. SUMMERS, M.A., M.D., Jacksonville, Fla.

Away back in the iron-hearted days, criminals condemned to death were sometimes placed in a mechanical octagon, so constructed that by the touch of a spring one of its eight sides would suddenly disappear. This was done during the night, and the prisoner woke to find one window less in his contracted home; the next night the spring was touched again with the same result, and so on until the last window being shut out left the prisoner encased in an iron coffin, no more to see the light of day. I know of nothing which more forcibly illustrates the pathological condition of cirrhosis than this awful machinery of death. Some years ago a profound impression was made upon me by a remark of Prof. T. L. Maddin, my former colleague of the University of Nashville, when speaking upon the subject of areolar tissue in one of his inimitable lectures on the "Institutes of Medicine." "If it were possible," said he, "to dissect out every other tissue from the organism and leave the connective tissue intact, we should have the most perfect skeleton of the body which can be conceived," and I have often thought since then how strange it is that our pathologists have paid so little attention to this all pervading structure which forms the *organon*, as it were, of all physiological architecture, and instead of wondering at the pathological phenomena originating in a perverted nutrition of this anatomical mould I greatly marvel that it so well preserves its structural integrity. Enveloping as it does the ultimate physiological elements of the most delicate organs, forming, I might go so far as to say, the foundation of all molecular structure, it would be strange indeed if connective tissue changes did not greatly affect the functional activities of the organism and determine pathological expression. It might not be out of place in this connection to review the physiological forms and relations of areolar tissue before we proceed to discuss its perverted nutrition which is to be the burden of this article.

So fundamental is the relation which connective tissue bears to all parts of the organism that many biologists assume, and with strong rational support, that the ultimate formative cell of this tissue, amœboid in character, and of great general resemblance to the white blood corpuscle—the vital unit of physiology—is really the primordial constructive element of all tissue, depending for its character of development on the nature of its environment. We are not however in the present uncertain state of biological science to accept as more than plausible a theory so profound and of so great practical import in

physiological development. It is sufficient, however, for our present purpose to suggest such an hypothesis that we may secure that attention to the subject which its importance demands.

There are three (3) kinds of cells which have been remarked in the varieties of connective tissue.

1. *The branched or polar cells* which greatly resemble nerve cells and are often mistaken for them by the careless observer. These poles or branches spread out from the cells, and, anastomosing with others, form layers of network which with the intercellular substance give us the simplest form of connective tissue as in flattened tendon corpuscles.

2. *The amœboid cells* are nearly spherical in shape. As I have stated above they bear such a resemblance to colorless blood-corpuscles, that many eminent pathologists claim that they are veritable leucocytes. They certainly do possess nuclei within a field of granular protoplasm, and, as their name signifies, change their form like genuine amœbæ and also move about apparently at will. It still remains a matter of doubt whether or not these are independent cells or simply migrated white blood-corpuscles. I shall endeavor to show as I proceed that under either hypothesis the practical developmental issue is the same.

3. Besides these, Waldeyer has directed our attention to a large connective tissue cell, granular, sluggish in movement and filled with a plasma different from the ordinary bioplasm or protoplasm of formative cells in general. To this I have given the name of *Neoplasm* on account of its capacity to construct different characters of *formed material* under varying conditions of environment.

The inter-cellular substance of areolar tissue may be either *fibriller* or *homogeneous*—indeed the areolar tissue cell may exist independently of a stroma, and maintain an existence which in certain pathological conditions is entirely apart from the ordinary expression of functional activity in cellular life. In the fibrous tissues and in cartilage we meet with two kinds of fibres—white and yellow elastic. White fibres are generally arranged so as to produce a texture similar to felt, pressed together as it were in an apparently homogeneous mass.

(Kirkes recommends lime or baryta water for dissolving the cementing inter-fibrillar substance and separating the fibres from each other. Common salt is equally as good.)

The yellow elastic tissue is too well known to require notice in this connection, and I merely refer to it as showing how strong a structure the connective tissue cell may develop.

It is with areolar tissue proper that we are concerned in a discussion of cirrhosis. This variety of connective tissue has a very wide distribution through the organism. It supports the skin, mucous and serous membranes forming what anatomists designate as subcutaneous, submucous, and subserous tissue. It forms the outer sheaths of the blood-vessels, sheaths for muscles, nerves, glands, and internal organs dipping down into their interior, supporting and connecting the most delicate structures.

As regards the function of connective tissue I feel constrained to

differ with the ordinarily accepted physiology of the day that the main function is mechanical rather than vital. Most of our authors upon physiology stop with the easy assertion that "areolar tissue fulfills the subsidiary but important use of supporting and connecting the various tissues and organs of the body."

It is true that in all parenchymatous structures the trabeculæ of connective tissue form an interstitial framework in which the specially active tissue is lodged; but I am far from believing that this is its sole function. In muscles and nerves the septa of areolar tissue support the bundles of fibres which form the essential part of the structure, but they do more than this; they serve as media of communication with nutritive material on the outside of the parenchyma—a sort of exoteric *trophos*, if I can appropriate the word to this signification. The albuminous cement substance, as it has been called, is the product of these plasma cells, and is, under certain circumstances, organizable into tissue. If the osmotic relations of this cement substance and the nutritive plasma of the blood should be such as to allow of free admixture through the walls of the blood vessels, we shall have supernumerary layers of areolar tissue deposited, which, when once formed after the analogy of the "formed material" of Dr. Beale, become fixed and permanent.

As far back as 1871, when the great tweedle-dum and tweedle-dee discussion between Profs. Huxley and Beale as to whether the baby should be named protoplasm or bioplasm was going on, I took occasion to interrogate Dr. Beale upon the nature of what he designated as "formed material" in cellular development, and I feel now assured that this very resultant of the cellular forces will fully explain this hypertrophic condition of areolar tissue which pathologists call *cirrhosis*.

Once deposited, these supernumerary layers become component parts of the invested tissue or organ, and nothing but absorption or destruction will open the way to restoration of function. Fortunate indeed is it for the integrity of the organism that these osmotic relations do not oftner exist, but the wonder still remains that it does so seldom occur.

How easily this plasma may be solidified into tissue may be seen in the products of adhesive inflammation in serous membranes, and I take it that no anatomist has ever opened a thoracic cavity without finding an example of it. The more I reflect upon the constructive potency of the connective tissue cell the more convinced I am that many obscure pathological conditions can be referred to its perverted function for etiological explanation. How wisely has nature sparingly supplied these connective tissues with blood-vessels, and how cautiously has she interposed aplastic fluids between delicate organs and their investing membranes! Were it otherwise it were possible upon the slightest irritation to solidify the nutritive channels of the organism like a frozen sea locking in its icy embrace its thousands of living forms. Upon the verge of such possibilities as these the pathologist may well stop and tremble. I now return to my word *neoplasm* to

explain the various forms of development which connective tissue is liable to take on.

After a careful survey of areolar pathogeny I have divided it into five forms :

1. Simple hypertrophy.
2. Plastic infiltration.
3. Homologous deposit.
4. Heterologous formation.
5. Histophagic absorption.

1. *Simple Hypertrophy.* There is perhaps no tissue in the organism in which the conditions for hypertrophy are more favorable and constant than are found in connective tissue. And this would lead us *a priori* to infer that the cirrhotic condition would be a very common pathological occurrence, but a closer analysis shows us that the tissue-forming plasma of the connective tissue cell in its nascent state is readily absorbed or diverted into other channels. The ordinary conception of cirrhosis is a diffuse interstitial *inflammation*, chronic in duration, and resulting in a secondary atrophy of the true parenchyma of the organ or tissue affected. This is only partially correct, for the cirrhotic condition often—I think I can safely say most frequently—occurs without the faintest symptom of inflammation. I am constrained in this connection to quote from Strümpell on this subject in order to show how eminent authorities sometimes nod over the simplest pathological problems.

In speaking of cirrhosis of the liver he cites the ordinary definition of cirrhosis as given above and remarks :

“This conception makes the disease perfectly analogous to chronic interstitial inflammation of the kidney and many other organs. Weigert’s careful study of the processes of chronic interstitial nephritis has shown that at least a large part of the changes which take place in connective tissue are not primary but secondary, and the consequence of a primary destruction of the genuine renal parenchyma.

“The question naturally suggests itself whether the same may not be true of the apparently closely allied phenomena of hepatic cirrhosis. It must be confessed that as yet no special investigation has been made with the object of settling this doubt; but still we believe that there is much which gives probability to the new view.

“We are inclined therefore to believe that the primary lesion is in the cells of the parenchyma, some of which are thereby destroyed and are replaced by a secondary hyperplasia of connective tissue which eventually contracts. A primary lesion of the parenchyma of the kidneys, heart, or spinal cord has the same effect upon the connective tissue in them.”

Did the learned author forget that hypertrophy is not inflammation, and that the excessive “growth force,” as Cope has well called it, may be determined to any part of the organism without producing any tissue change beyond mechanical interference? If he had observed the pathological progress of cirrhosis in the muscular system he

would have found in the simple hypertrophy of connective tissue a rational explanation of the phenomena exhibited in parenchymatous organs without having to look for antecedent inflammatory conditions. In this general cirrhosis the connective tissue hypertrophy begins silently and unheralded by tissue changes in surrounding structures. By steady growth and constantly increasing deposit, it weaves its meshes about the muscular fibres, and crushes in its python folds the molecular structure which it is its function to support.

So in parenchymatous organs does it press out the life from the lobules which established the identity of its anatomical structure and physiological function. The author whom I have cited makes this remark upon the clinical history of cirrhosis which I am surprised did not occur to him in discussing the etiology of this condition.

“The onset of the disease is usually insidious. At autopsies quite an advanced stage of cirrhosis is sometimes found to which not a single clinical symptom had pointed; and it is often observed that the duration of unambiguous symptoms is much shorter than the degree of anatomical change discovered *post mortem* would have led us to expect.”

Simple hypertrophy would therefore explain this observation and I think would go still further and account for many prodromata that do occur before the genuine cirrhotic symptoms, as such a mechanical interference with an invested organ cannot fail to express itself in the general functions of the organism.

It is not necessary for me to dilate further upon the possible conditions which may occur from simple hypertrophy of connective tissue, as a mere glance at the anatomical relations of this investing tissue will at once suggest the pathological results likely to occur from an encroachment by it upon surrounding, or rather I should say *surrounded*, structures.

2. The next form of pathological development in the domain of connective tissue is *plastic infiltration*. There is often an exudation from the excessively active connective tissue cell which does not go on to the full extent of tissue formation. This character of investment does often interfere with the function of physiological structures without impairing the integrity of the structure invested by it. It is an infiltration which may be temporary in its character in which case it disappears by absorption, or if it remains for a length of time becomes a chronic obstruction similar to that produced in chronic rheumatism. Indeed I am inclined to believe that much of the so-called muscular rheumatism is simply plastic infiltration of muscular structure pasting together the ultimate muscular fibres as we see the products of inflammation in the peri-urethral tissues producing the well known soul-harrowing chordee. After this analogy also is *rigor mortis* produced by the diffusion of fluids after death.

3. The third form of pathological development in areolar tissue I have called *homologous deposit*. This differs from simple hypertrophy only in this, that the excessive formation of connective tissue is foca-

lized as it were—circumscribed and nodular in appearance with no apparent regularity of formation—the neoplasm being organized just where it may happen to be deposited. Every surgeon has met with this condition in the excision of fibrous tumors from the neck, walls of the abdomen and thorax, and all places where there is an extensive fascia to form a favorable foundation for such growths, and the irregularity of their attachments give no little annoyance in attempting to make a clean dissection. Oftentimes these deposits will form fibrous bands beneath muscular layers, rendering diagnosis extremely difficult in regions where a great variety of structure is closely related. Fortunately these deposits rarely occur in parenchymatous organs, being nearly always found in broad, flat, muscular surfaces.

4. *Heterologous formations* are easily and often developed from the neoplasm of the connective tissue cell. So primordial is the character of this cell that it readily assimilates itself to surrounding tissues. There was a time not too far back for some of us young men to remember, when the cellular pathology of Virchow was the *articulum stantis vel cadentis pathologiæ*, and yet have I lived long enough to sit at the feet of this Gamaliel and hear him renounce his own positions taken in that volume of ultimate authority, and declare the doctrine of assimilable structure from primordial cells. *Tempora mutantur, etc.* Alas for the consistency of science! It does, however, seem strange that at any time heterologous formations from primordial cells should have been thought a thing incredible, for in no other manner can we explain the typical changes in the ongoings of physiology. I shall not stop to discuss this evolutionary, or revolutionary, principle in this connection, though it would furnish food for interesting investigation. I simply mention this pathological possibility of the connective tissue cell to explain the apparent hybrid formations which are found in structures invested by areolar tissue.

5. The most interesting phenomenon of the connective tissue cell is to be found in my fifth pathological condition, which, for want of better nomenclature, I have denominated—*Histophagic absorption*.

I have spoken of the close resemblance of the connective tissue cell to the white blood-corpuscle both in form and function. If it is not a full brother it is certainly a first cousin, and it is peculiarly interesting to the pathologist in that it inherits that same ugly habit of its lazy cousin—"playing hookey," as the boys say. So long as the white blood-corpuscle is within the walls of the blood-vessels it behaves remarkably well, but it has always got its weather-eye open to slip out at the first opportunity and have a good time on the outside, and the chances are ten to one it will meet one of its areolar cousins bent on the same mission. Both of these young truants can live very well on an independent line, but they do so at the expense of pabulum that should go to the support of other structures. Hence, I have called them *histophagic*. Oh, how they swell and strut about in their pathological freedom! They are regular filibusters, and own no authority but their innate love of rapacity. Whenever they are found broken

loose from their physiological restraints there will always be enlargement of the organ or tissue in which they are running riot, followed by an atrophy which results from the absorption of pabulum from the channels of nutrition, followed by their own sure destruction from engorgement, leaving in the track of their revel a physiological waste.

These, then, are the pathological conditions which characterize areolar tissue development. Of course the great question now comes up: "What are you going to do about it?" Well, there is not much that you *can* do. I confess I am a little like the geologist on the mountain, who, when asked by a lost and belated traveller if he could tell him aught of his surroundings, "Oh, yes!" he replied, "this is a wonderful mountain. Yonder you have eocene, here miocene, there pliocene, and——" "Stop there!" roared the traveller. "Damn your scenes, I want to get over this mountain." "Ah, my friend," answered the geologist, "I have not yet accomplished that myself, and I cannot inform you." And the traveller turned from him in pity and disgust to find his own pathway through the unknown wilds.

However, I am not so utterly impractical as to leave this pathological analysis without furnishing some lines of therapeutic guidance to those in whose hands these vexing cases may fall.

The rational line of treatment is that adopted in all leucocythemic conditions. Diminish the proportion of white blood-corpuscles. Produce, as far as possible, an intravascular osmotic current by increasing the solid constituents of the blood. Keep the channels of secretion and excretion constantly open. The much reviled and unfashionable calomel fills the place here which nothing else in the whole pharmacopeia can approach. In assuming charge of a case of cirrhosis, whether it be general or localized in any particular parenchymatous organ of the body, I adopt the following line of treatment, which has proved in many cases very satisfactory. I begin in the evening with:

Pulv. Dov.	-	-	-	-	gr. xv.
Hydrarg. chlor. mit.	-	-	-	-	gr. x.
Sodæ bicarb.	-	-	-	-	ʒj.

With this a hot mustard foot bath is ordered immediately before retiring. In the morning a full glass of Hunyadi water. I then order the following prescription, to be taken in doses *pro re nata*, beginning, however, as follows:

℞	Potass. iodidi	-	-	-	-	ʒj.
	Hydrarg. bichloridi	-	-	-	-	gr. j.
	Tinct. cinchon. compound	-	-	-	-	ʒiij.

M. et S. Tablespoonful one hour after each meal.

If this should produce coryza I diminish the dose to the point of tolerance. If it is practicable I order Russian baths three times a

week. If these are not to be had I place the patient naked on a bottomless chair, under which I place a vessel containing water heated by a spirit lamp. A blanket thrown over the patient's chair, and all will answer the purpose of a Russian bath very well, though it may not be so elegant and luxurious. Every night I order the patient rubbed thoroughly with lanoline, to soften the skin. In the morning this is sponged off with ammonia water and the skin rubbed with a crash towel.

The diet of the patient must be confined to plain and not highly seasoned food. Sugars must be avoided; alcoholic drinks are not allowable except in those cases where the total withdrawal of them would do more damage to the organism than a moderate indulgence would do to the pathological condition under treatment. In this case sherry wine is the least objectionable. Coffee must be stopped and the use of potatoes strictly forbidden. No pork in any form. Let the beef be rare in every sense of the word. Eggs, fish, oysters, and game may be taken *ad libitum*.

This is the best line of treatment which my own experience suggests, and I have found it successful in some inveterate cases that had resisted all the vaunted specific remedies.

To conclude, I submit these observations upon the general characteristics of cirrhosis in the hope that the suggestions therein found may call out deeper investigation from those who are better situated for pathological work than myself; for, indeed, vast and pregnant as is the subject, pathologists have seemed loth to consider it, and have "passed by on the other side."—*N. O. Med. Journal*.

ABSTRACTS.

ABSTRACT OF INTRODUCTORY ADDRESS DELIVERED AT UNIVERSITY COLLEGE HOSPITAL.—Dr. Radcliffe Crocker commenced by giving a cordial welcome to the new students, and gave them some advice upon the way in which they should spend their time away from the college, and as to the selection of their companions. In advising them about their work, he began by showing them how not to do it by describing certain types of students whose methods did not lead to success, the types selected being the "casual student," the "dilettante student," and the "over-diligent student."

He then proceeded to show how they should do it, and impressed upon them the necessity of being as practical and objective in their work as possible, pointing out that if they neglected their opportunities of learning the use of instruments of diagnosis while students, they could never learn it afterwards, however much they might try, and that thus their stethoscope would become a mere symbol of their profession, "like a portable barber's pole," while, after all, the best

equipped student, when he left the hospital, was not a medical man of experience, but a medical man capable of profiting by his experience. He also urged upon them the necessity of thoroughness and accuracy in the examination of their cases, as it was not so much how many cases they saw as how they saw them, pointing out that thus a large hospital might become a disadvantage to a student, unless he was careful not to hurry over his cases. He showed how University College Hospital, for example (which was a hospital of moderate size), had, from making the best use of their materials, and thoroughly training the student, turned out men equal to any in the profession, and instanced among those of the present day Erichsen, Thompson, and Marshall among surgeons; Walshe, Jenner, Russell, Reynolds, and the late Wilson Fox among physicians, as a proof that it was quality, not quantity, that was essential.

The lecturer then briefly alluded to the necessity of an M.D. degree being accessible to the good average London student, from which he was at present debarred by the high standard and stringent regulations of the London University. He said that the teachers of London were determined that such a degree should be, ere long, within the student's reach.

Passing on to the time when the student had got through all his examinations, and taking up the case of those who sought to go into consulting practice, he showed them what a long and trying time must elapse before practice came, and urged them not to be led into the error of the day, of advertising themselves directly or indirectly in order to obtain practice by a direct appeal to the public, sooner than they would by addressing themselves to the profession at large, and to look rather to the general practitioner to send them patients. He showed how the advertisers were the least trustworthy men in the profession, and that they, for the most part, belonged to two classes—ignorant, or comparatively ignorant men, who yet made great pretence of knowledge, and whom he denounced as quacks, although they were in the profession; while in the other class were men of ability who were in such haste to be rich, that they could not wait until practice came through legitimate channels, and that though they doubtless cured their patients eventually, they secured as much money out of them as possible.

Further elaborating the subject, he classified the advertising part of the profession on the principle Touchstone used in the gradations of quarreling, and described humorously the "Advertiser Churlish" as the man who wrote works in which he made out every one to be wrong but himself, professing to have made discoveries which the blindness and narrow conservatism of the profession prevented them from seeing or adopting, and who, when patients had been previously treated, depreciated directly or indirectly their former adviser in order to exalt himself.

The "Advertiser Valiant" was a man who paraded his ability to cure obstinate or incurable diseases, such as consumption, cancer, etc.,

and ascribed his success partly to the fact that he was always ready to make the more serious diagnosis even in comparatively mild forms of diseases, and thus he was credited with curing phthisis, or whatever the disease might be, without really deserving it; further, even if he failed, he was always having a succession of new patients through his advertisements.

The "Advertiser Quarrelsome" took the form of writing pamphlets against the abuse of various drugs in the treatment of disease or against operative treatment in various surgical affections, and claiming to show how he avoided all such dangerous methods and yet cured his patients more quickly and safely.

The last two were the "Advertiser Direct" and the "Advertiser Circumstantial." Pointing out that very few went so far as to advertise themselves directly, as they ran too much risk of being expelled from the profession, he describes the "Advertiser Circumstantial," who, while appearing to praise something else, was really putting himself forward. As the most flagrant instances, he mentioned men who lent their aid in puffing sundry trade articles, either directly by writing testimonials to the venders, or indirectly by allowing extracts from their works to be reprinted by the venders of drugs, foods, or hygienic articles, and sent round as circulars or left in public places. Another plan was to write works known as "bread-and-butter" books, of more or less pretension, on common diseases, such as "gout," or some fashionable or new treatment, such as "massage," to give the impression that they were authorities on the subject; and he urged the public to be more ready to listen to the advice of their family practitioner as to whom they should consult, rather than be led by these plausible writings of whose merits they were not competent judges, to choose for themselves.

He felt, however, that in the face of the support that the public gave to quack nostrums, systems, and unqualified pretenders outside the profession, they did not seem likely of themselves to discriminate as to who were or were not the quacks within it. At the same time he feared that the profession were not as active, as they might be in labelling these men as they deserved. He urged that they should refuse to meet them in consultation more than they did, and that they should shun their acquaintance; that men of repute should be more careful how they allowed their names to be on the consulting staff of special hospitals, often started by inferior men to serve their own ends; that medical societies should not only exercise care in admitting men as members, which he acknowledged that they did, but that when men advertised, and in other ways showed themselves unworthy, the offending member should be summoned before the council, and, if necessary, expelled; and gave an instance in which this had not been done to a flagrant offender. Similarly, that licensing bodies should also exercise to the full all the powers they possess to stop those who offend even when the advertisements were not absolutely direct.

He concluded by warning those who sought to do consulting prac-

tion that they must be content to wait some time before they could make a reputation amongst their medical brethren, who could judge of the merits of their work in societies and other scientific meetings, from communications to medical journals and *bonâ fide* works, which would lay a surer foundation for their reputation than that which they might get from ephemeral popularity. He exhorted them, one and all, not to let money-making be their sole aim, nor to allow, as a French writer put it, "their conscience to be a watch regulated by the clock of the parish," but, in the words of Polonius to Laertes,

This above all—to thine own self be true:
And it must follow, as the night the day,
Thou canst not then be false to any man.

THE PROGNOSIS IN CASES OF HEART DISEASE.—In the *British Medical Journal* Sir Andrew Clark reports a long series of cases of valvular diseases of the heart known to have existed over five years without causing serious symptoms, from a study of which he draws the following conclusions:

"First—That there are many persons with long-standing valvular disease of the heart engaged in the active business of life, who, without any symptom of heart disorder, have enjoyed good health, and have reached an advanced age.

"Second—That the mitral regurgitant murmurs so often encountered in chorea, for the most part disappear within eight or nine years of the attack.

"Third—That valvular inflammations, and their effects arising in the course of rheumatic fever, do sometimes disappear, and leave behind no clinical evidence of their former existence; and that this, occurring for the most part in the young, also occurs sometimes in the middle-aged.

"Fourth—That the signs of valvular defects arising out of the degenerative change of middle life do, also, on rare occasions, disappear; and that, when circulatory and respiratory disturbances accompany their commencement, they sometimes subside, and permit of apparently complete readjustment.

"Fifth—That as there must be in the histories, habits, occupations, and surroundings of patients with valvular disease, conditions which, in one case, bring about secondary disorders, and, in another case, exempt it from them, it is desirable that the respective *differentiæ* should be discovered, and made capable of application to practice.

"Sixth—That any systematic and critical study of this subject likely to lead to practical issues could be undertaken only by the Collective Investigation Committee, and not by it unless actively assisted by experienced general practitioners, who possess, in a special manner, the knowledge necessary to the end in view.

"Seventh—That a joint inquiry of the kind proposed, conducted with due patience, discrimination, and accuracy, would greatly extend our knowledge of the natural history of diseases of the heart, and

largely increase our means of assisting those who suffer from them.”—*New England Med. Monthly.*

MALARIAL HÆMATURIA.—In an article written at the request of the Medical Society of Virginia by O. F. Manson, M.D., of Richmond, and published in the *Transactions* of the Society, it is claimed that this disease is of recent origin. The author says:

“By reference to our history of the malady, it will be seen that after an examination of the most celebrated authorities, ancient and modern, on malarial disease, we ascertained that anterior to the middle of the present century we could only find four cases in which hemorrhage from the kidneys had occurred, having any clear and satisfactory connection with any form of disease arising from the morbid action of malaria—we have no hesitation in declaring our firm belief that malarial hæmaturia, as it now presents itself, is a disease of recent origin.”

He states that the disease first attracted the notice of the profession about the year 1850, and that it appeared simultaneously in Texas and Madagascar.

The doctor devotes some thought to the history of the distoma parasite, known as distoma hæmatobium, or, after its discoverer, Bilharzia hæmatobia. It is well known that Bilharz, while engaged in studying the diseases of Egypt with Griesinger, “discovered a parasite worm within the blood vessels of the pelvis of the kidney, ureter, bladder, mesentery, throughout the portal system, and in the vessels of the small and large intestine. The entire trunk of the portal vein was sometimes filled with these parasites, and then ova were found in the tissue of the liver. Dr. Manson arrives at the conclusion that so-called malarial hæmaturia is a disease composed of malarial fever on the one hand, and the lesion produced by the distoma parasite group on the other—or, in other words, that the fever termed *fièvre bilieuse hæmaturique* of the French, and the malarial hæmaturia of America, are examples produced by the Bilharzia hæmatobia in subjects of the malarial diathesis.—*Miss. Valley Med. Journal.*

DR. JOHN W. WATSON, medical officer of Limavady Hospital, writes to the *British Medical* the result of his experience in biniodide of mercury, as follows: Having had considerable experience in the treatment of diphtheria and having tried nearly all the local remedies which have been recommended from time to time, I gave them all up in favor of a thorough application of carbolic acid in one form or other. On seeing in the *JOURNAL* Dr. Illingworth’s suggestion as to the application of biniodide of mercury, and believing in its power as a germicide, I tried it in the following case.

On September 4th I was called to see B. M., aged thirteen. She had a patch of diphtheria exudation on the right tonsil. I applied tannin and glycerine, the only application I had with me, and advised her to come to hospital. As four deaths had occurred in a family of

five children about two weeks before, in a neighboring district, from diphtheria, the friends readily consented to send her to hospital. They did not send her that day, however, as they had agreed to do, but the next morning. In the meantime the exudation had formed with alarming rapidity; the uvula, tonsils, and adjacent portions of the palate and pharynx were covered in some places to an eighth of an inch in thickness. I made her gargle her throat as well as possible with 1 in 3,000 corrosive sublimate solution, and afterwards applied the biniodide in glycerine as recommended by Dr. Illingworth. She was to refrain from hawking, swallowing or coughing; and an hour afterwards to gargle the throat with lime-water, taking a sip now and again for a few minutes, so as to bring it in contact with the exudation as much as possible. In two hours from the first application the sublimate gargle was again used, and the biniodide applied. This treatment was to be persevered in except when asleep, the mercurial germicide alternating with the solvent lime-water. Next morning the quantity of exudation had very much diminished; the uvula and soft palate were almost denuded, and what remained in the hollows behind the tonsils and elsewhere seemed quite friable and ready to peel off. Next day there was a slight reappearance in some parts, but nothing like what occurred at first. The treatment was kept up regularly; and, as the patient was both intelligent and tractable, it got a fair trial. The exudation kept forming very slightly and disappearing for about a week, when it entirely disappeared. She had iron and chlorate of potash internally; there was slight albuminuria for about a week.

We know how peculiar the behavior of the exudation in diphtheria is, and that one case is not sufficient to form an opinion upon; but this treatment has theory to recommend it, and, as far as the above case goes, practice also; and I shall be glad if Dr. Illingworth or any other of the readers of the JOURNAL would give a short account of their experience of it, should they give it a trial.

I think Dr. Illingworth will find that a small pencil of lint on a handle will carry the biniodide better into contact with the parts, and I am persuaded of the solvent power of lime-water upon the exudation. The sublimate solution may act as a germicide also, and lessen the danger to attendants, etc.

OBITUARY.

MARRIED.

Dr. John Herbert Claiborne, to Miss Annie Leslie Watson, Thursday, November 3, 1887, at Petersburg, Va.

 OBITUARY.

THE DEATH OF FREDERICK HYDE, M.D., Professor of Surgery, and Dean of the College of Medicine of Syracuse University, N. Y., was announced October 17, 1887, at the age of 80 years. The deceased had long been known and recognized as one of the most honorable and intelligent members of the profession in the State of New York. The following report, adopted at a meeting of the Faculty of the Syracuse University, on the evening of October 17, correctly voices the sentiments of all who have the pleasure of an acquaintance with Dr. Hyde:

In the full possession of his mental faculties, with eye undimmed and natural strength unabated, our beloved dean, Dr. Frederick Hyde, at the advanced age of four score years, has been called from his life of incessant unselfish labor to his rest and eternal reward.

As colleagues we unite in mourning his loss with that large community where he was revered for his unswerving integrity and his active devotion to the best interests of society; with the church of which he was a consistent and influential member; and with his stricken family who, while they miss with anguish, remember with gratitude and pride, his affection, his kindness, his sterling character, and that "purest treasure mortal times afford, a-spotless reputation."

Extensively known by his valuable contributions to surgical literature, and by his early and continuous advocacy of a higher standard of medical education, Dr. Hyde was a prominent founder of our University College of Medicine, and he has worthily filled the office of dean since the beginning, fifteen years ago.

His associates, and the students in the medical school which he loved, and to which he devoted so much valuable time, will miss his gentlemanly presence, his genial manner, his wise and encouraging counsel, and his learned teaching.

We all bear ready and unreserved testimony that his influence has always been salutary, at once a stimulant and a benediction.

As a slight token of our respect and affection, we will follow his mortal remains to their resting place to-morrow.

H. D. DIDAMA,
WM. MANLIUS SMITH,
W. T. PLANT.

THE DEATH OF VON LANGENBECK.—Von Langenbeck was born at Horneburg, in Hanover, in 1810, and was graduated from the University of Göttingen in 1835. Shortly after this he established himself in Göttingen as Privat-Dozent in physiology, and began to practice surgery. Soon afterwards he was made Professor Extraordinarius; and in 1842 he went to the University of Kiel as Professor of Surgery and Director of the Friedrichs Hospital. In 1848 he became connected with the army, and directed the surgical department in the hospitals during the war of the Duchies against Denmark. In this year he was called to Berlin to succeed Dieffenbach, becoming, at the age of 38, Professor and Director of the Berlin Royal Surgical Clinical Department, the greatest surgical clinic in Germany. His reputation was in a great measure made by the ability displayed by him in the three wars against Denmark in 1864, Austria in 1866, and France in 1870. He was ennobled by the King of Prussia after the Danish war in 1864.

Sir William McCormac, who became acquainted with him during the Franco-Prussian war, says: He was not less beloved as a man than renowned as a surgeon and teacher. The surgical professors in most of the great Universities (W. Busch, Wilms, von Bergmann, Nussbaum, Billroth, Volkmann, Socin, König, Shoenborn, Trendelenburg, and others) have been among his favorite pupils and assistants, so that the influence of his teaching has spread far and wide. Personally he was beloved in a rare degree as a man of spotless honor, sympathetic, and affectionate, and with the warmest domestic affections. . . . Mainly through his example did conservative surgery obtain a sure footing in military practice. His results in regard to excision of joints, especially the ankle and wrist, are most remarkable, and his keen observation told him the frequent possibility of saving the limb when the knee had been perforated by gunshot. None could be more dexterous as an operator. He was bold beyond most men, and his knife was always guided and controlled by profound anatomical knowledge. He possessed a capacity for work which was simply astonishing. His habit was to rise at 4 every morning, drink a cup of coffee which he made himself, and begin his literary work.

In 1860 he started the *Archiv für klinische Chirurgie*, commonly known as Langenbeck's *Archiv*, and edited it, with the assistance of Billroth and Gurlt, up to the time of his death. In this may be found most of his numerous contributions to surgical literature. It was through his efforts that the Association of German Surgeons was formed. He was chosen its first President, the office being an annual one, but at the end of the year he was re-elected, and was finally made perpetual President. Five years ago his failing health compelled him to remove from Berlin to Wiesbaden, and the remainder of his life was spent in the beautiful home which he built for himself on the slope of the Nersberg. Not long since he submitted to operations for cataract, which seemed to be successful. He died of cerebral apoplexy on September 29, and on October 5 was buried by the side of his wife in the cemetery at Berlin.

“A great and rare man is gone,” says Guttman, “gone the eminent teacher, the great master, the Nestor of German surgery, the ornament of our State and University, where thousands have sat at his feet and received instruction from his lips.”

Dr. Jas. A. Gray, managing editor of the *Atlanta Medical and Surgical Journal*, died on the 27th of September, of typhoid fever after a short illness of three weeks. Although cut off prematurely, at the age of thirty-seven, and only having been a practitioner for eight years, yet he is an example of what a man of energy and ability can accomplish in a short time. Commencing the study of medicine at the age of twenty-seven, he graduated with first honor at the Atlanta Medical College in 1879. In 1880 he was appointed Demonstrator of Anatomy in the Southern Medical College. In 1881 he was appointed Proctor of the Atlanta Medical College and Lecturer on Venereal Diseases. At the time of his death he was still occupying these positions, and was also serving his second term as Secretary of the Medical Association of Georgia; a member of the Atlanta Society of Medicine, and managing editor of the *Atlanta Medical and Surgical Journal*. His co-laborers on that journal have our sincere sympathy.

[The profession have been called upon recently to mourn the death of many great and good men from its ranks. It is not “post-mortem kindness” which has prompted a record of their worth, but justice. Such are the men who make every calling high. Such are the men who ennoble every profession. Such are the men who keep the earth sweet. Their lives and examples will not have been in vain.—ED.]

PROCEEDINGS OF SOCIETIES.

SPHYGMOGRAPHIC TRACINGS.

BY ALFRED LUDLOW CARROLL, M.D.

(Abstract of remarks made at a meeting of the Fifth District Branch of the New York State Medical Association, November 15, 1887.)

Although the sphygmograph has not fulfilled all the sanguine promises which heralded its introduction, it is often of unquestionable clinical value. In cardiac disorders it can never supersede the trained ear of the auscultator, but it may guide his examination and perhaps modify his prognosis; while in some instances it may serve to localize an internal aneurism with a precision unattainable by any other means. We all know that the intensity of a murmur at one of the valvular orifices is not invariably proportionate to the gravity of the lesion which induces it, and, except where the attending circumstances of aggravated cases aid our judgment, we are often uncertain in

opinion. Here the sphygmograph may come to our relief with a mechanical measurement more accurate than our unassisted senses. Variations of vascular tension inappreciable by the most delicate and practiced touch, degrees of obstruction or regurgitation unascertainable otherwise, are graphically recorded. Too much, however, must not be expected from it; its tracings in a given form of disease are not identical and diacritic; they are only generically similar. It is not to be considered as a means of diagnosis, but—like other so-called “instruments of precision”—as a frequently useful aid to diagnosis. Some years ago (*N. Y. Med. Journal*, September, 1877,) I endeavored to point out the extent and limitations of its utility; my present purpose is chiefly to call attention to a hitherto unnoticed source of misconception in its registrations.

One of the principal drawbacks to its general recognition is the very ingenuity expended in its improvement, which has resulted in the invention and adoption of several different patterns of mechanism, each of which gives a tracing differing somewhat from those of the others, with the same pulse. Hence, since the significance of every part of the hieroglyph depends on its conformity with, or departure from, a known normal standard, it is necessary for the interpretation of the more recondite indications of any sphygmogram to be told by what instrument it was taken, and without this information, and knowledge of the normal performance of the particular pattern employed, it is impossible to compare the results of different observations or to profit by published records. To state an extreme example: the tracing of a healthy pulse by POND's water-sphygmograph would rouse a suspicion of cardiac hypertrophy if supposed to have been made by Marey's or Malomed's instrument, for the reason that in the former apparatus the needle-bearing lever, being detached from the motor-rod, is thrown loose by each pulsation, exaggerating the height of the systolic upstroke and of the repercussion and post-aortic waves, while in the latter machines the attached lever is withdrawn with the subsidence of the ventricular impulse, reducing the relative proportions of these traits. An even greater exaggeration appears to characterize the working of an exceedingly sensitive device invented by Mr. EDWARDS, of Buffalo, with which I have had no personal experience, but which has been effectively employed by Dr. H. R. HOPKINS, of that city, who has published numerous tracings taken with it. DUDGEON's sphygmograph, which, on account of its convenient portability, I have most used of late, gives, as will be noticed, a quite dissimilar normal tracing. Less conspicuous, but still possibly misleading, variations exist between the tracings made by almost any two of the eight or nine patterns of sphygmographs in use by different observers, and although physical examination of the patient might correct misapprehension in actual clinical work, the illustrations in many books and papers are thus robbed of much of their instructiveness.

The rate of speed at which the slip is made to move will also ma-

terially modify the sphygmogram, as is evident from the specimens which I exhibit.

In view of these facts, and to establish sphygmography in the professional estimation which it merits, it is desirable—since it is not likely that any one standard will be universally adopted—that all who publish records of their work should not only mention the instrument which they employ, but give in addition, for comparison, its tracing of a normal pulse.

BRITISH MEDICAL ASSOCIATION.

Dr. Ord read a paper at the last annual meeting of the British Medical Association on some of the rare symptoms produced by gall-stones. Attention was first called to the circumstance that gall-stones may exist without producing symptoms, as shown by the number frequently found post-mortem in cases in which their presence during life had not been suspected.

Gall-stones may be passed without accompanying jaundice, but usually give rise to pain and vomiting. The case of a woman is reported who had no previous signs of gall-stone, and who, the day after her confinement, passed a gall-stone of such an enormous size that its passage was attended with almost as great difficulty as a second labor, and it was hence dubbed "the twin." A case is related of a woman subject to irregularly recurring attacks of pain in the region of the gall-bladder, with associated vomiting and faintness, but who never had jaundice nor passed pale stools. Many physicians examined her, but no one formed a correct diagnosis, and the patient died from perforation of the stone through the gall-bladder into the peritonæum.

Gall-stones may produce intermitting pyrexia, as shown in the case of an Indian medical officer, who, after his return to England, was attacked with paroxysms of shivering, followed by fever, and sweating at regular weekly periods. Dr. Ord had a case of glycosuria due to a gall-stone, which disappeared, together with the concomitant symptoms of thirst and emaciation, on the passage of the stone. In another case an attack of pneumonia developed in the subject of biliary calculus, being evidently in some obscure way dependent upon the calculus.

The co-existence of gall-stone with malignant disease of the gall-bladder and contiguous parts has been noted. Cases have been observed, also, in which the passage of gall-stones was attended with decided hæmorrhage; in one the hæmorrhage preceded the passage of a large gall-stone, without biliary obstruction having been at any time indicated.

AMERICAN GYNÆCOLOGICAL SOCIETY.

THIRD DAY—MORNING SESSION.

Dr. Robert Battey, of Rome, Ga., read a paper entitled

BATTEY'S OPERATION AND ITS NATURAL RESULTS.

His first operation was performed in 1872, and an account of it was published in the same year, which was widely spread and read. The first recognition of the operation was by A. R. Simpson, M. D., of Edinburgh, who, in 1879, published a case of double oöphorectomy. Hegar published in 1878 an unsuccessful case in which he operated in 1872. The author of the paper preferred to retain the term Battey's operation, since it expressed the object of the procedure (production of the menopause) better than the terms oöphorectomy, spraying, castration, etc.

Dr. Battey then presented a table of 54 cases; cured, 33; much improved, 8; little improved, 5; not at all improved, 8. Of the 54 cases there was complete menopause in 50; continued pseudomenses in 4.

The following conclusions were given:

1. Change of life is the most important factor in securing the complete results of the operation.
2. In a few cases the cure occurred at once, but in the majority the patient passed through various climacteric disturbances.
3. The time which elapsed between the operation and the disappearance of these disturbances varied from one to three or even five years.
4. Some of the cases reported were badly selected, and should not have been operated upon. The proper selection of cases is a problem yet to be solved.
5. Patients addicted to opium, chloral, or alcohol must abandon the habits in order to be perfectly cured.
6. Cases proper for operation may, if allowed to suffer for years unrelieved, reach a stage when they will be incurable by any known means.
7. In a few cases intractable neuralgia in the ovarian stump resisted all treatment.
8. A careful analysis of the cases shows that the removal of the Fallopian tubes does not influence the production of the menopause or the final cure.
9. The operation is not infallible. The percentage of failures is large, but not more so than for many other operations.

Dr. Sutton, of Pittsburg, asked (1) if Dr. Battey's operation was the removal of the ovary, (2) was removal of the ovaries alone followed by the menopause in all except four of the fifty-four cases?

Dr. A. Reeves Jackson, of Chicago, remarked that Dr. Battey's paper showed one very important fact, namely, the utter uselessness of reporting the results of removal of the ovaries, one week, or two months, or two years after the operation. The tendency is to report

the success of a case in all its aspects, at the first meeting of a medical society held, or in the first issue of some medical journal after the operation.

Dr. A. R. Simpson, of Edinburgh, thought it was important to keep the attention fixed on the ultimate results. The patient on whom he operated was benefited, and the benefit remains in that she never menstruated, was free from her monthly suffering, and at the same time remains in good health.

Dr. Battey replied to Dr. Sutton's questions that the removal of the ovaries was not a necessary constituent of the operation. It was the *change of life* that he wished to establish, and not removal of ovaries. Removal of the ovaries does not invariably produce the menopause, nor does removal of the ovaries and tubes, nor still further, of the ovaries, tubes, and uterus.

Dr. Parvin, of Philadelphia, asked if the ovaries were invariably diseased which Dr. Battey had removed, and how frequently he found disease of the tubes?

Dr. Battey replied yes to the first question, and to the second that the ratio was small. As a rule, he removes only the ovaries, but the tubes when they are diseased—that is, cases of pyo-, or hydro-, or hemato-salpinx; he does not remove the tubes on account of a little blush along the surface.

Dr. Lloyd Roberts, of Manchester, England, asked as to the condition of the uterus in the 54 cases.

Dr. Battey replied that the remaining time of the meeting would be required to describe them all; they were all different, widely different, from each other.

Dr. Polk, of New York, asked Dr. Battey to state the condition or ovarian disease which demanded removal of these organs; that is, of those ovaries which have been supposed to have something to do with the neurotic condition of the patient.

Dr. Battey replied that he did not operate for disease of the ovary. If the function of the ovary can be stopped, he believed that many of the patients will get well, and it was only to stop that function that he removed the organ. He had never insisted upon visible signs of disease of the ovary to justify the operation. It was only a collateral fact that the ovaries were diseased when removed.

Dr. Bantock, of London, said he had always been under the impression that Battey's operation was the removal of perfectly normal ovaries.

Dr. Battey was glad that this question had been raised, because he had been trying, during the last twelve or fifteen years, to get his brethren across the ocean to understand what his operation is. He always utterly disclaimed that his operation was removal of normal ovaries, and yet he had had it thrown in his face by his best friends. His object was to secure the *change of life*, and he did not care how this could be accomplished.—*American Journal of Obstetrics*.

ORIGINAL CORRESPONDENCE.

103 Canal Street, New Orleans, La. }
 October 17, 1887. }

To the Editors of GAILLARD'S MEDICAL JOURNAL.

Dear Sirs: In reading the October number of your JOURNAL, I discovered an article by Dr. Germain Sée, on the analgesic properties of antipyrin, and as I have made liberal use of the drug within the past few months, with results in accordance with those of the distinguished professor, I have concluded, if agreeable to you, to add my modest and limited experience to that of his. I have used the drug both hypodermically and by the mouth in cases of tic douloureux and migraine, with the most gratifying results, and I can earnestly and conscientiously commend it to the profession. The first case in which I deemed it judicious to use it was one of obstinate congestive dysmenorrhœa, enduring for seven consecutive days in previous attacks, and refusing to relent, even after the free use of opium. One gramme of antipyrin administered by the mouth gave relief within forty minutes after its ingestion, and the patient declared herself exempt from any further trouble during her period. This was quite a victory, as she had been a sufferer for over six years, without attaining at any time more than a modicum of relief. I have used it in other similar cases since then, with the same good result. Trusting that these few crude remarks may be of benefit to my professional brethren, I remain,

Very truly yours,

FRANK H. BRICKELL, M.D.

Visiting Physician, Charity Hospital.

 NEW BOOKS AND PAMPHLETS.

SEXUAL IMPOTENCE IN THE MALE AND FEMALE. By William A. Hammond, M.D.

The first edition of this book appeared three years ago under the title of "Sexual Impotence in the Male." A small addition has been made since that time, treating of sexual impotence in the female.

As completing the subject of sexual impotence in the human being, this is worthy of being added. This latter part of the subject is treated under two heads: (*a*) abnormal conformation of the external sexual organs; (*b*) acquired diseased conditions of the external sexual organs. The former division has been recognized by all writers on this subject, and it cannot be said that the author has suggested anything new.

With reference to the latter division (*b*), it might be objected that hardly enough consideration has been given to the subject of vaginism.

It is hardly necessary to call attention to the polished style of this accomplished writer. He divests dry medical facts of their wearisomeness, and makes his whole subject intelligible alike to the layman and medical man. No one can fail to be struck by the simplicity of his therapeutics. The objections which might be urged against the subject matter of the work by fastidious criticism are cleverly met by the Baconian maxim on the title page :

“*Nam quicquid essentia dignum est,
Id etiam scientia dignum.*”

CONTROLLING SEX IN GENERATION: The Physical Law Influencing Sex in the Embryo of Man and Brute, and its Direction to Produce Male or Female Offspring at Will. By Samuel Hough Terry. Second Edition, with an Appendix of Corroborative Proofs. Fowler & Wells Co., Publishers. New York.

It is rare to find a book on a medical subject from the pen of a layman. It must be admitted, however, that the author has handled his subject cleverly.

Numerous statistics in this country have been compiled to show that women are more abundant in cities than men; that in the rural districts the reverse obtains as a rule. Of the children born of foreign parents recently landed on our shores, the males are more abundant than the females. The statistics tend to show that those women who are luxurious and idle are more apt to give birth to girls rather than boys; that those women who are strong, active, and vigorous are apt to give birth to boys rather than to girls.

The fact that there are more women than men tends, in the author's mind, to the furtherance of crime and immorality. Moreover, this brings us to the consideration of the lamentable fact that there are many women who can never mate, and fail to attain the chief end of their creation—the multiplication of their kind—a cause of much unhappiness.

Chapter XI is devoted to the scientific theory on which the “Physical Law” is based. The author thinks that there is good reason for concluding that the mysterious influence which brings the sexes together in reproduction is one of the manifestations of electricity; in fact, animal electricity.

The generally accepted theory regarding electricity is that it is a compound composed of a negative and positive element. (A piece of glass rubbed against silk will always assume the vitreous or positive character; while a resinous substance, on being rubbed on silk, will always assume the negative character.) When animals and plants arrive at their several periods of maturity the male organs secrete and eliminate positive, the female negative electricity.

This influence impels each sex to fly to meet its complementary sex.

In consideration of the fact that the menstrual discharge of the woman has been found to be acid, and the semen of the male has been found to be positive, it seems highly probable that the act of coition is an electrical neutralization, completed at the moment of orgasm.

Experiment has proven that when there is a neutral electric discharge between a positively electrified body and one negatively electrified by means of a conductor, that the positive electricity travels along the conductor a much greater distance than does the negative, so that the point of junction of the two elements is comparatively near the negatively electrified body. This peculiarity seems to be universal in the masculine character. The male goes further to meet the female than does the female to meet the male. This is carrying the theory to the cobweb fineness, but the analogy must be recognized, and the point is well taken.

A strong desire for a male heir led the author to look into the statistics of births, and to endeavor to formulate a theory why females should be more abundant than males, and after finding these things, to evolve from them a possible law by which the sex might be controlled at will.

Interesting observations are made upon lower animals, and finally the law is evolved that the sex of an offspring is that of the participant who is least vigorous at the time of the marital embrace. This law seems to be well proven by the instances which he has mentioned in case of the lower animals. Most observers will agree in those, but there are not lacking some who seem to have made contrary observations. Perhaps these are the exceptions which prove the rule. The means by which the sex may be controlled is clearly delineated. Suffice it to say the general principle is laid down that the strength and vigor of the woman should be fostered. We would refer the reader to the book for these. The conclusions drawn on pages 54 and 55 are not warranted *in toto* by the preceding considerations.

It would have been well if the author had not treated of the causes of the irregularities of menstruation. A touch of cheap science, which jars on the professional sense, is encountered here.

Inasmuch as every electrified body induces the opposite condition in a non-electrified body, it is probable that when the male is more vigorous than the female in the marital embrace a decided negativeness is given to the fecundated ovum, which overcomes the maternal influence to give it positiveness. The result is the conception of female offspring. When the mother is more vigorous than the father, she impresses upon the ovum the opposite of negativeness, and a male being is the offspring.

The book is clearly and conscientiously written, and is worthy of the consideration of every serious and careful thinker. The sanctity of marital relations has not been violated, and the author has evolved so logical an hypothesis that it may be accepted as a theory.

It is to be regretted that the statistics of France and Germany were not regarded, as these countries undoubtedly would present facts worthy of consideration in this question.

DIFFERENTIAL DIAGNOSIS. A Manual of the Comparative Semiology of the More Important Diseases. By F. De Havilland Hall, M. D., Assistant Physician to the Westminster Hospital, London. Third American edition. Edited by Frank Woodbury, M.D., Professor of Therapeutics and Materia Medica, and of Clinical Medicine in the Medico-Chirurgical College, Philadelphia, Pa.: D. G. Brinton, Publisher, 1887.

The present work is founded on Dr. Hall's Synopsis of the Diseases of the Larynx, Lungs, and Heart. The plan adopted by Dr. Hall has, however, been extended to embrace all the more frequent and important diseases.

They are very properly divided into two great classes—general and local. This classification has much to recommend it from a clinical standpoint, and is thus the one most practically useful to the physician. General diseases are then divided into fevers and diseases of the blood. These also are divided into two or more classes, which are the guides to the diagnostician.

The work shows evidence of the utmost care—represents well the best thought and knowledge of the profession.

To a general practitioner, and especially one in the beginning of his career, it would appear indispensable. The volume is not large, nor is it expensively published, though it is quite substantial, and neat enough to secure permanency.

THE PRINCIPLES OF ANTISEPTIC METHODS APPLIED TO OBSTETRIC PRACTICE. By Dr. Paul Bar. Accoucheur to, formerly Interne in, the Maternity Hospital, Paris, etc. Translated by Henry D. Fry, M.D. pp. 175. Philadelphia: P. Blakiston, Son & Co. 1887. Price \$1.75.

Of late years every practitioner of medicine has been forced to realize, more or less, the value of antiseptics in obstetrics. To fully and more thoroughly impress this idea upon the minds of his readers seems to be the object of the author, and we think he has succeeded. He points out clearly and concisely its advantages, and by *his* comparison of the mortality of child-bearing before the adoption of this method of treatment with what it is now, wherever antiseptics is employed, he certainly presents strong arguments in its favor. In the second chapter are given some valuable tables stating the antiseptic properties of different substances; also some useful formulæ. For practical use he gives the bichloride of mercury and boracic acid high places. It is an interesting and instructive book, is well translated, and will amply repay one for the time spent in reading it.

DISEASES OF THE HEART. By Dujardin Beaumetz, M.D. Translated by E. P. Hurd, M. D. Detroit: Geo. S. Davis, 1887.

This is a series of lectures delivered by the author. They contain the most recent views in regard to diseases of the heart, and really give in concise manner all that is necessary for a young practitioner. It is thought by many that these short *resumés* are better than the larger books as they adhere closely to the subject and are entirely without "stuffing." It is presented to the profession as one of the Physicians' Leisure Libraries, and issued in the usual style of those publications.

The publisher has in this way presented quite a number of short, but valuable works to the medical profession, and the low price puts them within the reach of all. Issued monthly at \$2.50 a year; single copies, 25c.

ON THE TREATMENT OF FELON WITHOUT INCISION. By L. Duncan Bulkley, A.M., M.D.

PLANT ANALYSIS AS AN APPLIED SCIENCE. By Helen C. De S. Abbott.

PROGRESS AND DEVELOPMENT OF MEDICAL SCIENCE. By Hunter McGuire, M.D.

THE SCIENTIFIC TRANSACTIONS OF THE ROYAL DUBLIN SOCIETY.

ANNUAL REPORT OF THE SPECIAL COMMITTEE ON SURGERY. 1886. Texas State Transactions. Compiled and Edited by George Cupples, M.D.

PLANT CHEMISTRY AS ILLUSTRATED IN THE PRODUCTION OF SUGAR FROM SORGHUM. By Helen C. De S. Abbott.

A REVIEW OF THE MOST IMPORTANT ADVANCES IN SURGERY, MEDICINE, AND PHARMACY IN THE LAST FORTY YEARS. By C. W. Moore, M.D.

PATHOLOGY, DIAGNOSIS, AND TREATMENT OF PERFORATION OF THE APPENDIX VERMIFORMIS. By J. McF. Gaston, M.D.

SURGICAL RELATIONS OF THE ILEO-CÆCAL REGION. By J. McF. Gaston, M.D.

A UNIQUE CASE OF BILATERAL ATHETOSIS. By C. H. Hughes, M.D.

THE RELATION OF THE NERVOUS SYSTEM TO HÆMOPHILIA, MALARIAL HÆMATURIA, ETC. SECOND PAPER. By C. H. Hughes, M.D.

TRANSACTIONS OF THE MEDICAL ASSOCIATION OF THE STATE OF MISSOURI, AND ITS THIRTIETH ANNUAL SESSION, HELD AT MACON CITY, MO., MAY 10TH, 1887.

- THE RADICAL CURE OF RETRO-DISPLACEMENT OF THE UTERUS AND PROCEDENTIA BY ALEXANDER'S OPERATION, AND MEDIAN CORPORRAPHY. By J. H. Kellogg, M.D.
- ANNUAL ADDRESS DELIVERED BEFORE MEDICAL SOCIETY OF VIRGINIA. By Bedford Brown, M.D.
- DIET IN CANCER. By Ephraim Cutter, A.M., M.D., LL.D.
- CONTRIBUTIONS TO GYNÆCOLOGY FASCICULUS. I. By Ephraim Cutter, A.M., M.D., LL.D.
- MEDICAL FETICHISM AND A SUGGESTED BASIS FOR A SCIENCE OF MEDICINE. By Samuel S. Wallian, A.M., M.D.
- PNEUMATIC DIFFERENTIATION AND THE PNEUMATIC DIFFERENTIAL PROCESS. By Herbert F. Williams, M.D.
- HAY-FEVER. By Seth S. Bishop, M.D.
- THE POLAR METHOD OF ELECTRO-THERAPY IN GYNÆCOLOGY. By George J. Engelmann, M.D.
- MARYLAND STATE BOARD OF HEALTH. 1887. By C. W. Chancellor, M.D.
- TRANSACTIONS OF THE LOUISIANA MEDICAL SOCIETY, AT ITS NINTH ANNUAL SESSION, HELD AT ALEXANDRIA, LA., April 11, 12, and 13, 1887.
- SECOND REVISED REPRINT EDITION OVARIAN TUMORS, and Remarks on Abdominal Surgery, With the Results of Fifty Cases. By Edward Borck, A.M., M.D.

ANNOUNCEMENTS.

- UNIVERSITY OF PENNSYLVANIA. VETERINARY DEPARTMENT. 1887-8.
- MCGILL UNIVERSITY. FIFTY-FIFTH SESSION. 1887-8.
- ST. LOUIS MEDICAL COLLEGE. WINTER SESSION. 1887-8.
- NATIONAL MEDICAL COLLEGE. MEDICAL DEPARTMENT AND DENTAL DEPARTMENT OF THE COLUMBIAN UNIVERSITY. SIXTY-SIXTH SESSION. 1887-8.
- ST. PAUL MEDICAL COLLEGE. 1887-8.
- UNIVERSITY OF PENNSYLVANIA. DEPARTMENT OF MEDICINE. Session, 1887-8.

PHARMACY AND THERAPEUTICS.

THE MEDICAL PROPERTIES AND USES OF BUCKTHORN.

In the last issue of the *Ephemeris*, edited by Edward R. Squibb, M.D., the author, in giving a practical illustration of the present condition of repercolation in his own hands, takes for illustration the important aperient buckthorn rhamnus frangula. After giving, in a very thorough manner, the method of collecting and preparing this drug, he finishes his article with the following comments on its medical properties and uses:

“This drug and its preparations have been generally underrated in value by the best authorities in common use in this country, and it has taken it about fifteen years to live down the equivocal character generally given to it. Writing from memory, and therefore rather indefinitely, the writer does not remember it among the used articles of the materia medica of this country until about fifteen years ago, when the late Dr. John P. Gray, of Utica, returned from a visit to continental Europe with a bag of buckthorn bark, and a knowledge of how to use it. Gentle aperient medicines are especially valued in the treatment of the insane, and this, with Dr. Gray's knowledge and example, soon taught others how to use buckthorn bark, and induced the writer to make the first importations of it in any considerable quantities that are known to have come to this country. Up to this time Dr. Gray had used it and advocated its use in substance, and there is probably now no nicer or better way of using it than by chewing small fragments of the bark two or three times a day for two or three days, or until a gentle aperient effect is obtained. But insane patients could not be well treated in this way, and decoctions and infusions of the bark were not permanent, and were bulky and inconvenient. A fluid extract, suggested by the writer, was found much more convenient, and very easily managed in regard to dosage and administration. And from that time (1871) to this, without a line of advertising in any shape, it has grown into a very considerable usage all over the country, and it has now so far overcome the indifferent reputation given it by the best authorities, that it is rather strange they do not review the subject and rewrite their paragraphs of its medical properties and uses. In order to be the drastic cathartic as so often described, with its train of disagreeable effects such as nausea, vomiting, violent purging, etc., it must be taken in the fresh condition, in which it is never accessible here, or must be taken in quantities so irrational that it never is so taken. It has properly been admitted to the last revision of the Pharmacopœia, and the direction is there given that it should be collected at least a year before it is used. This direction is not found in the German Pharmacopœia, where the bark has been longest officinal, but is found in the last British Pharmacopœia, where it is officinal for the first time. It is well known and often stated that the fresh bark is more

active and more irritant than the dried bark, and it is supposed that the older the better.

“In its action upon the intestinal canal buckthorn and its preparations resemble those of rhubarb and senna when these are of the best quality, but it is much milder and more manageable than even the best senna, and rather more agreeable in effect than rhubarb, and applicable to a different class of cases and uses.

“In properly adjusted doses—that is, doses not too large—it is perhaps the mildest and simplest of all aperient or laxative medicines, and the easiest to adjust to a desired effect. Its operation is slow, but fairly certain, and its action continues throughout the whole tract. Rhubarb and senna affect chiefly the upper part of the tract, and have to be given in almost purgative quantities to affect the whole tract. When a mild purgative or evacuant is wanted, rhubarb and senna are better; but when a mild aperient or laxative, for delicate organisms, is wanted, buckthorn is better. When a mild degree of constipation is to be corrected without exciting reaction and without requiring continuous medication, the buckthorn is much better, and when used with skill it seems to leave little to be desired. The dosage of buckthorn is a most important element in its proper use, and the different impressibility of different individuals to its influence makes this dosage the chief difficulty in its appropriate use. Bearing in mind that it is a simple aperient (*ab and pario*—‘I bring forth,’ ‘I open,’—Dunghlison), and one slow in operation, those who use it will easily guard against giving it in too large quantities, or expecting a too prompt response to its use. Where either a very decided or very prompt response is needed, other agents are better. The limit of its use in this direction seems to be a fluid drachm of the fluid extract at bed-time where a temporary costiveness—not constipation—is to be relieved during the forepart of the following day. When temporary costiveness has passed into habitual constipation, twenty minims in a little water, one, two or three times a day is a better dosage, with the expectation of a partial improvement on the second or third day, when the number of doses are to be diminished. With a numerous class of delicate and sensitive women such a treatment will be generally successful, the management being easily varied to suit the conditions. Adult men, of inferior impressibility will, of course, require larger quantities, but the character, and the appropriate uses of the agent will always limit the dose to about one or two fluid drachms, and make it better to repeat the doses than increase the quantity at one dose.

“Many physicians use the fluid extract as an evacuant, but with doubtful propriety when castor oil, rhubarb, senna, and the compound cathartic pill are so much better. But as a mild aperient to overcome either temporary or habitual constipation buckthorn is hardly equalled in the materia medica.

“The extract is given in pill or capsule, and four to five grains is generally an effective dose if given at bedtime for two or three days; five grains being the equivalent of about sixteen and one-quarter grains

of the bark, or sixteen and one-quarter minims of the fluid extract. Of the fluid extract, fifteen, twenty or thirty minims, according to circumstances, if repeated at bed-time for a few days will be effective in a large class of cases where there is no urgency.

“The taste is very mild, sweetish bitter, recalling that of a mixture of liquorice and wild cherry bark. It is not disagreeable to most persons, and is rather agreeable to some, and it is therefore not difficult to administer even to children. While rarely offending the palate, it never offends the stomach, and as a rule requires no corrigents, and is not improved by combination with other agents. The fluid extract, diluted simply with half a fluid ounce of water at the time of taking each dose, makes a muddy looking liquid, but is very easily taken, and this is perhaps the best way to administer it. But if diluted with a mixture of equal measures of diluted alcohol, or brandy and syrup, so that each dose may be one or two fluid drachms of the dilution, it makes a very clear, elegant preparation of a rich dark color and agreeable taste. The British Pharmacopœia (1885) gives the dose of its extract as fifteen to sixty grains. Its liquid extract is made by the objectionable method of boiling the bark four times with water. When finished it bears the same proportion to the bark as the U. S. P. fluid extract, but contains a little less alcohol. The dose given is “one to four drachms.” These doses for both extract and liquid extract, if they represent British usage, are so large as to indicate that it is used as an evacuant or purgative, and therefore that its individual or characteristic effect or advantage in small doses as an aperient, is missed.”

A PREPARATION FOR BURNS ON THE EYEBALL.—Mr. Flanagan, Pharmacist to the Massachusetts Eye and Ear Infirmary, recently compounded the following to meet the want of a surgeon in a case of burn of the eyeball:

Atropine (uncombined alkaloid)	-	0.10	part.
Cocaine	“	“	- 0.05 “
Oleic acid	- - - - -	I.	“
Olive oil	- - - - -	9.	“

The alkaloids are dissolved in the oleic acid by the use of a water bath, and the solution is then added to the olive oil, warmed. A preparation was tried in which chloroform was used in place of the oleic acid, but the mixture proved more irritating to the affected parts. —*Pharmaceutical Record*, September 20, 1887.

SUBIODIDE OF BISMUTH AS A SUBSTITUTE FOR IODOFORM.—An article, which Dr. Chassaignac (*New Orleans Medical and Surgical Journal*, July, 1887) believes to be a good substitute for iodoform is the subiodide of bismuth, which was used some ten years ago by Dr. A. S. Reynolds, who found it very efficacious, but was not generally adopted at the time on account of its high cost.

Subiodide of bismuth is of a bright brick-red color, impalpable

when well powdered, almost odorless and tasteless, insoluble in water, alcohol, ether, or chloroform. It does not stain or impart its color to linen, and is easily washed out. It can be made by different processes, but we will only quote, from the *American Journal of Pharmacy*, one devised by Jos. W. England, Ph.G., and recommended by him, in an article on the subject, as "practicable in general employment :"

℞.—Bismuth. subnit.	- - - -	ʒijss, gr. xxiv.
Nitric acid	- - - -	fʒij.
Hot water	- - - -	fʒxij.
Potassium iodide	- - - -	ʒxi, gr. iij.
Hot water	- - - -	fʒxxvij.

Dissolve the bismuth salt in the acid in a porcelain capsule with the aid of heat, and add twelve fluid ounces of boiling water in small portions at a time, stirring after each addition ; then pour the bismuth solution in the hot water, in which has been dissolved the iodide, agitating it well after each addition. Continue agitating until decomposition is complete. Filter at once. Wash the precipitate with warm water. Dry and powder.—*Therapeutic Gazette*, September, 1887.

PARALDEHYDE.—Yvon's elixir is as follows :

℞.—Paraldehyde	- - - -	ʒijss.
Alcoholis ad 90°	- - - -	ʒxij.
Tinct. vannillæ	- - - -	ʒss.
Aquæ	- - - -	ʒviijss.
Syrupi	- - - -	ʒxv.—M.

Sig.—ʒj at a dose.

Dr. Eccles, of Brooklyn, recommends the following :

℞.—Paraldehyde, ol. amygol	- āā	ʒj.
Chloroformi	- - - -	mv.
Ol. cinnamoni	- - - -	mj.—M.

Sig.—This at a dose.

He claims it agrees well with the stomach, and will often settle one that is disordered. It can also be given in capsules ; better after eating, owing to the burning sensation it produces in the stomach.—*Archives of Pædiatrics*.

A HEART STIMULANT.—Langgaard reports the following formulæ, which he found useful in heart disease :

℞.—Spartëin. sulph.	- - - -	gr. vi.
Pulv. rad. liquirit		
Succ. liquiritæ	- - - āā	q. s.

Ft. pil. xx in num.

Sig.—One or two pills from two to four times daily.

Also, ℞.—Spartëin. sulph. - - - - gr iij-vij.
Ad destil. - - - - - ʒijss.

Solve.

Sig.—Twenty drops from two to four times daily in sweetened water or wine.

℞.—Spartëin sulph. - - - - gr. iij-vij.
Syr. aurant. cort. - - - - ʒxijs.

Solve.

Sig.—A small teaspoonful in water from two to four times daily.
—*Therapeutische Monatshefte.*

A USEFUL APPLICATION FOR DIPHTHERIA.—Simon applies the following, hourly through the day, with a camel's-hair pencil to the throat of a diphtheritic patient :

Acid. salicyl	-	-	-	-	gr. 8.
Decoction of eucalyptus	-	-	-	-	ʒ 15.
Glycerine	-	-	-	-	ʒ 7½.
Alcohol	-	-	-	-	ʒ 3.

As the decoction of eucalyptus is not commonly used in America, the tincture or oil may be employed in proportionate strength.—*Revue de Clinique et de Thérapeutique*, September 29, 1887.

STOMATITIS.—The following is the formula for a gargle, recommended by Monin in this affection :

Acid. boric.					
Acid. salicyl	-	-	-	-	ā gr. 15.
Potass. chlorat	-	-	-	-	ʒ 2.
Glycerin	-	-	-	-	ʒ 12½.
Essent. myrrh	-	-	-	-	gtt. 16.
Aquæ aurant. flor	-	-	-	-	ʒ 9 3-8.

Sig. Use as a gargle.—*L'Union Médicale*, September, 24, 1887.

ADDITIONS TO THE GENITO-URINARY PHARMACOPŒIA.—*Ulexine*.—Ulexine had been given in doses of one-tenth grain for stricture of the urethra ; very successful results had been obtained in several instances, but in other cases, where the disease was of long-standing, severe pain and vomiting, with blackening of the tongue and other unpleasant symptoms, were induced. Some caution, therefore, is requisite whenever ulexine is given.

Papaw.—The milky juice of the *Carica papaya* possesses very remarkable properties as a digestive agent or solvent of fibrine caseine. When carefully dried at low temperature and powdered, it is called papaïne, and one part of this powder is capable of peptonizing no less than a thousand parts of fibrine albumine, or muscular tissue. In cases of renal stone, Mr. Fenwick had found it of marvellous power in relieving pain and dislodging the stone itself in a very little time.

Damiana (*Turnera aphrodisiaca*).—The tincture of this drug was about the most powerful excitant of the sexual power yet noted. It should, however, not be given in larger quantities than twenty to thirty minims at a time, since overdoses were liable to give rise to opisthonotos, and the symptoms generally resembling those of poisoning by strychnine.

MISCELLANEOUS.

THE CURE OF FISTULA IN ANO WITHOUT OPERATION. By E. Andrews, M.D., LL.D., Chicago, Ill.—*Chicago Medical Journal and Examiner*: The general impression among physicians is that nothing will cure a fistula except a surgical operation, and, indeed, this is true with regard to many fistulas, but it is equally true that a large proportion of them are curable without any operation more serious than probing and injecting, and in such cases it is a duty to exhaust the milder measures before resorting to the severer. But it is necessary to make a proper selection of cases. Where the fistula leads to extensive pouches, or several complicated branches leading in different directions about the rectum, the non-operative methods are not likely to succeed in any moderate length of time. But where the fistula is simple and contains no larger pouches, and leads pretty directly to an opening in the rectum, there is an excellent prospect of cure without any strictly operative procedure. The reason why a stricture does not cure itself is not altogether, as we have formerly supposed, the daily forcing through it of materials from the rectum. On the contrary, if the interior of the fistula be thoroughly anti-septisized throughout its entire length and into every curve and corner, and maintained in that purified condition, the ulcerative tendency which prevents contraction and healing is arrested. Granulations spring up through the whole length of the passage, and close it in spite of any moderate tendency of the rectum to force mucus, gas, and fæces into its channel.

If one wishes to try the completely non-operative plan, the best method of procedure is as follows: First explore the interior, and ascertain that it is simple enough to give the prospect of being able to make the injections reach all parts of it. Next bear in mind that this fistula must have a free external opening, otherwise it will confine a quantity of septic pus in the interior which, both by mechanical distention and irritant qualities, will arrest all efforts at healing. It is therefore best, in many cases, to enlarge the external portion of the sinus with a bistoury or with a laminaria tent. This being accomplished, inject the whole interior of the fistula carefully with a good vigorous article (for that sold in the shops is very variable) of hydrogen peroxide. It will be better to inject this through a small catheter inserted into the deepest part of the channel, or else throw it in by a syringe,

the beak of which is large enough to completely fill the fistulous opening, so that the pressure shall compel the fluid to find its way into the remotest parts. Throwing the solution in repeatedly and giving it time between the pulsations of the syringe for the foam produced by the action of the medicine on the pus to boil freely out, we next leave the patient quietly on the lounge an hour or two. Then with a small syringe insert about 10 minims of a solution of bichloride of mercury of the strength of 1 part to 3,000 of water. Repeat this once in about three or five days, taking pains not to throw large quantities of irritating solutions through into the rectum. This procedure alone will cure a considerable proportion of cases. But if greater thoroughness is required, some advantage will be gained by taking Allingham's rectal speculum, and, exposing the internal orifice of the fistula, touch the opening with a stick of nitrate of silver where it enters the rectum, and place the patient in bed with a sheaf of three soft-rubber catheters lying side by side in the rectum to give exit to the gases and mucus. The bowels should be previously emptied with a cathartic.

There has been a very general opinion in the profession that it is not expedient to cure a fistula where the patient is inclined to tuberculosis. Dr. E. E. Glover, of Terre Haute, Ind., has taken the pains to ascertain of a large number of surgeons of both continents their opinion on this subject, by which he discovers that there is apparently a very great difference of opinion on this question. He finds that those who reply to the question as to whether they would operate in tuberculosis cases, the following say yes: Allingham, Agnew, Andrew, Brinton, Brodie, Bontecou, Solis-Cohen, Cole, Francis, Delafield, Eastman, Englemann, Gunn, Hamilton, E. F. Ingals, Lane, Linthicum, McGuire, Matthews, Moore, Owens, Peck, Ranney, Sayre, T. G. Richardson, of New Orleans, Roberts, of Philadelphia, White, Wilson, Varick, and Taylor.

My own opinion is that there is no objection to curing the fistula in such cases. On the contrary, it is beneficial to the patient to do so. But it is true that where it is done by incision the wounds do not always heal well, and, if the patient has but a year or two to live, on account of his tuberculosis, it seems scarcely worth while to submit to the annoyance of the operation. But this would be no reason why he might not be advantageously treated by gentle and non-operative methods such as I have described.

INOCULATED TUBERCLE.—Dr. Leser of Halle records (*Fortschritte der Medicin*, No. 16) an interesting case of tubercular infection of a wound. He says that the older writers were more persuaded of the possibility of such inoculation than present-day pathologists are. Thus Valsalva and Morgagni were particular to warn against the dangers of such inoculation in the necropsy of phthisical subjects. He reminds us also that the death of Laennec from consumption was attributed by his contemporaries to a wound on the finger received some years previously at a post-mortem on a tubercular case. The revival of such

doctrines of late years has doubtless been greatly stimulated by the discovery of the tubercle bacillus; and accordingly we again meet with records of cases, of which the most curious, perhaps, are those respecting the transmission of tuberculosis in the rite of circumcision. (Lindeman, Lehman, and Elsenberg.) Leser's case is briefly as follows: A female, aged fifty-four, came under treatment for a large swelling in the right pectoral region. It appears that, born of a healthy family, with no trace of tubercular taint in its members, she had three years previously received a cut on the unguis phalanx of the right thumb, which she had simply bound up and not treated further. The wound did not heal, and after a time suppurated and became very painful. The skin ulcerated, and at the end of a year a similar ulcer appeared on the contiguous forefinger. Some time afterwards a swelling appeared in the region of the right breast, and attained a large size before the patient sought advice. This swelling extended from the clavicle to the nipple, and proved to be a large subpectoral cold abscess, which Leser evacuated and drained. The pus had a "tubercular character," and the walls of the abscess were lined by tubercular granulations. The lining was scraped out, and a portion of the third rib, which was bare, was excised. The condition of the thumb and forefinger now attracted attention; the unguis phalanx of each was greatly swollen, the skin undermined and in places ulcerated, but the bone not involved. The diseased parts were treated by scraping and excision, and in a few weeks the parts had nearly healed. Microscopical examination revealed typical tubercles and bacilli in the granulation tissue, whilst further examination showed the presence of an enlarged gland on the inner side of the arm, also tubercular; it was also learned that a small abscess had previously formed in this situation. The case thus appeared to be one of tubercular inoculation of a wound of the thumb; secondary infection of the forefinger; then dissemination by the lymphatics, terminating in the formation of a large subpectoral abscess. Dr. Leser says that cases of similar tubercular infection are nearly always to be found in wounds which have been neglected, or in chronic ulcers, as if it required that the tissues should be lowered in vitality in order to render them susceptible of infection. He concludes his paper by refuting arguments against the tubercular nature of lupus, and cites a case in which he considers the dependence of lupus upon tubercular infection to be undoubted.

WAS IT HYDROPHOBIA.—A very singular case occurred near Detroit recently. A mare belonging to a farmer was seized, after a couple of days' "dumpishness," with violent paroxysms of rage and excitement. She attacked with heels and mouth every thing animate and inanimate which she could reach. After demolishing her stall with her heels she would seize the boards with her teeth and spend her rage on them. When the boards were removed she attacked her own body and tore the skin and flesh from her sides. A hired man on approaching her was attacked and barely escaped her mouth and fore-

feet. Her owner, of whom she was ordinarily very fond, then attempted to pacify her, and in attempting to seize her by the halter was seized with her teeth by the back of his hand, and the entire skin removed. She was then killed by a blow from an axe, under the supposition that she was suffering from hydrophobia. Sections of the medulla were removed for the purpose of experimenting on other animals, and the owner immediately took passage for Paris, whither he has gone to consult Pasteur. The dogs and rabbits which have been inoculated have not as yet shown any symptoms of hydrophobia, and no unfavorable news has been received from the owner. The conduct of the mare was scarcely identical with that of the dog suffering from rabies, which fact, taken in connection with the *post-mortem* appearance of the brain, make it probable that the brute was suffering from phrenitis. The immunity from hydrophobia, which the victim of the bite will probably enjoy after Pasteurization, will not, therefore, be accepted as proof of the value of the treatment.

In connection with the above the following quotation from Dr. Shakespeare, the pathologist, is of interest: "In view of the experimental evidence which we possess at present, and of many unassailable observations of many surgeons and veterinarians, there seems to be ample warrant for the admission that not infrequently tetanus in man is acquired directly and indirectly from some of the domestic animals, notably the horse, which surround him.—*The Medical Age*."

WHAT THE MORPHINE HABIT WILL DO.—The ingenuity of morphine victims to hide their vice has never been better illustrated than in the case of a young girl at a fashionable young ladies' boarding school, near Philadelphia, as told by a contemporary.

The disclosure came about accidentally. When the young student returned to the school this fall she had periods of deep despondency, and often asked the privilege of going to the room in the seminary set apart as a hospital. There she would lie for a day at a time, only rousing herself when any one approached the table, on which stood an ink-bottle and a stylographic pen. The nurse having occasion to send a message to the doctor attempted to write with this pen, the young girl at that time being asleep. The pen not only refused to write, but the practiced eye of the nurse instantly recognized in the point the puncturing needle of a hypodermic syringe. This led to an examination of the ink-bottle. It was a four-ounce bottle, but there was no ink in it. It was painted black on the outside, and contained Magendie's solution of morphia, enough for 128 one-half grain doses, or sufficient to last until the Christmas holidays. The principal of the school was summoned immediately, and the sleeping girl's arm bared. It was punctured from the shoulder almost to the hand, and the livid blue marks confirmed the suspicion, which was changed to absolute certainty by the small abscess which had begun to form in the forearm just above the wrist. The habit had been formed about two months only, and there is a possibility that a cure can be effected.

RED WINE IN "BED-WETTING."—In 1840 a professor under whom I studied in Baden stated that the physician of an orphan and founding asylum, where children were kept till they had reached their fourteenth year, cured night wetting of beds by red wine in two weeks. The wine was given at bedtime and in the morning before eating. Fifteen years ago a sixty-two year old man found himself unable to retain his urine more than five minutes. Recalling the red wine cure of the orphan asylum to mind, I gave him some home-made red wine (half blackberry, half elderberry), and he held his water for fifteen minutes, and then returned for a second dose. Subsequently he was able to hold his water for two hours during a jury trial. I subsequently cured the urinary incontinence of a fourteen year old girl with it, and later that of other children. In one case it is said to have failed, but, as the child's guardian was a fanatical spiritualistic prohibitionist, it is doubtful whether the child ever received the remedy. Two old men, one over sixty, one seventy-six, were cured by it. The dose given was for children one to four drachms, and for adults three ounces. The dose given at the orphan asylum was double this of pure wine (port), unobtainable here. A mixture of blackberry and elderberry wine is an excellent substitute. The remedy deserves a trial, as it is certainly palatable.—M. H., in *Medical Standard*, September, 1887.

In the morning the stomach contains a considerable quantity of mucus spread over and adherent to its walls. If food enters at this time, the tenacious mucus will interfere, to some extent, with the direct contact between the food and the stomach necessary to provoke the secretion of gastric juice. A glass of water, taken before breakfast, passes through the stomach into the small intestines in a continuous and uninterrupted flow. It partly distends the stomach, stretching, and to some extent obliterating, the rugæ; it thins and washes out most of the tenacious mucus; it increases the fullness of the capillaries of the stomach, directly if the water is warm, and indirectly in a reactionary way if it is cold; it causes peristalsis of the alimentary tract, wakes it up (so to speak), and gives it a morning exercise and washing.* Care must be taken not to give cold water when the circulation, either local or general, is so feeble as to make reaction improbable. We should not risk it in advanced age, nor in the feeble, whether old or young, nor should it be given in local troubles, like chronic gastric catarrh. In these cases it is best to give warm or hot water. The addition of salt is very beneficial. Such a time-honored custom as drinking soup at the beginning of a meal could only have been so persistently adhered to because of it having been found by experience to be the most appropriate time. It does exactly what warm or hot water, with the addition of salt, does, and more, in that it is nutritive and excites the flow of gastric juice.—*Exchange*.

IMPERFORATE ANUS (James Dalgleish, M.B., C., Edin.)—My attention was called to the fact that an infant, otherwise quite healthy,

* Would not a cup of hot coffee be equally useful, and more agreeable?—ED.

at the fourth day of its life had not had any motion of the bowels. On examination I found the anus apparently normal. The appearance was, however, deceitful, as on entering my digit I discovered that it terminated in a *cul de sac* about an inch deep. I pierced the mucous membrane forming its floor, through an ear-speculum, with a tenotomy knife, but was disappointed to find that no meconium appeared, and that evidently there was more abnormal than the septum of mucous membrane I had expected. The child was being well nourished and showing little sign of discomfort. The next day I operated. Without enlarging the natural external aperture, which was dilatible enough to admit my forefinger, I found by cutting through an amount of cellular tissue, which occupied the place of the rectum, that the bowel terminated as high up as my finger could just reach with an effort—*i. e.*, about three and a half inches. With my finger carbolized I broke down a clear passage to this point, and, pushing my knife on the flat along my finger, I freely incised an opening in the gut, when there was a most plentiful flow of meconium, and presently the ordinary fæcal discharge. Beyond instructions towards the greatest possible cleanliness, I took no more pains in the case, and now, two months later, there has evidently been a downward growth of the mucous membrane to form a rectum. The child has regular motions, and, as far as the *primæ viæ* are concerned, has never shown a bad symptom. The reservation I make simply refers to an attack of bronchitis from which it has since suffered.—*London Lancet.*

TO PREVENT COAGULATION OF THE BLOOD.—A student in Stricker's laboratory, Herr Ernest Freund, has suggested a most simple and convenient method of preserving blood in the fluid state. His plan consists of coating the interior of a glass vessel with pure oil. Into this receptacle blood freshly drawn is poured, and a layer of oil is then run over the surface exposed to the air. In this way, it is stated, fresh blood may be kept from coagulating for days, if necessary. If this assertion be true, the discovery may be turned to great advantage in the process of transfusion of blood.—*New England Medical Monthly.*

EFFECT OF ELECTRIC LIGHT ON BOOKS.—The *Revue Internationale de l'Electricité* observes that Wiesner, of Vienna, has drawn attention to the discoloration of books in the Technical school library, due to the use of the electric light. A large number of the works have become very yellow, and the director of the school requested Wiesner to ascertain the cause. Experiment has shown that the discoloration is due to the action of light upon the paper containing ligneous substances, such as wood, straw, and jute. When the lignine is removed by chemical means, the effect is not produced. The yellowing is said to be due to a phenomenon of oxidation. Ordinary dispersed daylight exerts very slight action, especially in a dry room. On the other hand, the arc electric light, and all

intense, luminous sources, emit numerous refrangible rays, and these favor the yellowing. The same process of yellowing we know takes place when papers bleached with certain substances are exposed to strong sunlight.

DEFINITENESS IN KNOWLEDGE.—The memory will only be content when there is that accuracy which gives absolute confidence. Suspicion of inaccuracy is the most vicious element in memory. It is more satisfactory not to recall a thing than to recall it in such a way as not to know what we have recalled—whether the recollection is reliable where the memory of fact shades into fancy. It requires the best mental activity, the closest observation, the clearest thought, the sharpest discrimination, the cleanest classification, to give knowledge that definiteness which is indispensable to reliability in memory and accuracy in recollection.—*Journal of Education.*

THE SYMBOL \mathcal{R} IN PRESCRIPTIONS.—It is an actual fact that hardly one doctor in a hundred knows the complete derivation of the symbol “ \mathcal{R} ,” which is always written before prescriptions. The ninety and nine will tell you that it comes from the Latin *recipe*, imperative mood of the verb meaning “to take,” the dash on the tail of the R being purely ornamental. Some honest folks will tell you they don’t know why the dash is there. It is only the bookish man who will come forward with the following explanation :

The ornamental part of the character \mathcal{R} , *i. e.*, the dash or downward stroke on the tail of the R, is the symbol of Jupiter (\mathcal{J}) under whose special protection all medicines were placed. The letter itself stands for *recipe* (take) and the appended flourish once signified “Under the good auspices of Jove, the patron of medicines, take the following drugs in the proportions set down.”

Dr. Napier, and other physicians of the seventeenth century, said that \mathcal{R} stood for *Responsum Raphaelis* (Reply of Raphael), and was used because the angel Raphael was supposed to impart prescriptions. This suggestion is, however, a latter-day legend, which receives no credence. The foregoing explanation is the only one now accepted.—*Philadelphia Medical Register.*

A PRACTICAL AND SUCCESSFUL MODE OF DISINFECTING THE ROOM IN CASE OF CANCER.—Dr. H. Gerould, of Cleveland, Ohio, writes that from September, 1886, until March, 1887, he had in his house, and under his daily care, a patient with uterine cancer. To counteract the offensive odor of the disease he made repeated experiments with the prominent disinfectants. The following proved to be all he could desire, *viz.* : Three drachms of potassium nitrate dissolved in eight ounces of Platt’s chlorides, full strength. In this he saturated thin muslin (cheese cloth), then dried it thoroughly. When it was necessary to cleanse or purify the room, he burned small strips of the cloth on a shovel in different parts of the room and under the bed-clothing. The effect was magical. Almost instantly all offensive

odors disappeared. This was repeated when necessary, the potassium nitrate being used to aid combustion. The result was such that no discomfort was experienced by the attendants, and no offensive odor could be detected in the adjoining rooms. This was daily remarked by friends. The undertaker said it was the first case of death from cancer where he could detect no trace of the disease. This method of disinfection, the writer adds, would be equally efficient in all contagious, pestilential, or infectious diseases.

READ MEDICAL JOURNALS.—Dr. T. L. Brown writes as follows to the *Med. Advance*, August, 1887: I secured a very important case, many years ago, and through this one case a number of others were brought to me. I never knew until months afterwards how I happened to be selected. It was in this way: One night, at quite a late hour, I was called to see the family of a prominent New Hampshire official, temporarily staying in our town, to whom I was a perfect stranger. After I had discharged myself, and quite awhile afterwards, I learned that as soon as this gentleman found that he required a physician, instead of asking the landlord of his hotel, or appealing at some drug store for the name of a doctor, he took a carriage and drove to the house of the postmaster. "I want a doctor," said he. "Tell me which one of the doctors of this city takes the largest number of journals?" The postmaster referred him to me. As the gentleman was leaving the house he said to the postmaster: "A man who takes the journals of his profession is well read and up with the time, and that is the doctor I want to treat me and my family."

MEDICAL NEWS AND NOTES.

NATURAL GAS IN UTAH.—Natural gas wells have been struck at the salt works at Lake Utah, while the owners were driving for water, and the gas is now being used at the works for the purpose of making salt. The experiment has only been recently tried, but so far, it is stated, it has proved a success. The method employed is the vat principle. The water is pumped from the lake into a vat, raised a few inches higher than the one in which the salt is made, the two are connected by a pipe, the mouth of which is protected by a fine wire sieve, which prevents any foreign matter entering the lower vat. Underneath the lower vat, which is twelve feet by five feet and fourteen inches deep, four large jets of natural gas are placed.

A CHILD, aged five years, who was bitten by a rabid dog on July 18th, died recently at Lancaster. The evidence showed at the inquest that the deceased and two other children were sent to Paris for treatment on July 25th, returning on August 25th. The deceased became ill on the night of his return, and died on August 27th.

DR. RD. WHITEHEAD, of Salisbury, N. C., has been appointed Demonstrator of Anatomy in the University of Virginia.

SIR WILLIAM GULL has been stricken with paralysis.

SIX of the fifteen Caucasians bitten by a mad she-wolf, and for the last few weeks under treatment at the Odessa Bacteriological Hospital, have now succumbed to hydrophobia.—*Exchange*.

A LONDON physician who for six months tested Dr. Jæger's plan of wearing nothing but wool, day or night, says the result has been a complete immunity from colds, and a marked increase in capacity for work. Instead of alternate feelings of heat and cold there has been a uniform and most agreeable glow of warmth.

THERE is a milkman at Brixton who has a ready wit that a lawyer might envy. One of his customers caught him watering his milk at a horse-trough the other day.

"What!" said the customer, in a rage, "isn't it enough that your milk is full of typhoid without your going and watering it?"

The milkman turned round, and, smiling compassionately, said to two or three bystanders: "What can you do with a man like this? He actually wants his typhoid straight."—*Exchange*.

A LADY who never failed to have her little jest with the doctor all through a painful illness, exclaimed one day, when he was announced: "Tell him I'm very sorry, but I don't feel able to see him to-day."—*Epoch*.

THE *Pharmaceutical Journal* quotes the following couplet from the "Nugæ Canoræ Medicæ," where the poet-laureate of the Edinburgh New Town Dispensary predicts,

"An' when the leddies get degrees,
Depen' upon 't there's nocht 'll please
Till they hae got oor chairs an' fees
An' there's an en' o' you an' me.
For a' that ken the women craiter,
Maun own it is her foremost faitur
To tak' to lecturin' by natur';
An' hoo she'll do't ye sund 'll see."

ARSENIC IN CYSTIC GOITRE.—Dr. Snow (*Brit. Med. Jour.*) speaks highly of arsenic in cystic affections of the thyroid gland. In one case in which he employed the drug the thyroid enlargement entirely disappeared. In two other cases the improvement was very marked in a short time, but the patients ceased attending very soon after the treatment was beginning to show its influence.

DR. VIRGIL O. HARDON, of Atlanta, Ga., has been elected to fill the chair of obstetrics in the Atlanta Medical College, left vacant by the death of Dr. Taliaferro.

A CATHETER may be passed with comparative comfort through a spasmodic stricture or enlarged prostate, if a small quantity of olive oil is injected into the instrument when its point reaches the obstruction. The oil is forced through the eye of the catheter, and passes on in advance of the instrument, and serves the purpose of a lubricant just at the time and place needed.

DRY HOT-AIR BATHS FOR SYPHILITIC PATIENTS.—Dr. Stepanoff, of Moscow, has contrived a plan of treating patients suffering from syphilis which has resisted mercurial and iodine treatment. He has had a box or bath constructed, with an iron bottom lined with thick felt, in which the patient is placed. The bath is heated to about 170 degs. to 190 degs. F. by means of two Bunsen's lamps, each consisting of five burners. After the patient has been "baked," he is put to bed and covered with blankets, so as to prolong the sweating process, commenced in the bath, for an extra half hour. After this he is allowed to dress and go into the ward to his dinner. By means of these baths the mercury is rapidly eliminated from his system, and the patient's condition greatly improves, and, after a course, mercury is found to act quickly and energetically.—*London Lancet*.

A NAVAL medical examining board is now in session at the Naval Hospital, Philadelphia, Pa., for the purpose of examining candidates for admission to the medical corps of the navy. Circulars of information can be obtained on application to the president of the board. There are twelve vacancies in the list of assistant surgeons.

DR. JAMES KNIGHT, surgeon-in-chief of the Hospital for the Ruptured and Crippled of New York, died on October 24th, after a brief illness. He was the founder of the hospital. He was born in Maryland in 1810, and was graduated from the Washington Medical College of Baltimore in 1832.

ANTIFEBRIN.—In the *Philadelphia Medical News*, of October 8th, Dr. J. Solis-Cohen says: "So powerful an agent has antifebrin proved in the few cases in which I have used it, that three grains, or even one, will effect very decided results on temperature.

The inference is that small doses should be prescribed, say three grains, and that the patient should be visited at the end of an hour and examined as to the reduction of temperature before a second dose is administered; similar precaution being taken as to ordering a third dose; and that when the influence is seen to be marked, subsequent doses should not exceed one grain. The dose usually recommended has been eight grains. This has been far too large in my hands."

A CURE FOR DRUNKENNESS.—A half ounce of ground quassia, steeped in a pint of vinegar, is recommended highly as a cure for drunkenness. A teaspoonful in a little water should be taken every time the liquor thirst is felt. It satisfies the cravings, and produces a feeling of stimulation and strength.—*Western Medical Reporter*.

A NOVEL UTERINE DILATOR.—Dr. C. P. Wilkinson, of New Orleans, reports in the *New Orleans Medical and Surgical Journal*, an interesting case of labor delayed by rigidity of the os uteri, in which he effected dilatation by introducing into the uterus a rubber condom, upon a female catheter, and distending the former by means of a tube connected with a fountain syringe. The bag of the fountain syringe was raised about two feet. It was found that the patient could not bear an uninterrupted pressure, on account of the pain it produced, and Dr. Wilkinson imitated nature by raising the bag of the syringe during the pain, and lowering it during the intervals between the pains. By this means he made his artificial bag of water act like a natural bag of water, and even supplement the efforts of nature to produce dilatation during pains, and relieved his patient of the strain at the times during which nature relaxes her exertions.

DISPOSITION OF GARBAGE.—Wheeling, W. Va., has a garbage crematory, which is working satisfactorily, and Pittsburg, Pa., proposes to erect one at an early date. Other cities should follow their example. It is reported that the authorities of Milwaukee, Wis., have decided to remove the city garbage to the country and bury it. Such an unsanitary method of disposal can only result in temporary relief.—*Western Medical Reporter*.

THE City Board of Health, of New York, recently passed the following resolutions:

Resolved, That on and after October 1, 1887, the consideration of all diseased animals coming under the jurisdiction of this department be and is hereby referred to the Division of Contagious Diseases of this department.

Resolved, That on and after October 1, 1887, Dr. Cyrus Edson be and is hereby transferred from the position of chief inspector of food and chemical analysis to that of chief inspector of contagious diseases, and that his salary be increased to \$3,000 per annum.

Resolved, That on and after October 1, 1887, the position of chief inspector of food and chemical analysis in this department be abolished, and that Mr. E. M. Martin, the chemist of the board, be given charge of the duties of that office, and that his salary be increased to \$2,000 per annum.

Resolved, That on and after October 1, 1887, Mr. E. M. Martin be and is hereby directed to report to this board a plan of action which shall contemplate a careful scrutiny of all food and drink commodities of this city, for the purposes of detecting the existence of diseased or adulterated conditions of them.

A BELIEVER IN PASTEUR.—One of Pasteur's associates or followers was bitten by a rabid guinea-pig. He at once began a course of preventive treatment, which he continued, chiefly from motives of scientific curiosity, for more than six months. He underwent no less

than 209 inoculations, without the slightest injury to his health, which is still perfect. He received 7 inoculations of 14 days; 10 of 13 days; 14 of 12 days; 12 of 11 days; 16 of 10 days; 12 of 9 days; 15 of 8 days; 12 of 7 days; 28 of 6 days; 12 of 5 days; 24 of 4 days; 6 of 3 days; 22 of 2 days; 19 of 1 day; in all, 209 inoculations, containing virus from at least 71 actively infected spinal cords. Pasteur now writes that it is important to commence treatment as early as possible.—*The Medical Record*.

DENGUE, NOT YELLOW JACK.—Dr. Frank H. Caldwell, Secretary of the Florida Health Protective Association, which stands for a State Board of Health, makes the following official statement with reference to the report that yellow fever exists in Tampa: "There are a large number of cases of fever in Tampa, which the local physicians pronounce dengue. Dr. King Wyley, President of the Health Protective Association, was in Tampa yesterday, and saw several cases, all of which were of dengue. There have been only three deaths, in three weeks, out of a population of 5,000." One man, of dissipated habits, died of dengue.—*The Medical Register*.

ANOTHER feature of Buffalo Bill's Wild West Show, in London, which has been the subject of comment among scientific men, is the great vocal power of Frank Richmond, the "Orator," who is able to make himself heard by an audience of 30,000 persons in the open air. *The British Medical Journal*, through the help of Dr. Robert C. Myles, of New York, whose examination was confirmed by Sir Morell Mackenzie, furnishes a description of the larynx: "The vocal cords are of ordinary length, and not much above the average in breadth, but the vocal processes at once strike the observer by their extraordinary development. They project inward towards the middle line like two large spurs when the glottis is open. The great leverage thus given to the laryngeal muscles allows them to act to the best advantage with a minimum of effort. The larynx itself is of a large size, and the pharynx is exceptionally roomy and well developed, whilst the mucous membrane covering it is remarkably free from granulations and roughness of any kind. The "Orator's" vital capacity is not above the ordinary standard, but what breath-power he has he utilizes to the utmost with the art of a trained elocutionist. Mr. Richmond, we believe, was on the stage before he occupied his present position, and the secret of his remarkable delivery lies more in the perfection with which he has learned to use his natural advantages than in any notable peculiarity of physical conformation.

SACCHARIN.—A small supply of saccharin (benzol sulphonic anude) has just reached the London market. It is a white powder with a strong, sweet taste, and faintly bitter after-flavor. Its sweetening power is said to be 250 times greater than that of sugar. One part in 10,000 of water tastes distinctly sweet. It is slightly soluble in water, 1 in 500 parts being refined, is more soluble in alcohol, 2 grains dis-

solving in a fluid drachm. Its dust in the atmosphere is detected by its sweet taste. Heated on platinum, it first fuses, then sublimes, partially decomposed. Has an acid reaction. Alkalies render it much more soluble in water, but at the expense of its sweetness. It also possesses antiseptic properties, having been found to check various forms of fermentation. As examples of its use in disguising the taste of medicines, it is said that 20 grains of salicin in one ounce of water is effectually covered by 30 minims of the above-mentioned spiritus saccharin, 30 grains of salicylate of sodium by the same quantity, and one part of the spirit to seven parts each of the liquor strychninæ and tincture of nux vomica makes them very palatable. One part of the spirit saccharin to three parts of the tincture of the perchloride of iron disguises its taste.

THE SIXTH INTERNATIONAL CONGRESS OF HYGIENE recently held in Vienna, has been a great success. No less than 2,500 persons paid their subscriptions, and enrolled themselves as members. The meeting was opened by the Crown Prince Rudolph, who made a short speech, but one to the point. During the course of his remarks he said: "Man is the most precious capital of the State, and of society in general. Every individual life represents a certain value. To preserve this as intact as possible to its furthest limit is not only a command of humanity, but also the duty of every community in its own interest." Distinguished men from every country were present; among them Virchow, Pettenkofer, Brouardel, Ludwig, Spencer Wells, Dr. Humphrey, and Sir Douglas Galton. A number of very interesting and scientific papers were read and discussed.

ACCORDING to the last reports of the epidemic of scarlet fever in London, there are nineteen hundred cases in the hospitals.

FIFTEEN Caucasians, who were bitten by a mad she-wolf, have been under treatment at the Odessa Bacteriological Hospital for the past few weeks. Six of them have already succumbed to hydrophobia.

MR. VICTOR HARSLEY reports three successful cases of avulsion of the trigeminus as a remedy in tic douloureux.

THE *Paris Medical* of July 23, reports a case of ulcer of the tongue cured by a continuous galvanic current. The treatment required 190 *séances*, and lasted eighteen months.

AT an inquest on the 22d ult. on the body of a man who had died at the Bristol General Hospital, the jury returned a verdict of death from fatty degeneration of the heart, accelerated by chloroform being administered before an intended operation, and exonerated the medical attendants from all blame.

DR. N. O. HARRIS has been appointed as Assistant to the Chair of Obstetrics and Gynæcology in the Atlanta Medical College.

DR. WILLIAM S. KENDRICK, of Atlanta, a first-honor graduate of the Atlanta Medical College, of the class of 1874, has been appointed Proctor in that institution to fill the vacancy caused by the death of the late Dr. James A. Gray.

ONE of the teachers in the McGill University, Canada, says: Examining is monotonous, brain-consuming work, relieved only by exceptionally able answers of first-class men and the profoundly stupid replies of some of the third-class men. For several years I kept notes of the amusingly stupid answers, but they have been mislaid. I have rarely had one which displayed the man more fully than the following in reply to the question (written) "How to treat hæmoptysis"? "*Plug the cavity with cotton saturated with a solution of Monsell's solutions, dry! !*"

A NOVEL ANTIPYRETIC.—Recently, while in the second week of typhoid fever, a patient in the Indianapolis City Hospital jumped from a third-story window, falling a distance of forty feet. He suffered but little injury from the fall, but it seems to have knocked the fever "higher'n a kite." At any rate the temperature rapidly subsided, did not return, and the patient made a speedy recovery.

It is not likely that Superintendent Oliver will hereafter pitch all his typhoid patients headlong out of a third-story window, notwithstanding the good effect the treatment seems to have had on the aforesaid patient. And yet we do not see why this treatment should not be given a fair trial, as in our opinion the fatality would be no greater than that caused by the indiscriminate trial of all various new drugs that are so highly praised as antipyretics.—*Indiana Medical Journal*. Amen! The above reminds one of the connundrum, How would you make a thin boy fat? Answer. Pitch him out of the window and he will come down plump.

FATAL ENCOUNTER WITH SHARKS.—James E. Hamilton, the mail carrier between Miami and Lake Worth, on the South Atlantic coast, was devoured by man-eaters at Hillsboro Inlet, on October 18. He was a stout, athletic young man, and carried the mail between the two places, a distance of seventy-five miles, on his back, walking on the beach most of the way. The inlet is a dangerous crossing, the back waters of the Everglades meeting the tides and producing heavy and dangerous seas. Sharks of the most ravenous kind abound there. An old fisherman named Waring, who was within half a mile of Hamilton when he began crossing, describes the tragedy as a horrible occurrence. When Hamilton reached the middle of the inlet the sharks flocked about his boat, leaping ten feet or more out of the water in their eagerness to get at human flesh.

Hamilton fought them with his oars, but soon both were bitten off

and dashed out of his hands. Then they assailed the boat, tearing huge pieces off the gun-wale. Soon it began to sink, and Hamilton became stupefied with fear. Another blow on the frail boat, and he was thrown headlong into the masses of fierce sea-wolves. One shriek of agony, and all was over. The sea was dyed for yards around with his life blood. Searching parties were sent out but nothing was found. Hamilton's death was such a horrible one that no mail carrier over that route has yet been secured.

A CENTENARIAN DYING IN HARNESS.—Dr. S. P. Neklevitch has just died at Lozki, in the Novogrudsky District, Russia, in his 109th year. His death occurred quite suddenly, as, about a quarter of an hour earlier, he wrote a prescription for one of his patients.

FOR NEURALGIA AND LUMBAGO.—The pain of lumbar neuralgia is said to yield speedily to one or two local applications of a saturated solution of camphor in sulphide of carbon. Lumbago and many cases of sub-acute rheumatism may often be treated satisfactorily by friction with a capsicum ointment. It should be applied with a gloved hand for about ten minutes, night and morning.—*Med. World.*

DOUBLE URETHRA IN THE MALE.—At a recent meeting of "Verein der Aerzte in Steiermark" (Society of Physicians of Styria), Dr. Lipp brought forward a man in whom a double urethra was to be seen. The patient æt. 25, has been admitted into the hospital owing to acute gonorrhœa, and on examination a second opening, which was surrounded by a limbus, and through which one could introduce the sound into a canal of the size of 17 c. m., being coated with mucous membrane (basement epithelium), was found to be present over the opening of the urethra near the corona glandis. The canal went as far as the posterior part of the symphysis; the process was in both ureters a purulent one.—*Medical Press and Circular.*

TREATMENT OF PILES BY DILATATION.—In the *Gaz. des Hopitaux*, M. Verneuil publishes a note on the treatment of piles by dilatation. According to the author, ninety-eight cases of a hundred may be cured by this simple process. The duration of the treatment scarcely ever exceeds eight days, during four of which the patient remains in bed, and during the remaining four days in his room. Piles of six, eight, ten, twelve, and fourteen years' existence have been completely cured in this manner. Even in cases in which the disease is complicated with true rectal prolapsus, dilatation should be had recourse to. During fifteen years that the author has practiced this method he has not met with one unsuccessful result. He prefers the speculum to the digital method of dilatation.—*Med. Herald.*

"MY son," said Mr Spriggins to his little son, who was devouring an egg—it was Mr. Spriggins's desire to instruct his boy—"my son, do you know that chickens come out of eggs?" "Do they, father," said

the young hopeful, "I thought the reverse." The elder Spriggins drew back from the table sadly, and gazed on his son, then put on his hat and went out.

GENERAL GREELEY'S EXPERIENCE IN THE USE OF ALCOHOL DURING ARCTIC EXPLORATION.—In the *Forum* for August, General Greeley relates his experience as follows :

The subject of alcohol was frequently and generally discussed during the winter at Cape Sabine, and all, without exception, concurred in the opinion that spirits should be taken after a day's labor was over, and not before or during exhausting work, nor while suffering from exposure that was to be continued. * * * Later, when the party had been slowly starving for many months, and when the supply of food was so diminished as to necessitate a greater reduction of rations, the pure alcohol on hand was issued as food, being diluted by about three times its weight of water. Each man received daily perhaps a quarter of an ounce of alcohol, the effect of which was most beneficial. The general impression, with which I most heartily agreed, was that the alcohol supplemented food, and had a decided alimentary value. There could be no question of its beneficial effects as a mental stimulus to every member of the party under our unfortunate condition at Sabine.

GIFTS TO HOSPITALS.—The Misses Drexel, of Philadelphia, have given \$30,000 to St. Agnes Hospital of that city. Mr. Carter Harrison, ex-Mayor of Chicago, has given \$1,500 to Michael Reese Hospital of that city in the name of his deceased wife, Margarette Stearns Harrison.

THE editor of the *Indiana Medical Journal* must have been looking upon the "wine when it is red" to judge from the following: "'You cannot get out of a bottle more than you put in it,' says an ancient proverb, but this is a mistake. We have known many a man to get the jimjams out of his little bottle, to say nothing of the headaches, sick stomachs, hobnailed livers and cirrhotic kidneys."

A MAN in Bathgate was present at the funeral of a neighbor of whom no good could be said, but as everybody was saying something, and as he did not like to appear singular, and was incapable of a lying eulogy, he remarked that it was a "nice, quiet corpse."

GLEDITSCHINE, so called, is still under process of investigation. The chemists continue to disagree about it, and no unanimous result has been reached.

EDITORIALS.

ON THE MIS-USE OF THE WORD "PROFESSOR."—As far back as English literature records the existence of seats of learning there can be found occasional mis-use of the term "professor." Several hundred years ago it was used as a title by writers who followed the methods of common parlance rather than the rules of rhetoric.

But this mis-use of the word was rare, and no one thought of defending it upon grounds of grammatical accuracy, or good taste.

Even up to a period of twenty-five years ago the same might be correctly said of it. As colleges have increased in number, and the corps of teachers doubled and trebled in this country and elsewhere, hundreds of men are entitled professors, very much to their own detriment and to the sacrifice of much which should be valued.

The incorrectness of using the word as a title, which it is not, according to the genius of the English language, though the contrary is the case with the German, must be passed over, as general sanction in high places has come to be regarded as superseding grammatical accuracy. It is upon other ground that this bad habit must be combatted. In the first place it encourages a tendency, much to be deprecated, towards considering the man as subordinate to the place; and secondly, it not only encourages, but necessitates the most superficial knowledge in the great mass of readers in regard to the teachers and writers, who are, in great part, the thinkers and leaders of the age.

This is a vice specially noticeable in medical literature. What physician fails to read every day in some medical journal references to the views or teachings of Professor So-and-so? He has presented to him, under the guise of information, first, a grammatical error, next the wretched spectacle of placing a man's position so far in advance of himself that his individuality is actually lost, and finally, the necessity of accepting partial and superficial information, when he should have full knowledge.

If a man is worth quoting, he is worth knowing—to a certain extent. To know that he occupies a professorial chair somewhere, is to know of him absolutely nothing. Not only is it due to the authority quoted to give his name in full and to state the character of his professorship, but the same is due to the reader whose judgment in regard to a decision or opinion is necessarily biassed by a fair knowledge of its source. He should be, therefore, accurately informed in regard to the authority quoted. Allusions are constantly made in the medical press to professors of various names, but with no other information about them. The full name is not given, nor the special character of their work. The consequence is, that very few, even of the best educated medical men, really know who these professors are, nor what they profess.

Ask almost any physician, "By the way, who is Professor Schlag-enwald?" and he will reply, "Oh, some German scientist;" or ask,

"Who is Professor Armand Paix?" and he will say, "Some French pathologist; he probably belongs to the Academie."

Ask these questions of some one belonging to the class spoken of as "busy practitioners," and he will answer more candidly: "I do not know, though I see him quoted constantly in the journals."

As a question of good taste, there can be very little difference of opinion on this subject. A man's best aim should be to be himself in the highest development of his individuality. He should recognize this himself and expect his acquaintances to do the same. To lose sight of the man in his calling or incidental position, is to subordinate him beyond the limits of propriety.

It is said that at one of the American universities the title Professor is never heard in the Faculty or among the Trustees. No one there is spoken to, or of, as President, Professor, Secretary, or in any other way descriptive of his work. Each gentleman represents himself, and is simply "Mister." The quiet dignity of this course commends itself to all college communities, and to all who recognize under a careless expression an underlying evil.

It will be seen therefore that the medical press, in indicating the medical teachers of the day in the present careless fashion, are forcing their readers into superficial methods, and encouraging the vice of giving unnecessary titles, while they lose sight of the value of accuracy and good taste.

This journal is not free from blame in this matter, but has erred in common with its fellows; and it alludes to this error not from an outside standpoint, but from the common ground of common error.

It is hoped that the necessity of reform in this matter will be frankly conceded, not only by the journals in this country, but in England, for the *Lancet* has not been one of the least of the offenders.

A BRILLIANT ACHIEVEMENT IN OCULAR SURGERY.—In a communication to the *Medical and Surgical Reporter*, Dr. L. Webster Fox has described an operation performed by Von Hippel, for the transplantation of a section of a rabbit's cornea in that of a woman. Dr. Fox was present at the first operation, and gives a very graphic and clear description of the method of procedure. The patient was a strong, young, country girl, who had a leukoma of the cornea. This was not complete, a small rim of transparent tissue being left around the entire opacity. Quantitative perception of light was all the vision possessed by the eye before the operation.

The instrument devised by Von Hippel for the performance of this operation is a trephine, which is set in motion by clock-work. The cylinder is so arranged that the depth to which it will cut may be regulated at will. The woman's eye was cocainized and the trephine applied to the cornea at right angles to its plane.

The section was made *down to* Descemet's membrane. After this came the most delicate part of the procedure. The button was now

stripped off, leaving Descemet's membrane exposed. (In case this bulges forward, it is advised that the anterior chamber be tapped.)

The cornea of a healthy young doe rabbit was selected to furnish the graft. Its eye was thoroughly cocainized; an assistant passed stabismus hooks under the superior and inferior rectus muscle, and pulled the ball outwards, the lids being held back by a speculum.

The trephine was now applied to the rabbit's cornea, and a section was taken from it of the same lateral diameter as the one taken from the patient, but thicker than the latter by the thickness of Descemet's membrane.

This button of cornea, containing Descemet's membrane, was now inserted into the aperture left in the patient's cornea, and was driven into place by the pressure of a probe that is fixed in the cylinder.

The upper lid was then drawn down over the eye, and a pressure bandage applied. The recumbent posture was enforced.

The bandage was allowed to remain three days. At the end of this time the graft becomes hazy if union has taken place. If the edges of the button and those of the aperture have not become united, a successful result can hardly be prognosticated. Before the Ophthalmological Society in Heidelberg, Von Hippel has recently showed another patient on whom this operation was successfully performed.

Some time after the operation, the patient had a visual acuteness of $\frac{20}{200}$ and could read Jaeger's No. 6

Leukoma of the cornea has long been an opprobrium of ocular surgery.

When any clear cornea is left it has usually been suggested to perform iridectomy in the region of the clear portion; when only quantitative perception of light remains, little benefit is derived from this procedure. If the operation performed by Von Hippel can give to patients with only quantitative perception of light, the ability to read Jaeger's No. 6, and can give a distant vision of $\frac{20}{200}$, a most brilliant result has indeed been obtained. Unfortunately, however, we must consider the reverse of the medal.

Suppose the button does not unite, or the surgeon be not sufficiently skillful, the probability will be that the eye operated upon will be reduced to the insignificance of a stump, and the possibility of sympathetic irritation or inflammation in the other eye exists.

Of course chances are to be taken by both surgeon and patient in every operation, but it is questionable whether it is wise to thus attack an eye which is non-inflamed and quiescent, and to bring about the more than possibility of inflammation in both. If there be leukoma of both eyes, and the patient have only quantitative perception of light in both, the operation seems to be in the highest degree indicated. Under such circumstances nothing, practically, can be lost, and the possibility of great good exists.

If it could be restricted to the hands of the wise and prudent, the chances of failure would be reduced to a minimum.

No such restrictions, however, can be made.

Under any circumstances, the successful performance of this operation has marked a brilliant era in the ophthalmic surgery of this decade.

THE MEETING OF THE FIFTH DISTRICT BRANCH OF THE NEW YORK STATE MEDICAL ASSOCIATION.—The fifth special meeting of the Fifth District Branch of the State Association, which was held at the Pavilion Hotel, New Brighton, Staten Island, was a very successful and attractive one, and much credit is due the committee having the matter in charge, Drs. F. U. Johnson, Carroll and Walser, for the pleasant arrangements made for the gathering. Dr. Carroll, one of the most accomplished men in the profession, made a forcible plea for the more general employment of the sphygmograph by practitioners, pointing out the causes which have hitherto led to more or less unsatisfactory results in its use. He also gave a demonstration of an original dressing for green-stick fracture of the clavicle, which is not less admirable for its simplicity than for its undoubted efficiency. Dr. Walser, of Port Richmond, reported two cases, of extreme rarity and interest, of chronic progressive caries of the bones of the foot, presenting one of the patients for the examination of the Fellows; and Dr. Benton, of Brooklyn, made a valuable contribution to the subject of the analgesic efficiency of the recent antipyretics, which is now attracting so much attention. Owing to the shortness of the time at the disposal of the Association, an instructive paper on "The Individuality of Disease," by the President, Dr. Edwin Barnes, of Dutchess County, was read only by title. This and the other scientific papers presented will shortly appear in the *JOURNAL*, and the announcement is made with great pleasure that by a unanimous vote the Association again decided that all papers read before it shall be published in *GAILLARD'S MEDICAL JOURNAL*. The concluding portion of the meeting was devoted to memorial exercises, three distinguished Fellows of the Branch having died since the last meeting, Drs. Alonzo Clark, and Jared Linsley, of New York, and Dr. James C. Hutchinson, of Brooklyn; and eloquent tributes were paid to the deceased by Drs. John Shrady, S. T. Hubbard, Ellsworth Eliot, J. W. S. Gouley and others. It should be noted, in conclusion, that the discussions of the various papers read are of exceptional interest and value.

THE AMERICAN PUBLIC HEALTH ASSOCIATION.—This Association held its fifteenth meeting in Memphis, beginning November 8th.

Dr. Sternberg, of the United States Army, presided.

This body has long represented the foremost advance of sanitary science and administration in this country, and its annual meetings are always looked forward to with interest by all of those interested in sanitary matters, or identified with sanitary administration.

The President, Dr. Sternberg, has acquired much reputation as a bacteriologist, and has just returned from South America and Mexico,

where he has been investigating yellow fever on behalf of this Government. While the meetings are open to papers on any topics of sanitary interest, the Executive Committee has directed especial attention to four subjects, viz. : The pollution of water supplies ; the disposal of refuse matter of cities ; the disposal thereof for villages and smaller towns ; and the consideration of animal diseases dangerous to man. These furnish a scope of inquiry that cannot but interest all, and furnish valuable information to our various Health Boards.

The fact of the meeting being held at Memphis of itself excites much interest. It will be remembered that this city, impelled by the fearful scourge of yellow fever, came to realize that its insanitary conditions had much to do with the fatality of the disease, and with its generally high death-rate. It therefore, under the superintendence of the engineer, Waring, entered upon a most extended system of sewerage, and of strict sanitary administration. The results have been highly favorable to the growth of the city, and to the lowering of the death-rate. Although the system has been much criticised, the authorities seem well satisfied with the result.

More extended notice will be given of this meeting in a future number.

DR. H. MCS. GAMBLE has recently removed from Morefield, West Virginia, to the more genial climate of Orlando, Fla. Though a general practitioner he has made a special study of diseases of the throat and chest, and it is believed that in making this move he has greatly extended his field of usefulness.

The subscribers will recognize in this gentleman the very accomplished translator who has for many years furnished them with practical and delightful papers from the French Journals.

That he may be happy and prosperous in his new home must be the wish of all who know him.

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No matter how brief an article may be, so long as it is practical it is of interest to all physicians.

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