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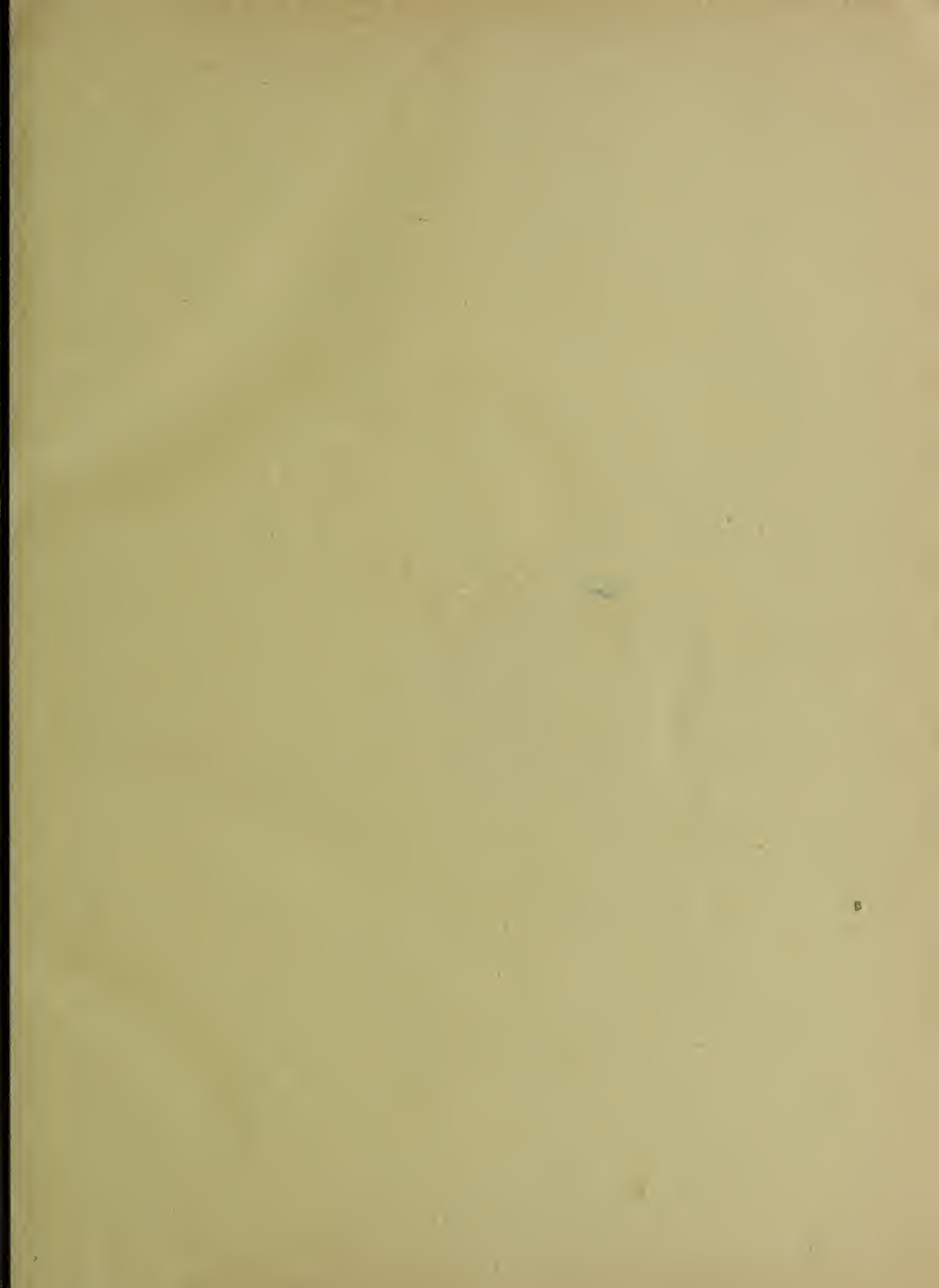


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VIRGINIA MEDICAL SEMI-MONTHLY, [RICHMOND.]

VOLUME IX.

APRIL, 1904—MARCH, 1905, INCLUSIVE,
THOROUGHLY INDEXED.

LANDON B. EDWARDS, M. D.,
Editor and Proprietor.

CHARLES M. EDWARDS, M. D.,
Associate Editor.

Subscription, \$2.00 a Year. Single Number, 10 Cents.

AUG 17 1905

THE WILLIAMS PRINTING CO., RICHMOND, VA.,
1905.

THE Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

Vol. 9, No. 1.
Whole No. 193.

RICHMOND, VA., APRIL 8, 1904.

\$2.00 a Year.
10 Cents a Copy

Original Communications.

THE COMPLICATIONS OF GASTRIC AND DUODENAL ULCER.*

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In discussing the complications of gastric ulcer it is not my purpose to include those complications which follow rather than accompany the ulcerating process—namely, pyloric stenosis, hour-glass stomach, malignant changes, etc., but to confine my remarks particularly to those two fatal catastrophies which occur during active ulceration—excessive hematemesis and perforation. And yet I must say a general word as to the present-day relationship which surgery bears to the treatment of gastric ulcer, for if this were universally understood and practiced there would be little use in talking about the complications; they would be indeed rare.

I am convinced that in the recognition and treatment of gastric and duodenal ulceration—and these two conditions may well be considered together—we in America do not take the first rank, as we do in so many lines of surgical work. And in making this statement I am not unmindful of the fact that gastric ulcer is not so common in this country as in England, for instance. A few men in this country who have given this subject particular attention, notably the Mayos, of Rochester, Minnesota, have had an enormous experience in the surgical treatment of gastric ulcer, and when one considers their environment the only conclusion possible is that hundreds of cases of gastric ulcer go undiagnosed and improperly treated.

It has been found by a number of independent investigators (Brinton, Welch, Greenough and Joslin) that gastric ulcer, opened or healed,

* Read at the meeting of the Tri-State Medical Association of Virginia and the Carolinas, at Danville, Va., February 23-24, 1904.

is present in about 5 per cent. of persons dying from all causes. If this estimate is true, as it unquestionably is, it is evident that we have a great deal to learn, both as regards diagnosis and treatment.

Before taking up the complications, let me say that it is now a recognized fact that when medical treatment properly carried out does not result in the cure of a gastric or duodenal ulcer, some form of gastric drainage is imperatively indicated, and this is best accomplished by either a posterior gastroenterostomy or a pyloroplasty, preferably that of Finney. It is only by a close adherence to this rule that dangerous complications and sequelæ may be avoided. Too often cases are operated upon for perforation which have been treated medically for years with but only temporary improvement. This was true in a case I operated on in October last, and which is included in a series of four cases operated upon during the preceding nine months and reported in *American Medicine*, December 19, 1903. The patient had been in the hands of excellent physicians for about five years, the condition diagnosed and an operation recommended, to which the patient would not consent. Perforation occurred after about four weeks of most rigid medical treatment and while the patient was still being carefully watched and treated. Operation was done nine hours after the perforation and the patient made a good recovery. An earlier operation would have in this case cured the patient with a risk not to be compared to that which he chose to run.

I must say, however, that in so strongly recommending surgical treatment of obstinate and persistently bleeding gastric ulcers it should only be carried out by one who has carefully familiarized himself with the technique of gastric surgery either by experience or by practice upon animals, and only in the presence of the most thoroughly aseptic environment. Unless these conditions exist the patient is safer in run-

ning the risk of the complications of which I speak.

Hæmatemesis.—Bleeding from a gastric ulcer occurs in probably about half of the cases and may be indicated either by hæmatemesis or mæna. If a careful microscopic examination is made of the vomited material in cases of gastric ulcer, blood will be found much more frequently than is expected. The bleeding varies greatly in character and in frequency. Not infrequently it is the first symptom which calls attention to the condition. When this is true the ulcer is apt to be an acute one and the hemorrhage moderately profuse. Moynihan states that when the hemorrhage is rather profuse and the only symptom present it probably comes from a number of small ulcers, such as have been called "weeping patches." The first attack of bleeding from an acute ulcer, which comes on suddenly and unexpectedly, can nearly always be controlled by medical means, such as rest, the administration of opium, etc.; or in fact, it may stop spontaneously. The bleeding is apt to be repeated in small quantities and not at frequent intervals.

Bleeding from a chronic ulcer may be very trivial or it may be suddenly fatal from the opening of a large vessel, such as the splenic, the aorta, the vena cava, or the pancreaticoduodenal artery. The bleeding which threatens life may be either the frequently and persistently repeated small hemorrhage, from the resulting anemia of which the patient does not recover, or the single profuse hemorrhage. The latter, however, unless a large vessel has been eroded, is not as dangerous as the former variety.

The mortality of gastric hemorrhage is variously estimated at from 3 to 8 per cent. of the cases in which it occurs. Death from this source, however, is more frequent than the casual observer would suppose. Douglas, of Nashville, Tennessee, reports four fatal cases of gastric hemorrhage in his own private practice, and I know of a number of cases of fatal hæmatemesis which have never been recorded.

The surgical treatment of gastric hemorrhage is a practice of comparatively recent years, but the results obtained certainly warrant its further application. Most authorities agree that an operation for a primary profuse hemorrhage is not indicated unless the hemorrhage really threatens life, and even then the value of operation is questioned by many. The decision as to

the course of treatment in such a case requires the exercise of one's best judgment and is one of the most important questions which the surgeon has to decide. In the cases of persistent small hemorrhage and those in which there have been two or three profuse hemorrhages surgical interference is certainly indicated. Just what form of operation should be done is still a matter of debate. I believe, however, from a study of the literature of this subject, that the establishment of free gastric drainage will give the most satisfactory results. This, I am confident, is true in cases of bleeding from multiple ulcers, and in those of repeated small hemorrhage. Where operation is done, however, for frequently repeated profuse hemorrhage or for a single profuse hemorrhage threatening life, it may be wiser to follow the advice of those who recommend opening the stomach and the ligation or cauterization of the bleeding points. It must not be forgotten that the hemorrhage may come from a number of different areas, and this is a strong argument against this method of operating, unless a gastroenterostomy is also done. In this connection it is interesting to refer to a case reported by W. J. Collins, *Lancet*, February 8, 1902, in which death resulted from hemorrhage from a duodenal ulcer eight days after operation for a perforated gastric ulcer.

I believe that the best method of directly controlling the hemorrhage from a gastric ulcer is that of passing a deep purse-string suture about it. Some authorities recommend the carrying of this suture through the entire stomach wall. Moynihan has reported remarkably good results from the simple performance of gastroenterostomy even in cases of profuse hemorrhage, and in order to prove this operation insufficient those opposed to it must show that the patients dying after its performance do so because of continued bleeding. This operation is the only one which Moynihan recommends for gastric hemorrhage of whatever variety, and his experience has been very large. By a thorough drainage of the stomach the walls of the organ collapse and the arrested hemorrhage is not apt to recur from a dislodgement of the thrombi. Moynihan believes that the recurrence of hemorrhage in chronic ulcer is due to dilatation of the stomach, which causes the thrombi to become loosened.

Perforation.—Gastric perforation is a most serious catastrophe and by far the most danger-

ous complication of gastric ulcer. It occurs, according to Robson, in 15 per cent. of the cases. It is not, however, immediately or always fatal, nature being able occasionally to prevent the free escape of the gastric contents by the formation of adhesions, slow perforation or a perigastric abscess resulting. It would be ideally foolish, however, to expect nature to do this in any given case.

The diagnosis and symptoms of gastric perforation can best be considered under three heads, that of acute, sub-acute, and chronic perforation.

In the *acute variety* the diagnosis is usually quite clear, the symptoms being nearly unmistakable. The history given may be absolutely negative, or it may be of the utmost value. Great attention should be given to any previous symptoms of dyspepsia with or without vomiting, and to the passage of dark colored stools. In the acute cases the onset of pain is most sudden and severe, and is accompanied by a boardlike rigidity of the abdomen. Tenderness in the neighborhood of the perforation is also a frequent symptom. At first pain is accompanied by marked prostration and possibly vomiting. In other words, we are dealing with a case of perforative peritonitis in its early stages, and it is at this time that the condition should be recognized and treatment instituted. The perforation may have resulted from some mechanical strain upon the wall of the stomach, such as distension by food or a carbonated drink, or by muscular exertion. In one of my own cases the perforation suddenly occurred when the patient was lifting a buggy. If the patient is not relieved at once by operation the symptoms increase, until a tyro could make a diagnosis of general peritonitis. The vomiting which may have preceded or immediately followed the perforation is not likely to recur after the peritonitis is well established, and the pain which was at first localized is apt to become general. Fortunately, acute perforation usually takes place in ulcers situated upon the anterior wall of the stomach. Posterior ulcers when they do perforate acutely result ultimately in the infection of the greater peritoneal cavity by the passage of the infected material through the foramen of Winslow.

The symptoms of a *sub-acute perforation* are less sudden and less severe than those just described. In these cases there is usually time for the outer coat of the stomach to become more or less adherent to some neighboring peritoneal

surface, or the opening may be so small or the stomach so empty that any extravasation is partially walled off by adhesions or slowly passes down into the pelvis. In this variety of perforation the patient may at first suffer considerable sharp pain, which, however, gradually subsides and the development of the peritonitis is much slower than in the acute form. In these cases it is often very difficult to make a correct diagnosis, since in many of them the symptoms are directed to the pelvis. In many of them, and especially of duodenal perforations, a diagnosis of appendicitis is made. This has been true in a remarkably large number of the cases of subacute perforation, and it is a mistake which I made in a case of duodenal perforation operated upon about a year ago. In cases where this error has occurred the omentum is usually found adherent to the abdominal wall except over a small track, through which passes the infected gastric contents, which find their way into either the right iliac fossa or the pelvis. As a point of diagnostic value Moynihan has called attention to the fact that in the sub-acute variety of perforation there is usually a complaint of gastric discomfort for several days preceding the actual perforation.

Chronic perforation takes place usually in ulcers situated upon the posterior wall of the stomach and results from adhesions which have taken place over the site of the ulcer. The outcome of chronic perforation is a perigastric abscess usually of the subphrenic variety. Cases of this kind have been reported in which the abscess has evacuated itself into the pleura and lung.

Treatment.—The result of the treatment in the acute variety of perforation will depend largely upon the promptness with which it is instituted. As in typhoid perforation, I believe that operation should be done as soon after the onset of symptoms as is possible. The proper aseptic precautions, however, should not suffer from haste to repair the perforated gastric wall. In many instances the point of greatest tenderness will indicate somewhat to the surgeon the best point at which to open the abdomen; in the absence of such indication, however, the stomach should be exposed through the right rectus muscle. Attention should first be given to finding the opening in the stomach wall, and when this is found the ulcer should not be excised or its edges pared, but should be inverted by deep sutures of either silk or chromicized

gut. It is important, I think, to pass these sutures deeply in order to thoroughly cut off the blood supply of the old ulcerating area. Occasionally it will be found difficult to close the ulcer, and it may be necessary to pass the stitches at a considerable distance from the perforation. Two, or possibly three, rows of sutures may be required. It must be remembered at this time that frequently multiple ulcers are present, and therefore a search for others should be made. If no perforation is found on the anterior surface of the stomach or duodenum the lesser peritoneal cavity should be opened through the gastrocolic omentum and the posterior wall of the stomach carefully examined. If the perforation is found here it can be exposed to view through the opening in the omentum and closed with little difficulty. Unless there are multiple ulcers, or unless the ulcer is situated at and constricting the pylorus, I do not believe that it is wise, when a patient is suffering from an acute or subacute perforation, to do a gastroenterostomy, since in practically all the cases which recover after the simple inversion of the ulcer a cure results.

Having dealt with the ulcer, attention should next be given to the thorough *cleansing of the abdominal cavity*; and unless the extravasation has amounted to practically nothing, I believe it to be the part of wisdom to thoroughly irrigate the entire abdominal cavity with warm salt solution. In all of my own cases there was considerable extravasation and in all of them I drained the pelvic cavity through a small suprapubic opening. This, I believe, is imperative in operations for subacute perforation where the pelvic cavity or iliac fossa has contained a quantity of infected material. Where there is a doubt as to the diagnosis, and the symptoms seem to indicate pelvic or appendiceal inflammation, there is no objection to first opening the abdomen over these regions and thereby learning definitely the cause of the peritonitis. I believe more strongly even in drainage than I do in irrigation, and in all of those cases I have operated upon I have used a gauze drain down to the site of gastric perforation and have also drained the pelvis. In the acute perforations the irrigation with the hot salt solution not only acts as a cleansing agent, but is also a most excellent combative of the shock from which the patient is usually suffering. I admit that there are cases of acute perforation with very little escape of gastric contents in which both irriga-

tion and drainage are not needed, but they are rare.

Before leaving the subject of technique I would say that in this condition as in others of perforative peritonitis, the secret of success lies in the promptness of operation, in the gentlest and simplest manipulation of the diseased tissues, in the minimum amount of anesthetic and the brevity of the operation.

The treatment of chronic perforation consists in locating and draining the abscess, and it is only necessary to say that when this is done it should be done in the simplest and most direct manner and no attempt made at the time to do any formidable or formal operation.

AN INTERESTING CASE OF SUB-ASTRAGALOID DISLOCATION.*

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College of Virginia.

In sub-astragaloid dislocation the astragalus remains in situ in the tibio-fibular mortise, but the other bones of the tarsus are displaced from it. This displacement may occur either in a backward, forward or lateral direction. The backward is the commonest form and is the variety here reported. More or less lateral displacement is usually observed in backward dislocations, the foot being displaced either backwards and outwards, or backwards and inwards from the astragalus.

This young man, age 19 years, received his injury while horseback riding; the horse slipping and falling, caught the foot of the patient beneath him. In attempting to liberate his imprisoned foot, he sustained a severe wrench that caused the dislocation. Shortly after the accident and about twenty-four hours before he came under my surgical care at the Memorial Hospital, under an anæsthetic, an unsuccessful attempt was made by his family physician to reduce the dislocation. Upon admission to the hospital, the patient was found to be suffering from great pain and swelling of the foot and ankle. The foot was everted and the sole directed outwards. On the inner side of the foot

* Read before the Tri-State Medical Association of Virginia and the Carolinas, at Danville, Va., February 23-24, 1904.

the rounded head of the astragalus with the skin tightly stretched over it, could be plainly made out. The inner malleolus was quite prominent, a depression marking the location of the external malleolus. The foot was freely movable at the ankle and the deformity presented an appearance not unlike that seen in a case of Pott's fracture. To add to the similarity some crepitus could also be made out. I was under the impression that I had a dislocation of the astragalus with a complication of fracture of the external malleolus to contend with, but this mistake could have been avoided had I observed that the relation of the malleoli to the astragalus was unaltered and that there was "no shortening from approximation of the os calcis to the tibio-fibular arch, as there is in complete dislocation of the astragalus."

After the patient was anaesthetized a number of attempts were made by extension and counter-extension, aided by various manipulations, to reduce the dislocation, but unsuccessfully. A tenotomy of the tendo-Achillis was then performed with the hope of being able to correct the deformity, but this measure also failed. An open aseptic operation was then determined upon as offering the best chance for a successful result. A three inch skin incision commencing just above the tip of the inner malleolus and extending downwards and joined by an inch transverse incision about midway, exposed the displaced bone and injured tissues nicely. The dislocation was found to be complete as to the articulation of the head of the astragalus with the scaphoid, but incomplete as regards the astragalo-calcanean joint. The ligaments binding the bone together were badly lacerated. The head of the astragalus was seen to be displaced inwards and the under surface of its neck had become locked against the sharp posterior-superior border of the scaphoid, while the tendon of the tibialis anticus had become hitched round the neck of the bone—this displaced position of the tendon explaining the unsuccessful result that followed an attempt at reduction by extension and manipulation before the incision was made. The extremity of the external malleolus was fractured and some small fragments were chipped off from the posterior surface of the astragalus, while the periosteum was partially detached from the internal malleolus. Lifting the tendon with the handle of the scalpel and making extension upon the foot was followed by a prompt slipping of the dis-

placed bone into its normal position. After suturing the torn sheath of the tendon, removing some fragments of broken bone, reducing the fractured external malleolus, and cleaning the cavity with an antiseptic solution, the wound was brought together with catgut sutures, a small opening being left at the bottom of the wound for the insertion of a small gauze drain. The foot, ankle, and leg were encased in a plaster of Paris dressing, and a window made in the cast over the wound. The drain was removed in a few days and healing promptly followed without suppuration. The cast was allowed to remain on for about six weeks, and as the articulation of the astragalus with the malleoli had not been interfered with, no ankylosis occurred, but good motion at the ankle followed; the patient when last seen was using his foot with ease and comfort.

Cases of sub-astragaloid dislocation failing to be reduced by extension and manipulation or tenotomy or by open operation, and especially if the dislocation be compound, are to be treated by excision of the bone under antiseptic precautions just as would be called for in cases of irreducible dislocation of the astragalus.

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MASTOIDITIS; WITH SPECIAL REFERENCE TO THE SURGICAL TREATMENT.

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The subject of mastoiditis is timely at this season when influenza, which it so frequently complicates, is endemic in many parts of the country. It is of interest also because the mastoid antrum is the principal port of entry for infection of the meninges and brain.

Primary mastoiditis is very rare but may result from exposure to cold, from traumatism, tuberculosis and syphilis. A mastoiditis may rarely result from an external otitis by contiguity through the posterior canal wall; but it usually follows a similar condition of the middle ear. It is probable that a simple catarrhal condition of the middle ear never extends to the mastoid, and cases of purulent otitis media may exist for years without affect-

ing the antrum, and yet all of us have seen mastoiditis result from the slightest cases of acute otitis media.

In an acute mastoiditis a mucous or serous engorgement may pass away spontaneously, or a purulent condition may follow. In either case there is a thickening of mucous membrane and an exfoliation of the lining cells which may find exit through the middle ear and external auditory canal, or may form a pseudo-colesteatomatous mass. The increased vascularity may induce osseous deposits to multiply and form an ivory-like mastoid, but more often local necrosis takes place and sequestra are formed. If drainage through the external auditory canal is impeded, necrosis and perforation will occur along the line of least resistance, which may be:

- (1) Externally through the mastoid cortex or the postero-superior wall of the canal;
- (2) Through the cortex in the digastric fossa;
- (3) Through the roof of the antrum or tympanum into the middle cranial fossa;
- (4) Into the post cranial fossa, usually through the lateral sinus.

If there is necrosis through the cranial wall there occurs inflammation of the meninges, diffused or circumscribed, resulting in a leptomeningitis or an epidural abscess, or extension by anastomosis may lead to an abscess of the brain itself and either method of extension may produce sinus thrombosis.

The most prominent symptom is constant, intense, deep-seated pain over the mastoid and more annoying at night. Pain changing from the tympanum to the mastoid and differing in character indicates the onset. Tenderness on pressure over the antrum is a characteristic sign of involvement of the osseous structures. In children the tip of the process may be the most sensitive and with this often occurs difficulty of turning the head from side to side. In early years tumefaction behind the auricle is of the greatest significance. Oedema of the parts around the auricle is indicative of involvement of the soft parts rather than of the mastoid. The temperature may range from 99.5 to 101.5, but it is an unreliable aid to diagnosis. In sinus involvement the temperature may reach 105 and drop to normal many times during the day, in which cases profuse perspiration is present, and symptoms of profound systemic poisoning are apparent. Septic pneumonia may follow lodgement of emboli in the lungs. Deep tenderness and tumefaction along the anterior border of the sterno-mastoid indicates embolus

of the internal jugular. With intra-cranial involvement may occur intense headache, photophobia, high temperature, nausea and vomiting. When the base of the brain is involved, as is usual, the slow pulse which marks diffuse or traumatic meningeal involvement is wanting, but any or all the symptoms common to paralysis of the third, fourth and sixth nerves and choked disc may be present—owing to whether the involvement is local or general. Facial paralysis may indicate pressure either at the base of the brain or anywhere along the Fallopiian canal, and when this symptom alone occurs in a case of chronic suppurative otitis the presumption is that the lesion is in the attic.

In a localized meningitis the temperature may not exceed 100, but there is headache and the site of the pain is usually over the affected part, and in these cases paralytic symptoms do not develop early. No characteristic symptoms accompany deep cerebral abscesses, but a persistent low temperature, constant headache, asthenia and progressive habitude are usually present. We suspect cerebral abscess when in an acute mastoiditis the pain diminishes in severity and a general headache and dullness ensue, the temperature remaining near the normal.

Local tenderness upon deep pressure over the mastoid region, and a sagging of the postero-superior wall of the canal near the tympanic ring are never failing signs of mastoiditis.

Seen early, rest in bed, quiet, fluid diet and a brisk saline cathartic may abort the attack. An ice bag to the mastoid may be used safely and effectively for twenty-four to forty-eight hours but no longer, dry heat being preferable thereafter, since the cold may mask the symptoms while a deep perforation is taking place; and for a similar reason the excessive use of narcotics cannot be too strongly criticised. If otorrhœa is present the perforation should be enlarged if necessary and any bulging portion of the membrana should be incised. In case of intact membrana an incision opening up the drum head including Schrapnell's membrane and extending along the sagging superior wall is of vast importance. This is a far better and safer procedure than Wild's incision of the soft parts over the mastoid tip, which, whenever used, should be limited to children. Frequent irrigation with a mild antiseptic at 105 degrees for five or ten minutes each hour is necessary both to facilitate drainage and to allay pain.

It is the concensus of opinion of the otolo-

gists of to-day that antrectomy or if necessary tympano-mastoid exenteration is indicated in every well defined case of suppurative mastoiditis.

Before proceeding to the surgical treatment proper, let us turn to some of the landmarks. There is no mastoid process in the fœtus at term and yet a good sized mastoid antrum. From three to five you find the mastoid slightly outlined and at thirteen it shows in miniature the adult mastoid. Two portions of bone meet to form this process, the squamous anteriorly and superiorly and the petrous posteriorly and inferiorly. Their union forms the mastoido-squamous suture, into which the periosteum dips deeply, forming a whitish fascia, which is difficult to elevate with the rest of the periosteum.

The supra-mastoid ridge corresponds to the floor of the middle fossa which is on a line with, and usually a little above the ridge.

Henle's spine is a little curved lamina of bone just behind the upper and back part of the osseous meatus. Its existence cannot be depended upon before the fourth year, but it is constant after ten. In early childhood there is, above and behind the bony meatus, a zone of vascular foramina—the tache spongieuse of the French writers—which invariably lies over the mastoid antrum. Later this zone corresponds to the part just behind Henle's spine.

The external table of the mastoid is anywhere from 1 to 6 m.m. in depth. In the ivory mastoid the antrum may be the first cavity found. At birth and until one year of age the antrum is from 2 to 4 m.m. in depth; at three it may be as much as 10 m.m. In general, the depth corresponds to age, and seldom exceeds 15 m.m. in the adult. The antrum is constantly found below the supramastoid ridge, above and in front of the squamo-mastoid suture and back of Henle's spine. The size of the antrum varies little with age, being almost as large in the fœtus at birth as in the adult. The aditus is the space connecting the antrum with the attic and is from 3 to 5 m.m. long, 3 to 4 m.m. wide and 3 m.m. in height. From antrum to attic it extends forward, inward and downward. On its floor passes the horizontal portion of the aqueduct of Fallopius containing the facial nerve. Its internal wall lodges the projection of the horizontal semi-circular canal wall. The roof or tegmen tympani forms part of the floor of the middle fossa.

The relation of the lateral sinus to the antrum is not constant and occasionally the sinus is found very near the posterior wall of the external auditory canal, but usually it is more than 12 m.m. distant.

Preparatory to the operation the entire scalp of males and in females the surface for three inches from the auricle should be shaved, the parts disinfected in the usual way. The canal is irrigated with 1-1000 bichloride of mercury solution. The initial incision is made two or four m.m. behind and parallel to the retroauricular groove. In the adult one sweep of the knife should divide the soft parts to the bone, but in children the bone is so soft and the necrosis often so extensive that injury may be done to the bony parts by too great pressure of the knife, in which cases the soft parts should be gently incised. The posterior auricular artery is usually cut and must be compressed. Hemorrhage from the smaller vessels often stops spontaneously on elevating the periosteum and using the retractors. In case of extensive necrosis of the cortex or when the sinus is involved a transverse incision leading back from the middle of the initial incision is made. In this last incision and on elevating the periosteum the posterior emissary vein may be wounded and occasionally requires the thermo-cautery point.

With the great majority of operators the chisel is the safest and most effective instrument for opening the cortex. A few become very dexterous with trephines and drills, but each operator must decide for himself which instrument he can best use.

Many points of election have been chosen for opening the cortex. Petit opened at the most painful point. Ganzot opens at level of the superior border of the external auditory canal and fifteen m.m. back of the auricle. Mitskommer says it is the "fossa found above the mastoid process, below the temporal line."

Porisot elects 10 to 15 m.m. back of and on a level with the superior border of the auditory meatus. Macewen opens at the posterior part of the suprameatal triangle. Hartmann and Bezold open below the temporal line as high as the upper border of the auditory canal and 7 m.m. behind Henle's spine. Duplay takes as upper limit the superior border of the canal, and as the anterior limit the border where the outer surface of the cortex bends inward to unite with the posterior wall of the canal. Cavoraz operates seven m.m. behind the temporal line

and eight m.m. from the level of the back of the spine. Schwartz, Zuckerhandl and Richard place the posterior limit of the opening fifteen m.m. behind the canal. Broca adopts the plan of cutting out a five m.m. square five m.m. behind the canal above the horizontal line passing through Henle's spine. This, I consider, the safest point of election, except I would place the middle of the square on the horizontal line rather than the lower border. The above refers to adult mastoids. In infants the tache spongieuse, which is above and back of the meatus, is the safest point of election and as age advances the point over the antrum moves downward and backward. After removing the square of bone, the opening should be made in every case parallel with the superior-posterior wall of the bony canal and to a depth always less than the length of said canal, for the depth of the antrum is always less than the length of this canal.

The antrum reached, the opening may be enlarged in any direction in which diseased bone is found. In the large majority of cases the cells at the tip of the process are involved and the entire apex must be removed, and prior to this the tendon of the sterno-mastoid muscle must be severed.

If necrosis leads to the lateral sinus it must be exposed, and opened if involved. In case it is accidentally wounded, the bleeding point should be packed with gauze and held by an assistant. The same applies to the dura if it is involved or wounded. The antrum walls must be curetted, the aditus cleared of any colesteatomous material, and thorough drainage provided for into the attic and middle ear.

If the case is chronic, and especially if necrosis is present in the ossicles and attic, the simple mastoid operation above described and first perfected by Schwartz should be followed by the so-called tympano-mastoid exenteration advised by Stacke, the double operation being known as the Stacke-Schwartz.

The initial incision should be enlarged above through the skin at least until the auricle, after elevating the periosteum about the canal, can be pulled forward exposing thoroughly the bony meatus. The fibro-cartilaginous tube should be dissected carefully from the superior, posterior and inferior walls to as near the tympanic ring as possible and then divided transversely near the membrana tympani. A strip of gauze passed through this canal makes a splendid retractor.

The next step is to take away the partition of bone between the canal and the artificial opening already made in reaching the mastoid antrum—viz., the posterior wall. This is done by removing first the bone on a level with the superior wall of the canal. If the chiselling is carried below this plane, the facial nerve, the horizontal semi-circular canal and the oval window, containing the stapes, may be wounded. The bone to be removed is wedge-shaped, the base of the wedge corresponding to the posterior wall of the bony meatus and the apex to the outer wall of the aditus and antrum.

The inferior wall of the canal may mark the lower limit of the wedge to two-thirds its length. Then the bottom of the wedge must be sloped upward to the aditus, until the above important structures are seen.

The next step is to break away the outer wall of the attic, a triangular piece of bone, which is also the inner extremity of the superior canal wall. This opens to view the chain of ossicles, which can easily be removed. The stapes may be carefully avoided if not involved. The entire tympanic cavity, the aditus and tympanic mouth of the Eustachian tube may now be thoroughly curetted and the bony cavity thus formed by this tympano-mastoid exenteration may be smoothed down, leaving no sharp prominences.

Many methods of lining the cavity by epithelial grafts to facilitate cicatrization are in vogue. Pause method is to make a horizontal incision along the posterior wall of the membranous canal and a vertical incision at the outer end of the above, extending into the concha. The two quadrilateral flaps thus formed are turned, the one upward and the other downward, into the cavity. The exact flap to form must be determined by the shape of the bony cavity left after removing every vestige of diseased tissue.

COMMENTS ON THE SEQUELAE OF NEGLECTED ADENOIDS.*

By JOHN DUNN, M. D., Richmond, Va.,

Professor of Diseases of Ear, Nose and Throat, University College of Medicine, Richmond; One of the Surgeons to the Richmond Eye, Ear and Throat Infirmary, etc.

Situated in the spot where the nose, ear and pharynx meet, and placed as though it were in-

* Read before the Richmond Academy of Medicine and Surgery, January, 1904.

tended by nature that it should, as indeed in no small measure it often does preside over the destinies of these organs, is a mass of tissue commonly known, when hypertrophied, as postnasal adenoids or diseased third tonsil. In the instructive paper just read, Dr. Joseph A White has given you many of the symptoms which tell of its presence and which cry aloud for its removal.

Suppose, however, this lymphatic mass, once hypertrophied, be left to the "*vix medicatrix naturæ*," what becomes of it? What harm results? In the course of time it disappears and more completely than when removed by the surgeon's art.

This hypertrophied mass atrophies, but in passing away it injures the mucous membranes of the nose, the ear, and the pharynx, and leaves their resources crippled to tell the story of the battle ground in the postnasal space.

Let us bear in mind first, that the mucous membrane of the Eustachian tubes and thence of the middle ear, the mucous membranes of the nose and of the pharynx are all continuous with that of the postnasal space; that the adenoid basis of this mucous membrane is but one continuous sheet, lining all these spaces; that in the upper and less so in the lateral portions of the postnasal space, this adenoid basis is much thicker than elsewhere, and forms what is known as the postnasal or third tonsil.

In the earlier years of life this mass of exposed lymphatics is especially liable to hypertrophy as the result of inflammatory insults. This hypertrophy is produced by the massing of white cells in the adenoid membrane—it is a lymphatic hypertrophy. The overcrowding of the lymphatic spaces with white cells at first affects probably only the region of the third tonsil. When, however, this has become hypertrophied it is a diseased mass and immediately the fight is on, and what we term nature strives with all its force to correct or dislodge it. Nor does this fight cease so long as there is one foreign white cell left in the adenoid basis of the mucous membrane. The fight is no easy one. The struggle is long and in most cases never ceases during the life of the individual, for as we shall see in a moment, the tissues of the nose, ear and throat become involved.

At the time of life when the postnasal lymphatics hypertrophy the postnasal space is small, the Eustachian tubes short, and their mouths relatively large. I know no more in-

structive picture in the wonderful unbound atlas of disease than that to be viewed any day in a postnasal space filled with this diseased lymphatic mass.

I recall one seen a day or two ago. The child was suffering from earache with deafness. Viewed through the external auditory canal the middle ear cavities could be seen to be filled with a sero-mucous accumulation. In the postnasal space was a large mass compressing the Eustachian tube mouths, from which was pouring a muco-purulent secretion. The nose membranes were swollen, the nasal air passages to a greater or less extent occluded and along the floor of the nose was present quantities of sticky mucus. The child was anæmic, was a mouth breather and had, especially in cold weather, an obstinate cough.

This is a part of the picture. Let us interpret its meaning. First for the ear. This organ is affected in more than one way. The inflammatory changes which result in the hypertrophy of the postnasal tonsil affect by continuity the adenoid basis of the mucous membrane of the Eustachian tubes and thence on the middle ear. This adenoid layer becomes thus thickened by the deposit of white cells in its substance.

The character of this thickening is the same found in the postnasal tonsil, and nature has recourse to the same means for its removal, one of which is the production of new-formed tissue. Understand this one fact and you have the key to the understanding of all the chronic affections of the upper air tract—of chronic rhinitis in all its forms, of chronic pharyngitis, of chronic otitis. Nature never calls to its aid new-formed connective tissue unless it first admit to itself that this must be done or the part affected dies. New formed connective tissue cells or death of the part—when these two horns and no other confront nature, she selects the former, but not until then. Nor does she ever deposit more of this new tissue than she is compelled to, for once deposited in any part of any organ it has its own life history, its path to pursue, and it pursues it relentlessly. It never turns aside, it never yields. The readiness with which in early youth nature pours into the adenoid basis of the mucous membranes white cells and from their presence as a starting point develops new-formed connective tissue varies with every individual—inheretance being a more powerful factor than environment. In many cases this development of new-formed connec-

tive tissue takes place so slowly and so painlessly that no complaint reaches the untrained ear of the parent. In other cases the child complains from time to time of earache or transient deafness; in still others the drum ruptures and the ear discharges. In all these cases transient or permanent closure of eustachian tubes plays no unimportant part. Block the tube and we have a closed mucous cavity. This of itself means congestion and inflammation.

The results of all these changes is impaired hearing—it matters not whether this impairment is produced early in life as the result of acute inflammatory conditions or appears late in life, the result of a sclerosis, whose symptoms have been so slight that even the most intelligent neglect them until the deafness has reached a relatively high degree. In the large majority of all cases of deafness the trained eye can read in the naso-pharynx—no matter what the patient's age—the causes producing this deafness.

In the earlier years of life when these hypertrophies attain their most marked degree, the naso-pharynx is small and some of the secretions from these growths find their way into the nose. Of the changes there wrought through the years of irritation I here only wish to mention one in especial—*atrophic rhinitis*.

I am convinced that this much dreaded affection owes its existence in a large majority of cases to neglected adenoids in early childhood. I have several times in my life seen young children with atrophic rhinitis recover entirely after the removal of the diseased lymphatics from the postnasal space. Atrophic rhinitis begins as an inflammation of the adenoid layers of the nasal mucous membrane—in other words, it is a lymphangitis of the nasal mucous membrane. This lymphangitis takes place after the adenoid layer has become hypertrophied as the result of the continued inflammatory attacks produced by the diseased postnasal hypertrophies. In other words, the adenoid basis of the nasal mucous membrane becomes hypertrophied. This hypertrophied membrane becomes infected and remains so in the presence of a constant source of reinfection of the diseased adenoids. The future history of the case is that of atrophic rhinitis.

As we all know, atrophic rhinitis varies much in its severity, presenting many types. Here again inherited conditions play a powerful part—so much so that in most cases of atrophic rhinitis it is likely that there is a past family history of syphilis or tuberculosis. Postnasal

adenoids play an important part in the production of all forms of chronic rhinitis. In young people the large proportion of all cases of *chronic rhinitis* have their origin in the postnasal hypertrophies and the annoying features of these affections can in a short while be cured by the removal of the postnasal growth.

Later in life, when these growths have been left to disappear under nature's care, their offspring, the nose affections, cannot be cured, though treatment applied to the nasal membranes may lessen the discomfort they produce. Secondly, then, many of the forms of chronic rhinitis, including both the hypertrophic and the atrophic, are but sequelæ to the neglected, diseased adenoids of early youth.

We may think it a far cry from these growths to the anæmias and dyspepsias of childhood. It is not, however. Any one who, in operating on the severer cases of adenoid hypertrophy, has ever examined the fluids vomited by the patient must have noticed at times the masses of mucus in these ejecta. In the bad cases—those occurring in scrofulous children, for example—there is a constant outpouring of mucus or mucopurulent secretion from the postnasal space. What becomes of it? The child never blows its nose unless made to, and the blowing of the nose is a physical impossibility where the postnasal space is filled with the growth. The child never expectorates—it does not know how. The secretion, consisting of imperfectly developed epithelial cells, white cells, mucin, germs beyond number, and poured off in quantities from the surface of the diseased lymphatics, is swallowed, practically all of it. Once in the stomach, what becomes of it? Naturally an attempt is made to digest it—some of it is indigestible. The stomach then has no rest from the digestive act, for the postnasal discharges are being constantly carried there. Indigestion and its resulting anæmia come next.

Nor is this all. We know that animals fed on food containing tubercular bacilli promptly develop pulmonary tuberculosis. We may infer the same is true for the human race. Tubercular bacilli have been demonstrated among the germs to be found at times in the diseased superficial lymphatics of the postnasal space. That in these cases the indigestion and anæmia are due solely to the constantly swallowed postnasal secretions needs no better proof than is to be found by comparing the condition of the child before and after removal of these growths.

Nature in time destroys these hypertrophies,

but in doing so deposits scar tissue in the post-nasal mucous membrane and, just so far, alters the secreting surface of this membrane and thus brings about some of the forms of postnasal catarrh, so called.

A paper limited to ten minutes allows no further description of the sequelæ of neglected post-nasal adenoids. Their presence has an influence upon the final shape of the nose and portions of the upper jaw and of the chest, and is often at the bottom of that weakening of the laryngeal and tracheal mucous membranes which in later life predisposes to chronic bronchitis.

We should bear in mind that hypertrophy of the exposed lymphatics is a disease of the earlier years of life; that it is the direct cause of most of the deafness of the human race, and is at the bottom of most of the catarrhal conditions of the upper air tract; that its results as found in the later years of life cannot be removed. The recognition of the presence of these growths is easy. Few other diseases of childhood—indeed, I may say no other—has so many symptoms, so many sequelæ. For the treatment I ask your attention to the paper now to be read by Dr. Davidson.

312 E. Franklin St.

Tyree's Antiseptic Powder has, from its introduction, been purveyed only through strictly ethical channels. The formula has been freely published, of which fact some unprincipled pharmacists have taken advantage—fostering the impression that it can be extemporaneously prepared. Nothing could be more erroneous since its manufacture requires special apparatus, and a batch cannot be made in less than five days. One hundred pounds each of borax and alum are fused together, and dehydrated in a crucible. The resulting irregular masses are then ground to fineness in a special mill, the remaining ingredients added, and special machinery used to secure uniform dissemination. If a druggist had the machinery, the time required for the process would be too long for prescription work. Mortar and pestle cannot take the place of the crucible, furnace and special mill. Hence efforts at substitution necessarily invites inferior, if not injurious results. Always, therefore, specify Tyree's antiseptic powder in original packages.

THE CARE AND REPAIR OF THE PERINEUM.*

By J. T. GRAHAM, M. D., Wytheville, Va.

In this age of preventive medicine, great has been the success of our profession in controlling and stamping out epidemics of many terrible diseases, and lessening the dangers of others; and the result is a happier and longer life to the human family. The value of all methods of treatment and prevention of disease must be decided by the results obtained. The evils that often follow improper treatment and the lack of prevention are too often sad reminders that the old ounce is of more value at the proper time than the pound after the evil is done. In no department of medicine is prevention of more value to the patient, and also incidentally to the physician, than in the practice of obstetrics. We are all familiar with the oft repeated histories of a large majority of our female patients who date their sufferings and the beginning of their decline in health from the birth of their first child.

It is the purpose of this paper to discuss *the prevention of injury to the perineum*—one of the most frequent accidents, and one of the most direful in its results when not remedied that can happen to a woman in child birth; *and the first aid to be given the perineum when injury does occur.*

Without going into details as to the anatomical structure of the perineal body, it is sufficient to know that it is "the cuneiform mass of fibro-elastic and muscular tissue, located between the lower part of the rectum and vagina. The edge of the wedge is directed upward, and the base, which measures about one inch (or two and one-half centimeters) is directed toward the skin. It is composed of the central tendon of the perineum or central part of the base of the triangular ligament, and fibers of the sphincter vaginae, transverse perineal, external sphincter ani, levator ani, and deep transverse perineal muscles."—Deaver.

This fibro-elastic and muscular tissue is capable of great distention without rupture of its fibres, but sometimes the tension is more prolonged than it can stand, and laceration is the result. In all muscular action energy is produced by "burning up" so much material as is required to perform a certain function. After each muscular action the process of repair and

* Read before the Tri-State Medical Association of Virginia and the Carolinas during its session held at Danville, Va., February 23-24, 1904.

waste takes place. This process is carried on by the circulation. Therefore as the perineum becomes distended in labor, and this distension is not relieved by the head receding after the pain is over, the tissues of the perineum become bloodless and their nutrition suffers. Repair and waste cannot go on. The elasticity of the tissues is not sufficient to stand the strain that is put upon them by prolonged tension, and a break in the continuity is the inevitable result.

To prevent this tearing of the perineum, see that its nourishment is not cut off. The blanched appearance of the perineum shows the lack of blood, and the tension must be relieved before the blood supply can be restored. Simply push the head back after each pain is over and give the perineal tissues a rest, during which their depleted strength may be restored, for without this restoration they will certainly break down.

Repair of the Perineum.—The primary repair only will be discussed in this paper, and only those lacerations that do not extend into the bowel need be considered—all complete tears being treated with more success after the process of subinvolution is complete.

After trying the usual methods of repairing the lacerated perineum with more or less success, the writer has adopted the following plan during the last few years without a single failure: A long straight or half curved needle threaded with silk, or better, silk worm gut, is entered at the junction of skin and mucous membrane about an eighth or one quarter of an inch to the outer side of the tear on the left of the vagina, and passed through the mucous membrane parallel with the sides and emerging at the upper angle of the laceration, where it is turned and re-entered and passed through the tissues in like manner—emerging at a point on the right side of the vagina corresponding to the point of entrance on the left.

The ends of the suture are now crossed, and by slight traction made on them, the edges of the tear will be brought together and may be held in apposition by tying in the usual manner.

No other stitches are needed; but strips of adhesive plaster may be used to close the rent in the skin. The traction of this suture is at right angle to the muscular fibers that unite to form the perineal body. Numerous stitches passed through the mucous membrane of the vagina and across under the tear to the opposite side are parallel to these muscular fibers that

interlace at the central of the perineum and will not bring them into apposition, but often cut out and become useless; and furthermore, every puncture of the vaginal wall is an opening for infection, besides allowing the lochial discharge to seep along the suture and interfere with healing.

The wound is cleansed of clots and a vaginal douche given before it is closed; it is then covered by a few strips of gauze passed up into the vagina and allowed to extend over the perineum externally, to be removed in twelve to twenty-four hours.

Success in this operation, like that in closing any other cut or tear in the body, is obtained by bringing and holding together the edges of the wound, and avoiding infection by clean surgery.

LOCAL ANTISEPTIC MEASURES IN SCARLET FEVER.*

By LEONARD D. WHITE, M. D., Exbridge, Mass.

We have had an epidemic of scarlet fever here this past winter, and some of the cases have been very severe; one died. I have attended two of the more serious cases.

As a result of over twenty years' experience in medical practice, including several severe epidemics of scarlet fever, I have been led to believe that the greatest danger is from toxemia and to accumulations of catarrhal materials, (scabs and pus) in the nose and throat. If these be removed as fast as they collect, and the membrane be treated by antiseptic applications, the danger from high temperature and nephritis will be rendered very slight.

To accomplish this I have in the past depended upon peroxide of hydrogen, but this sometimes fails me when the ernsts are firmly adherent and very hard and dry. Such was the case in the two patients mentioned above, but I found that "glyco-thymoline" would readily loosen such dried masses and furnish the necessary assistance, so that the peroxide could gain access to the infectious material. After that first cleansing by these two remedies, the "glyco-thymoline" alone was needed to keep up the desired condition. Temperature of 105° F. soon dropped to 100° or less, and was held there until the system gained control of the germs.

ECZEMA: A RESUME.*

By THOMAS W. MURRELL, M. D., Richmond, Va.,
Lecturer on Dermatology, University College of Medicine.

I am forcibly reminded of the old story of the pack of hounds that ran so fast that they only touched the high places. In fact, we might designate this the high points of eczema, because we can only touch on the most important features in the lecture hour. But we shall try to get a compact idea of this disease and its treatment, so that when giving its individual departments closer study we can have an idea of the context. Eczema is the commonest of all skin trouble, composing about 37 per cent. of all skin cases that come to the large clinics. This arises from the fact that it is more of a symptom than a separate disease, and no etiology can be more voluminous than that of the subject under discussion.

Definition.—Eczema is an inflammatory, non-contagious disease of the skin. It starts with erythema, papules, vesicles and pustules, accompanied by itching and infiltration, and ends with a discharge, crusting and desquamation.

Symptoms.—Fully living up to the title, "a protean disease," the symptoms presented are legion, the most constant of these being itching. This itching is intense, agnozing, and there occurs concomitantly more or less exudation and infiltration. But, to condense, there are six symptoms that may be called the cardinal symptoms, viz.: 1. Redness; 2. Itching; 3. Infiltration; 4. Tendency to moisture; 5. Crusting or scaling; 6. Fissuring. The last two are dependent upon the occurrence of the two gone before, and, therefore, are secondary symptoms.

The primary varieties of eczema are the erythematous, papular, vesicular, pustular.

The vesicular and pustular forms rapidly change to the secondary forms. These we will name eczema rubrum—the reddened, raw, weeping surface; eczema fissum—where bending the infiltrated, stiffened skin has caused it to crack, and eczema squamosum—the scaling of crusts and deadened skin.

1. *Eczema Erythematosum* consists of a macular eruption which may coalesce, and presents an infiltrated surface which, when it has become chronic, may be covered with brawny scales. This is a dry form, itches intensely and

the skin is of varying shades of redness from bright to dull. It is seen most in those persons exposed to extremes of weather and wind—therefore occurring mostly upon the face.

2. *Eczema Papulosum*, as its name would imply, is marked by the appearance of papules. These are small, reddish, and more or less raised, sometimes being of the acuminate form. The dried specks of blood that are found on such surfaces, due to excoriations in the attempt to alleviate itching, show this to be the most itching of all the eczemas. It is usually found on the extensor surfaces and may end its course by becoming a vesicular eczema, or becoming chronic with the formation of scaly patches.

3. *Eczema Vesiculosum* may be preceded by a feeling of heat and soreness about the part. This may be followed by the appearance of a crop of pin-head vesicles, which form patches, rupture quickly and exude a straw-colored serum, which is characteristic of eczema in that on drying it stiffens linen. The skin here is a bright red, and where abraded the serum seeps out in such quantities that it is said to weep; hence the name "weeping sore." Itching, while not as severe as the preceding form, is still intense.

4. *Eczema Pustulosum* is nothing but an infected vesicular variety. As is the rule, these pustular cases oftenest occur in strumous subjects. In accordance with this we find pustular eczema is nearly always the kind that afflicts childhood, where it chiefly occurs on the face and scalp. The pus dries in large greenish crusts and fortunately for the little ones it is the least itching form.

To refer back for one moment to the secondary changes, we find eczema rubrum following the vesicular and pustular varieties and is found chiefly on the faces of children and the extremities of adults.

Eczema squamosum follows the erythematous and papular forms. There is great infiltration here, and hence more tendency to fissuring.

Eczema is also divided into the *acute* and *chronic*. This does not apply to time existent but to symptoms presented. As Schalek says: "As long as the general inflammatory symptoms are marked the disease is acute. * * * When, however, the process has settled into a definite line of action, continually repeating itself, accompanied by secondary changes, it is considered chronic."

Etiology.—Right here let me impress one

* Extracts from a lecture delivered to the Graduating Class, University College of Medicine, 1904.

fact. While external causes can and do cause eczema, yet in the vast majority of cases there must be some predisposing internal cause. For instance, a man handling a chemical has an eczema therefrom, though he may have been handling that same chemical for years and no trouble resulted. At the same time it may be said that a cause usually has to work hand-in-hand with some irritant.

Constitutional causes are diabetes, nephritis, and more important still the gouty or rheumatic diathesis. Digestive troubles may take primership in this class, and anæmia, chlorosis and different neuroses may all bring it about. The external causes, too numerous to mention, may be summed up in this statement: *Anything that will irritate the skin may be the exciting cause of an eczema.*

The *pathology* of eczema is that of a catarrh of the rete mucosum and pars papillaris, and is analagous to catarrhal conditions of mucous membranes elsewhere. The engorged and dilated vessels of the papillæ cast out into the surrounding tissue quantities of serum which causes infiltration. This sudden condition results in imperfect keratinization, and as there is some retained cement substance the cells are cast off in flakes and scabs. This refers to the erythematous form, for in vesicular forms there is an interstitial œdema, which elevates the thin layer of cells, and they being still in a formative state rupture quickly. Papules of eczema are caused by proliferation of papillary cells, which in growing press upon the popilla and lengthens it, while in eczema rubrum the whole horny layer is cast off.

Diagnosis.—Since, according to the best authorities, one-third of all skin cases are eczema, eliminating syphilis, the diagnosis will be very clear, and while a case may be atypical, 3 or 4 cardinal symptoms will in all likelihood be present. Itching is practically never absent.

Of the *differential diagnoses* I shall only take up the most important points.

Erysipelas is a constitutional disorder with constitutional symptoms, high fever and great malaise. The eruption creeps over the skin and its borders are sharply defined. The eczematous patch is illy defined. More œdema and tensesness of skin occurs in erysipelas and there is burning and not itching.

Psoriasis.—The psoriatic patch has sharp edges, the scales are much larger, and have the

appearance of layers of cells. The scales of squamous eczema are thin and much smaller.

Impetigo.—Pustules are more superficial, and not as much inflamed around base of pustule. Itching is slight and yields to treatment in one or two weeks.

Lichen Planus.—Papules are angular, leave pigmentation, and do not itch as much.

Sycosis.—Limited to the beard, begins in hair follicles; interfollicular skin free.

Tinea.—Find the fungus with microscope.

Scabies.—Here the two may co-exist. History of contagion; attacks especially genitals, mammae and interdigital spaces. Does not attack face. The burrow is pathognomonic.

Erythema is a hyperæmia without itching.

Pediculosis may cause eczema, but is limited to parts covered by clothing.

Acne Rosacea is limited to nose, cheeks and forehead, and has hyperæmia without oozing.

Treatment of Eczema.—We readily see if we went into this subject in extenso we would take up the whole practice of medicine; hence the saying has arisen that a good specialist in dermatology must be a good practitioner of medicine. There is no specific for eczema, and while removal of the exciting cause will sometimes effect a cure, yet most cases demand constitutional treatment. In a nutshell, we must follow out the old surgical teaching: Remove the cause and set the parts at rest. General principles and common sense must govern your course. Good hygiene in all particulars, exercise, fresh air, easily digested food, and mental rest. Forbid the use of coffee, tea and all alcohols, and it is well to exclude all things not necessary as food—viz.: sweets, pastries, made dishes, etc.

The internal medication must meet the condition at fault. Tonics, iron, arsenic, cod liver oil for chlorotics and anæmics. The bitters, alkalies, calomel, salicylates, all are of great value. Arsenic is uncertain, and most especially must it be condemned as a routine, as it sometimes works much harm.

Local Treatment.—This depends upon which stage of the disease presents itself, but never forget the golden rule of him who would successfully combat eczema, *soothe the acute, and stimulate the chronic.*

Water alone is irritating and its use should be guarded, but do not interdict its use, because nothing could be more senseless than to retain excreted filth upon an abraded surface. There-

fore, to render water bland use a bran bag, slippery elm, or some oil, as olive oil.

To remove crusts saturate with oil and then wash off with soap. In the chronic form, as a stimulant there is none better than green soap, which here fills a double indication.

In general terms as to applications, use lotions for moist eczema and salves for the dry.

In treating *acute eczema* with moisture, lotions are valuable as cooling agents and to allay inflammation. Black wash is here useful, and if there is much itching and burning the lead and opium wash of varying strengths, or carbolic acid in weak solution, have proved exceedingly useful. Very hot water will sometimes control itching to a great degree.

Dusting powders are useful where there is not enough secretion to form an irritating crust. Of these, I am especially fond of lycopodium; no powder can be prepared as smooth, and having a natural oil it does not absorb moisture.

Ointments are not always well tolerated; especially should they not be used about genitals. Pastes are perhaps better tolerated and do not require renewal as often. Lassar's paste is perhaps as good as any.

In treating *chronic eczema* we find the stimulating remedies of most benefit. Pine tar and oil of cade are exceedingly useful, but they must be carefully watched and used in graduated strengths. Resorcin, B-naphthol and many others have proved efficacious, but I repeat that green soap is as good as any.

Prognosis.—No disease can make a patient lose faith quicker than eczema, and when the physician has a patient who will not obey directions he had better retire from the case. But all cases are curable, and yet most cases are tedious.

16½ South First Street.

SUPERHEATED "DRY AIR" AS A THERAPEUTIC AGENT.

By BITTLE C. KEISTER, M. D., Roanoke, Va.

The value of "superheated dry air" in the treatment of various constitutional and local diseases is now generally recognized both in this country and abroad. Various forms of apparatus have been constructed, but only with-

in the past few years have we been supplied with an apparatus for the successful administration of a high degree of superheated dry air without risk to the patient.

During the past two years it has been my privilege to administer, under my own supervision, the "dry hot air" treatment to a number of selected cases, among which I beg leave to report the following:

Case 1. October, 1901, Mr. J. V. H., age 56, foreman of the Virginia Bridge Co., Roanoke, Va. *Diagnosis*—*Chronic rheumatism*. Sub acute attack, swelling, stiffness and severe pain in both knee joints, with high fever and much suffering. Patient could not walk without crutches. After a two weeks' treatment with the salicylates and iodides, and finding only temporary relief, I prescribed the "dry hot air" treatment. The patient was brought to my private sanitarium, where I administered five consecutive bakings by the "Sprague apparatus," each baking lasting from forty to sixty minutes, and at a temperature ranging from 240° to 290° F. Each baking was followed by a thorough massaging of the entire body with dilute alcohol, lasting about one hour, after which a tepid bath was administered to cleanse the body.

The patient was then placed in the bed between two blankets and allowed to sweat and rest for two hours. These bakings were repeated every three days. After the third baking the patient was able to walk from the hot air room to his sleeping room without his crutches, and after the fifth baking returned to his home without assistance. The patient has been doing his usual duties up to this time, and so far as I know has not lost a day from his business from any return of his old tormenter, rheumatism.

Case 2. March, 1902, Mr. D. W. H., age 48, mechanic for the Norfolk and Western Railway Co., Roanoke, Va. *Diagnosis*—*Uric acid poisoning*, with symptoms of melancholia, lumbago and pains in the joints, etc.

This patient had been in a nervous state for about six months, and was unable to attend to his usual duties. His melancholia was gradually growing worse, and he would often tell his family that he did not care to live, which caused much anxiety on the part of his wife lest he should be tempted to end his life in suicide. A microscopic examination of his urine revealed an excess of uric acid crystals.

After treating the patient about one week with the usual remedies and not finding much improvement in his symptoms, I advised the superheated dry air treatment. The patient readily agreed to take this course of treatment. After a three weeks' course of the hot air treatment, with two bakings each week, followed each time with massage and tepid bath, the patient was dismissed a well man and has remained well up to this writing, about sixteen months.

Case 3. June, 1902, Mr. A. V. D., age 68, occupation merchant and coal dealer, Roanoke, Va. *Diagnosis*—*Emphysema of left lung* and *uric acid diathesis*. *Symptoms*—Frequent attacks of dyspnoea resembling spasmodic asthma, and a severe bronchitis, with a constant dread of impending death. This patient had been suffering in this way for about twelve months; at times he would feel much better, the intervals lasting several weeks. After a thorough trial of the remedies recommended by our text books, and finding only temporary relief, I decided to recommend the superheated dry air treatment. The patient was delighted to try something new in his case, as he had about abandoned all hope of getting well. After three bakings and massaging, the patient returned to his home apparently a cured man. He had one attack of dyspnoea four months after this hot air treatment. This is the only attack which he has had since the treatment—now fourteen months ago. I know of no remedy better than the superheated dry air treatment for pulmonary emphysema.

Case 4. November, 1902, Mr. W. L. G., So. Boston, Va.; occupation, farmer. *Diagnosis*—*Rheumatoid arthritis* of left knee joint of four years' standing. This patient's knee was about twice as large as the well knee, measuring 23 inches in circumference. The joint could not be used without great pain. Ankylosis was rapidly developing. I prescribed the dry hot air treatment with massage to be used every second day for ten days. This was carefully administered five times in succession at a temperature ranging from 260° to 350° F., lasting from forty to sixty minutes each time.

The affected knee joint was massaged carefully with alcohol, iodine and lanoline, after which the joint was encased with antiphlogistine for twenty-four hours. This treatment was followed out carefully after each baking. At the expiration of two weeks the affected joint was reduced to nearly the normal size, and the

patient left for his home in Halifax county a happy, and I may add, almost cured man. He writes me that he has thrown his crutch and cane away, and can walk nearly as well as he ever could.

Case 5. June, 1902, Mr. H. E. E., age 30; occupation, bookkeeper in the National Bank of this city. *Diagnosis*—*Cerebral anemia*, complicated with cerebral neurasthenia, caused by overwork of the brain forces and uric acid poisoning. This patient had been treated by quite a large number of physicians, and for as many different diseases. His case had been diagnosed nervous prostration, hysteria, neurasthenia, stone in the gall duct, stone in the kidney, malaria, etc. It was only after a most careful examination of the patient, including a microscopic examination of the blood and urine, that I was able to reach a diagnosis. His most constant symptoms were severe pain in the front and top parts of the head, and the lack of power on the part of the brain centres to concentrate his thoughts on any particular subject or remember any one thing. He also complained of some pain in the back along the course of the spine. The microscope revealed a considerable diminution in the ratio of red blood corpuscles. Also in examining the urine I found an excess of uric acid crystals with granular casts and some traces of albumen.

The patient's father died of chronic Bright's disease. After a short course of building up treatment I decided to give him the benefit of the sweatings of the superheated air treatment, believing that I could greatly benefit him by eliminating the poisons from his system through the pores of his skin. After a course of five weeks' treatment of the superheated air, combined with a thorough toning up of the blood and nerves with iron, arsenic and bone marrow, the patient was dismissed apparently a cured man.

This patient resumed business two weeks after his treatment, and I am informed has kept closely engaged at his work all the while, about fourteen months, to this writing. I feel quite sure the superheated air treatment and massaging did more for this patient, by eliminating the uric acid and other poisons from the system, than all other medication combined.

Case VI.—November, 1902, Mr. B. F. A., Salem, Va., age 62, occupation merchant. *Diagnosis*—*Chronic Bright's disease* of three years standing. *Symptoms*—Albumen in urine 40

per cent. in bulk or about $\frac{2}{3}$ of 1 per cent. by weight; also casts of every variety, with frequent hemorrhages from the kidneys. This patient had been losing flesh for two years and consequently was reduced to almost a skeleton.

I felt some degree of hesitation about taking this case for treatment and decided to let him come to my office once a week for a few weeks on trial. I prescribed a course of building up treatment of iron, strychnia and red ext. of bone-marrow, with a strict milk diet for three weeks. The patient gained rapidly on this course of treatment and I decided to give him the benefit of the dry-hot air treatment in conjunction with the building up treatment. After the second baking the blood disappeared from his urine and the albumen diminished fully one-half.

The patient took his bakings consecutively every three or four days. He made rapid progress, but owing to financial disability he could not pursue the treatment longer at that time. This patient has taken on a new lease of life and can attend to his ordinary duties. Instead of living a life of an invalid with constant suffering and dread of impending death, he is able to live an out-of-doors life and commingle with the outside world. I think I can safely say that five years or more have been added to this man's life through the agency of the dry-hot-air, combined with the building up course of treatment.

I have a young man under treatment at this time for chronic Bright's disease. He is taking the superheated air treatment once a week and is making rapid progress towards recovery; at least I am of the opinion that the disease will be arrested.

In conclusion, I beg leave to state that in my judgment we have in the superheated dry-air method a most wonderful agent in the treatment of many chronic diseases that have baffled the skill of the medical profession in past ages.

VINUM COLCHICI SEMINIS, SINE COLCHICINA.

By ROBERT M. STERRETT, M. D., New York, N. Y.

During the student days of the writer, one of the remedies that was used by his preceptor in the treatment of a certain case of rheumatism, impressed itself upon him, partly be-

cause of the limited number of remedies he had to consider at that early period of his professional career, and partly because he was told that "Colchicum, although a most useful remedy in rheumatic conditions, was liable to do harm at one time and good at another, on account of the uncertainty of its action. Even the wine of the seeds—the preparation that was considered the best—could not be depended upon, and being a powerful poison, must be watched."

The good preceptor continued by affirming that the remedy under consideration varied so much in its therapeutic strength that a prescription filled from one bottle might produce most salutary and beneficent results upon the patient; another would be followed by no appreciable effect whatever; while a third was liable to act as a poison—purging and vomiting the patient much to his alarm and disgust, and with an appreciable loss of prestige on the part of the doctor who had prescribed it.

Being familiar with the fact, from a short experience in the laboratory of a friendly apothecary, that most of the plant medicines were exhibited in the form of tinctures or fluid extracts made by maceration, percolation, etc., in alcohol of various degrees of strength from 95 per cent. to 50 per cent., the writer wondered why colchicum was an exception to the rule, being made with Sherry wine instead of alcohol. He was informed that, although there was a tincture in the pharmacopœia, the efficient elements of the drug in this instance, were best extracted by the wine.

If the following "proving," as our homeopathic brethren would put it, be true (and it comes to the writer from a sufficiently reliable source to entitle it to ready credence—especially when the early teachings as to the fickleness of colchicum preparations are mentally reverted to), sherry wine may, or may not, be the best menstruum—according to the use to which "Vinum Colch. Sem." is to be put:

A sedate, thoughtful, economical, thrifty, apothecary, in looking over his shelves of "tinctures" and "salt mouths" one day, noticed that the wine of colchicum bottle was nearly empty. It was early spring when old rheumatic troubles that had, like the "perennials" and the snakes, lain dormant all winter, began to manifest themselves somewhat after the manner of the "devils" that inhabited certain unfortunate individuals in Scripture. The apothecary observed this, mentally, and he also remembered

that good Doctor —— was wont to prescribe a goodly quantity of colchicum wine for casting out the aforesaid devils, and with true commercial foresight, he proceeded straightway, to order a supply from his wholesaler.

It so happened that, a short time prior to the above proceeding, he had taken on an apprentice who, in the routine of his daily duties, assisted in replenishing the shelf bottles, and, in due time, performed this function in relation to the wine of colchicum bottle. With an olfactory sense that might have developed into a positive value as a "parfumeur," and a gustatory ditto that would have been the envy of an epicure, the apprentice first scented "afar off," as it were, and then proceeded to acquaint himself at close range, and at regular intervals, with what struck him as the best thing he had ever come in contact with—outside of dreamland.

The sedate, thoughtful, economical and thrifty apothecary, in passing along the shelves a few days later, noticed that the colchicum bottle was only half full. This meant an exchange of stock for cash—or in other words, the acquisition of more wealth.

He looked through his prescription file to see who had been prescribing the medicine. Not finding any such prescription, he was naturally puzzled. The two facts—the half empty bottle and no prescriptions—did not harmonize.

Suddenly looking in the direction of the bottle in question, he noticed the apprentice with a duster under his arm, his back turned toward the "boss," engaged in what appeared to be the act of decanting from the wine of colchicum bottle into his own system, several ounces of that poisonous preparation of the phamacopœia. The old man rushed over to the boy, exclaiming, "Do you know what you have just done? Do you realize that you are liable to be a corpse in less than an hour?" And the perspiration stood out on his face like a young country buck getting married in August.

"I guess not," drawled the boy, as he continued to dust the remaining bottles along the shelves.

"Why,"—began the apothecary, in gasps—"that is wine of colchicum—a deadly poison, and—"

"Don't you believe it, boss"—the boy interrupted. "I been samplin' that stuff for three days, and I never felt so well in my life. Discharge me if you want to, but that's the God's

truth"—he added with due solemnity. * * *

It has been found that, as matter of fact, many specimens of the tincture and wine of colchicum contain no appreciable *colchicine* strength. Those that do contain more than a mere trace, vary in the amount of the alkaloidal constituent from fifteen to one per cent.—or even less.

That *colchicine* is a most valuable *eliminant* and *alterative* in many conditions of suboxidation, imperfect or perverted tissue metabolism, is a fact vouched for by those who have used this active-principle in the treatment of gouty, rheumatic and obese patients, and those suffering in all stages of that prevalent condition of the blood designated "uricacidemia."

It was an early experience in the writer's practice, and an abiding one, that in these cases the most prompt relief is obtained when gland activity is stimulated, the secretions of the liver, intestines and kidneys increased, and perfect *elimination* established as soon as possible. *Colchicine* does this as certainly as the old galenical preparations were wont to fail.

The writer uses the little granules of gr. 1-134, giving one every two hours until the physiological effects are produced—beginning nausea or catharsis, or both—or the reduction of temperature, the abatement of pain and swelling and the ensuing relief of the patient. It is safe and reliable when pure, and administered in "dose enough" only—to obtain remedial results.

After the acute exacerbation has passed away, the remedy should be continued at longer intervals—three or four doses daily—regulating the diet in the mean time.

The acid perspiration which appears upon the skin in these conditions should be absorbed by woolen underwear which should be changed frequently.

As soon as the pain and swelling have disappeared, a sponge bath of epsom salts, one ounce to the pint of warm water, in the evening, will not only help to keep the pores open—thus assisting in the general eliminative process—but will give the patient decided comfort.

Careful observation in many cases of rheumatism successfully treated in accordance with the above mode of procedure, has led to the belief that many patients already weak from pain, and suffering, do not gain as rapidly as they would if really nutritious items of food were allowed them to build up on. Meat is usu-

ally excluded from the diet of the patient convalescent from an attack of rheumatism. The writer believes, and has tested his belief to his satisfaction, that such a patient is improved by such amounts of beefsteak (broiled), roast or boiled beef or mutton, as he is *able to digest*.

In some subacute or chronic cases where soreness and stiffness remain in the joints for some time after the acute stage has passed away, the glucosid, Bryonin, gr. 1-67 every three or four hours, has been productive of good results.

521 West 123rd Street.

A Brief Note on Ebonation in Mangling of the Digits, in Burns—Deformities of the Appendages in Spastic Paralyses.

By THOMAS H. MANLEY, Ph. D., M. D., New York.

The effective utilization of damaged portions of the integument after extensive shattering of bone constitutes a most valuable resource in several disorganizing traumatisms.

In appropriate cases, it is important to resort to this mode of transplantation before the mangled parts become infected or secondary changes have set in.

In the preparation of a crushed finger or toe to be applied for flap purposes, it is necessary that the osseous and tendinous structures be excised in such a manner that the nerves and vessels be spared. The direction and course of the incision should be in the long axis of the limb and through the centre of the flexor or dorsal surface. By keeping very close to the osseous and arthritic surfaces we will safely clear parts important to preserve.

The object in view in this variety of conservative surgery is to preserve to the utmost sound tissues, to utilize in a large measure resection for amputation, with a view of securing the largest degree of strength of action. Moreover, when an exposed part, like the hand, is involved, an endeavor is made to prevent deformity; this latter is unimportant in pedal traumatisms.

Ebonation presents its widest range of usefulness in very grave, open, multiple fractures of the bones of the hand or foot. In the foot, parts in which strength is called for rather than action, and parts, too, hidden by the clothing, it

has been my good fortune to resort to this expedient on several occasions with the most gratifying results; in those cases wherein by doubling over the integuments of these mangled members, an ample flap was secured, which enabled me to spare the arch of the foot.

In order to secure the best results here, as in any other osteoplastic procedure, we must have a sound constitution to work on, with an unhampered, full circulation. Hence it is ruled out in tuberculous or diabetic patients, nor should it be undertaken if gangrene has set in until this process is brought to arrest.

In serious burns, which leave the hand deformed, with the fingers or thumb greatly distorted or useless, the most remarkable recovery of function and disappearance of deformity may be realized by skilful and judicious *dis-sossement*—osseous excision, tendon grafting. It is a procedure at the present time quite entirely devoid of danger, and should be resorted to with much greater frequency. When two or more fingers are so distorted and crippled by knotted cicatricial contraction as to not only disfigure the hand but also render it quite useless, then we may without hesitation and with advantage dissect away the scar tissue, remove the phalanges from one finger, and so spread it out that it will fill in the dead space and provide an ample tegumental investment for its now liberated fellows.

We should always, in these cases, aim at securing primary union and begin passive movements in the appendages at an early date after union is complete.

Deformities of the hand or foot in motor paralysis.

There is another class of digital deformities dependent on central, pathological conditions, which, by the aid of modern surgical devices, may be in a measure overcome, or even cured—viz., those originating or dependent on cortical irritation or antero-polio myelitis. They are most commonly unilateral, and may be associated with epileptic seizures. The elbow is flexed; there is marked muscular wasting. The extensor groups of muscles are overcome by the contracted flexors. The condition may extend into the foot, the patient being compelled to walk on the ball of the foot and the toes. This class in the near past has been quite entirely neglected, because, assuming their central causes, nothing could be done for them.

And yet there is no class of cases which yield

happier results by treatments directed immediately to the affected parts by mechanical devices, temporary, orthopaedic appliances, electricity, massage; and, in the foot, occasional tenotomy. Treatment may be instituted with the best prospects of relief during the growth of the body, before puberty, but several have done well in my own hands at a later period.

115 West 45th Street.

Analyses, Selections, Etc.

Urinary Syndromes in Scarletina and Diphtheria in Childhood.

According to *Cincinnati Lancet-Clinic*, March 12, 1904, Labbe (*These de Paris*, 1903, *Rev. Mens. des Mal de l'Enfants*, Jan. 1904) concludes as the result of his study:

Quantity of Urine: In *scarlatina*, amount is diminished up to sixth day of eruption, followed by very marked increase on eighth or tenth day. In *moderate diphtheria*, amount is first diminished, succeeded by increase—maximum about eleventh day; but in the severest cases, this cycle is not observed.

The specific gravity is generally in inverse ratio to amount of urine.

Acidity in *scarlatina* is slightly increased; even more marked in *diphtheria*.

Urea excretion is at minimum about fifth day of eruption of *scarlatina*—normal equilibrium being restored about fifteenth day. Urea is thus in relation to volume, and independent of fever curve. In *diphtheria*, there is often an enormous excretion of urea on first day.

Uric acid markedly fluctuates in both diseases—increased in both diseases at first, but more marked in *diphtheria* than *scarlatina*—the fever itself having no direct effect.

Bile pigments not often found in either disease.

Urobilinuria rare in *scarlatina*, but occurs in 87 per cent. cases of *diphtheria*.

Indicanuria slight and temporary in *scarlatina*; more marked and persistent in *diphtheria*.

Diaza reaction positive in 40 per cent. of *scarlatina*; always negative in *diphtheria*.

Albuminuria very rare in *scarlatina*—(an observation at variance with generally accepted

view. It is usually held to be very common in earliest days of *scarlatina*). Very frequent in *diphtheria*.

Elimination of phosphates and chlorides does not show individual peculiarities in the two diseases.

Permeability of renal epithelium to methylene blue only slightly affected in either disease; normal conditions tend to rapid establishment.

Cryoscopic examination shows the secretion of urine is not usually greatly affected in the two diseases.

Alimentary chloruria—Repeated experiments (giving the children variable quantities of NaCl) show in both diseases that chloride elimination goes on during all stages of both diseases. The chlorides produced a variable amount of diuresis, but are practically constant. The great value of saline injections as a therapeutic measure is thus, according to Labbe, apparent.

Some Conditions in Women that Much Concern the Practitioner.

The conditions referred to by J. Ridgely Simms, A. M., M. D., Racine, Wis., in *The Medical Herald*, are dysmenorrhea, and the state following abortion when parts of the placenta, etc., require removal or expulsion.

The effects of *retained placental or fetal tissue* in a partially successful miscarriage consist in hemorrhages, purulent discharge, uterine enlargement, subinvolution, metritis, endometritis and sepsis. The indications are thorough emptying the womb and rendering the cavity aseptic. Ordinarily, curettement to remove decomposing tissue, and antiseptic applications to the endometrium are required. When curettage is refused and the doctor has to do the next best thing, he prescribes ergoapiol (Smith)—a combination of the active principles of ergot (ergotine), parsley (apiol) and other emmenagogues and uterine tonics. From experience, indeed, he has learned to rely on this preparation for removing the retained placental fragments, etc., from the uterus, and reducing the uterus to its normal size and functions. This remedy is so trustworthy that when it disappoints—as it rarely does—the Doctor looks about to ascertain wherein he himself has erred.

As to *dysmenorrhea*, the clinical diagnosis is easy, although the cause is not always easy to detect. Dysmenorrhea from mechanical obstruction is not amenable to medical treatment. Dysmenorrhea fortunately is more frequently

dependent upon congestion. The specially disagreeable and intractable form which is accompanied by fetid discharge as result of decomposition of retained menstrual blood also comes under discussion here. Antiseptic and deodorant douches, when used alone, cannot be expected to effect permanent relief.

In congestive dysmenorrhea, and in that form accompanied by fetid discharge, we should diminish congestion by promoting uterine contractions, relieving the uterus of accumulated blood, and stimulating glandular activity in the mucosa—and restore uterine tone and the nutrition of the tissues to normal—thus relieving spasm and pain.

He was consulted by a young woman who had scanty fetid menstruation accompanied by a great deal of pain since her first childbirth, seven years ago. Her perineum was torn, and the cervix uteri lacerated, which were not repaired. Beside the lacerations, she had chronic endometritis. He repaired the tears and curetted the uterus which materially relieved her. Soon, however, the fetid discharge and pain during menstruation returned. Local applications, alteratives, uterine tonics, etc., were tried and failed, until finally ergoapiol (Smith) was given. Immediate relief and gradual but permanent improvement followed. This patient evidently had congestive dysmenorrhea, intensified by the lacerations. The ergoapiol restored the tissues to normal, and re-established normal menstrual function.

Illustrative of the type he terms "nervous," but which most authorities term "neuralgic dysmenorrhea," is the following case: Young woman, married two years, but had not conceived. She has had pain during menstruation from the time the show began. Recently the flow had become fetid. Menstruation had become scanty and rarely of blood red color. Before and after her periods, she had backache and headache; her complexion was not bright and clear, and she appeared older than she really was. She was easily excited, and received impressions vividly and indelibly. Digestion poor; often sleepless, irritable and peevish. Vaginal examination revealed slightly thickened os, and slight endometritis with erosions of the cervix. Cod liver oil, malt extract, hypophosphites and aromatics were given freely during the intervals, and three days before the expected periods ergoapiol (Smith) in capsules was given—one capsule three times daily until

the discharged ceased. At the fourth period after beginning this treatment she was entirely relieved. Locally, tincture of iodine and sometimes tampous of ichthyol and glycerine were applied. The cure was in every way satisfactory.

Improvement on Peruna.

I. Ladoff, Schenectady, N. Y., gives the *Medical World* the following formula as an improvement on this widely advertised quack remedy:

℞ Comp. fl. Ext. Gentian.....	390
Fl. Ext. Taraxacum	Cong. j352
Dilut. Phosphor. Acid.....	375
Comp. Tinct. Cardamon	390
Simple Syrup	Cong. ij3104
Glycerin	Cong. vij34
Sherry Wine	Cong. ix3108
Trit. Aloin	34
Trit. Cascarin	34

Book Notices.

The Eye, Ear, Nose and Throat. Edited by CASEY A. WOOD, C. M., M. D., D. C. L., ALBERT H. ANDREWS, M. D., and GUSTAVUS P. HEAD, M. D. *Volume III* (December, 1903,) of *The Practical Medicine Series of Year Books*, under the *General Editorial Charge* of GUSTAVUS P. HEAD, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Chicago: The Year Book, Publishers, 40 Dearborn Street. Cloth. 12mo. Pp. 332. Price, \$1.50.

The "Practical Medicine Series of Year Books" comprises ten volumes on the year's progress in medicine and surgery, issued monthly—price of the series of ten volumes being \$5.50, if paid in advance. For one having a standard set of text-books on any of the subjects embraced in medicine and surgery this year book serves as a most valuable addendum—each monthly issue bringing out the advances made during each year—whether found in the newer text-books or in the journals of the world. In the prefatory remarks, attention is called to that which is considered the most important of new ideas or devices. Thus, in the part of this volume devoted to the eye, it is noted that "perhaps the most striking advances

have been in the application of the X-ray in treatment of ocular neoplasms and other lesions." New remedies are also described. So in the part that treats of the nose and throat, it is noted that "perhaps the most notable work of the year has been that of Dunbar, in Germany, on the cause and cure of hay fever." Every page contains important new information.

General Surgery. Edited by JOHN B. MURPHY, M. D., Professor of Surgery, Northwestern University Medical School. *Vol. II* (November, 1903,) of *The Practical Medical Series of Year Books*, under the *General Editorial Charge of GUSTAVUS P. HEAD*, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Chicago: The Year Book, Publishers. Cloth. 12mo. Pp. 556. Price, \$1.50.

This volume of the *Practical Medical Series of Year Books* is of special value and interest. It is a review of the world's literature of surgery so far as the former year is concerned, and is made practical and of special importance by the editorial notes of the master mind in American surgery. This volume is remarkably cheap for its size; but when reminded that the price of the series of ten volumes a year is only \$5.50, we simply wonder how the thing can be done. The volume under notice is worth the year's subscription. Reference to articles or subjects is made easy by a very complete index—alphabetically arranged as to authors of articles from which quotations are made, and as to subjects.

Diseases of the Eye. By L. WEBSTER FOX, A. M., M. D., Professor of Ophthalmology in Medico-Chirurgical College of Philadelphia, etc. *With 5 Colored Plates and 296 Illustrations in the Text.* New York and London: D. Appleton & Co. 1904. Cloth. 8vo. Pp. 584.

There are many books of merit on eye diseases. The one under notice, however, possesses commendable qualities not found in most of them. Each chapter, for the most part, is a complete essay on the subject mentioned in the heading, and this is in the interests of the student or the practitioner. Such arrangement, of course, may call for repetition of something said before; but this system saves the reader much time in looking back or forward for the facts needed to make the sequence; besides, such re-statement of fact time and again leaves its impression on memory so that the matter becomes

fixed information. In the line of therapy, X-ray work is undoubtedly the most beneficial of recent discoveries; while subconjunctival injection of salt solutions in iritis and corneal ulcers, peridectomy in pannus, grattage in trachoma, and the use of opaque slips combined with correcting lenses for conical cornea, etc., are given due prominence. The book is handsomely issued, and is a good book for the general practitioner who does eye work as well as for the student and specialist.

Handbook of Ophthalmic Science and Practice. By HENRY E. JULER, F. R. C. S., Ophthalmic Surgeon to St. Mary's Hospital, etc., London. *With Illustrations. Third Edition—Revised and Enlarged.* Philadelphia: Lea Brothers & Co. 1904. Cloth. 8vo. Pp. 752. Price, \$5.25 net.

The first English edition was published twenty years ago. Because of its concise, accurate descriptions of the important affections of the eye, and the original illustrations of cases, the author soon became eminent authority. From this work a great deal that is modern has been borrowed by other writers. The present edition contains about 200 more pages than the second. As a work of reference for the general practitioner, it is most satisfactory, while the specialist can ill afford to do without it. The work is written in readily intelligible language, and being specially rich in matters of particular importance to the general practitioner—such as aiding him in questions of diagnosis, in testing for color blindness, for imperfections in vision, in the fitting of glasses, etc., as well as in advice about treatment, etc.—it is a work that will be of very general professional service.

Subjective Sensations of Sight and Sound, Abiotrophy and Other Lectures. By SIR WILLIAM R. GOWERS, M. D., F. R. C. P., F. R. S., etc. Philadelphia: P. Blakiston's Son & Co. 1904. Cloth. 12mo. Pp. 250.

This book is one of a *Second Series of Lectures on Diseases of the Nervous System*, which have appeared in print at various times, carefully revised to date, or even rewritten. It is intended for the neurologist rather than the college student. The subjects of other lectures not named in the title are: Myopathy and a Distal Form; Metallic Poisoning; Syphilitic Disease of the Nervous System; Inevitable Failure; Syringal Hemorrhage into the Spinal Cord; Myasthenia and Ophthalmoplegia; and

the Use of Drugs. The title of the lecture on *Inevitable Failure* is one that applies to every physician of experience. The symptoms may indicate one of two or more conditions—one of which is necessarily fatal in its results, while the others may be curable. Many lessons of importance are easily learned by an attentive reading of this book—full of fact and suggestion. Every chapter is readable, instructive and leaves a lasting impression.

Infant Feeding in its Relation to Health and Disease.

By LOUIS FISCHER, M. D., Visiting Physician to the Willard Parker and Riverside Hospitals of New York, etc. *Containing 54 Illustrations, with 24 Charts and Tables, Mostly Original. Third Edition.* Philadelphia: F. A. Davis Co. 1903. Extra Cloth. Small 8vo. Pp. 357. Price, \$2 net.

This is an excellent book for the practitioner or trained nurse. This third is such an improvement on the former editions that they are not comparable. Working formulæ required for home modification of milk will greatly aid the physician. The chapter on milk idiosyncrasies is a new one. Another new chapter on buttermilk feeding has been added. There is also a chapter in this edition on feeding children afflicted with cleft palate, which is useful. The book is divided into two parts. The trained nurse or the educated mother will find much of profit in Part I, which treats of such things as constituents and variations of milk, breast and mixed feeding, management of nipples, sterilization of milk, etc. Part II is of more specific interest to the doctor—relating to feeding in different diseases, etc. It is a plain, practical, excellent book.

Editorial.

Sanatoria for Tuberculous Cases.

It can be with no other feeling than one of congratulation and exhilaration that we look at the ever victorious war of extermination which the race under the guidance of the medical profession successively carries on against the various destructive diseases. At times it has almost seemed that the tide might go in favor of those insidious enemies, as for instance in the 14th century when the black plague destroyed one quarter of the whole population of Europe, or when an epidemic of yellow fever could gain

such headway as to kill 3,435 people in the city of Philadelphia in three months, as occurred in the year 1793.

But consider what we have accomplished today. Leprosy which filled 20,000 pest houses in Europe in the 15th century, is practically extinct in the civilized world. Small pox, plague, typhus, cholera, yellow fever, play no longer an important role in the destruction of our race. Typhoid fever is being attacked systematically and the results are proportionate to the thoroughness of the preventative measures. Munich, with 202.4 mortality from typhoid per 100,000 in the ten years 1851-1860, had but 5.6 per 100,000 from 1891-1896.

This is after all the *summum bonum* of medical science: not so much the cure of any diseased individual as the institution of preventative measures which destroy the disease. The individual cures that any physician may accomplish lose effect in 40 or 50 years when he and his patients have passed away, but every successful effort toward the prevention of disease accumulates to its credit year after year additional lives saved in geometrical progression.

Had Jenner lived a thousand lives and labored each day attending 50 small pox patients he could not have saved as many lives by however skillful treatment as have already been saved by preventative vaccination.

With the brilliant work that has been done to afford encouragement and show the way, the profession throughout the civilized world is turning its attention to the control and extermination of the greatest source of human death and suffering, tuberculosis—which is now acquiring the significant name of the "white plague."

There seems to be no reason why this general movement has not come before, other than the one delaying all great reactionary steps—the time was not ripe.

The status of civilization and popular education did not admit of it more than it admitted a reformation before the 16th century or a great republic before 1775.

It is not because its contagious nature was unknown, for Galen recognized that, and in parts of Italy and Spain there were for centuries stringent civil enactments and laws based on the recognition of the contagious nature of the disease.

Yet the reawakening dates back but 15 years. The world pays a yearly tribute of 2,000,000

lives to this scourge, the United States gives over 100,000, and New York City 9,000. There are 20,000 living cases in Virginia and 250 to 300 people die yearly in Richmond City of this disease. Yet we know that each consumptive acquires the malady by breathing the dried sputum of some other consumptive.

Although Koch's discovery of the tubercle bacillus in 1882 was not necessary for a recognition of the contagious nature of the disease, still it has materially aided the general recognition of the various steps in the ubiquitous distribution of the contagium—in the sputum of the consumptives, in the spray from their cough, in the dust of their homes, and the air of our cities. Tuberculosis is now known to be a preventable disease as leprosy has proven itself to be. Furthermore tuberculosis in the majority of early cases is curable. The world is at last determined to deal with tuberculosis as leprosy has been dealt with. Leprosy and black death, the scourges of the past, have become myths of the present, so must the white plague become a dread memory in the future.

Preventative measures in New York City have decreased the yearly mortality from tuberculosis in that city by 5,000 lives. Massachusetts has lowered its mortality from the same cause 50 per cent. and other examples are numerous. This is as yet but a beginning. It remains with each community to decide how much longer the fearful decimation shall continue before the scourge is stamped out.

It was the physicians who taught the contagiousness of leprosy, it was the physicians who emphasized small pox quarantine and insisted on vaccination, and it must be the physicians who shall teach the people the danger from tuberculosis and point out the means: first, for its cure, and second, and more important still, for its prevention.

This effort is materializing throughout all civilized countries and has been aptly styled the "greatest humanitarian work the world has ever seen."

Influence of Sanitation Upon Mortuary Statistics.

The Bureau of Health for the Philippine Islands for October last reports that "the rate of mortality among the Filipinos during the month was nearly five times greater and among the Chinese nearly two and one-half times

greater than the death rate among the combined American, Spanish, and other European population of Manila. These figures show the influence of the greater attention paid to matters of sanitation by the latter class of the population. The Filipinos cannot, however, be held entirely responsible for the less favorable sanitary showing made by them, since they largely include the poorer classes of the population which are financially unable to provide themselves with sanitary conveniences * * *. Corresponding to the disproportionate high rate of mortality among the Filipinos the death rate is higher in those city districts having larger Filipino populations of the poorer class."

Army Surgeon For Louisiana Purchase Exposition.

Major Thomas U. Raymond, Surgeon U. S. Army, has been ordered to St. Louis, Mo., for special duty at the Louisiana Purchase Exposition, with a view to exercising supervision over the sanitary conditions on the grounds.

Obituary Record.

Dr. Spottswood Wellford Carmichael

Died at his home, in Fredericksburg, Va., March 18, 1904, during his seventy-fifth year of age. Overwork and a general grippal condition did not permit him to rally from light spells of sickness during the past winter. He graduated in medicine from the Jefferson Medical College of Philadelphia in 1852. Soon afterwards, he located in Fredericksburg, where he has ever since resided with the exception of the interruptions of the Confederate war. For years he was the most prominent practitioner of his section. In 1875, he joined the Medical Society of Virginia, and the same year was elected one of the Vice-Presidents. On organization of the Virginia State Board of Medical Examiners, he was chosen as one of the examiners, in which position he served faithfully and well until he resigned in 1890. In all the details of professional life he was exemplary. The lives of such men leave their good impression on succeeding generations. His remains rest in the Fredericksburg cemetery.

THE Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

Vol. 9, No. 2.
Whole No. 194.

RICHMOND, VA., APRIL 22, 1904.

\$2.00 a Year.
10 Cents a Copy.

Original Communications.

THE RECTUM AS A CONTROLLABLE AND CLEAN BLADDER IN EXSTROPHY AND MALIGNANT DISEASE.*

By J. W. HENSON, M. D., Richmond, Va.

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Most perfected inventions are the result of the successive addition of improvements by a number of minds, not one of whom, perhaps, would ever have thought of the original idea. Just so with many surgical operations which are successful in meeting indications. The pioneers, with much thought, care and courage, plant and nurse the seedling upon which is engrafted, later, various branches by a number of workers, the tree finally bearing desirable fruit.

Intending this paper to be short, I shall consume little time in discussing the merits of the question of total removal of the bladder for malignant disease. I am convinced there are cases in which such a procedure is indicated; for example, when there is a primary growth of decided proportions, particularly if it be on the base of the organ (where it usually is) and there is no secondary involvement of other organs and little or no glandular involvement. Partial extirpation of the bladder will not cover all such cases. Total extirpation has been done a dozen times with a mortality of 50 per cent., which is encouraging in view of the fact that the operation is in the experimental stage.

The mortality of every grave operation is much less after it has been done many times, partly because surgeons learn how to do the work quicker and better and partly because their judgment becomes educated in the matter of selecting cases. The subject for discussion in this paper, however, is the provision to be made

for the urine in exstrophy and those cases of malignant disease in which removal of the bladder is indicated.

In either case, the indications are to provide a new reservoir for urine with the following characteristics:

1. It should have a physical capacity of several ounces.
2. It should be tolerant of urine to the extent of several ounces.
3. It should be under involuntary control for retention and under voluntary control for retention and expulsion.
4. It should be clean.

Few of these indications had been met (and these very imperfectly) until Maydl and others by turning the stream of urine into the sigmoid flexure or the rectum met them all except the last. By this procedure the sufferers are made comfortable, having control over their urine, but they all die in a few months or years, at most, of pyelo-nephritis from ascending infection, even with Maydl's plan of implanting the whole trigone. To obviate this the rectum should be clean. I beg to suggest providing this fourth characteristic of the new bladder as follows:

A few weeks before operating on the old bladder or the ureters, do an inguinal colostomy, sever the bowel and close the upper end of the lower segment. As soon as union is firm, begin systematic irrigation of the rectum, which will in a short time render it a clean sac ready for conversion into a bladder. I do not find it recorded anywhere that exactly this plan has ever been suggested.

Modlinski^{1 and 2}, in 1899 reported a very similar plan—viz., that at the time of the implantation of the ureters into the rectum the gut should be severed, at or below the sigmoid flexure, the upper end of the lower segment closed and the lower end of the upper segment stitched in the abdominal wound. Besides the objection of soiling the fresh external wound with the

*Read before the Tri-State Medical Association of Virginia and the Carolinas during the session at Danville, Va., February 23-24, 1904.

fecal current, this plan does not offer a clean reservoir at once. There is a bare possibility of infection ascending to the kidneys before the rectum becomes clean and a greater possibility of infection of the wounds in which the ureters are implanted with failure of union. However, it is a step in the right direction, I believe, and I wish to urge investigation of the merits of the two plans with the acceptance of the better.

Let us review the situation. If a new bladder possesses the four characteristics pointed out above, it seems to me it must be conceded that it is a success. It must further be conceded that Maydl and others by turning the stream of urine into the lower bowel, have suggested a reservoir with all the characteristics but the fourth, for many patients with exstrophy have been subjected to this treatment with the universal result that they are able to retain their urine, the average time being four or five hours, some even as long as six or seven hours.

Now, if the rectum is freed permanently from the fecal current and is made clean before the urine is diverted into it, we must grant that the desired new bladder is provided; and the only question which remains to be discussed is whether the sufferer's condition is improved by substituting one evil for another. What is the condition of a patient with a fecal fistula after colostomy? He wears over the opening a pad which is periodically removed to allow the bowel to empty itself, and except in case of diarrhœa, he can be clean, is comfortable, and is not offensive. Contrast this picture with that of a subject of exstrophy. The inflamed and ulcerated bladder mucosa protrudes against the clothing or dressings, the clothing is constantly saturated with decomposing urine, the skin on the abdomen and thighs is chafed and excoriated, and there is an ever present foul odor, making the sufferer disgusting to himself and others. Would a patient or surgeon hesitate in deciding between these two?

In the case of malignant disease, death being certain in a few years without radical measures, if it be found that extirpation of the bladder gives a patient a fair chance of life, would one hesitate to select life with a new serviceable bladder though complicated by a fecal fistula of colostomy? If he refuses this, he must have a urinary fistula to make life bearable for the limited time or he must accept excision of part of the bladder or submit to complete extirpation, the stream of urine being thrown into the bowel

with the fecal current. In the first case the urinary fistula will be found not less objectionable than the fecal one and the chance of prolonged life is lost. In the second case he takes the chance of recurrence, which is the rule. In the third case, while the fistula will be avoided, life will be sacrificed by infection of the kidneys just as certainly and probably in just as short time as if the malignant growth were left to work its will.

A few suggestions regarding technique I hope may be pardoned. The colostomy should be done in the left inguinal region and in two stages, of course, the steps of the last stage being to sever the bowel completely and close the upper end of the lower segment without entering the abdominal cavity. Reference has been made to the systematic daily irrigation of the rectum, to be commenced when the union is firm at its closed upper end. The solutions for irrigation should be mildly antiseptic and their employment for a week or ten days should render the isolated cavity clean. When about to operate upon the bladder, the fecal fistula should be packed tightly with gauze and the abdominal incision should be made as far to the right of the median line as is possible without embarrassing inspection and manipulation in the field of operation.

100 West Grace Street.

ACUTE APPENDICITIS—VARIETIES AND DIAGNOSIS.*

By S. P. LATANE, M. D., Winchester, Va.

The first part of the subject assigned me, "Acute Appendicitis: Varieties and Diagnosis," can be disposed of in a few words. Leaving out the comparatively very rare conditions, such as primary carcinoma, actinomyces, tuberculosis, etc., the gross pathology of appendicitis is quite simple.

The earliest changes are the so-called catarrhal, which are after all nothing more nor less than patches of epithelial desquamation. These, if progressive, go on to complete erosion of the mucous coat. Up to this point, unless

*Read before the Medical Society of Frederick and Clarke counties at a meeting to discuss Appendicitis held at Berryville, March 4th, 1904

there has been present a fecal concretion or a small plug of inspissated mucus, I doubt if the condition is productive of any symptom of moment. As soon, however, as the ulceration involves the sub-mucous and muscular coats, the circulation in the appendix is appreciably modified and the symptoms follow rapidly. The explanation for this is to be found in the arrangement of the blood supply of the appendix. The only vessel supplying it is a long slender artery passing posteriorly from the cecum to the appendix between the two folds of peritoneum, which are occasionally sufficiently developed to form a meso-appendix. There is normally no other blood supply; consequently, as soon as inflammatory exudate or adhesions cause pressure on or constriction of this artery or its accompanying vein, the circulation in the distal part of the appendix becomes impaired, its resistance is lowered, infection easily takes place and rapidly spreads; and according to the degree of circulatory disturbance one finds all conditions from mere œdematous thickening up through intense venous congestion to absolute stasis and gangrene. In the larger proportion of acute cases the lumen of the appendix will be found alternately constricted and dilated, one or more fecal concretions being present in the sacculated portions. These concretions are quite hard and symmetrical, laminated and of slow growth. Exceedingly rarely is there to be demonstrated a foreign body as the nucleus.

These, then, are the conditions leading to an acute attack, the varieties and diagnosis of which we will now consider.

For clinical purposes we will divide acute attacks of appendicitis into three varieties, which are described rather than defined.

1. Appendicitis with plastic peritonitis or circumscribed abscess formation.
2. Appendicitis with localized but not circumscribed peritonitis.
3. Appendicitis with rapidly spreading peritonitis—(fulminating or gangrenous).

You will see from this classification that it is based not on the condition of the appendix, but on the character and extent of the peritoneal involvement. Of the condition of the appendix itself, in any given acute attack, one can do little more than venture an inaccurate guess, but of the condition of the surrounding peritoneum one can with care and judgment reach a fairly accurate diagnosis. This, then, is the essential thing and on one's ability to recognize early

these peritoneal changes and to rightly interpret changes for better or worse, will depend his success or failure with his appendix cases. For failure to recognize the earliest signs of a spreading but as yet localized peritonitis will cost the patient his life, while to continue to urge operation in a case in which the process is subsiding is to force your patient to operation at a time when it is accompanied by unusual difficulties. The large majority of attacks will subside under medical treatment; while a minority will inevitably die under medical treatment and require early recognition and prompt action if operation is to be had in time.

Let me state the generally accepted statistics of the disease. Out of 100 cases 86 will recover without operation; 14 will demand operation or die without it. Of these 14 cases 13 (99 per cent.) will recover if operated on within (on the average) 48 hours—that is, up to the time when the peritonitis spreads beyond the right iliac fossa and becomes general. After 48 hours, of these 14 cases 11 (or 84 per cent.) will die under any treatment; while 2½ cases will recover only after a difficult and dangerous operation and a tedious illness. These figures cannot fail to impress upon one the urgent need to study each case and every symptom of each case so as to recognize promptly the first signs of a spreading peritonitis and the earliest indications for operation.

This is by no means an easy task, and requires trained clinical faculties, experience and careful judgment. Indeed so difficult is the problem, so apparently impossible at times, and so frequently has the fatal error of too long postponement of operation been made, that many good surgeons have been converted into extremists who insistently demand that all acute cases shall be operated on as soon as diagnosed. I myself have experienced the same revulsion of feeling after losing through delayed operation a case which had seemed to be in no immediate danger, and have promised myself that every acute case falling into my hands thereafter should be operated upon. Thought, study and wider experience have since modified that extreme position. But I still believe that when one has diagnosed an appendicitis he should consider that he is handling a surgical, and not a medical disease and should hold himself prepared to recognize and operate on that 14 per cent. of cases at the first indication of increasing peritoneal involvement. And I believe that by

frequent and careful examination of each case one can with a large degree of clinical accuracy sort out those cases demanding operation in time for successful interference.

Let us consider, then, the points to be watched in any acute attack of appendicitis, and the signs and symptoms which seem most reliable in indicating the need for surgical intervention. In an acute attack one immediately recognizes that he has to deal with that condition which is clinically known as "acute abdomen" or "peritonism"—a condition familiar to every man of experience, and so characteristic as to be recognized almost on sight.

And yet when I come to describe it, I find it by no means an easy subject for description. Possibly first of all one is impressed by the fact that his patient is ill. There is the anxious expression of countenance, the pinched and characteristic pallor, and a rapid, costal respiration. The patient appears to labor under a subdued excitement, and the eyes will be bright and restless.

The pulse in cases of 24 hours' standing will tend to become rapid and thready, and many clinicians base their judgment of the patient's condition largely on this characteristic of the pulse. Strangely enough in early cases the pulse may be neither accelerated nor thready. Mouth temperature rarely is excessive but is as frequently within a degree or two of normal or a fraction sub-normal as elevated. Very little reliance can be placed on it as an aid in diagnosis. I am inclined to think that rectal temperatures carefully and frequently taken and charted are of greater value. I have several times been astounded at finding a thermometer in the rectum record a temperature 2 to 4 degrees above that of the mouth. Chilliness and cold, clammy extremities are the rule. A definite chill is rare. Vomiting or even subjective nausea, is another symptom of bad import, particularly if persistent. Constipation, or better intestinal paresis, is the rule. But not infrequently an over-loaded sigmoid will empty itself at the time of or shortly after the initial symptoms of the attack and may mislead one as to the degree of intestinal peristalsis. A coated tongue, bad breath and lack of appetite will be present, and although thirst will be complained of the patient will refuse water after the first swallow. So much for the general condition of the patient suffering with "acute abdomen."

Of the local symptoms the one first men-

tioned will be pain often sudden and agonizing in character and coming in waves or cramps. It never entirely disappears except under the exhibition of opium. This pain is first referred to the region of the umbilicus, but after 2 to 12 hours it becomes localized at the infected area. On inspection the abdomen is apt to look full and puffy but not tympanitic. It moves little on respiration, and coughing is shallow and causes pain. Frequently the patient persists in lying on his back with one or both knees drawn up. In early cases before the localization of the pain palpitation will show a tenseness of all the belly muscles, and deep pressure will often elicit the point of maximum tenderness even before the pain localizes it for the patient. As the inflammation becomes gradually localized the rigidity recedes from other parts of the abdomen and becomes more marked at the point of localization.

This, then, is the condition present in many of the acute cases of appendicitis when the physician makes his first examination. A similar condition of the abdomen will be found in four other groups of cases—namely, intussusception, intestinal obstruction, perforation of the alimentary tract, and pelvic inflammations in women. These four groups together with appendicitis are responsible for 93 per cent. of the cases of "acute abdomen"—the remaining 7 per cent. being divided between a number of rare conditions which will not be considered to-day.

The differential diagnosis between appendicitis and its four kindred groups will rarely give trouble, though one may be in a quandary for the first 12 hours. The points of differentiation will be chiefly these:

Intussusception is a disease of childhood and is most frequent before the tenth year; while acute appendicitis is a disease of early adult life (10 to 30 years). Again the passage of bloody mucus, the tenesmus and frequently the recognition of a movable sausage-shaped lump will indicate the diagnosis.

Intestinal obstructions are commonest in the old. The nature of the vomiting, the irregularity of abdominal contour and the frequently perceptible violent peristalsis will aid in their recognition.

Perforations of the alimentary tract rarely come without warning of their probability, whether it be a gastric or duodenal ulcer, a typhoid perforation or a rectal ulcer. Hence,

the history of the case will suggest the diagnosis.

The diagnosis between *acute cholecystitis* or *ruptured gall bladder* and appendicitis may be very difficult and at times in the absence of a good clinical history impossible. *Pelvic disease* in the female rarely gives rise to acute peritonitis except during the puerperium. A *ruptured ectopic pregnancy* will be oftener confounded with an appendicitis than any other pelvic condition. So much for the acute abdominal condition which may simulate appendicitis. Occasionally the diagnosis may remain in doubt, but as a rule the history of the case and careful examination will decide the question. There are, however, certain cases which when seen on or after the third or fourth day can be recognized only as acute peritonitis, while the original source of the infection will be entirely obscured.

Granting now that one has had no trouble with his differential diagnosis and is satisfied that he is dealing with an acute attack of appendicitis, what particular points is he to watch, and what will indicate to him that his patient is going to get well without operation, or, on the other hand, that the peritonitis is spreading and that immediate operation is imperative? Remember that it is within the first 36 or at most 48 hours that the question is usually to be decided, for at the end of that time the peritonitis will be local and adhesive or progressive, and rapidly becoming general.

First of all I should say, carefully watch and count the pulse. Unfortunately one can rarely know definitely his patient's normal pulse-rate; but as acute appendicitis is a disease of young adults, the maximum average of 75 may be taken as a standard. If at the end of 12 or 24 hours the pulse has steadily climbed up to 100, and is increasing, your patient is ill; and if the pulse reaches and maintains a rate of 110, particularly if it is becoming thready, I think you have an absolute indication for immediate operation. A pulse of 120 means an already widespread peritonitis, and rarely have I seen a patient recover when operation was done in the presence of a pulse of 130 or over. I know that this view may seem extreme to some of you, but I believe I am right and my opinion is based upon observation of upwards of 250 cases of appendicitis coming to operation at the hands of my chiefs or myself during a long term of hospital service.

A group of seven cases of fatal general peri-

tonitis seen by me in the short time that I have been in Winchester has further confirmed me in the above opinion. In three of these cases I was called in consultation and operated myself, while in four I assisted other Winchester physicians. Of these cases, two died on the fourth day, while one had been ill only a little over two days, and had a pulse of only 118; yet he had a general peritonitis and died!

Count, then, the pulse carefully and for the full minute, and you have, in my opinion, the most reliable one indication as to your patient's condition.

High temperature is not the rule in early acute appendicitis. Many a patient has died with less than two degrees elevation at any time, and subnormal temperatures are by no means uncommon in severe cases. Again, readings of 102 and 104 are not unusual. So that I think very little of diagnostic or prognostic value can be gotten from the thermometer. A much more valuable indicant is the leucocyte count, when it can be gotten. Personally, I rely largely upon it, but the practical difficulties attending blood work in general practice will always prevent its routine use.

The result of abdominal palpation from time to time will give probably the surest indications of the march of the disease. During the first stage, that is, until the pain is no longer referred to the region of the umbilicus, abdominal inspection and palpation will be largely negative except for general increased tonicity of all the belly muscles and restricted respiratory movement. With the localizing of the pain the contraction of the right rectus becomes more perceptible, until finally an almost board-like rigidity results, making any effort at deep palpation futile. Pain on palpation will be intense, and its area sharply defined, although deep palpation on the opposite side will cause pain in the affected area. The patient will be on his back with the right knee drawn up, and beg not to be touched. Even the weight of the bed clothes will be oppressive. Give to such a patient opium in even small doses and immediately the whole aspect of the case changes. He appears a different man. With the controlling of his pain, all his symptoms subside. He is comfortable, his breathing becomes deeper, his muscular rigidity largely disappears, his pulse actually improves, and he expresses himself as being much better, and he looks, it! In other words, the opium has masked the picture of dis-

ease before you, and has rendered doubly difficult the already sufficiently difficult problem of deciding what is going on in that patient's abdomen. I have seen a patient under morphine with a general peritonitis, a pulse of 140, and within 24 hours of his death, declare himself comfortable, except for the discomfort caused by his abdominal distention. And I honestly believe that injudiciously given opium is directly responsible for the failure to recognize early the need for operation in the majority of those cases in which operation is done too late. Do not, then, I beg of you, give opium in cases of doubtful prognosis.

If, then, at the end of 36 or 48 hours at most, your patient's pulse runs above 100, and his abdominal rigidity is not decreased, particularly if he is beginning to balloon out and has nausea, you have the classical indications for operation.

If on the other hand the pulse has fallen to below 90, the rigidity is sharply localized to one quarter of the rectus muscle, or has disappeared enough to permit of the vague distinguishing of a definite lump beneath, and if there is no nausea, and flatus is being passed, you have the classical picture of a subsiding attack. The recognition of a distinct lump (and this is often rendered easy by rectal examination) is, other things being equal, a matter for congratulation, for it means a walling off by a plastic barrier of omentum and lymph and a satisfactory localizing of the process.

I hope I have succeeded in emphasizing and making plain the several points that seem to me to be of greatest value in aiding us in this often very difficult problem of diagnosis and prognosis in appendicitis. For to me acute appendicitis comes with a greater weight of responsibility than almost any other disease. And the responsibility must be assumed, a question involving your patient's life decided and action taken if necessary all within 48 hours. For by the end of 72 hours, nature will have relieved you of the necessity for making a decision, but she can never relieve you of the responsibility of having procrastinated.

The mounted specimens I shall now pass around are very pretty examples of appendix pathology. I shall be very glad to answer any questions regarding them, and the cases from which they came.

THE SECONDARY LESIONS OF SYPHILIS.*

By ROBERT C. BRYAN, M. D., Richmond, Va.,
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Medicine.

The secondary lesions of syphilis are so manifold and so comprehensive that I will not attempt to take them all up or be concerned about their pathology, but limit myself to the more interesting, the more unusual, but the nevertheless more pathognomonic and characteristic.

And right here I want to call attention to that condition, "œdema infiltrava or indurata," which I consider of the utmost diagnostic value, pathognomonic, and of infinite worth for the diagnosis of syphilis. It is found exclusively as the specific result of the inoculation of syphilis upon the labia—usually the majora—of the female, and upon its analogue, histologically identical, the scrotum of the male; for here in this loose areolar, vascular structure it is physiologically and histologically impossible to have the hard, sclerotic, indurated, cartilaginous lesion which presents itself in the coronary sulcus. It is a painless, gradually increasing tumor of the affected part which often obtains such dimensions as to treble or quadruple the organ affected, or it may even become the size of a child's head. There is a peculiar elastic, resilient consistency of the part, reminding one of the chronic œdema of the skin from passive congestion, the œdema of the extremities in renal and cardiac conditions. The affected part is of a dark bluish, brownish red, or even violet color, is not painful and does not pit on pressure. There is no erosion, and there is no ulceration to be found at the initial point of inoculation.

This condition has been erroneously mistaken for elephantiasis, thrombo-phlebitis and other conditions. Under constitutional treatment the œdema disappears—no scar, no retraction and thickening of the concerned parts remaining. It is doubtless due to an actual round cell infiltration into this loose vascular stroma, with the consequent venous and lymph stagnation.

The secondary or constitutional phenomena of the invasion of syphilis shows itself usually from the eighth to tenth week after the inception. Some of the earlier prodromal symptoms are lymphadenitis. The glands nearest the site of infection are the first to be involved, and these glands are always hard, round, indolent, painless and small—a marked contrast to the elon-

*Read before the Richmond Academy of Medicine and Surgery, March 9th, 1904.

gated, spindle form, painful tumor of gonorrhœa. If the initial lesion has been genital, the inguinal glands are first involved from the fifth to sixth week; the virus then involves the sacral, retroperitoneal and lumbar glands, and is poured into the general systemic circulation through the lymphatic duct. The cubital glands become enlarged in the seventh week, the cervical in the eighth—the time of glandular involvement showing a direct inverse ratio to the size. The dorsal lymph vessel of the penis may at this time be felt as a hard, rounded, resistant, painless cord, in marked contrast to the spongy, painful, red, nodulated dorsal lymphangitis following gonorrhœa.

In the eighth to ninth week the exanthem appears. This eruption appears first on those surfaces of the skin subjected to the most constant friction and irritation, and where the epidermis is naturally thin, and, as has been pointed out by Finger, the initial eruption tends to follow the natural creases of the skin. The patient's back will present the eruption in a weakly concave line, following the course of the ribs from the vertebræ, and are lost in the mid-axillary line. Boulogne has pointed out that in hemiplegics or spinal-plastic paralysis the affected side in nearly every instance remains free of eruption, probably due to vaso-motor disturbances.

The general appearance and eruption simulate *cutis marmorata*, which is found in individuals well developed, strong, with but little fatty tissue, and due to the exposure of the body to the chilling temperature of the room, showing itself as an irregular, livid coloring of the skin, which may be easily mistaken for an old macular syphilide.

The eruption of syphilis is polymorphous, does not itch, is symmetrical, superficial, and of the well known copper or raw ham color. The macular eruption disappears on pressure, may be the size of a pin head to that of the nail, and there is a certain tendency to scale, but no tendency to group. The papular is of a brownish red, dark color, raised above the surface of the skin, and is due to a more pronounced infiltration into the rete malphigii.

Another significant and early symptom of syphilis which may appear several weeks before the general eruption, is the presence of a dry papule upon that part of the skin lying near the original point of infection, such as preputial, dorsal, or even scrotal from a coronary inocula-

tion. This is a most significant precursor of a general systemic invasion.

The pustular exanthem indicates a severer infection. It is not a mixed infection as claimed by many authorities, and is found particularly in those concomitant conditions of alcoholism, tuberculosis and anemia. It indicates a severe inoculation, shows a rapid course, is disseminated well over the body, and is known as *syphilitica maligna* or *præcox*.

The macular eruption may be quite alone—no other forms present; but with the papular we find the macular always present, and with the pustular we find the macular and the papular in their different stages of development. With the development of the eruption the appearance of the patient is decidedly changed. A chloranæmia is developed; there is at first a significant increase of white cells, which later usually disappear.

The red blood cells may be diminished eighty to ninety per cent., the hæmoglobin is markedly reduced; eosinophiles, large and small lymph cells, also monoleukocytes are found in the blood. Losdorfer, in 1873, discovered in the blood of a syphilitic patient small corpuscles, star formed, showing rapid ameboid movement, which were about one-fifth to one-sixth the size of red blood corpuscles, but these have been found in some other conditions, and therefore are not pathognomonic. Elser more recently has described other bodies which are supposed to be characteristic. They are about the size of the staphylococcus, grouping themselves together or are constantly moving, and are found only in the blood of the specific, seen in the serum or plasma best by the oil of immersion or hanging-drop. They move so rapidly that they cannot be studied minutely, they cannot be stained, appear to have a limiting membrane of yellowish color, the contents being blackish, called *hematochonia*.

Fever may be developed, showing itself particularly in the evening, the morning temperature being normal, simulating markedly the staircase type of typhoid fever. With *syphilitica maligna* the temperature may rise to 103°-104° at night, only to recede with the morning hours.

Angina tonsillaris is a painful and frequent complication.

Arthralgia, polyarticular synovitis, are frequent occurrences during the eruptive period,

the knee, hip, shoulder and interphalangeal joints being most commonly affected.

Periostitis occurs as an actual infiltration of round cells into and beneath the periosteum, which may be diffuse or circumscribed, in tumors the size of a pea to a dollar, causing marked pain. The muscles and nerves are also bathed by the virus and are painfully tender. The muscles are tired, painful, even swollen; this may be general or limited to a few muscles or groups of muscles.

Neuratgia—trigeminal, occipital, intercostal and sciatic—are of frequent occurrence with the eruptive period. At first there is an increase of the skin and tendon reflexes; later they are reduced.

The liver icterus is a comparatively frequent occurrence, particularly in women, and is due to a congestive active hyperemia.

The kidneys frequently show albuminuria, due also to the same cause.

Cephalgia with evening *exacerbations* are most annoying, frequent and persisting complications.

The *spleen* sometimes shows a significant enlargement, which may or may not recede with the administration of mercury.

Psoriasis linguæ et mucosæ, oris is a frequent and annoying complication—simply the confluence of many papules, broken down and macerated by the irritating secretions. They are irregular in outline, with a clean base and the walls are not undermined. This is a most valuable indication of a long existing infection, and plays a great diagnostic role for latent lues, but must not be confounded with aphthous or tuberculous ulcers.

Psoriasis palmæ et plantæ syphilitica.—This is a particularly frequent manifestation of secondary syphilis and is a circumscribed, brownish-red papular infiltration affecting the palms of the hands and the soles of the feet, involving usually the thumb, ends of the fingers and creases in the hands. On the feet, it is found usually corresponding to the metatarsal bones. It does not disappear on pressure, is of a dark red color, and may be from the size of a pin head to that of the finger nail, (or the confluence of many).

Alopecia is not the frequent complication it is supposed to be. I have seen but one case in the negro in four or five hundred examinations. The hair loses first its glossiness, becomes dry and falls out in irregular patches, affecting usually the temples and crown. *Alopecia areata*

and *favus* should not be confounded with this condition.

The nails.—Marked nutrition disturbances are noted here also. The nails become lustreless, and brittle, their free surfaces uneven, furrowed, with an increase of horny tissue under the nail.

Hyperidrosis and anadrosis are peculiarly frequent phenomena, unilateral or bilateral—probably a sympathetic involvement.

Leukoderma is a most valuable adjunct for the diagnosis of syphilis. It occurs particularly in women, has been seen in men, and selects by preference the side of the neck, the breast or the back or those naturally pigmented portions of the body, such as the axilla, genitals and abdomen. It was first noticed in 1880. The area may be of any size from a pea to the palm of the hand, is irregular in outline, serrated, jagged, and is caused by an actual depigmentation of the central part of the area, or a throwing in of the pigmented portion from the centre to the periphery. It appears usually between the fourth and sixth months. I have frequently noticed this condition in the female mulatto.

Six months after the affection appears as a rule the *recidivi* or *relapse*. They are a grouped macular, papular syphilitide and are pathognomonic for a relapse of the disease. They tend to form circles, particularly upon the back, the parts comprehended within the circles being absolutely normal. The sites of predilection are the back, the skin covering the larger joints, the forehead at the junction of the hair, the palms and the soles.

The *recidivi roseola* is usually the size of the finger nail, lies above the plane of the skin, is indurated and more marked, but less in number than the usual primary eruption. This condition is sufficiently diagnostic for one to make an absolute diagnosis of the existence of lues for at least six to ten months.

A *general review* of those forms of syphilitic exanthemata peculiar to the secondary periods shows that there are two large groups, the succulent and the dry.

The succulent forms are indications of later infection, of a more resistant invasion and consequently a better prognosis.

The dry form develops itself in the weak in less resistant patients and is indicative of a severe infection, which will probably lead to *syphilitica maligna* or *præcox*.

SOME POINTS IN THE TREATMENT OF SYPHILIS.*

By F. H. BEADLES, M. D., Richmond, Va.,

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After the most diligent study by a host of trained observers with almost unlimited opportunities for the trial of any method of treatment, and the ready response in most instances of any lesion presented to treatment suitable for it, it is generally acknowledged that practically there are only two drugs that exercise a decided and unmistakable influence on the manifestations of the disease—i. e., mercury and iodine. Despite the consensus of opinion as regards the proper medicinal agents, little agreement exists as to the details of the treatment, either as regards the special preparations of the so-called specifics, the best time to commence them, how long they should be continued, the best mode of administration, whether they should be given together or separately, simultaneously or alternately. These questions, upon which the medical profession of the world disagrees—different nationalities advocating different theories—must be determined by the individual prescriber from his own clinical experience. When, by the adoption of certain methods, he obtains satisfactory results, then he should continue the use of those methods so long as efficacious, despite the fact that others entertain different opinions on the subject as the result of the unsatisfactory employment of methods similar to his.

Therefore, it is not my object in this paper to outline any definite plan of treatment, but rather to point out certain indications which are often neglected. In the treatment of a syphilitic patient a consideration of primary importance to the physician should be the care of that patient's health. Simple and natural as such an injunction may seem, its necessity is assured when we consider the frequent neglect of it. In their eagerness to conceal the evidences of the disease or to affect an apparently speedy cure, physician and patient frequently make the mistake of precipitately ordering specific drugs without regard to other details necessary to obtain a permanent cure. There can be no question that the adoption of hygienic measures in the cure of syphilis is only secondary in importance to the mercurial treatment. It seems foolish to start a patient upon a long course of spe-

cific treatment without paying any attention to a mouth filled with teeth in the various stages of caries, with sharp, irregular edges, and covered with deposits of tartar, which may prove to be a veritable storehouse of bacterial infection. Neglected as regards the use of a tooth brush or sanitary mouth wash, and irritated by the constant use of tobacco, such a mouth is in a condition to react violently to doses of mercury far below the normal physiologic susceptibility of the tissues. With the proper care of the mouth and the avoidance of tobacco, the better will be the chance for escaping mucous patches of the mouth, tongue, throat and nose.

A general tonic treatment is advisable throughout the course of the disease—the physician's aim being to sustain or increase the vigor of the patient. All hereditary and personal diatheses of the patient should be studied; his weight at the beginning of the trouble should be noted and the subsequent variations observed and recorded. Secure the co-operation of the patient. Instruct him as to his diet, which should contain an abundance of fats and carbohydrates in a digestible form; and his mode of life, which should be long hours of rest and avoidance of all mental strain or excesses of any kind (tobacco, alcohol, sexual intercourse, etc.). The latter especially should be prohibited, not alone for his own sake, but to prevent the possibility of infecting others. Explain to him the importance of cleanliness of the skin. Hot antiseptic baths, together with attention to its nutrition and functional activity, are of utmost importance to the skin, which is one of the eliminative organs in a complex organism. Impress upon him the gravity of his condition, and point out the difference between an apparent and a real cure. We often see cases in which as soon as the cutaneous manifestations disappear, the patient discontinues his consultations with the physician but continues the use of the medicine according to his own ideas. For this reason, I am in favor of the dispensing of the mercurial by the prescriber, as he can then observe the action of the drug and so determine when his guidance is no longer necessary. It also prevents the promiscuous distribution to other similar sufferers of the prescription intended for that individual case.

It seems probable, in the light of modern pathology, that syphilis will be found to depend upon a specific microbe. But that organism has not, as yet, been isolated or cultivated or dis-

* Read before the Richmond Academy of Medicine and Surgery, March 9, 1904.

tinctly demonstrated either clinically or microscopically. A most remarkable fact in the therapeutics of syphilis is that for nearly four centuries mercury has, for one reason or another, been the drug chiefly employed in the treatment of this disease, the essential nature of which has not yet been determined. Some claim that the efficacy of mercury is due to its antidotal or bactericidal action, and offer as evidence Boeck's experiment of adding to a drop of virulently infectious syphilitic pus one drop of 1 to 1000 sublimate solution, which mixture, when injected beneath the skin, is devoid of all infectious qualities. We may assume that syphilis has to be classed with the exanthemata as a specific eruptive fever, in which case the mercurial may be regarded as a specific antidote to the syphilitic virus; or we may believe that the phenomena of the disease are due to an invasion into the economy and the multiplication of a certain protoplasmic mass (the so-called syphilitic cell), in which case the effect of the drug may be attributed to its action in producing destructive metamorphosis.

Recently, Sajous claims that syphilis is due to adrenal insufficiency, and the impairment of the function of both the anterior and posterior pituitary bodies accounts for the ravages of this disease. He says that in the secondary stages a powerful stimulant of the adrenals—mercury—is efficacious; but later on, in the tertiary stages, we need a still more powerful agent—iodine, the prototype of nature's own adrenal stimulant. If syphilis is due to adrenal insufficiency, and iodine is nature's own adrenal stimulant, to my mind it is not clear why we cannot obtain satisfactory results from the use of iodine in the secondary stages of this disease.

It is quite a common practice to use in the treatment of this disease the so-called vegetable alteratives. My opinion is that they may be dismissed with the conclusion that they are as ineffectual for the relief of this malady as they are harmless in themselves. The treatment of syphilis cannot be based upon anything but clinical experience, and such experience points to the use of some form of mercury throughout the entire course of the disease.

With many physicians of wide experience, it is customary to employ opium in some form, alone or in combination with mercury. I have never been able to appreciate the necessity of giving mercury under an opiate guard from one end of the alimentary tract to the other. In

opium, we have an agent which interferes with assimilation and digestion, retards secretion and elimination, and renders uncertain the amount of mercury absorbed. Thus it defeats our therapeutic object in the use of a mercurial, the essential point being the administration of the largest dose of mercury which can be taken and absorbed without injury to the general health of the individual. Another argument against the use of opium is the danger of converting a syphilitic into a dope fiend, when by a temporary withdrawal of the mercurial, lessening the dose, or substituting for it some preparation of iron, we can obtain as good results.

Although the action of the agents is not clearly understood, therapeutics can show fewer triumphs greater than theirs, and the coming years, with modern research, may throw much light upon this ever increasing morbid process.

219 East Grace Street.

SHOULD WE CHANGE OUR MODE OF CAPITAL PUNISHMENT FOR MORE HUMANE METHODS?*

By EDWIN LEE MORGAN, M. D., Washington, D. C.

Wherever jails and penitentiaries have been erected—those legal sentinels and monuments of crime—there are congregated and confined the criminal classes. The gallows have always sufficient food for the ever hungry noose. The keen, glittering blade of the guillotine revels in its thirst for the crimson fluid—the blood of man. Electricity sends death's message to the victim's brain. The headsman's axe, and the ever ready dagger to the throat, in tragic history, act well their part. Both legally and unlawfully, man has strangled and garroted man.

Crimes upon crimes have been committed, and laws upon laws have been passed. Scaffolds through long ages have groaned under the burdens they have carried, and still the murderer stalks the world—as bold to-day as yesterday. Hard labor has had no effect in repressing murder. Solitary confinement is a relic of barbarism—a method to make a man go insane, slowly crushing the reason and the life of the individual. Tortures of every kind that man

*Read before the Medical and Surgical Society of the District of Columbia, December, 1903.

could devise have been employed. The spectacular and demoralizing effects of negro hangings lead the ignorant to believe that conversion on the scaffold is the one sure road to heaven. The public press gives too much space to these unfortunate affairs.

In 1725, nine girls dressed in white, bearing white wands, presented a petition to His Majesty George, The First, on behalf of a young man—a burglar condemned to die, and offered to marry him under the gallows. The idea was that a pure and good woman could reform a bad man. In those days a gallows wedding saved many a man from hanging.

Too often laws manufacture criminals, because a man cannot always get justice in his particular case. Perhaps he has not the means to employ proper legal talent. There are no legal dispensaries founded after our hospital systems. In desperation this man commits a crime. Is he to blame? No. When laws cannot be found to suit his case, and he is injured, he is justified in his action. In a day's walk around this city, how many laws have you broken? If the laws were enforced in your cases, how often would your faces become familiar in the police court?

In spite of religion, education, refinement of the race, laws and even the gallows, crimes have increased; murder and rape have gone hand in hand. Hence we see that only to some extent does punishment hold evil man in check. Outsiders do not know the amount of brutality practised in prisons, and furthermore, no one seems to care. Lynchings have not prevented rape; nor have the laws delayed in our neighboring State ever created a law abiding people; but set citizens to thinking that lynchings for rape is a quicker and a surer method of punishment than the legal process. Why, then, appeal to law or lawyers? Lynchings, like jails and the gallows, do not prevent crime, although to some extent they may hold the masses in check. Perhaps lynching for rape with a quick death may be the cheapest and most satisfactory way of disposing of a rapist until we can get better and quicker results at law and more humane methods of execution.

We must not forget that innocent parties have been legally imprisoned and even hung by lawyers. The "law and order societies" in the past have done no worse.

The great tragedies of history—the murder of Caesar, and the characters mentioned in the

writings of Shakespeare are but sad reminders of the frailties of man. From the death of Abel to our own era, the crimson life-fluid of man continues to stain the sod. In the form of punishment, death comes and goes to criminal man, and this will exist until time shall be no more.

Even the dogs of our city are quickly and humanely disposed of with carbonic acid gas. No one ever hangs a dog. But man's inhumanity to his own race is a reversion to his own former savage state. Why not adopt as humane methods in disposing of the criminal worthy of death as the vagrant or vicious dog condemned to death?

For the execution of murderers, etc., I would suggest that an air-tight metallic chamber of suitable size and construction be made, with an opening high up on the side or on top, with gauges properly applied, if desired. While it may not be necessary to chloroform the murderer, yet this may be done. Then lower him into the airtight chamber, close the door or opening through which he was let down, and turn on carbonic acid gas conducted into the chamber by suitable pipes from a heavily charged tank. Leave the criminal there for several hours, if deemed surest to effect the execution. By such a method of capital punishment, there is no risk of the breaking of the hangman's rope, nor of torturing the culprit by slow and horrible strangulation. The method suggested is decidedly the most humane way of disposing of the criminal murderer. One kills a rattlesnake, but he does not undertake to torture it. Why persist in mentally and physically torturing a human being—however justly it may be that he is condemned to capital punishment?

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TREATMENT OF LOBAR PNEUMONIA.*

By MARK W. PEYSER, M. D., Richmond, Va.

Secretary Richmond Academy of Medicine and Surgery; Examining Physician for the National Hospital for Consumptives of Denver, Col., etc.

Were what Dr. Bevan, of Chicago, is quoted as saying true, what follows would represent a useless task, for according to him, or what the newspapers report him to have said, there is no

* Read before the Richmond Academy of Medicine and Surgery, February 9, 1904.

treatment for pneumonia. "Drug treatment is useless." "A physician at the bedside is useless." It is acknowledged that there is no specific medication for the disease; but who can say that because the malady is self-limited and that patients have been known to recover without medical attention, all others who recovered would have done so without it? If we should not treat pneumonia till for it a specific has been discovered, why should we be allowed, without protest, to continue to treat other diseases for which we know none? If our practice is to be limited to those diseases for which we possess specifics, then, indeed, to paraphrase the remark of a former United States Senator, there would be many physicians without jobs.

The fatality of the last two or three years from pneumonia, though greater than during the few years immediately preceding, is not so high as in the middle of the nineteenth century, and is said to have been due to the admixture with influenza.

Remembering that pneumonia is a self-limited disease with a tendency to recovery, it follows that our office is to adopt an expectant line of treatment and to sustain life until that recovery occurs.

It is important that the patient should occupy a well-aired room, which should be kept at a temperature of from 65° to 70°F. (for children higher), that the air be occasionally moistened, and that there be no danger of the patient ever receiving a draft. The amount of light may be regulated to suit the individual. All visitors should be kept from the room, and loud talking prohibited.

The diet should be light, nutritious, easily assimilated, administered in small quantities, and at short intervals. As far as possible, the patient's taste should be consulted, but the chief article should be milk, though albumin water, broth, peptonoids, milk punch and light farinaceous substances may also be given. Anxiety to sustain the patient's strength may lead to overfeeding, which will aggravate any gastric or duodenal catarrh that may be present. The condition will usually be relieved by a mild laxative; and following this, nourishment should be given in liquid form in small quantities repeated sufficiently often.

Although the expectant plan of treatment is the only one usually followed, it cannot be gainsaid that the virulency of the disease may be abated by anticipatory measures, such as cup-

ping and bleeding. The practice of blistering in the early stage has fallen into almost entire disuse, though it yet has its ardent advocates; for hastening resolution, it is still much employed, and with good results. Nor is bleeding now a routine practice, though as a measure of election it is capable of much benefit. Where the patient is robust, it may be practiced in the first stage and first part of the second stage if there be present dyspnoea threatening asphyxia, venous congestion, hard, incompressible pulse and acute, pleuritic pain. The amount of blood withdrawn should be from eight to sixteen ounces, the measure of relief resulting being the index. Venesection is contraindicated in extreme dyspnoea accompanied by great prostration, and in the aged, where prostration exists; is rarely admissible in young children even in the first stage; and increases the chance of an unfavorable termination if kidney disease be present.

Other local measures may be employed to relieve the conditions mentioned: Leeching, wet and dry cups, following which a poultice or warm cotton jacket covered with oiled silk or cotton, should be applied. The jacket should be worn throughout the course of the disease. An excellent substitute for the flaxseed meal poultice is one of the hygroscopic, clayey preparations now on the market. Its use is less troublesome than the poultice, and it is far more cleanly. Turpentine stupes and sinapisms are also used.

Cardiac stimulation is the chief indication in pneumonia, sometimes even from the outset. "The average pulse rate in typical cases is from 100 to 108, and when it goes up to 120, there is just cause for alarm." Therefore all remedies which tend to depress the heart should be avoided as far as possible. Absolute rest in bed is required; and the patient when undergoing the necessary examinations, should be turned from side to side rather than raised.

According to E. E. Graham, heart failure in pneumonia occurs under two conditions; and these two can be distinguished not only by their symptoms, but also by carefully studying the cardiac sounds. When paralysis of the right heart is threatened, we have in addition to the signs of pulmonary and venous engorgement, a muffled first and poorly accentuated second sound heard over the area of the pulmonary valves. When the heart as a whole is failing, we have in addition to the hyperpyrexia, marked

nervous phenomena, great prostration, and a general adynamic condition; all the heart sounds are weakened.

It is generally agreed that alcoholics best meet the indications. They are tolerated in large amounts by pneumonia patients, but are first to be administered in moderate doses (one-half ounce of whiskey or brandy every three hours), increased in proportion to the urgency of the case. To one patient, twenty ounces were given in a single night. In drunkards and the aged, with collapse threatening or great prostration present, alcoholic stimulants are demanded. If in any case they fail, resort must be had to strychnine, also at first in moderate doses, by mouth, or hypodermically if great necessity arises. Where failure of the right heart is imminent, bleeding from the arm will often give relief. The use of the nitrites, especially in conjunction with tincture of digitalis, is of great benefit in this condition. The routine employment of digitalis is now generally abandoned, though it is claimed by Petresco that one to two drachms daily of the leaves in infusion will abort the disease if administered at the onset. Hypodermic injections of ether and of the aromatic spirit of ammonia and cautiously allowing the patient to inhale the fumes of the water of ammonia will also serve where heart failure is impending.

Saline infusions are valuable for overcoming the depression of the circulation, and incidentally, following venesection, in replacing a blood loaded with toxins. Whatever agent has been used, its dose should be reduced as soon as the necessity has passed, but it should not be wholly withdrawn.

Pain is often relieved by the venesection, cupping or poulticing; but if not, codeine, heroine, morphine or Dover's powder may be used, cautiously, however, if there be much accompanying bronchitis. Cold applications also are of benefit.

Cough, too, may be relieved by the before-mentioned measures, including the opiates; in addition, may be used steam inhalations. At the outset, stimulating expectorants are to be avoided unless there is an unusual amount of bronchial catarrh. When indicated, chloride of ammonium with compound licorice mixture, carbonate of ammonium, the aromatic spirit of ammonia or terpin hydrate may be exhibited. The alkalies are of service where there is great viscosity of the sputum.

Fever is not always, in itself, an indication

for treatment, unless it is present in high degree—in which case danger arises more from the heart and various nervous complications than from the pyrexia. And though, in some instances, fever may act injuriously, on the other hand by hastening metabolism it may prove of benefit. The majority of internal antipyretics being cardiac depressants, they should be used cautiously, if at all, and only after cold applications have failed or been refused. Quinine in large doses has its advocates, while others favor phenacetine and acetanilid, but perhaps all coal tar preparations would better be avoided. The solution of the acetate of ammonium at times acts well, and is often combined with the spirit of nitrous ether.

Coal applications afford a safe and reliable method not only for the reduction of pyrexia, but, too, for the various cardiac, respiratory and nervous manifestations. They are said also to be of benefit through their influence on the production of leucocytosis. It has been pointed out that most is to be expected from them when the area of lung affected is small.

Dr. Baruch recommends that the patient take a preliminary dose of from fifteen to twenty grains of calomel, that the chest be enveloped in a jacket of muslin, linen or cotton wet with water at 60°F., and covered by a flannel bandage. The jacket is to be removed when the temperature falls to 100°F., as the latter will continue to fall for some time after removal. Ordinary compresses may be employed instead of the jacket, and if care be taken that they are not applied over the heart, failure of that organ will not ensue; the nervous system will be steadied, pain diminished and sleep obtained as a result.

Dr. Mays, of America, and Dr. Lees, of England, prefer the application of ice, either by means of a bag or a towel. This method is said to be especially of value in children. The advantages of the wet pack are counterbalanced by the amount of disturbance that the patient must undergo in order to be enveloped.

For the administration of baths, the temperature of the water in the beginning should be 90°F., and gradually lowered to between 75° and 85°. The duration will depend upon the rapidity of reduction of fever, but should not exceed twenty minutes; and two or three baths, or at most four, are usually all that are required. The rectal temperature should be taken every five minutes while the patient is in the bath, and if he be sthenic, should be removed when it

reaches 100°; if asthenic, when it reaches 101°. Stimulants should be given before and after the bath—before, to counteract the extra labor thrown on the heart by the contraction of the peripheral vessels; and after, because as stated, the temperature continues to fall subsequent to removal, and this may produce great depression or even collapse. Great care should be had that the patient be well supported while in the bath so that he need put forth no muscular effort; and it is important that the entire skin surface be gently massaged while he is immersed.

In the aged, the young and the very weak all these measures must be employed with much caution as there is some likelihood of prostration or collapse during or following their use. Perhaps in these cases, it is better to employ only tepid applications.

Dyspnoea is chiefly due to the blocking of the lungs by inflammatory exudate, but it may be heightened by the shallow respirations consequent on pleurisy; by abdominal distension due to indigestion; by emphysema or by cardiac dilatation. Pain and abdominal distension can be relieved by the measures already indicated. Where there is threatening asphyxia with irregular heart action, cyanosis and evidences of pulmonary edema and congestion, venesection may serve to tide over the patient. The respiratory stimulants, strychnine and atropine, should be given hypodermically. Bartholow recommends the inhalation of ethyl iodide, twenty to thirty minims of which are to be dropped on a handkerchief placed over the mouth and nose.

Oxygen is often of vast service. It should be made to bubble through water into the patient's mouth, or near his nose. Dr. Hutton, of Virginia, reports having "turned a case toward the crisis" by the use of oxygen which he "prepared from potassium chlorate in the usual manner and gathered in crudely extemporized gas bags," after fruitlessly endeavoring to obtain the ready prepared gas. Under similar circumstances, I have, I believe, obtained good results by vaporizing peroxide of hydrogen in front of the patient's nose and mouth.

Diarrhea may appear during pneumonia. If it be early in the disease, strict dieting and astringents will avail. That occurring at the time of the crisis usually disappears without treatment. For that of infants, it may be well to discontinue nursing for the time being, and give peptonized milk, egg white, beef peptonoids with Dover's powder, or bicarbonate of sodium

with deodorized tincture of opium as medicaments. For the diarrhea that sometimes accompanies the low forms of pneumonia in the aged, astringents may be administered advantageously, excluding opium if possible.

Delirium is uncommon in uncomplicated pneumonia of adults, but not in that of children. If it be a result of complication with renal disease, alcoholism or meningitis, treatment should be directed to those conditions. In delirium of the asthenic, the aged and inebriates, free stimulation is demanded; opium is to be used very cautiously, if at all. H. C. Wood recommends in adynamic cases, especially if wild or muttering delirium be present, rectal injection every six hours, of ten or fifteen grains of musk suspended in mucilage. In the ordinary cases, ordinary methods of treatment, as absolute quiet, cold to the head, a darkened room, liquid nourishment, etc., are usually sufficient. Persistent delirium calls for stimulants and either chloral or morphine.

Arterial sedatives are to be used cautiously. *Veratrum viride* may be employed in the early stage of those sthenic cases in which venesection is indicated, but its effect on the heart must be very carefully watched. Aconite belongs to the same class, but because of its powerfully depressing influence on the heart, it should not be used. Of tartar emetic nothing need be said, for, fortunately, its employment has been discontinued.

The *antiseptic treatment* is based upon the bacteriological causation of pneumonia, and while it has been productive of good, it has not been generally adopted. Among the remedies most frequently used are carbolic acid, creosote, the carbonate and benzoate of guaiacol, thymol, iodine, benzoate of sodium, corrosive chloride of mercury, and the salicylates. Good results have been obtained from iodine. I feel confident that I have, in several instances, aborted the attack through the use of the benzoate of guaiacol, which is also efficacious in the treatment of the symptomatic diarrhea.

The *serum treatment* for pneumonia has not as yet been proved adequate, and the opinion generally of those who have employed it is against it.

Convalescence is usually uninterrupted and free from complications, though at times there may be a reinfection of the lung originally affected, or even of the one opposite. A generous, light diet with light stimulants and quinine and

iron are usually all that are required. Particular care should be given to the clothing. If resolution be delayed, alteratives as the iodide of ammonium, may be given internally, flying blisters or iodine being employed externally. Where there is prostration, collapse and subnormal temperature, stimulants and external heat are called for. If in addition to the delayed resolution, there be wasting, evening rise of temperature, hectic and night sweats, tubercular disease should be suspected and the necessary treatment applied.

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Va Med Sem -Monthly, Jan. 22, '04.

303 Twelfth Street, North.

ETIOLOGY, SYMPTOMS AND DIAGNOSIS OF LOBAR PNEUMONIA.*

By E. H. TERRELL, M. D., Richmond, Va.,

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Synonyms.—Croupous pneumonia. Fibrinous pneumonia. Lung fever. Pneumonitis.

It is described as an acute, infectious disease due to an outpouring of a hemorrhagic, fibrinous exudate into the alveoli of the lungs. The true or primary cause of pneumonia, like the rest of the infectious diseases, was not known until a few years ago, when the microscope straightened us out. It is now considered a germ disease; but the bacteriologists tell us that several different germs may be responsible for the malady. The one most frequently found associated with pneumonia, however, is the diplococcus pneumoniae, or Frankel's pneumococcus. Friedlander's bacillus, the bacillus of Pfeiffer or even the streptococcus and staphylococcus are said to be capable of producing croupous pneumonia. The manner by which the causative element enters the circulation is still, I believe, somewhat a matter of dispute. Some claim that it enters the lungs by inhalations; others, that it must first enter the circulation, and by means of the blood become colonized in the lungs, and from the lungs a further distribution takes place and a general toxemia results.

*Read before the Richmond Academy of Medicine and Surgery, February 9, 1904.

Thus, pneumonia may be regarded from two standpoints: First, that it is a local disease, like diphtheria, the absorption from which produces the characteristic constitutional symptoms; or it may be a general disease with local manifestations in the lungs. For my part, I prefer to consider it a local disease with constitutional symptoms.

With our present knowledge of bacteriology, we are compelled to class lobar pneumonia as an infectious disease due to the action of a specific organism. Still, external conditions, such as cold, dampness and sudden changes of temperature, seem often to be important factors in the production of the disease, and are certainly not to be ignored. Other predisposing causes are fatigue of mind or body, a previous attack, debilitating conditions of any kind, especially chronic Bright's disease. Injuries of the chest may also be a predisposing cause.

Symptoms.—There may be a prodromal stage of a day or two, in which there is a general discomfort or disquietude, and severe headache; but in the greater majority of cases, this prodromal stage is absent, and the disease begins very abruptly, being ushered in by a chill, often of very great severity. The fever rises very rapidly and remains high until the crisis takes place, usually about the seventh or ninth day. Pain is a very prominent symptom, usually very sharp and lancinating, felt over the affected area, or, frequently, reflected to the region of the nipple, or occasionally, to the abdomen, and by this means has caused a mistaken diagnosis of appendicitis. Pain is sometimes absent, however, when the disease is centrally located, and when present is due to an accompanying pleurisy.

A cough, more or less, is always present and tends to greatly aggravate the pains in the side; consequently, it is usually half suppressed. At first, it is dry and harsh with a small amount of mucous expectoration. About twenty-four hours after the chill, the sputum becomes characteristic. It is tenacious, of a dark brown hue, whence it gets its name of "prune juice" or rusty expectoration. The cheeks are flushed, and this symptom is said to be more marked on the affected side.

The pulse is strong, full and bounding, running from 100 to 130 or more, usually corresponding to the amount of fever.

The inspirations are rapid, 40 to 60 per minute. Dyspnoea is often a prominent symptom

and may be due either to the intense pain or, after the disease is fully developed, to the limited amount of healthy space in the lungs.

Anorexia, nausea and vomiting occur frequently in the course of the disease, and jaundice is not a very infrequent occurrence.

The nervous system is very often disturbed, due possibly in the milder forms, to the severe pains, and in the others to the absorption of the poison of the disease, or both. The derangement of the nervous system may range from a slight mental dullness in the milder cases to a mild delirium in the severer cases. In children, very frequently convulsions occur, instead of the delirium.

We usually expect these symptoms to continue with more or less severity for from five to nine days if we have the good fortune to keep our patient alive that long. On the fifth, seventh or ninth day, we look for the crisis, at which time the temperature drops suddenly accompanied by a profuse perspiration; and a state of comfort and quietude succeeds to one of great distress.

Convalescence is usually rapid after this, and in four or five days more the patient is rapidly recovering, the temperature and pulse normal and breathing natural.

The diagnosis of pneumonia in a well developed case is possibly the easiest of all the diseases which we have to encounter, and it is most frequent that we do not see the patient until the congestive or first stage has passed. The symptoms present such a characteristic clinical picture that a mistake in diagnosis could scarcely be made.

As soon as we walk into the room, we note the flushed face, the expression of anguish, the quick and embarrassed respiration and frequently, at the end of the respiration, a moan, all of which taken together is almost conclusive. We get a history of a sudden onset beginning usually with a severe chill. When the rusty sputum occurs, then our diagnosis is certain.

So far, we have only spoken of the symptoms as a means of diagnosis, but by no means are we to ignore the physical signs elicited by examination, for they are most important not only as a means of diagnosis, but also to determine the extent of the disease.

During the congestive stage, we find the greatest difficulty in diagnosis, and if our visit be made at the beginning of this stage, I doubt if a diagnosis of pneumonia can be made with any

degree of certainty. Upon inspection, we notice a flushed face, frequent respirations and restricted movement of the affected side and increased movement of the sound side. The patient usually lies on the affected side because it gives him more comfort. Upon palpation, it is noticed that vocal fremitus is at first diminished but gradually increases as the lung fills up. Percussion obtains at first, almost a tympanitic note, but later, resonance is impaired. Upon auscultation, the crepitant rale at the end of inspiration is almost characteristic.

During the second stage, all the signs elicited by inspection and palpation are intensified. Percussion gives a flat sound of high pitch and rather short duration. Over the affected area, by auscultation we elicit only bronchial breathing.

During the third stage, we have nearly the same physical signs as the first except percussion resonance is impaired for some time.

The differential diagnosis between lobar pneumonia and pleurisy is sometimes difficult. The onset of pleurisy, however, is usually not so sudden and the temperature not so high. The cough and expectoration are less and the rusty sputum entirely absent. Upon physical examination, the vocal fremitus is usually absent, while in pneumonia it is increased. The percussion note in pneumonia is not so dull or flat as pleurisy. Often in pleurisy a change of the position of the patient will elicit a change of the line of dullness, due to the falling of the pleural effusion to the most dependent part of the chest.

The differential diagnosis from a few other diseases, such as broncho-pneumonia, typhoid fever, etc., may become necessary at times, but I should think would be attended with very little difficulty except in very atypical cases.

304 East Grace Street.

"This is the bill from your oculist," said the collector to Mr. Grimly.

"Just take it back to him and tell him that I can't read it with those glasses he sold me."—*N. A. Medical Review.*

"No more on earth he'll greet us,
He's numbered with the blest;
He had appendicitis,
And the doctors did the rest."

Proceedings of Societies, Etc.

NORTHWESTERN BRANCH OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY.*

A Genito-Urinary Symposium.

Dr. H. R. Loux, chief of Genito-Urinary Clinic, Jefferson Medical College, Philadelphia, Pa., read a paper entitled

The Local Treatment of Gonorrhœic Infections.

Although a continuous service of eleven years in one of the largest genito-urinary clinics in America had afforded him unusual opportunities for observation, he had never written a paper upon the treatment of gonorrhœa, because no method heretofore suggested proved, upon prolonged trial, to be an advance worthy of commendation. Clinical observation in thousands of cases convinced him that gonorrhœa is too often grossly mistreated. He deprecated the use of strong, irritating injections, because they aggravate the disease and damage the urethra, and stated that treatment of acute anterior urethritis by irrigation is to be condemned because it causes an extension of the disease by continuity; he quoted statistics, reasons and authoritative statements to show that these opinions represented the beliefs of the leading and most conservative genito-urinary surgeons.

The speaker stated that during the past year and a half the results at his clinic at the Jefferson Hospital and in private practice had been much better than ever before; this statement he based upon the observation of several thousand cases of gonorrhœa at all stages. The reasons for this improvement he ascribed to careful local treatment, in which he abandoned absolutely, the use of any drug as an injection which can cause the slightest irritation. Dr. Loux stated that, in a general way, his methods of treatment were as follows: For acute gonorrhœa, he prescribes light diet, with very little meat, no fats, fruit or alcoholic beverages, but allows as much skimmed milk as the patient can drink. If the infection is confined to the anterior urethra, he prescribed the injection of two drachms of a ten per cent. solution of argyrol, held in the urethra ten minutes; this injection is made in the morning, at noon and at night. Internally, he prescribes capsules of copaiba, cubebs and sandalwood three times daily. This

treatment is practiced for one week, during which time the discharge will almost if not entirely cease, there will be no pain or irritation by the injection or upon urination, and the gonococci will disappear.

If, at the end of one week, the urine remains continuously shreddy, a weak solution of astringents is employed, and of these drugs he preferred the sulphate, iodide and chloride of zinc hydrastin, or berberine muriate, but emphasized that these astringents should not be used during the first week of the disease and never in solutions sufficiently strong to produce pain or irritation.

If the two-glass test shows cloudy first and second portions of the urine, showing the presence of antero-posterior urethritis, he irrigates the anterior urethra with a warm solution of boracic acid in order to remove the accumulated secretions. Then he makes deep instillations of twenty per cent. argyrol solutions once daily or on alternate days; the inflammation of the anterior urethra is treated in the manner already described.

The writer quoted from statistics of four hundred cases, treated since July, 1902, by the methods described and stated the advantages as follows: Simplicity; the relief afforded the patient from pain and irritation; the extreme rarity of complications; shortened duration of diseases, in that an average time required for cure in acute cases was twenty-one days, whereas by the older methods practiced at the clinic and in private work, the best average obtainable was forty-two days.

Dr. Loux then discussed the treatment of gonorrhœa in the female, the methods of which are best described by an illustrative case: A. G., age 21, came under observation June 5, with acute vaginitis, endometritis and urethritis for which she had been under treatment in New York for one week. Typical symptoms of gonorrhœa were present; microscopical examination positive. The vagina was dilated to full extent by means of speculum. To every portion of the vaginal mucous membrane a 50 per cent. argyrol solution was applied, and the same to the urethra by means of a cotton-tipped probe. The interior of the uterus was then freed of accumulated secretions by means of a cotton-wrapped applicator, after which the 50 per cent. argyrol solution was applied to the cervix and the body of the uterus. These applications are repeated two or three times so as to fill the

*Abstract of the regular monthly meeting held March 10, 1904, Dr. Samuel Wolfe President

uterine cavity with the solution. This local treatment was carried out every second or third day. After eight days no gonococci could be found. For home treatment the patient was ordered vaginal douches of from two to four quarts of hot boracic acid or normal salt solutions taken in the recumbent posture. On June 20th, there was no discharge or other symptoms of gonorrhœa and the patient was discharged. On June 29th, she was attacked with acute appendicitis, for which he operated and removed a sloughing appendix. For the subsequent five weeks, during which she was in bed in the hospital recovering from the operation, he made observations every few days of her genito-urinary organs and there was no symptom of gonorrhœa. The patient made an uninterrupted recovery and left the hospital.

In discussing *chronic conditions* which result from a neglected or improperly treated gonorrhœa, Dr. Loux stated that care should be exercised in adapting methods and means to avoid irritating the already damaged urethral structures. He emphasized the necessity of making routine use of the endoscope and determine its nature.

Chronic follicular urethritis is readily recognized by endoscopic examination and by palpation of the enlarged follicles over a bougie, and is treated by gradual dilatation of the urethra by means of bougies, massage of the enlarged follicles, and by the local application of 25 to 50 per cent. argyrol solution to the individual enlarged follicles as revealed by the endoscope. This treatment is carried out three or four times a week and is by far the most satisfactory method he had ever found.

Most cases of chronic gleet are due to ulcerative conditions of the urethra, and in the management of these the endoscope is indispensable. After determining the exact location of the individual ulcerations the method of treatment depends upon whether the ulcerations are sharply localized or whether there is a coexistent general hyperæmia of the urethra. In the former case, applications of 50 per cent. argyrol solution (through the endoscopic tube) to the ulcerations should be made at least three times a week. If general hyperæmia exists, the use of mild astringents should precede the topical application of argyrol, in order to rid the urethra of the muco-purulent accumulations. From four to six weeks of this treatment, with care in the use of instruments, will heal the ulcerations and cure the gleet in the large majority of cases.

Another very common condition is the reduction in the lumen of the urethra by inflammatory exudate, occasioned by repeated attacks of gonorrhœa or a primary case of long duration. In these cases, endoscopic examination shows the seat of beginning stricture and the presence of more or less localized inflammation. The management of these cases is extremely important because of the certainty of the occurrence of organic stricture unless the patient agrees to a several weeks' course of treatment. He should report every third or fourth day for the passage of bougies of gradually increasing sizes, followed, if active inflammation exists, by the deep instillation or topical application of 25 per cent. argyrol solution, depending upon whether the inflammation is circumscribed or more or less diffuse.

Dr. Loux summarized his paper as follows: Concerning acute gonorrhœa: 1. He would strongly deprecate the treatment of acute anterior urethritis by means of irrigation, because of the danger of spreading the disease to the posterior urethra. 2. Irritating injections of any kind should never be used in acute gonorrhœa because of the certainty of occurrence of a mixed infection and the extension of the disease, by contiguity, to the urethral follicles. 3. Argyrol, as a non-irritating gonococcide, with a specific effect in allaying the symptoms of inflammation, is the drug of choice for injection, and may be used in any strength and at any stage of the disease. 4. Astringents, such as zinc, hydrastin, bismuth and lead, should never be used in the acute stage of gonorrhœa, but should be reserved for the post-gonococcus period when the urine remains shreddy. 5. These astringents should not be used in sufficient strength to cause the patient to experience pain or irritation.

To summarize concerning chronic gonorrhœa: 1. Endoscopic diagnosis and treatment is indispensable as a routine measure. 2. Silver nitrate or other caustic or irritating applications or instillations should be seldom used, and then only in the most skilled hands and with the greatest care; otherwise there are likely to occur structural changes in the urethra, predisposing to organic affections amenable only to surgical procedures.

DISCUSSION.

Dr. H. M. Christian complimented Dr. Loux upon the excellence of the paper read and stated that the methods mentioned were, in the main, those practiced by himself. He stated that potassium permanganate is of no value in gonor-

rhea other than as a simple cleansing agent. Dr. Christian agreed with Dr. Loux that argyrol was undoubtedly the best gonococicide known to-day. After having used that silver salt continuously for more than two years, he prefers it because it never irritates, it is rapidly destructive to the gonococci, lessens the discharge and shortens the duration of the disease.

The speaker stated that it must be borne in mind that we have to deal not only with the gonococci, but with the destructive action of the micro-organism as well; in other words, destruction of the gonococcus does not by any means imply of necessity the cure of the disease, as there always remains a condition of catarrhal urethritis which requires a particular line of treatment. If a case of gonorrhoea is seen in the early inflammatory stage, where ardor urinæ and chordee are the most annoying subjective symptoms, Dr. Christian orders powders containing salol, sodium bromide, potassium bromide, each two and a half grains every two hours. At the same time a 5 per cent. solution of argyrol is ordered to be used by the patient as a hand injection three or four times daily, the solution being held in the urethra for ten minutes. If the patient can spare the time it is advisable to wash out the anterior urethra with several syringefuls of warm normal salt solution prior to using the argyrol injection; this line of treatment can be carried on through the second and third week. When the subjective symptoms subside, it is sometimes of considerable advantage to supplement the local treatment with the use internally of copaiba and sandalwood oil. Ordinarily at the beginning of the third week, the patient enters upon the stage of decline, or, as Professor Finger styles it, the "mucous terminal stage" of the disease. In a case going on to recovery, the discharge is now scanty, then muco-purulent in character and containing few if any gonococci, and this is by far the most important stage in the treatment of the disease as regards the patient's future welfare; it is here that experience teaches that we need more than a mere gonococidal agent. We need here in addition mild astringent lotions to help restore the integrity of the damaged mucous membrane. A good plan now is to use 5 per cent. solution of argyrol night and morning, employing through the day some such astringents as zinc, bismuth, hydrastin, lead, berberine, etc. At the beginning of the fifth week when nothing remains but the well-known

"morning drop" and the urine is clear but contains shreds, it is well to use the argyrol solution at night and to use once or twice through the day one of the well known astringent mixtures.

If in the second or third week the clinical symptoms and the two-glass test show involvement of the whole urethra, the treatment by hand injections is temporarily abandoned. Deep instillations of ten per cent. solutions of argyrol are then employed at short intervals until such time as the second urine becomes clear.

This in general is the line of treatment that the speaker had used at the University of Pennsylvania and his other clinics for the past two years and is one that has given more satisfactory results than any hitherto employed.

Dr. Orville Horwitz condemned the irrigation treatment of gonorrhoea and summarized his opinions as follows: The irrigation method of treatment will not abort acute specific urethritis; chronic urethritis and involvement of the deep sexual organs are common sequences; in many instances, in order to effect a cure in the terminal stage of the disease, the irrigation must be discontinued and other methods of treatment employed; irrigation should not be employed in the acute stage of specific urethritis; irrigation of the deep urethra by means of hydrostatic pressure is injurious in the majority of cases of acute gonorrhoea, and is conducive to the development of complications; the best treatment we have to-day for gonorrhoea is that by means of injection of argyrol solutions, which are strongly antiseptic and non-irritating.

Dr. R. O. Kevin prefaced his remarks with the statement of the French surgeon, Ricord, that "a clap begins and God alone knows when it will end." Fortunately, however, this statement is not as true as it was a few years ago. Dr. Kevin stated that with the use of twenty per cent. argyrol solution he had been able to cure 85 per cent. of his acute cases in from two to four weeks. He quoted Purdy, of London, who stated that since the introduction of argyrol into the enormous clinic at the London Lock Hospital, 72 per cent. of the early cases had been cured within a month and there had been no relapses after six weeks. Dr. Kevin had been associated with Dr. Loux for several years at the clinic and could corroborate his conclusions. The speaker stated that he had seen so many acute cases cut short that he always practiced the abortive method when possible; this

method is as follows: If the patient presents himself during the first 48 hours of an attack of gonorrhoea, the anterior urethra is washed out with warm water or normal salt solution. Then two drachms of 20 per cent. argyrol solution is injected into the anterior urethra and held there for ten minutes; this injection is repeated by the patient every three hours, night and day, for three days. Even if this method does not abort the disease, it always effects a cure in a shortened period, and affords the patient entire freedom from the pain and irritation usually present in an early gonorrhoea. If by this means the disease does not show signs of being aborted, Dr. Kevin practices the same methods mentioned by Dr. Loux.

Dr. Orville Horwitz, Professor of Genito-Urinary Surgery, Jefferson Medical College, Philadelphia, Pa., read a paper entitled

The Radical Cure of Senile Hypertrophy of the Prostate; Based Upon a Study of 145 Operations Performed by the Author.

Dr. Horwitz stated that the question under discussion has, with the possible exception of appendicitis, attracted more attention in the surgical world than any other subject. It is well recognized that the danger to the patient with enlarged prostate begins as soon as it is necessary to resort to the daily use of the catheter, and when this period arrives a surgeon should be consulted to supervise the case and decide what operative measures are desirable or necessary. It was emphasized that no one operation was suitable to all cases and that each patient is a law unto himself in the matter of choice of operation.

The two operations which have stood the test of experience are prostatotomy by means of the galvano-cautery (the so-called Bottini operation) and prostatectomy. The speaker stated that the Bottini operation is extremely valuable, safe and always to be preferred to cutting operations in suitable cases. Out of 98 cases operated upon by the author, by the Bottini method, three died, two of uremia, and one of sepsis; all three were very old men. Twelve cases were lost sight of after leaving the hospital but were much improved when last examined. This leaves 81 cases concerning which there was obtained definite knowledge as to results. The ages of the patients varied between 52 and 81 years. The speaker stated that his statistics

proved conclusively that the earlier the patient submitted to operation, the better the results. Of the total 81 Bottini operations all the patients were either entirely cured or very much benefited; four required second operation, and a considerable proportion were treated for several months subsequently for accompanying chronic cystitis.

Prostatectomy, the speaker stated, is regarded as a valuable operation but authorities differ as to when and how it is to be performed. As many as 20 different operations have been suggested. Here, too, the individual case decides methods, choice of operation, etc. The prostatectomies performed by the author were as follows: 3 complete (supra-pubic incision); 6 complete (combined supra-pubic and perineal incisions); 7 partial prostatectomies (supra-pubic incision); 34 complete perineal prostatectomies.

Of the 9 complete supra-pubic operations, two died, one of suppression of urine, one of uremia. In all the cases, convalescence was slow; in five cases the ultimate results were all that could be desired.

Of the 34 perineal prostatectomies, six died from uremia, sepsis or shock; six cases were lost sight of after leaving the hospital; sixteen were cured; four markedly benefited; one unimproved.

Dr. Horwitz summarized the results of observations in his 145 operations as follows:

1. A routine method is not applicable to the treatment of prostatic hypertrophy; every case is a law unto itself and the treatment will depend on the various conditions presented in each individual case.

2. The dangers attendant on the daily catheterism are greater than those of a radical operation performed at the onset of the symptoms caused by the obstruction.

3. The proper time to perform a radical operation is reached as soon as it becomes necessary for a patient to resort to daily catheterism.

4. The gratifying results obtained by a number of the operations in many cases demonstrates that the Bottini operation is one of great surgical value. It is applicable to a large percentage of cases; which if properly selected has proved to be the safest and best method of relieving an obstruction caused by prostatic hypertrophy. In those cases in which a stone in the bladder is associated with a prostatic enlargement, lithoplaxy may be performed in conjunction with a galvano-cautery prostatotomy.

5. A complete prostatectomy is justifiable if performed early before the individual is broken down in health and secondary complications have supervened. In early operation the results are most satisfactory, recovery rapid, the mortality varying between five per cent. and seven per cent.

6. A complete prostatectomy in feeble, elderly patients with long-standing obstruction and secondary complication, the prognosis is grave and the mortality ranges between fifteen per cent. and eighteen per cent. If the bladder in these cases happen to be hopelessly disabled, the results obtained by the operation are negative. Cases of this description are only suitable for suprapubic drainage.

7. In ninety per cent. of all cases the gland can be readily removed by means of a median perineal incision. The perineal operation recommended by Bryson is considered the operation of choice.

8. Complete suprapubic prostatectomy is shown to be more dangerous than the perineal operation for obvious reasons. A suprapubic prostatectomy is safer if combined with perineal drainage.

9. Partial suprapubic prostatectomy is indicated in such cases as where a valve-like lobe exists which interferes with urination, or where there is a partial hypertrophy of one of the lobes.

10. A perineal prostatectomy is best suited for those cases where the enlargement of the lateral lobes has a tendency to progress towards the rectum, to obstruct the urethra, or project backwards into the bladder.

11. A prostatectomy is always attended with more danger than the Bottini operation, and the convalescence is more prolonged. In suitable cases the latter operation is therefore the one of choice.

DISCUSSION.

Dr. Edward Martin agreed with *Dr. Horwitz* that, if operation has been advised and consented to, the circumstances of the individual case decided which of the several operations is to be performed. He believed that the Bottini operation has proved of great value, and is preferable to cutting operations in suitable cases. He did not, however, advise operation in all cases of enlarged prostate. He recognized the inconveniences and danger attendant upon the daily use of the catheter, but believed in the value of palliative measures in the majority of cases. He

recommended care in the selection of catheters, and chose one that enters the bladder with the least force and least pain to the patient. If a soft rubber catheter cannot be introduced, a woven elbowed one is to be chosen. If obstruction or spasm necessitates habitual resort to a metal catheter, surgical intervention is required. When patients use the instrument upon themselves, the hands should be washed thoroughly, dipped in bichloride solution, the meatus washed with the same solution, and be provided with an irrigating bag containing one pint of hot argyrol solution, 1 to 1000. Infection of the bladder is commonly present, and should be treated by means of bladder irrigations. For this purpose a fountain syringe, supplied with a catheter, should be suspended two feet above the level of the bladder. The anterior urethra is first thoroughly flushed, after which the catheter is pushed into the bladder and the urine withdrawn. The flushing of the bladder is continued until the return flow no longer contains pus or mucus. The temperature of the argyrol solution employed should be of the temperature of the body, or a little above it. When practicable, this antiseptic flushing should be done each time the catheter is passed. If this treatment is inefficacious continuous catheterization becomes necessary. For this purpose a large, soft rubber catheter, or a self-retaining one, is selected and the antiseptic solution introduced; if the catheter is properly introduced, the entire amount of the solution will return. Twice a day the urethra and bladder are thoroughly flushed with the antiseptic solution, the catheter being withdrawn far enough to allow the injected fluid to escape from the meatus, and then being pushed back into its former position.

The success of this treatment depends upon securing free and continuous drainage, and this is incident to the permeability of the catheter and its retention in the proper position. When skilfully applied it is one of the safest and most successful means of treating cystitis, which so frequently complicates obstruction from prostatic enlargement.

Oh, wealth outranks the might of pen,
 And power in plenty lurks;
 But all are on a level when
 The vaccination works.

Book Notices.

Compend of Diseases of the Ear, Nose and Throat. By JOHN JOHNSON KYLE, B. S., M. D., Lecturer on Otolology, Rhinology and Laryngology, etc., in Medical College of Indiana. 85 Illustrations. Philadelphia: P. Blakiston's Son & Co. 1903. Cloth. 12mo. Pp. 280. Price, 80 cents, net.

This is No. 19 of the *Quiz Compend*s, based on the most popular text-books, written by quiz masters. The subjects discussed are arranged in the most approved form. Each compend is thorough and concise, with illustrations wherever needed. It contains information nowhere else collected in such a condensed form, and can be used by students of any college—either in following the lecture, or in preparing for examination. It is useful also to the general practitioner, who engages in a limited way in the treatment of diseases of the ear, nose or throat. The author presents his points clearly and distinctly.

Are We to Have a United Medical Profession? By CHARLES S. MACK, M. D., La Porte, Ind. 1904. Price, 25 cents, postpaid. Pamphlet. Pp. 44.

This is an attempted defence of homœopathy. Obscurities are made more obscure. There is no tendency on the part of the regular profession to exclude one who recognizes medical truths—whether they may incline to the homœopathic view or not. It is simply adherence to exclusive dogmas of Hahneman in theory and practice that excludes that class of practitioners from professional recognition. But how few old school homœopaths are there now! As a fad, at one time there were a number of believers in the doctrine of Hahneman; but *tempora mutantur, et nos mutamur in illis*, so that, with the better classes of homœopaths of the present day, there is very little difference, if any, between their practices and those of the regular profession.

Transactions of the National Association of United States Pension Examining Surgeons. Vol. I. WHEELLOCK RIDER, M. D., Rochester, N. Y., Secretary. Cloth. 8vo. Pp. 215. Rochester, 1903.

This volume contains the records of the second annual meeting at Washington, D. C., May, 1903, and also an account of the first meeting, June, 1902, at Saratoga Springs, N. Y. It contains some good papers, which we are afraid will be lost to the general profession unless

they have been published elsewhere—for volumes of societies' *Transactions* are rarely read. Dr. Wm. A. Howe, Phelps, N. Y., is President.

The Man Who Pleases and the Woman Who Charms. By JOHN A. CONE. Published by Hinds & Noble, 31-35 W. 15th street, New York city. Cloth. 16mo. Pp. 131. Price, 75 cents.

This is the "*Third Edition, Revised*," on the "points of conduct, the marks of breeding that spell success—social and business success." The American who suits his conversation to the surroundings, uses good English, exercises ordinary tact in conversation, properly intonates his voice, exercises good manners, and dresses appropriately, etc., is pointed out as "the man who pleases and the woman who charms." None of the self-evident propositions are impossible with man or woman who wishes to adopt the amenities of daily life. It is a book which keeps one reminded of the obligations to render to others that thoughtfulness and attention which we exact of others. It is a good book, neatly issued, which is pleasant, useful reading, and will do much good.

System of Practical Surgery. By PROF. E. VON BERMANN, M. D., of Berlin; PROF. P. VON BRUNS, M. D., of Tubingen; and PROF. J. VON MIKULICZ, M. D., of Breslau. Vol. I. Translated and Edited by WILLIAM T. BULL, M. D., Professor of Surgery, College of Physicians and Surgeons, Columbia University, and WALTON MARTIN, M. D., Instructor in Surgery, College of Physicians and Surgeons, New York. *Surgery of the Head.* Lea Brothers & Co., New York and Philadelphia, 1904. Imperial 8vo. Pp. 936. Sold by subscription only. Price, per volume, cloth, \$6; leather, \$7; half morocco, \$8.50, net.

This *System of Practical Surgery*—to be completed in five volumes—promises to be one of the great surgical works of the age. Beside the three authors named in the title, eight other distinguished surgeons are contributors to this Volume I, and each of the four other Volumes following in rapid succession will have a number of other contributors. In addition, the American translators and editors have added a number of notes and addenda, which add materially to its special adaptability to the wants of American surgeons. The work is encyclopedic in character—many chapters exceeding in scope and detail many of the monographs on the special subjects considered. The five volumes of the *System* will contain over 4,000 pages,

1,600 engravings, and 110 full page plates in colors and monochrome. Volume I concerns itself with injuries and diseases of the skull and its contents; malformations, injuries and diseases of the ear; of the face, including plastic operations, and the neuralgias of the head; of the salivary glands, including anomalies; of the jaw, nose and adjacent tissues, mouth and pharynx. Thus it will be seen that the work will be of service to the specialist in surgery as much as to the general surgeon. While pathological data, details of original research and statistical facts are sufficiently abundant, the great value of the work lies in its practical and clinical character.

Progressive Medicine. Vol. VI, No. 1. March, 1904. Edited by HOBART AMORY HARE, M. D., Professor of Therapeutics, etc., Jefferson Medical College, etc., Assisted by H. R. M. LANDIS, M. D., Assistant Physician to Medical Dispensary of Jefferson Medical College, etc. Lea Brothers & Co., Philadelphia and New York. 1904. Paper. 8vo. Pp. 337. \$6 per annum.

This "quarterly digest of advances, discoveries and improvements in medical and surgical sciences," heretofore published in cloth binding, is now presented in neat, heavy paper binding, which greatly decreases the annual subscription price. This number treats of advances in "surgery of the head, neck and thorax"; in "infectious diseases—including acute chronic rheumatism, croupous pneumonia and influenza"; in "diseases of children"; "in laryngology and rhinology," and in "otology" during the past year or so. The addition of "Progressive Medicine" to the doctor's annual subscription list would be of great service, so as to serve as annotations in his adopted text books. Of course, it is impossible for the various writers of articles to note even a half of the journal literature on given subjects; and thus we find in any such book many omissions of reference to facts which have been brought out in journals, etc., not quoted in the text.

Editorial.

University College of Medicine,

The commencement of the University College of Medicine, Richmond, Va., will take place on May 12th, in the Academy of Music, in this

city. The past session has been one of marked success in the growth and development of this institution, and the commencement occasion will be accordingly one of great interest. Dr. Henry Louis Smith, President of Davidson College, N. C., will be the orator, and deliver the address to the graduating class. The hospital appointments to the different positions in the Hospital Marine Service will then be made, as will also those to the hospitals in this city and State, and in West Virginia.

Infectious Diseases in Ohio.

From an aggregate population of 1,410,379 in Ohio, from which reports were received during the eleven weeks ending March 12, 1904, there were of—

	Cases.	Deaths.
Small-pox	1,282	25
Diphtheria	652	66
Scarlet fever	444	22
Typhoid fever	1,256	137
Whooping-cough	64	5
Measles	3,591	51
	7,289	306

At a proportionate rate per annum, there would be over 30,000 cases of these six infectious diseases alone, and about 1,400 deaths in the amount of population reporting. Yet Ohio is scarcely worse off than other States not reporting as accurately.

Of the six diseases above referred to, at least one (small-pox) is almost absolutely preventable by timely vaccination. Why should not this disease, in this civilized age, be stamped out by compulsory vaccination if compulsion becomes necessary? The man who carries about his person loaded concealed weapons, as a pistol, is looked upon as a dangerous person in a community, and is liable to arrest and punishment. Under given circumstances, personal quarantines are recognized as just and proper, by which it may be those not infected at the time become liable to infection. Such parties, if allowed to go at large, become a menace to a community. If law can go thus far, why should it not go far enough to require every unvaccinated person to become satisfactorily vaccinated, and thus rid the community or the State of all danger of small-pox?

As to diphtheria, abundant evidence is adducible to prove that this disease may be materially reduced as to frequency of cases and

number of fatalities, and if law would give its helping hand to the doctor or to local health board authorities much saving of life and of suffering could be done with reference to this disease.

The prevention of typhoid fever, in great part, is daily becoming better and better understood. Continuous talk goes on about pollution of drinking water supplies, etc., and yet how little is done to correct the evil! Examination of sources of supply for city reservoirs, etc., are oftentimes insufficient, and the conduits even from a relatively safe distance of ten or fifteen miles of rapidly running water so as to receive the purification of oxygen are too frequently not properly protected from pollution. While filtration does not remove all typhoid germs, yet sand filtration, according to eminent authorities, does remove from 97 to 99 per cent. of disease-bearing bacteria. Even if such filtration reduced the frequency of typhoid fever 90 per cent. in any locality, what a wonderful amount of good would be accomplished.

As to the prevention of scarlet fever, measles and whooping-cough in a community, sanitation as a science has not yet developed practical methods other than keeping those liable to either of them from exposure.

New Naval Hospital for Charleston Station; also, Hospital for Tuberculosis at Port Royal.

It is announced at the Navy Department that it is the present intention of Surgeon-General Rixey to provide a large hospital for the naval station at Charleston, there being no modern hospital of the service south of Norfolk. Surgeon-General Rixey, who has recently returned from his visit of inspection at Port Royal, has made some important recommendations in regard to the establishment at that place of an outdoor hospital for the treatment of tuberculosis patients of the service.

In this latter connection, the United States General Hospital, at Fort Bayard, N. M., which was established in 1899 as a sanitarium for officers and soldiers suffering from tuberculosis, has done splendid work, and Lieutenant-Colonel E. T. Comegys, Deputy Surgeon-General U. S. Army, who has commanded the hospital since November, 1902, in the last report of the Surgeon-General of the Army makes the interesting statement that it is his belief that consumption when treated early enough can either be

cured or materially benefited by open air life, generous diet, and regular habits. The result of the special sanatorium for consumptives at Fort Bayard is very encouraging.

House of Detention for Women Who Will Not be Vaccinated.

At Durham, N. C., a "house of detention" has been established by the city authorities in which all women who refuse to be vaccinated are to be confined. They will be kept in this house until they submit to vaccination, and will have to pay \$5 each day they are detained. The law is being enforced to the letter in this matter. It is strange that sensible people should resist vaccination, since small-pox is dangerous to themselves and the unvaccinated who come in their presence, handle their clothing, etc.

The Wythe County (Va.) Medical Society

Was organized at Wytheville, Va., April 11, 1904. Officers are: Drs. W. H. Ribble, Sr., President, C. W. Gleaves, Vice-President, Peyton Green, Secretary, and John T. Graham, Treasurer. Meetings are to be semi-monthly. A committee was appointed to investigate and report on illegal practice in that section. We hope the investigation will be thorough, for it is high time that illegal practitioners anywhere in the State should be brought to trial. A roster, too, of irregular practitioners in each county should be kept.

Sanogen is an organic compound of iron and manganese, with arsenic and strychnia. Being predigested, it is non-irritant to the most delicate stomach, is readily absorbed, and at once goes to build up the red blood corpuscles. Hence its special value in all anemic conditions—whether in the person run down by overwork and anxieties, or during convalescence from acute diseases. It is dispensed in capsules, which has a great advantage over bitter fluid preparations. Thus parties knowing that they will be away from home at meals, may carry a few in their pocket, and take one or two after each meal, with a sip or so of water or milk. Results are manifest in a few days. Sanogen is prepared by the Solway-Annan Company, of Washington, D. C.

THE Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

Vol. 9, No. 3.
Whole No. 195.

RICHMOND, VA., MAY 13, 1904.

\$2.00 a Year.
10 Cents a Copy

Original Communications.

A Consideration of Some of the Methods to be Pursued in the Diagnosis of the Diseases of the Rectum and Anus From the Standpoint of Their Practical Importance to the General Practitioner.*

By LEWIS H. ADLER, JR., M. D., Philadelphia, Pa.,

Professor of Diseases of the Rectum, Philadelphia Polyclinic and College for Graduates in Medicine; Prosecutor to the Professor of Anatomy, Medical Department of the University of Pennsylvania; Consulting Surgeon, Charity Hospital, etc.

At the request of the directors of the Society I have prepared this paper and I trust that its character will prove such that the general practitioner may gather from it some points of practical importance in dealing with the affections under consideration.

The utmost tact and gentleness are required on the part of the medical practitioner in dealing with persons afflicted with anal or rectal diseases. All patients suffering from maladies of this nature are especially prone to be depressed and are more or less nervous. This fact, combined with the natural restraint experienced in paying a first visit to a physician, should be realized by the examiner, and in order to aid such persons to recover their composure it is best to encourage them to give the history of their troubles in detail. While this consumes time, the more important object is accomplished of securing the co-operation of the patient in the subsequent steps of the investigation,—to-wit, the digital, as well as, in some cases the instrumental exploration of the bowel, without which a positive opinion cannot be formed as to the nature of any rectal ailment. These remarks are especially applicable to the treatment of females. Assent to a vaginal examination is much more readily obtained than is the consent to inspect the seat of rectal trouble.

Having obtained the subjective symptoms

*Read at a meeting of the Philadelphia County Medical Society, held April 27, 1904.

and being satisfied as to the existence of a rectal lesion, we proceed to confirm the provisional diagnosis, and to obtain positive information upon which to base the prognosis and to guide the treatment, by making a thorough local examination of the anus and adjacent parts, including the rectum. If possible the patient should have the bowel emptied by an enema a short time prior to attempting the examination. In the case of female patients especially, the neglect of this will frequently render a thorough investigation impossible, without recourse to general anæsthesia—nitrous oxide gas or ether—owing to the patient's fear of an accident occurring, such as the escape of flatus. When this has not been done I have known the sphincter muscles to be so tightly closed that the surgeon's attempts to explore the parts were absolutely frustrated. When a specular examination is necessary—as in the investigation of the higher portions of the rectum, or of the sigmoid flexure, it is absolutely essential that the lower bowel is free of fecal matter.

There are several positions in which the patient may be placed for the examination but for general use I think that the most comfortable, as well as the most delicate posture for the patient and that most convenient for the examiner, is for the patient on a firm couch—which has an elevation of three and a half to four feet, to lie on the left side, the right shoulder turned away from the practitioner, the left arm brought behind the body, the right thigh only being well flexed upon the abdomen—and the left lower limb being kept perfectly straight. The buttocks should extend somewhat over the edge of the table and the uppermost cheek may be raised by the patient's right hand. In examining with the fingers for the presence of strictures or growths situated above the lower four inches of the bowel, the patient by being directed to stand on his feet but in a posture assumed as in sitting, may by straining press the diseased part

nearer the anus, so that at least an inch more of the bowel may be explored than can be done when the patient assumes the usual position, even though directions have been given to bear down.

Regarding light, either natural or artificial light may be employed. For an ordinary examination I prefer daylight. By means of a head mirror the operator sitting facing the light and the patient's back being from the same, the light may be concentrated upon any particular point requiring observation.

Everything being in readiness for the examination, we now proceed to inspect the condition of the external parts. On separating the buttocks, the orifice of the anus will come into view. Its shape should be carefully observed as to whether it be abnormally narrowed or dilated, and whether the pigment of the surrounding skin be natural, increased or lessened. Eruptions of any kind—eczematous, syphilitic, parasitic, or otherwise should be noticed.

In this connection for the sake of emphasizing the importance of a careful observation of conditions of this kind, I shall relate an incident of a patient who came to me complaining of a marked pruritus ani. After what I thought had been a thorough inspection of the parts and I was about to apply the usual treatment for this malady (when no discoverable local cause for its existence is manifest) I noticed a black speck at the root of one of the hairs. Upon further examination others were observed which proved to be full-fledged pediculi. External hemorrhoids, epitheliomata or condylomata will also be noted, if present. Palpation will enable us to detect any induration that exists, which may be due to a fistulous track or to an abscess. If the parts be covered with a discharge, it should be wiped away and its source traced, as to whether it be from an external opening of a fistulous tract, etc.

If the anal aperture be not abnormally contracted and the patient be requested to strain while the examiner puts on the stretch with the thumbs the opposite sides of the anal outlet and repeats this process around the circumference of the anus, a pretty good view of the anal canal may be obtained. In this manner, internal hemorrhoids, ulcers, and the internal openings of most fistula may be seen.

The next step is to make a digital examination of the interior of the rectum. It is by this means that the most important information is to be gleaned, and it is a procedure that should

never be omitted in any cases of presumed rectal trouble. Such an investigation is not a very pleasant one, either to the patient or to the practitioner, yet without making it the physician needlessly sacrifices his reputation and risks possibly the patient's chance for the prolongation of life by early surgical interference, as in cases of carcinoma.

The method of making the examination is as follows: The nail of the index finger being well trimmed and the finger lubricated with carbolized oil (5 per cent.) which I prefer to vaseline or similar substances, is introduced into the bowel by a slow boring motion, in a direction at first slightly forward and then backward into the ampulla of the rectum. This should be done gradually, so as to allow the sphincters time to relax; if attempted too hurriedly or in too forcible a manner, spasm of the muscles will be to a certainty induced. As the finger enters the anus, the condition of the sphincters is to be noted. The strength, measured by the power of resistance, will be found to vary greatly in different persons. In the aged or debilitated it is apt to be very weak, and just the reverse in the strong and healthy. In persons of especially nervous tendency, and in cases of irritable ulcer (fissure) of the anus, a contraction may be met with, which, owing to the pain occasioned by an attempted examination, will render it an impossibility without recourse to an anæsthetic (local or otherwise). As the finger passes beyond the margin of the external sphincter it should be swept around the anal canal in order to determine, if possible, the existence of any ulceration or other abnormal condition. It is just between the internal and the external sphincter muscles that the orifice of most of the internal openings of fistulæ is found, and, it is at this point, that the presence of small foreign bodies may be detected, which have lodged in the crypts or in the mucous membrane.

At this point a word about internal hemorrhoids may not prove amiss. Their presence may be perceived by a digital examination, but only, in my opinion and experience, when they are thickened by inflammatory changes. Otherwise, it is impossible to recognize them by the sense of touch, and this is so in the majority of cases. Masses of hemorrhoids are frequently found upon ocular inspection after dilatation of the sphincters, the prior existence of which could not be ascertained by the tactile sense.

The finger should now be passed its full

length into the bowel unless prevented by some abnormal obstruction, such as a stricture, etc. By instructing the patient to bear down forcibly an additional one-half inch of the rectum can be explored. Another one-half may be gained by the surgeon pressing upward upon the perineum with the thumb over this region and the fingers of the examining hand kept extended and carried backward along the intergluteal groove. Usually an examination is made with the fingers closed in the palm and the soft parts are pushed upon by the knuckles. This procedure prevents the full passage of the index finger.

In the manner indicated about three and one-half or four inches of the rectum may be explored, together with the prostate, the neck of the bladder, the uterus, etc.

In making a rectal examination it must be borne in mind that very frequently two or more rectal diseases coexist, as for instance a polypoid growth complicating a fissure, or malignant disease existing with a fistula and hemorrhoids.

Malignant infiltration, or a benign stricture can be readily detected if situated within reach. By sweeping the finger around the mucous membrane, its general condition can be noted; a general laxity or smoothness of the normal folds indicating atony; and, a harshness and dryness, some alteration in the normal secretions due in all probability to atrophy of the glands. Ulcerations, when not merely superficial, may be recognized by the induration around their edges. Polypi can be readily felt, but in examining for them, it is important that the finger be brought from above downward, as otherwise the growth may be pushed out of reach owing to the length of its pedicle and its presence never appreciated owing to its smoothness and usual slimy condition. Fecal masses in the rectal pouch can be recognized without difficulty.

In withdrawing the examining finger the coccyx should be grasped between the thumb and finger and moved backward and forward to determine its mobility and whether any tenderness exists.

Finally upon the finger being withdrawn several points may be gleaned by inspecting it. Should fecal matter have been encountered some of it will probably adhere to the digit. Its color, consistency and odor may thus be determined. The presence of blood, mucus or pus in the rectum may be likewise thus ascertained.

In carcinoma of the rectum the odor imparted to the finger is to my mind pathognomonic of the disease. No other malady with which I am acquainted gives that sickening feculent smell.

If honored by a subsequent invitation, I shall be pleased to take up in a future paper the consideration of the subject of the instrumental exploration of the region herein considered.

1610 Arch Street.

SHOULD THE COUNTRY DOCTOR ATTEMPT BIG SURGERY?

By THOMAS D. BURGESS, M. D., Matewan, W. Va.

In reply to an interesting article in the *Virginia Medical Semi-Monthly* of December 25, 1903, by Dr. Lucien Lofton, of Bellfield, Va., with report of cases, wherein he mentioned the question as to whether a country doctor should attempt big surgery, I wish to report two cases in support of Dr. Lofton's views—that a *country doctor, if capable, should do major surgery.*

Case I.—On November 16, 1903, assisted by Drs. Frank T. Shumate, C. C. Ross and J. W. Bonzo, I operated on Miss Martha Ferrell, age 15 years, single, for a large ovarian tumor of 18 months' development. The cyst, which weighed 26 pounds, was removed through a large incision in the median line of the abdomen extending almost from the ensiform cartilage to the symphysis pubis. Owing to the great disproportion between the size of the patient and that of the tumor—presenting difficulties not so hard to overcome in larger women—it was necessary to draw off a large quantity of the contents of the cyst with trocar and canula and then the tumor had to be delivered in hour-glass fashion.

When the tumor was delivered, in order to prevent collapse from too sudden recession of the blood to the abdominal vessels, I had the patient laid in an inclined position of about 45 degrees, head down, and made intermittent compression of the abdominal aorta for a short time, and she never changed her color and her pulse remained regular and strong.

The pedicle of the tumor was about five inches broad, three-fourths of an inch thick at one border, and was ligated with strong silk link sutures. There were no adhesions. Some of the

contents of the cyst having escaped into the abdominal cavity, I flushed out the abdomen with warm salt solution, and closed the incision with strong silk.

On the second day after the operation I gave my patient one-half grain doses of calomel every three hours until she had taken three grains, after which she took one teaspoonful of magnesium sulphate repeated in three hours, when she had a passage from the bowels. Her temperature fluctuated from 99° to 101° F., for one week, after which it remained normal. Sutures were removed on the tenth day.

The only complication was a stitch abscess in the abdominal incision, which healed in five days after removal of sutures. Twenty-four days after removal of the tumor an abdominal supporter was applied and my patient got up and walked. In five weeks from the date of the operation she went to her home, 14 miles in the country, in an ordinary vehicle. In five weeks after she went home she had gained 31 pounds, and at this writing she is very robust and is enjoying perfect health.

This operation was performed in a new rough boxed building one story high with two rooms. There was no trained nurse in attendance.

Case II.—On December 2, 1903, I was called to see Pearlie Hale (col.), of Red Jacket, W. Va., and found her suffering from a gunshot wound of the abdomen—the ball having entered the back below the crest of the ilium through which it passed, and emerged at the front of the abdomen on a level with and about two inches to the right of the navel. Assisted by Dr. Frank T. Shumate and Dr. J. W. Bonzo, I disinfected the abdomen with the chlorine method and through an incision in the median line removed the intestines and found eleven perforations of the gut. The intestinal perforations were closed by Lembert suture, using fine silk as ligature. The abdominal cavity was flushed with hot normal salt solution, intestines returned, abdomen closed with strong silk ligatures, which were removed on the tenth day. The patient made a good and rather speedy recovery and is now enjoying perfect health and doing domestic duty.

The only complication following this operation was two stitch abscesses in the abdominal wound with some purulent discharge of short duration from the wound in the back, and these were probably unavoidable owing to the post-operative infection following the operation in a dusty shack that had been occupied as a residence for ten years.

This operation was done four hours after the shooting occurred, in the camp owned by the Red Jacket Coal and Coke Company, and the woman's colored "gentleman" friend was the only nurse.

CIRCULAR CRANIOTOMY.*

By D. PERCY HICKLING, M. D., Washington, D. C.,

Professor of Surgery Washington Post-Graduate Medical School; Professor of Clinical Surgery and Electro-Therapeutics in the School of Medicine, Georgetown University; Visiting Physician to the Washington Asylum Hospital; Member of the Consulting Staff of Providence Hospital and the Government Hospital for the Insane; Member of the American Medical Association; Member of the Medical Association and Medical Society of the District of Columbia; Member of the Medical and Surgical Society.

Trephining or trepanning is one of the oldest operations known to surgery. It was described by Hippocrates, who gave directions for the use of the trephine and described the anatomy of the parts connected with the operation; he recognized the necessity for prompt operation in certain cases, spoke of the dangers of wounding the meninges, and also mentioned certain precautions to be observed during the operation.

There is probably no other operation known to surgery which is so uncertain in its ultimate results, and yet so imperative in its demands; for by its aid the surgeon is enabled to remove the cause of certain and rapid death and apparently leaves his patient in such a favorable condition that complete recovery seems assured, but often he is confronted with disaster and disappointment.

Circular craniotomy has always been recognized as a formidable operation with a greatly disputed mortality, which varies according to some authorities from 10 to 100 per cent.; yet the indications for its performance are so plain in otherwise hopeless cases, and the occasional brilliant result, rewards the surgeon for all his failures. The so-called rise and fall of trephining has probably been the fate of no other operation in the history of the surgeon's art.

Dorsey, in his *Elements of Surgery*, 1813, describes the operation in detail, disparages the use of many of the instruments, and does not operate until symptoms of compression are present. Where the diagnosis between compression and concussion is difficult, he waits for 12 hours for the symptoms of concussion to subside, and then operates—believing that nothing is lost by the short delay.

* Read at a meeting of the Medical and Surgical Society of the District of Columbia, February 4, 1904.

In the edition of 1858 of Erichsen's *Surgery*, this able operator notes the decline of this operation, and quotes Nelaton, who says that in all the injuries to the head in which the trephine has been used in the hospitals of Paris during the last fifteen years were only 16 in number, and all proved fatal. Erichsen encourages the performance of the operation, but limits its usefulness to two purposes—first, to prevent inflammation and its consequences (punctured or starred fractures without stupor); second, to remove some cause of compression (depressed bone, foreign bodies, and pressure of blood extravasated within the cranium). He also endeavors to encourage the operation by calling attention to the fact that the statistics given by prominent operators did not exclude the other operations performed upon the skull by means of the Hey's saw, elevators and other instruments belonging to the trephine case. He gives a record of 13 cases operated upon by himself. Cooper and Liston, with the trephine proper, in which four recovered; one died from an injury not connected with the operation, and eight died of inflammation of the brain and its membranes.

Ashhurst, in 1884, with the same feeling as Erichsen, discards the mortality statistics of Fritze, of 53.98 per cent.; Pirogoff, of 60 to 70 per cent.; Le Fort, of 56.22 per cent.; of Otis, with 56 per cent.; Bluhm, of 51.25 per cent., and Bermann, of 46 per cent., and states that these figures are misleading, as they not only include deaths from other causes, but claims that in many cases the post-mortem showed that death was due to the injury or cause for which the operation was performed, and not from the operation itself. In selected cases, such as epilepsy and persistent pain in the head, etc., when the patient has been in good health, he gives a mortality of from 10.69 per cent. to 15.22 per cent. He then gives several propositions, in which he claims that the operation should not be considered the cause of death unless the inflammation starts from the bone or dura mater, and did not exist prior to the operation; and in fractures he is inclined to blame the ragged edge of the bone for the result rather than the smooth cut of the trephine. He also calls attention to the fact that the mortality of all operations was at the time of his writing (the dawn of the antiseptic period) decreasing materially. He also states quite boldly, in view of the high mortality given by other operators, that his own experience had taught him that trephining *per*

se was not a dangerous operation, and that more patients had died from complications which might have been prevented by timely operation than from the removal of a disc of healthy bone. He also states that the trephine should be used as early as possible, and that it is never too late to trephine.

The views of Ashhurst are ably echoed in 1897 in the article on Diseases and Injuries to the Head in the *American Text-Book of Surgery*, but unfortunately results are not given.

The cause of this rise and fall of trephining in the minds of operators is fully appreciated by any one who has had practical experience in surgery of the head. The removable cause of the patient's certain destruction, such as pressure and hemorrhage in a region so accessible, demands the interference of the surgeon, even though the results are not encouraging. We have yet to learn how to treat an injured brain. The surgeon has always been willing to give the patient a chance for life, and although we have accomplished much by defending the sufferer from the unseen army of germs which so often in the past have rushed in and brought disaster, death and disappointment, so that the only comfort left for encouragement was expressed in the axiom that there was no head wound so slight as to be despised, and none so severe as to be despaired of.

With the era of antiseptic surgery, the result of this operation was so much improved that the surgeon had good reasons for renewed hope, but when the day of aseptic work arrived the operation was at once placed among those whose results were the most encouraging. So that while the treatment of the brain and its diseases is very poorly understood, the skull is as accessible by means of this operation as the abdomen or thorax by other operations, that now trephining (with infection and hemorrhage under the control of the surgeon) is comparatively a simple operation, and is in itself free from great dangers; yet the grave conditions in which it is indicated will always be of the most serious and fatal which afflict the human body.

In fact, this operation seems so comparatively slight and the conditions and results so grave that many operators are using the osteoplastic flap, and often divide the operation in two stages, so that the condition of the brain may receive more radical attention, and the simple trephining restricted to exploratory and diagnostic uses. I am inclined to believe that this

is the preferable operation, although much can often be done with a single circular opening.

With the exception of the control of the hemorrhage, the technique of the operation has changed little since the days of Hippocrates, but the indications for operating have enlarged considerably.

Let us now consider briefly the conditions which call for the use of the trephine.

INTERCRANIAL HEMORRHAGE (traumatic) may occur from laceration of the middle cerebral artery or the middle meningeal artery, causing the sub-dural and extra-dural varieties. These vessels may be lacerated with or without a fracture of the skull—the diagnostic symptom being a gradual and progressive increase in the severity of the focal symptoms in a patient who has received an injury to the head and apparently recovered from the immediate effects of the injury. There may be convulsions and paralysis; there is a slight elevation of the temperature and the patient may be comatose. These symptoms, when present, require an operation. The symptoms, although certain, are often obscured by co-existing lesions, which make the diagnosis most difficult, and may be illustrated by Case No. 8.

When the symptoms of intercranial hemorrhage are well marked, the surgeon should trephine over the area indicated by the focal symptoms; where there are no focal symptoms he may be content with elevation of the head, purgatives or even venesection, or he may follow Kronlein's suggestions and trephine over the site of the anterior branch of the middle meningeal artery; and not finding it on one side, he may trephine on the opposite side, as a laceration may occur from a blow on one side of the head and the bleeding occur from the opposite side; failing in this, he may go farther back and trephine over the posterior branch of the artery, but this is purely exploratory, and should be done with great concern. When the clot is found it should, of course, be gently removed, the bleeding point found, and either ligated or otherwise dealt with. One should suppose that when the artery had been found and properly cared for the patient should recover, yet the clinical records of these cases are scanty. One author reports that out of 99 cases only 13 recovered, still it is clear that without operation death is certain and speedy, and an immediate operation should be performed.

FRACTURES.—In simple fractures of the skull

when there is depression or focal symptoms always trephine immediately. (Case No. 1.) Simple fractures without depression, whether of base or vault, do not require operation, as they recover without any after effects. When the fracture is compound an operation should always be performed. Hippocrates told us to trephine in all punctured wounds of the skull; this rule is as good to-day as when given.

In children, when the depression is pond shaped, you may wait for symptoms, for the bone may spring back into proper position. (Case No. 5.) But if the depression is gutter shaped, you should operate even without symptoms. When late symptoms occur there is often no benefit derived from the operation. (Cases Nos. 5, 4 and 3.)

It should always be remembered that fractures of the external table without fracture of the internal table is very improbable, and according to some authorities is impossible, and that the statements made in some of the textbooks, to the effect that the external table may be depressed and the internal remain in proper position, have not been verified by the personal experience of a single operator. The cases reported in the *Medical and Surgical History of the War of the Rebellion*, and the experiments of Otis and the more recent use of the X-ray, have completely dispelled this very plausible theory.

In punctured fractures you do not often find symptoms of concussion, but focal symptoms promptly appear. The great danger, however, in this form of injury is from infection, and trephining should always be done immediately to meet these indications.

Depressed fractures of the vault of the skull are usually easily recognized, although sometimes œdema of the scalp and concussion symptoms will overshadow the focal symptoms, making the diagnosis quite uncertain, which may be appreciated by Cases 1 and 7.

In *compound fractures of the vault* the diagnosis is easy; thorough exploration is always possible.

EPILEPSY.—Warren says that in the Franco-Prussian war, in 8,985 head wounds 46 had epilepsy, and 77,461 wounded in other parts of the body only 17 became epileptics.

There is probably no more important cases which come under the treatment of the family physician or general practitioner than injuries to the head, for he is the one who first sees the

case; and if the immediate symptoms happen to be slight, consultation is not sought, and the patient is left to a fate which is often worse than death. (Cases Nos. 2, 3, 4, 1.)

Why should we hesitate to explore even with the trephine all cases of a serious head injury followed by profound concussion, or when a blow upon the head is followed by a localized headache over the seat of injury, whether accompanied or not by the slightest focal symptoms? It is very probable that after a blow or fall upon the head, although the external table is apparently intact, the internal table is depressed or splintered, and that the focal symptoms are masked by the symptoms of the concussion which are present; for it is in this class of cases that epilepsy or serious mental conditions are so likely to follow. A slight depression of the skull, a depressed spicula of bone, excessive callus, which occurs after a fissured fracture, chronic thickening of the bone or an otitis after a contusion causes pressure and irritation of the dura, which is so often the cause of this disease; and it should also be remembered that chronic meningitis and adherent cicatrices may also cause epileptic attacks. Localization, which is the keynote to operative interference, depends on the aura. Oppenheim says that epilepsy in later life is generally due to cerebral tumor; this should be localized by a careful study of the case. It should not be forgotten, however, that there are a number of other causes of epilepsy which trephining will not reach, such as cerebral syphilis, general paresis, chronic nephritis, cysticercus cerebri, aortic sclerosis, etc.

Warren's rules for trephining in epilepsy are of great value, and will act as a guide in selecting cases for operation:

1. Cases of ordinary general epilepsy in which the lesion cannot be definitely located are not operable.

2. In traumatic epilepsy when the focal symptoms point to a definite locality in the brain and the scar or other injuries correspond, the trephine openings should be made at the position of the scar.

3. When the focal symptoms do not correspond with the scar, the position of the scar should be disregarded, and the opening made at the point indicated by the focalizing symptoms, unless it be found that the scar itself is very sensitive, and that simple pressure upon it is sufficient to bring on a fit. In this case the scar only should be excised and the result watched.

4. In epilepsy of a general type following depressed fracture, but in which localizing symptoms are absent, the trephine opening should be made at the seat of the fracture. When the trouble has been located and the pathological conditions reached excision of the offending cause is at present the only means at our disposal.

FOREIGN BODIES should be located by focal symptoms, localized pain and the X-ray, and are best removed by trephining followed by drainage.

EXPLORATORY METHODS, such as probing and aspirating for foreign bodies, tumors, removal of pus, cerebral spinal fluid, and extra-dural blood clots are best reached by this operation.

Bullet wounds of the brain should always be trephined and drained with catgut or horse hair drainage.

Trephining should also be done for *fixed and severe headaches due to local conditions*, especially if accompanied by coma; also for *thrombosis of the venous sinus* and *inflammation of the brain* and its membranes.

CEREBRAL ABSCESS is one of the many indications which call for trephining. The localization, evacuation and drainage of these cases is often quite easy, but the results are often disastrous to the patient, either by septic infection or by repeated return of the condition, and something else beside irrigation and drainage would increase the percentage of recoveries in this class of cases. (Cases 7 and 6.)

Abscesses of the cerebellum require the same methods of treatment.

The trephine is also of value in acute and chronic diseases of the bone, the removal of tumors of the cranium and drainage of the frontal sinus.

CEREBRAL TUMORS are best removed through the osteoplastic flap, as the trephine opening is too small to permit the removal of any but the smallest growths. If the tumor is at all large probably the operation is best done in two stages in order to diminish the shock.

The trephine is probably the best method of performing part of the first stage of an osteoplastic resection.

It will be thus seen that this operation has a wide range of usefulness; and while I believe that in the future the osteoplastic flap will give us the greatest chance of cure in certain lesions, yet the old operation of trephining will always have a place among the operations of surgery.

The technique must be carefully carried out in every detail: The head recently shaved, the landmarks definitely located by any of the well known methods; strict asepsis; control of hemorrhage from the incision by rubber tubing, ligature or hæmostat; horseshoe flap, careful attention to the centre pin of the trephine or other methods of steadying the instrument; control of hemorrhage from diploe by Horsley's wax, wooden or cat-gut plug or crushing; care to protect dura from injury by the frequent use of probe and the sense of touch; extreme care in the removal of the button; care of the button if the bone is to be replaced; exploration with Horsley's separator and enlargement of the opening if indicated, and the careful removal of all depressed or thickened bone; incise dura, inspect brain and explore with probe, trocar and faradic battery; remove fluid or tumor, evacuate pus, excise cicatrix; control hemorrhage by Doyon's forceps and cat-gut ligature; pack and drain if necessary, irrigate with normal salt solution and peroxide of hydrogen if pus be present; the dura sutured with catgut or replaced with pericranium or gold foil if necessary to close opening; the pericranium with the skin flap is returned to its position and the dressings applied. The immediate dangers are from infective inflammation of brain or membrane and from shock.

CASE 1.—J. B., white male, 27 years of age, was thrown from a freight train on March 10, 1903; admitted into the Washington Asylum Hospital March 13, 1903, his leg having been amputated at the ankle joint at one of the other hospitals. He had a compound comminuted fracture of the inferior maxilla, and a wound on the head over the right temple. There were decided symptoms of concussion of the brain, or rather there were no focal symptoms. He was semi-comatose, his general condition was bad, at times he was delirious, would tear the bandages from his head and leg and at times had to be restrained. On March 26th his condition was slightly improved, and an effort was made to keep the maxilla in position by wiring the teeth. At times he would complain of severe pain in his head; it was difficult to get him to take nourishment or medicine. On April 28th his condition was still bad; he complained so much of pain from his fractured maxilla, and there having been no attempt at union, I decided to wire the bone and to trephine his skull. However, under the anesthetic,

ever, under the anesthetic, that while I operated while I operated as rapidly as possible, yet after the jaw had been placed in position his condition was such that I did not believe that he would stand the anesthetic any longer. The operation upon the jaw was successful, the bone united in good position, his head symptoms improved slightly and on June 25, 1903, he left the hospital.

On December 1, 1903, patient was readmitted complaining of great pain in the stump of the amputated leg, and of dizziness and pain over the region of the scalp wound; he also complained that his memory was very poor; the scar was adherent and there was apparently a slight depression on right side of head over the inferior frontal convolution. On December 5th I reamputated his leg at the junction of the middle and lower third, and trephined his skull over the area of depression, removing a button of thickened bone which was firmly adherent to the dura. The brain could be distinctly felt pulsating and the membrane seemed in an entirely normal condition. The button of bone was returned and the wound closed without drainage. After the operation the patient complained of no pain or disturbance whatever in the head. On December 12th he said he felt as though a weight had been removed from his head. On January 2nd his condition was all that could be desired and he said that his memory was now as good as ever. He was discharged January 22, 1904, entirely recovered.

CASE 2.—I. F., a colored male, 58 years of age, born in Maryland, occupation laborer, entered the Washington Asylum Hospital December 1, 1903, with an old depressed fracture of the skull over the frontal region on the right side. He complained of pain in the head over the site of fracture and some obscure pains in the legs; he was very dull and stupid, and could give no account of when or how the injury occurred. There were no focal symptoms observed. The mental stupor seemed to increase somewhat. December 5, 1903, I trephined over the site of the depression and thoroughly removed the thickened bone around the site of fracture. The bone was not replaced—the usual technique being followed. On December 14th the wound had entirely healed without any sign of infection; the patient was quite bright and said that he had not felt a particle of pain in his head since the operation; that he never felt better. On December 16th he was transferred to

the general ward and allowed to sit up; his condition remained all that could be desired until December 29th, when he appeared to be somewhat drowsy and sleepy. As he was constipated, a saline purgative was administered and he was put to bed. On the evening of December 30th he complained of severe pain in his head for the first time since the operation. His pulse became rapid and his respiration labored. On December 31st had attacks of unconsciousness lasting for several minutes; these gradually grew more frequent and were longer in duration. Respiration was somewhat irregular, often getting very slow and labored; his pulse was rapid and weak. After a careful examination I had the patient sent to the operating room and carefully opened up the old wound and found everything apparently in a normal condition around the site of the operation; no evidences of infection, inflammation or hemorrhage; the dura which had not been opened at the first operation was opened at the second. The patient's condition was becoming rapidly worse, respiration was more labored and the pulse hardly perceptible; death occurred about 7:30 P. M. the same day, the patient not regaining consciousness. Post mortem showed a cystic tumor containing fluid in the frontal lobe on the opposite side of the brain; there was also an abscess in the cerebellum into which hemorrhage had taken place, the blood finding its way into all the ventricles, which were greatly dilated.

CASE 3.—A. F. H., white, male, 38 years of age, was admitted to the Washington Asylum Hospital December 12, 1903, with severe localized pains in his head, dyspnea, nausea and vomiting; had an old depressed fracture of the skull of the occipital region. He gave the history as follows: Was struck on the head about 14 years ago causing a depressed fracture of the skull over the posterior occipital fissure extending from three quarters of an inch to two inches to the left of the median line. Previous to his injury the patient was perfectly well and free from mental disturbance of any kind. His family history was negative—no mental disease having been known to exist.

About 18 months ago the patient used alcoholics to excess and had his first attack of epilepsy. Since then he has had severe and continued attacks, lasting for weeks at a time. There was a peculiar congestion of the vessels of the conjunctiva on the outer edge of the right cornea which the patient called my attention to

as having existed ever since his injury. The aura consisted of some ocular manifestations which did not appear to be constant or well defined.

On December 19, 1903, I removed two buttons of bone from what appeared to be each end of the depression, leaving a strip of bone fully an inch in extent between the two openings. On examination of the buttons and the inner table of the skull I found that the only depression appeared to be between the two openings; this was quickly cut away by the Rongier forceps, leaving the interior of the skull with the exception of the wound in a normal condition. Owing to the fact that the dura appeared normal and that there had been a break in the aseptic technique of the operation I did not open the dura. On December 21st the patient had a slight attack of epilepsy; on December 22nd there was some puffiness of the scalp extending anteriorly over the forehead and part of the face, due to an infection of the wound, which, under treatment, promptly subsided, the patient had two other very slight attacks of epilepsy during his convalescence.

A very significant fact connected with this case is that the congestion of the conjunctiva began to fade the day after the operation and in two or three days had entirely disappeared; the patient left the hospital apparently entirely recovered.

CASE 4.—J. W., colored, male, over 75 years of age, entered the Washington Asylum Hospital December 30, 1903; pulse 88, temperature 99.2, respiration 20. His general condition was rather bad although his body seemed fairly well nourished; his appetite was good. He complained of pain in his head, his bowels were constipated, having but one or two movements a week; his mental condition was bad; he does not know where he came from and wanders aimlessly about the ward; he is very dull and stupid and answers questions poorly; says he hears the Lord talking to him; he has an old depressed fracture of the skull over the right frontal region above the middle frontal convolution.

On January 22nd I removed a button of bone which showed an old fracture with considerable depression and thickening; it was firmly adherent to the dura and pulsated after being separated from its bony attachments. I enlarged the opening, incised the dura and released several ounces of watery fluid—the brain appearing more than half an inch below the inner table. The brain showed a marked depression under

the fracture, but owing to the fact that there had been no convulsion I did not interfere with the cortex. There was no appearance of a cicatrix or any condition that would suggest a previous laceration except the depression. The dura was sutured, a small opening being left for cat-gut drainage. For two days the patient was in a stupor; on the third day he began to get brighter and returned to the same mental condition as before the operation. There was considerable discharge of fluid from the wound; his temperature was increased for the first two days after the operation; the third day it dropped to normal and remained so—his pulse ranging from 72 to 98. On the 12th day after the operation he refused all nourishment; his respirations became slow and irregular; he soon became entirely insensible and died February 2, 1904.

Post-mortem showed the general appearance of the brain to be normal with the exception of the depression, which seemed to involve a portion of the brain about two inches in diameter. There was a small collection of pus in the walls of the wound between the scalp and dura which did not seem to have affected the brain or any of its membranes; there was no fluid found in the cranial cavity.

CASE 5.*—Richard G., age 4 years, was brought to Providence Hospital in an unconscious condition February 5, 1904. Examination revealed a depressed fracture of the right fronto-parietal region. There was no paralysis; the pupils were equally contracted and pulse accelerated. At the end of 24 hours the patient regained consciousness and an examination at this time showed distinct crepitus but no depression; patient left the hospital at the end of one week apparently in a normal condition.

CASE 6.—H. D., colored, male, was admitted into the Washington Asylum Hospital August 31, 1901, with the following history: About July 1, 1901, the patient received a blow on the left side of the head near the median line which fractured both tables of the skull and lacerated the scalp; for one week he received no treatment at all; after this time he was taken to one of the other hospitals, where the pieces of bone were removed and the wound attended to; there was considerable infection and I am informed that there was a hernia of the brain. A peculiar fact connected with the history of the case is that the patient walked into the hospital, but after

*This boy was a patient of Dr. Jesse Shoup, to whom I am indebted for the above history.

the wound was treated and the depressed portions of bone removed he lost the use of his right arm and leg; this paralysis slowly improved but never entirely left him. On August 14, 1901, the wound had entirely healed. On September 4, 1901, he had a convulsion which lasted but a short time; he had two more convulsions, however, during the 12 hours following which left him in a comatose condition. On the evening of September 5th I opened up the original wound and found no difficulty in locating a pus cavity containing about a half ounce of pus. The cavity was gently irrigated, packed with iodoform gauze and thoroughly drained. After the operation he regained consciousness and the convulsions ceased, but the paralysis was about the same; he could dress himself and was able to walk with some difficulty. January 1, 1902, he had some slight convulsions, and I made another incision through the cicatrix of the old wound, which had entirely healed, and evacuated a small quantity of pus. After this operation his mental condition seemed to be failing; he was quite childish and we had some difficulty in keeping him in the ward; in fact he ran away on two or three occasions; during one of these elopements was arrested and given a work-house sentence. On June 21, 1902, he again had symptoms of pus and I again made an incision and drained the cavity which apparently had increased greatly in size. The anterior portion of the cavity seemed to be filled with a softened mass of brain tissue. He died January 28, 1903, in coma.

CASE 7.—J. D., colored, male, about 45 years of age, was admitted to the Washington Asylum Hospital in November, 1901, with a diagnosis of cerebral abscess. He was brought to the hospital in a dull and stupid condition, it being impossible to obtain any previous history, and as I remember the case (the hospital record having been lost) he had a convulsion, beginning in the right hand and arm.

I trephined over the area of this centre on the opposite side, opened the dura and found a bulging of the cortex at the opening. Using a grooved director as a probe, I located an abscess containing about a half a drachm of pus just under the edge of the dural opening. I then irrigated the cavity through an enlarged opening and drained with iodoform gauze. The patient improved considerably after the operation, and I kept up the drainage for nearly three weeks as I remember the case. The discharge apparently ceased, the drain was removed and the wound

healed; but in a short time the symptoms again returned, the wound was opened up and more pus evacuated, but a general septic encephalitis occurred, so that the patient died within a short time after the second operation.

CASE 8.—W. MacC., age 39, white, male, entered the Washington Asylum Hospital November 6, 1903, with the history of having had an attack of epilepsy the night before, when he fell and struck the back of his head. On examination he was found to be unconscious, the right pupil was fixed, small and contracted; left pupil widely dilated; temperature 100.8°, pulse 120, respiration 20, skin hot and dry; there was a swelling about an inch and a half in diameter just above the occipital protuberance. Above the mastoid process on the right side there was another and somewhat larger area, which was red and swollen. Believing that there was a hemorrhage from the anterior branch of the middle meningeal artery, I made an incision over this point on the right side; but finding the appearance of the bone and soft tissues normal at this point, I made a second incision over the posterior branch, and there found the beginning of a fracture which extended backwards and downwards towards the base of the skull. The patient's condition was very bad and there was considerable hemorrhage oozing from the bone. I trephined as rapidly as possible, removed the button of bone, but found that the artery was not involved at that point; the patient died before leaving the table.

Post-mortem conducted by the deputy coroner, I am informed, found an extensive fracture of the base of the skull but did not locate the source of the hemorrhage.

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CHOREA AND ANEMIA.

By ROSHIER W. MILLER, M D., Ph. G., Barton Heights, Va.
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In the etiology of chorea, nothing is noted relative to anemia. It is simply accounted as an accompanying symptom of the condition. Medical literature emphasizes the relation between rheumatism and chorea, with anemia as an important symptom. After observation of

several cases, I am strongly of opinion, however, that anemia as a causative factor is worthy of investigation.

Anemia of toxic origin presents pathological conditions which favor the production of choreic affections. It is true that simple anemia is, as a rule, of secondary origin, and, viewed in this light, it may be argued that if chorea arises, it is the result of the primary and not of the secondary conditions—thus agreeing with the admitted etiology. This argument, however, will not satisfactorily explain those cases of chorea which arise remotely from the primary condition, but recently from the secondary effects.

I submit three cases in which symptoms, treatment and recovery seem to intimate at least a possible relation between anemia and chorea.

Case I.—A female child of eight years gave a history of typhoid fever eight months prior to my visit. According to the mother's statement, the child had made a quick and good recovery, gaining rapidly in weight and exhibiting the energy of her former life. Six months later she became irritable and pale, with pain in her arms and legs, which condition was soon followed by gastric disorders and irregular spasms of the muscles of the face. Simple anemia was in evidence from objective and subjective symptoms alone, but was unquestioned in the light of the results obtained from blood examination—the red blood element being present to the extent of barely 3,000,000 corpuscles.

This case was treated with two teaspoonsful of pepto-mangan and two drops of Fowler's solution, three times a day. After gastric symptoms had abated somewhat, two raw eggs per day were added to the diet. The patient was discharged in five weeks, completely recovered.

Case II.—A female child of ten years of age; gave history of malaria (a well defined case of intermittent fever) one year previously. The pallid condition of the child induced the mother to solicit my aid. Upon examination, I found slight choreic movements which had escaped the mother's eye, though she did admit that the child "could not sit still very long at a time," and "was constantly working her fingers." The blood examination revealed no plasmodium. The red cells were reduced to 2,800,000, with a proportionate decrease of hemoglobin.

Pepto-mangan alone was employed in doses of two drams in a glass of milk three times a

day. The blood examination four weeks later showed red cells present to the amount of 3,900,000, at which time I dismissed the case completely recovered.

Case III.—A female child of thirteen years. Two months before my visit, the mother informed me, the child became peevish and pale, and was reprov'd at school for her inability to write neatly. She was taken from school, but she grew rapidly worse. Morning nausea, vomiting, headache and anorexia were her daily companions. I found her with pronounced hysterical symptoms, with involvements of the upper and lower extremities. Hemic murmurs were plainly apparent, but no endocardial irritation could be determined. The blood count showed reduction in red cells to 2,100,000. The hemoglobin was reduced to a degree greater than the red cells. A curious feature of the case was the morning nausea. Immediately upon awakening, she experienced nausea, which was followed by vomiting. I discovered, however, that this condition was superinduced by odors from the kitchen, and directed that a small sponge, moistened with creosote water, be placed over the nose and mouth before the preparation for breakfast began. The annoying symptom was promptly checked by this simple method. The anemia in this case may have been produced by malnutrition, but even this view is mere speculation.

The irritability of the stomach in this case was so pronounced that I did not deem it wise to give nourishment—not to speak of medicine—by the stomach. During the first four days rectal alimentation was employed. A nutritive enema, consisting of four ounces of peptonized milk and two drams of pepto-mangan, was given every six hours. Small amounts of peptonoids with creosote on ice were given by the stomach. Egg albumin was taken in all the water she drank. After four days, the stomach was tested with small amounts of milk and pepto-mangan. Beginning with four ounces of milk and one dram of pepto-mangan every four hours, the amounts of each were rapidly increased, until after three days the patient was taking eight ounces of milk every two hours and four drams of pepto-mangan three times a day. This diet, plus three raw eggs a day, together with the above treatment, was all that was employed for six weeks. The blood examination at this time showed a highly gratifying condition—the red cells being present to the extent

of 4,100,000. The bloom of youth once more tinted the cheek, and the shrine of St. Vitus lost a visitor.

Reports of Cases—(1) Strangulated Hernia; Operation; Recovery. (2) Hepatic Abscess—Operation—Retention of Drainage Tube—Removal—Recovery.*

By J. N. FOGARTY, M. D., Key West, Florida,
Chairman Section of Surgery, Florida State Medical Association.

CASE I.—Strangulated Inguinal Hernia. Resection of a foot of Intestine—Recovery.

In dealing with this subject, I wish to make the fact clear that there is no intention on the part of the writer to elucidate on the etiology, symptoms and treatment of strangulated hernia in general. I am dealing simply with a case of strangulated inguinal hernia that came under my observation on February 12th last.

H. A. H., white; male; age 32; weight 168; policeman by occupation; married, native of Galveston, Texas. Well all of his life except for an attack of yellow fever in Key West during the epidemic of 1899.

For a number of years he has been ruptured on the left side, but suffered no inconvenience from same. Has worn no truss for the past six months. Family history negative; habits regular. February 12th, at 3 A. M., while on his patrol he was seized with a pain in the region of the umbilicus, accompanied by a desire to urinate and some nausea. Urine was voided with no relief of pain. Thinking the pain was due to some indiscretion of diet, he sought the nearest point of accommodation and voided a large amount of fecal matter. Still his pain increased. Groping his way out of the out-house as best he could, he called to one of his squad and was conveyed to the nearest drug store, where a large dose of ginger was administered. This affording no relief of pain he was then conveyed to my residence.

I found the patient on his hands and knees on my front porch writhing in pain. So intensely did he seem to suffer that morphia was administered hypodermatically. On examination I found a mass about the size of a turkey egg protruding from the left inguinal canal,

* Read during the session of the Florida State Medical Association, held at Live Oak, Fla., April 20, 1904.

hard, tender and after some amount of taxis, irreducible.

The patient was ordered home to bed and an ice bag applied. I saw him at 8 A. M. and the tumor had now become scrotal and the size of an infant's head. Vomiting had set in, tumor more painful, pulse rapid and weak, his countenance aged and anxious. The diagnosis was revealed to the patient and an immediate operation insisted on. Patient consented at 11:30 A. M. Diagnosis was confirmed by Dr. C. H. Gardner, Passed Assistant Surgeon United States Public Health and Marine Hospital Service. All necessary preparations having been made, the patient was anesthetized on the table at 3 P. M., 12 hours after the initial pain.

An incision four inches long was made over the hernial tumor with careful dissection of the several layers of tissue until the sac was reached. This was freely opened and drained of a dark brown fluid exudate. The sac contained three loops of dark purple colored intestine with but little lustre remaining. The constriction was located and relieved, the gut drawn well down into the wound and examined. On pressure and pouring on of the hot saline solution, there was no blanching of tissue.

The viability of the gut being in question, it was wrapped in sterile gauze and hot water for over an hour before there was a ray of hope to save an inch that was contained within the sac.

Persistent in our efforts, we were soon gratified by a return to healthy color of two-thirds of the gut. The other portion showed no sign of viability. Hence resection of 12 inches and end to end anastomosis was done by the use of a Murphy button and the healthy portion restored to the peritoneal cavity. In view of the condition of the patient after a long continued operation of over two hours, the radical Bassini that was anticipated was dispensed with, the sac closed by means of a continued suture of catgut and the wound closed with silk worm gut, and the patient was put to bed at 5:45 P. M. He rallied well, free of pain or discomfort.

For the first 48 hours after operation there was considerable abdominal distension, accompanied by some eructation of gas, but no rise of temperature above 99.8°. Third day, bowels moved by aid of saline enemata. Fourth day, he was given divided doses of calomel followed by sodium sulphate.

Convalescence was uninterrupted until the 16th day after operation, when the patient was

seized with a severe pain in the right iliac fossa that lasted but a few moments, which was accounted for by the passage of the Murphy button through the ileo-cæcal valve. On the nineteenth day after operation the button was passed and the patient allowed out of bed.

March 16th, thirty-two days after operation, he returned to duty, and until the present writing his progress has been uninterrupted.

I wish here to express my gratitude to Doctors Gardner and Maloney, who so ably assisted me.

CASE II.—*Hepatic Abscess—Operation—Retention of Drainage Tube—Removal—Recovery.*

J. C.; white; male, age 31; native of Key West, Fla. Has always enjoyed perfect health until present attack. A smoker and periodical drinker. Average weight for the year, 215 to 220 pounds. Truckman by occupation. Seen by me October 26, 1902, at 2 A. M. Patient had been confined to bed for over four months under treatment for typhoid fever. Temperature 103.5°, pulse 126, tongue coated, slightly jaundiced, skin dry, darting pain in region of the liver that was enormously distended five fingers below the costal border and to the left of the median line of the abdomen.

Fluctuation easily obtained. Bowels loose and sometimes bloody. In early part of July the patient was enjoying perfect health and went off on a fishing trip, and when he awoke one morning he was stiff from head to foot, so much so that he could not rise from his bed unassisted. Bowels had been loose some time before.

His companion becoming alarmed at his condition, brought him home. From then, the middle of July, until I saw him in October he had been treated by four other physicians, none of whom, according to the statement of the family, had given any attention to the pain and distension in the hepatic region.

Diagnosis of hepatic abscess, probably tropical. My diagnosis was confirmed the same day by the late Doctors Sweeting and Murray, and ultimately by the finding of the amœba coli.

I told the family that I would have nothing to do with the case unless consent was given for an immediate operation and then could promise but one chance in a thousand for recovery. This they were willing to take. Next morning, October 27, 1902, at 10 o'clock, patient was operated on. An incision was made through the anterior

abdominal wall along the costal border. The liver was found to be adherent on all sides. No fixation was necessary. At this point the organ was incised and emptied of a large quantity of clay colored pus, and a drainage tube of six inches in length inserted. A second incision was made in the axillary line between the 6th and 7th rib and a ten inch tube inserted. The organ was then flushed with a gallon of normal salt solution, wound dressed and patient put to bed in a bad condition.

Family was told that he would probably not live the night through. How often do we make prognosis and the unexpected happens! Patient was dressed twice in the same day after the operation, so profuse was the discharge. At each dressing from time of operation, daily, until the middle of December, the liver was irrigated through and through with salt solution.

October 28th, day after operation, patient improved. Progress was uneventful until November 16th, when a friend, semi-intoxicated, volunteered to take the night watch. Up to this time the patient had not been allowed off his back. This kind (?) friend thought it would be more convenient for him to have an evacuation on a commode; so proceeded to lift him off the bed and place him on the commode. During this wise (?) operation the dressings became loose, and the same individual, thinking he would relieve me of some trouble, changed the dressing.

On my arrival the next day, as soon as I looked at the dressing, I questioned the patient and he confessed to the foregoing. Removing the dressings I found my posterior tube had disappeared. The wound was probed and nothing found. At this point the patient assured me that my tube had been carried away and thrown out in the dressing. No bad results having followed, my mind was at rest as regards the lost tube. From this date, November 16th, the wound was irrigated as before until December 6th, there being no discharge; the anterior tube was removed and the wound allowed to close.

Patient discharged in splendid condition January 5, 1903.

Late in October, 1903, he came to my office with what appeared to be an abscess just above the crest of the ileum. This was incised and drained and in the course of a few days it healed.

Last month, March 20th, my patient returned in a similar condition. Tumor was incised and

drained, but unlike the one before, it kept on discharging day after day, until suddenly it dawned on me that my tube might be hidden away and causing all this trouble.

Explaining this probability to my patient, he consented to go on the table. April 10, 1904, incision made over seat of abscess and finger introduced through the wound. Without the slightest difficulty, my ten inch tube was drawn out. Patient is now doing well and weighs over 200 pounds. The presence of this tube in his tissues did not incapacitate him one day.

MANAGEMENT OF ACUTE MANIA.

By J. W. P. SMITHWICK, M. D., La Grange, N. C.,
Member of Governing Council of American Congress on Tuberculosis, etc.

The management of a given case of acute mania is of the greatest importance. Hypermedication should be carefully avoided, as such has a deleterious influence on the patient's mind and nerve centres. To restrain by mechanical means is rarely advisable. The best measures to adopt for the purpose of exercise are to get the patient out of doors, and employed in some light avocation so as to divert the mind from the condition—something that will enlist his interest and enthusiasm in its prosecution. Stimulants are often useful and should be administered with the food. In every case it is important to introduce an abundance of wholesome food. A dry tongue is an indication for pushing food and stimulants to the point of toleration.

If the functions of any of the great emunctories need arousing, use proper medicines for that purpose, but I have never seen any routine treatment that was of service in this condition. As a calmative and to quiet the excitability of the nervous system, I administer bromidia in teaspoonful doses. Its peculiarly happy composition makes it specially adapted to cases of acute mania. I have yet to realize any bad effects from its use, which extends over a practice of many years.

If constipation exists, secure a free and complete evacuation of the bowels along its whole course by properly selected purgatives. If the kidneys are sluggish in their functions, a mild and unirritating diuretic—such as acetate of

potash and the citrate of lithia—should be used in proper doses. In short, I endeavor to relieve any symptom that is likely to point to trouble or retard recovery. In females, I have often found present same malposition of the uterus, which, of course, should be corrected.

I wish to report some cases in illustration of the types and conditions I have thus successfully treated:

CASE I. *Acute Puerperal Mania*.—During delivery of this young woman, she had several puerperal convulsions. After birth of the child, the mother went into a semi-comatose condition, which lasted about thirty hours. When she aroused from this condition, acute puerperal mania developed. I was then called in consultation, and the attending physician had despaired of her recovery. She was in a raving state when I first saw her. I ascertained that her bowels were inactive, and had been so some time prior to confinement. The kidneys were also inactive—the patient having urinated only once in the past thirty-six hours—which caused the attending physician to diagnose uremia, from which he thought she would die. I advised a teaspoonful of bromidia every two hours until the patient should become quieted; and then to continue it in doses and intervals sufficient to secure quiet and rest. After the fourth dose she was quiet, when we gave a purgative dose of calomel, podophyllin and aloes, combined with ipecac and belladonna. Six hours later she was given a warm soapy water enema. These affected a satisfactory expulsion of the bowel contents which had been long retained. Next morning she was more quiet and composed—although she had not been given bromidia for twelve hours. Some signs of the mania, however, were present, but I thought it would be necessary only to give an occasional saline purgative and an occasional dose of bromidia, and a good-nourishing and easily assimilable diet. On this treatment the patient continued to improve, and at the end of about three weeks she was out visiting friends.

CASE II. *Post Typhoidal Acute Mania*.—A young man had just passed through a long siege of typhoid fever, which left him very much debilitated and weakened. Signs of acute mania began to develop as the fever left, and grew worse and worse for several days. Attendants were required to keep him from rash acts—as he spoke on several occasions of homicide and suicide. His mental delusions were pronounced

and oftentimes ludicrous. He wanted to be up and going all the time, and sleep appeared to be unknown except when under the influence of a strong opiate. His appetite was returning nicely after the attack of fever, until the evidences of mania began to develop, when it gradually failed. Then he began to assume a haggard expression—an expression indicative that something dreadful was going to happen. On several occasions he attempted to escape from his room. During his fever, his diet had been largely of milk, and I suspected a collection in his bowels of masses of curds, etc., and therefore prescribed a purgative that would act on the entire intestinal tract, with the result that an immense amount of curdy matter was expelled. I also prescribed bromidia in teaspoonful doses every three hours until he became quiet and went to sleep; only three such doses were needed to secure peaceful slumber, after which I advised an occasional dose—just enough to keep him quiet. A wholesome, nourishing, easily digestible diet was also advised—as much as he would take. Whiskey was allowed in the form of hot toddies and egg-nog. With this treatment, he remained quiet for three days, but having the appearance all the while of not getting well. After that, however, improvement was rapid and he was soon up and entirely free from all evidences of his former troubles. The complication, in the form of acute mania, did not seem to hinder his recovery from the fever.

THE DIAGNOSIS OF DIPHTHERIA.*

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Diphtheria may at the present time be defined as an acute specific contagious disease, due to the absorption of a toxalbumin elaborated by the Klebs-Loeffler bacillus, and is characterized by the formation of false membrane on mucous and skin surfaces, with marked constitutional symptoms due to secondary infection.

In the vast majority of cases the diagnosis can be made with absolute certainty on the third or fourth day without the aid of laboratory methods, but most valuable time is lost while

*Read before the Richmond Academy of Medicine and Surgery, December 8, 1903.

waiting for characteristic symptoms to develop and our diagnosis at a late stage might be of value only in arranging the details of quarantine, disinfection, etc. The diagnosis of diphtheria to be of value in determining specific treatment must be made before there is any marked constitutional infection.

The period of incubation is variable, being from two to eight days, and is of little value in differential diagnosis.

The onset is rapid but it is not abrupt. In rare cases, the constitutional infection appears at the onset. If this is the case, the patient dies in twenty-four hours without spread of pseudo-membrane and without rise of temperature. In this case we must make the diagnosis by the culture tube.

The primary focus of infection is usually the tonsil or the uvula of the infected side and is accompanied by great lymphatic involvement at the angle of the jaw. From this point the infection spreads rapidly, and by the direction and amount of surface involved we recognize three types—viz., pharyngeal, laryngeal and nasal. Usually this extension from the tonsil to the nasopharynx or the trachea requires from three to four days, but in rare cases, in twenty-four hours the mucous membrane from the anterior nares to the trachea may be involved. By this extension from the tonsil to the uvula or palate, we may make an absolute diagnosis; but since the constitutional symptoms become more marked as the membrane spreads, we must take means to check the spread of the exudate and make the diagnosis before this lapse of time.

A pure streptococcic infection of the tonsil might give the appearance of a diphtheritic membrane, as it spreads in twenty-four hours with great constitutional symptoms; but, again, in a case of this kind, the duration of the disease is short and death ensues before a culture can be made.

Follicular tonsillitis may resemble diphtheria at the onset so closely that time or the microscope alone will make a clear diagnosis. If we simply wait, we will see that the exudate in follicular tonsillitis, is in one or more small patches, spreads but little or not at all, and never leaves the tonsil, and on the second or third day, sloughs off, leaving a small, clean ulcer which heals rapidly, with an accompanying amelioration of all symptoms. The plugs of fibrin and cast off cells may extend beyond the follicle, but never beyond the confines of the tonsil.

The false membrane of diphtheria is due to

coagulation-necrosis, and, therefore, is a pasty mass of necrotic tissue and coagulated fibrin. In color, it varies from yellowish-white to a dirty gray. If it is located on a squamous epithelium, it is closely adherent and appears to be inlaid in the normal mucous membrane and is framed by a congested areola. If, however, it is on columnar epithelium, it is more loosely attached. If it is forcibly detached, the bleeding from the injected submucosa is very free and a new membrane is promptly formed again.

As the process of involvement or necrosis extends from without inward, the involvement of the deeper structures is rapid. The areas involved may form a small patch on the tonsil or uvula to a false membrane extending from nose and lips back to pharynx, out Eustachian tube to middle ear, down trachea to bronchi, even involving esophagus and stomach.

The angina of scarlet fever is often extremely hard to differentiate because often in these cases the rash is light and late in appearing; or the reverse picture of diphtheria is seen—viz., little spread of membrane and a rash resembling scarlet fever. The fact that scarlet fever desquamates and that diphtheria does not, will finally make the diagnosis absolute. Albuminuria with casts and blood cells is seen as often in diphtheria as in scarlet fever. Frequently epidemics of scarlet fever and diphtheria are prevalent at the same time, and we must always bear in mind the fact that these two morbid conditions can and do appear in the same individual at the same time and each contributes its characteristic symptoms to make a most confusing picture to the clinician.

The methods pursued in making a bacteriological examination are only of interest to us in so far as sending the culture to the trained microscopist. If we are in close communication with a laboratory, a small bit of membrane may be removed by means of sterile forceps, rinsed in a two per cent. solution of boric acid and sent directly in a sterile test tube. A better method is to prepare tubes of Loeffler's blood serum or plates of the same media and keep them on hand. A sterile cotton swab or platinum loop should be prepared and kept with the culture media. In a suspected case, rub the loop or swab gently over any visible exudate, then rub gently over the culture media, being careful not to break the surface of the latter. Sterilize the loop or burn the swab; plug the culture tube and send to the laboratory.

We must bear in mind the fact that it re-

quires from twenty-four to thirty-six hours after the receipt of the culture to make a certain negative diagnosis. A positive can sometimes be made in six hours.

The antitoxin of diphtheria is a therapeutic test of great value, and after its administration in a case of diphtheria with but slight secondary infection we should see a rapid disappearance of the membrane. The advisability of its early trial while we are waiting for the culture is apparent to all.

To recapitulate: The culture combined with the clinical symptoms gives an absolute diagnosis. Antitoxin in the majority of cases, if administered early, by its happy results makes a positive diagnosis. Finally, if we must wait, the spread of the membrane is almost pathognomonic.

It is true that diphtheria has often been correctly diagnosed even before the exudate spreads, by the clinical picture, but this method, in these days of scientific exactness in examination, is hazardous unless the observer be unusually skilled and experienced.

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Notes of a Trip to New York, Philadelphia and Richmond.

It is very desirable that each practitioner should see what is going on in other centres, where he can study and observe without having the responsibility of the cases that he sees; and, having received a prize given by the *International Journal of Surgery*, entitling the writer to a course in the New York School of Clinical Medicine, it was an opportunity which should be embraced. My wife and I started on a trip of this kind on Thursday, February 4, 1904, and reached Richmond first, on the 5th.

Here, it may be said, that many doctors of reputation, at home and in the South, make an excellent place for study. It is the seat of two medical colleges and several hospitals of importance. I saw Dr. Stuart McGuire, son of Dr. Hunter McGuire, and visited his hospital, where I had the pleasure of seeing him operate. His technique is very simple and his results are satisfactory from every point of view. As a

friend of Dr. McGuire, I was glad to see him show the same skill in surgery that his father possessed.

In New York the opportunities for clinical study are equal to any in the world. There are probably one hundred hospitals in Greater New York. Of these we visited one dozen of the most important. One of the smaller hospitals is St. Mark's, but it has the reputation in Europe as well as in this country for being the theatre of many brilliant operations, and also many excellent results.

Here Dr. Carl Beck, a German physician, who has been in New York for twenty years, is the president and moving spirit; but any physician can take his patients there, provided there is room. I also saw some of the most important operations on every portion of the body. There were two operations for cancer of the tongue and several mastoid operations, and operations upon the chest, empyema, as well as operations upon the neck, involving the complete excision of the internal jugular vein, and many cervical glands.

Dr. Beck is an authority on the subject of the X-ray, having written a book which is now ready for publication, and he gave a practical demonstration of the utility of this means of diagnosis of an osseous cyst in the shoulder—being an epiphyseal formation, found in younger patients. A lady sixteen years of age had been treated for rheumatism and other things unsuccessfully. When Dr. Beck saw her he had an X-ray examination made, and the skyagraph showed that there was a cyst of the head of the bone; yet upon inspection, there was very little to be noted in difference of the two shoulders. The patient, however, could not raise her arm to any distance above her shoulder. When the shoulder was examined more particularly by myself, at the instance of Dr. Beck, there was noted an elasticity of the shoulder which was in striking contrast to the hardness of the other shoulder. Before the operation, I had an opportunity of seeing this patient several times. The operation was also witnessed by me, and confirmed the diagnosis completely. The patient will, no doubt, be relieved by the method of treatment adopted. It consisted in the cutting of the shoulder and evacuating this cyst, which was in the substance of the bone, but did not seem to be hard to reach, as the knife alone was sufficient to get into it from the outside. A curette was used to scrape out the contents of

the cyst, which were jelly-like and partly like marrow, and then the cavity was packed with gauze.

Another case in which a bone was involved and which also illustrated the use of the X-ray was that of *fracture of the neck of the femur*. The patient had been treated for three or four weeks with the ordinary splints, but there was a shortening of several inches. It was necessary to cut down into the joint and thoroughly disengage the fragments in the intertrochanteric line, and in this there was drilled a hole in which was placed an ordinary steel screw, as is used by carpenters. It was made to pass through the head of the bone and into the upper fragments, which was in the acetabulum. This screw was left for a short time until union could take place, and then it was to be removed. The union had not existed before on account of a fibrous mass lying between the fragments. The X-ray had shown that there was a displacement of the bone at the head of the femur and gave rise to the diagnosis. The complete correction of this displacement was very marked after operation, there being no shortening and a complete cure might be expected under all circumstances. The treatment of these fractures is always difficult, and if a surgical operation here described corrects the deformity, the problem is solved in the treatment of fractures of the neck of the femur, involving the capsule. The X-ray should be used in order to ascertain this fact early in the treatment of these cases, and should be a guide in the performance of an operation. The method of wiring here does not avail anything, because the wire cannot be placed into the upper fragment, which lies very close in the socket, and only the end of the screw can penetrate the place.

Dr. Beck uses a great deal of iodoform, and seems not to have had any bad results from it. One operation for hernia which he performed had some points of difference and difficulty that are not usually encountered. The man weighed 250 pounds, and had a recurrent rupture. The muscles were used in a funnel shape by a special method that prevented the escape of the contents of the abdomen. It was very much like the Bassini operation in many respects. Kocher, in his surgery, mentions this form of transplanting the rectus muscle in the treatment of hernia as originating with Dr. Beck, though Bloodgood, of Baltimore, has also claimed to be the first one to use it.

Another hospital of interest is the King's County Hospital of Brooklyn. Here we have two well known surgeons and anatomists, who operate on Thursdays. The institution contains a great many charity patients, and for that reason the clinical material is more varied than in private hospitals. Dr. A. T. Bristow, Clinical Professor of Surgery in the Long Island Medical College, is the attending surgeon, and Dr. W. G. Campbell, Professor of Anatomy in the same college, is his assistant. They usually operate together, but at times in a rush of work Dr. Campbell takes the whole responsibility of the operation, and a house surgeon is given an opportunity to perform the operation himself.

Dr. Bristow has performed several operations for excision of the carotid artery for malignant growths of the face. His work during the time I had the pleasure of seeing him consisted in operating for hernia, and for the removal of the glands of the neck. He also performed an operation for the transplantation of the facial nerve, which was paralyzed and required to be united with the spinal accessory nerve.

He operated upon one of the house staff (proposing to go out as a medical missionary) for appendicitis, making a gridiron incision and then having a purse string of catgut to enclose the stump of the appendix. The case was one of recurrent appendicitis, and need not necessarily have given him alarm, but for the fact that he was afraid another attack would be when he was too far away from medical skill to be treated successfully by a surgeon. The appendix was hardened and cord-like, and there was already an effusion of lymph into the peritoneal cavity, so that there was danger of another and most serious onset within a month. Dr. Bristow was perfectly satisfied with the operation, thinking it had been performed as successfully as he was capable of doing it.

This feeling that a surgeon has of satisfaction with his own work is the best reward as well as the best test of his surgery. It is not easy to please one's self in a duty where an ideal to be reached is a high one.

Dr. Beck used an ordinary ligature, and after ligating and cutting off the appendix and stripping back the mesoappendix, he took an ordinary stitch from one side to the other of the stump and included this portion of mesentery in the stitch, so as to cover the stump.

Dr. George Ryerson Fowler, of Brooklyn Hospital, performed an operation in which he

used the thermo-cautery for the stump of the appendix, and had a purse string connected with the cuff of the serous coat of the appendix and pushed it back so as to be buried, but not entirely inverted, into the cæcum.

Dr. Fowler has written a book upon appendicitis, and his work is very interesting in all departments of surgery. I saw him do an operation on the gall bladder, in which there was no stone in the gall bladder, but there was a stone in the common bile duct. The method of drainage was the most interesting feature of this operation, for it consisted in the insertion of a tube into the gall bladder and stitching the edges of the gall bladder a little above the point where the tube was finally to rest, enabling the tube to be pushed down against some purse string sutures that had been placed below them. The tube was long enough to be placed in a basin on the floor near the bed and secured drainage without leakage.

There was also in the practice of Dr. Campbell, at St. John's Hospital in Brooklyn, a patient who had been operated on for a stone in the common bile duct. The stone was imbedded so as to require an incision of the common bile duct with its removal. The patient was doing very well the next time I saw her.

Dr. Campbell had an interesting operation at the Brunswick Hospital. It was a gastrotomy for cancer of the cardiac end of the stomach. The patient had not eaten a square meal for a year or more, and had not been able to swallow anything for some days. There was need of doing the operation as quickly as possible, and by actual time it required seventeen minutes. At the end of this time a tube had been inserted into the stomach through an artificial œsophagus, and a glass of milk and whiskey was poured through a funnel at one end of the tube and went into the stomach, and this was the way she would be fed.

There had been a case of the Chief of Police in New York, who was fed altogether by this means, and lived and performed his duties some years after the operation.

Dr. Campbell is interested in the treatment of cancer by electricity, and he gave this case a trial of a method of electrolysis and cataphoresis which I described to him, and also gave a personal demonstration of its method of application for his benefit. He has a case of recurrent carcinoma of the breast, in which he desires to use this. In this connection, both Dr.

Fowler and Dr. Campbell promised to make use of the means we have adopted for treating inoperable cases of cancer.

Dr. Fowler has three hospitals in which he can use this, and Dr. Campbell has also ample opportunity to test it. It is to be hoped that the same good results may be found by them as we have already met with, and as Dr. Fraser, of Thamesville, Ontario, has also found.

In direct connection with this may be mentioned a visit I paid to Dr. G. Betton Massey, of Philadelphia, who has been treating cases of carcinoma with massive cataphoresis. He gave me some of his electrodes, which are now made of amalgamated zinc, which he has found better than the gold formerly used by him.

He will soon issue a revised edition of his book, "*Conservative Gynecology*," which promises to be an advance upon anything that has been done in the line of electro-therapeutics. His views now are in a line with the chemical process that takes place by the current when a medicine is applied on the positive or negative pole of the battery. I suggested to him the use of Donovan's solution upon his electrodes in place of pure mercury, and I think he will give it a trial. It is much more diffusible and requires less current than his process.

There is a book called "*The Outlines of Electro-Chemistry*," by Prof. Jones, of Johns Hopkins University, which may be studied in connection with Dr. Massey's work, as he recommends it very highly.

The behavior of chemicals under a weak galvanic current is a very instructive field of study, and offers to the chemist, as well as the physician, many important suggestions for treatment, which may be embraced and generally utilized by the profession under the general head of "cataphoric medication." It is more effective even than hypodermic medication, and will be more and more serviceable to mankind, as the medicines can be made to enter the system in a direct line with the part affected, and the doses of the drugs become better known and their effects described.

I gave a day or more to the study of the offices of the doctors who use electricity almost exclusively in their practice. Dr. Wm. J. Morton, who has for many years been prominent in the treatment of diseases by advanced therapeutics, and especially electricity, is one of the scientists applying practically his knowledge to treat his patients. He prefers the use of radium to some

of his former methods of treatment. He has written a book on "*Cataphoresis*," but it has not been so widely read as it should have been. He showed me some of his instruments for this process of introducing medicines through the skin, which, I think, are still superior to anything heretofore accomplished with radio-active water or other means of using this new principle of fluorescence in the body; however, it is attracting some attention, and we shall look forward to his experiment with interest. The process will be hard to understand, and yet it is a very simple one. It consists in giving to the patient a few doses of the bi-sulphate of quinine until the tissues of the body are thereby rendered capable of either reflecting or refracting the rays given out by radio-active water, which is also taken into the stomach. The idea of such an infinitesimal dose producing great result is itself somewhat of a barrier to its general acceptance by the profession.

The study of radium has not gone sufficiently far to demonstrate what it is and what we are to expect from it. It is now receiving considerable attention from the specialists in stomach troubles as a means of determining whether the stomach is in position or not. "Lincoln's light" is a term that I heard used to qualify a little electric bulb that is swallowed by patients who have been subjected to treatment similar to that described as being used by Dr. Morton, and serves to light up the walls of the stomach that are already fluorescent when seen in the dark.

There are other means of producing this fluorescence besides radium. They are by means of uranium, fluorescein and other substances of like character, reminding one more of the "will of the wisp" than of anything else, and I venture to predict will be equally transitory.

The physicians in London have already discarded radium in the treatment of cancer. It is not probable that radium will be found any more serviceable than the X-ray in the treatment of cancer.

The work of Mrs. Margaret A. Cleaves is also studied, and she considers that radio-active water will lose its power within six or eight hours at the most. She has a very good apparatus for giving light baths and using the Finsen light, which she claims to have had in use a good many years before Finsen put it in practice himself. She has shown in her writings

that this process has given good results in the treatment of some cases.

Dr. William Benham Snow is devoting himself to methods of advanced therapeutics, and has quite a number of patients under treatment by the X-ray and static machine, his vacuum tubes for the use of high frequency current, and the vibrator. The vibrator is one of the most interesting instruments that I have seen. It depends upon principles of communicating its vibrations to the skin through a rotary wheel. It is used in massage and exercises imparted to the muscles similar to that gained by their contraction with electricity. It should be found beneficial in headache and nervous disease, and is very pleasant and easily taken.

While we are speaking of the results of light, heat and electricity, it may be well to remark that the surgeons are using these agents more now than formerly, and that Dr. John A. Wyeth has adopted the injection of boiling water into the tissues, so as to get the coagulating effect. I saw him apply the injection in a case of angioma. He has been using it in a great variety of cases, and I was glad to see a demonstration of his method. He uses an ordinary metal syringe like that used in hypodermic injection, only with a larger barrel and needle. The water is hot enough even to scald, as shown by throwing it up in the air and letting some come down on the hands of those who would witness it. It is a ready method, one that can be utilized by the general practitioner in cases of aneurism or nevus or any collection of blood, such as hematoma.

Dr. John A. Wyeth is a Southern man, and has just returned from a trip to Florida. He is generally well known in New York and Brooklyn.

I attended the New York Surgical Society meeting, and heard a paper by Dr. Lillienthal, describing upwards of forty cases of cholecystectomy. He has had good results in excision of the gall bladder entirely, and the discussion of his paper led to many interesting points that were brought out by the surgeons in regard to this operation. This paper will doubtless be read with discussion, and I can only say that the impression left upon me was that the gall bladder should be removed in many cases where it is left. It is a useless organ after its walls are diseased, and in health it does not hold a great amount of bile, but probably serves as an

overflow reservoir. When it is obstructed and the outlet no longer serves to allow the bile either to flow in or to flow out, it acts as a foreign body or a tumor, and may give rise to malignant disease or indigestion.

Whether it may be compared to the appendix is another question. We can very well try to avoid extremes in both gall bladder surgery, as in other departments of gastro-intestinal surgery. It is not necessary to remove the gall bladder just because another operation is performed in the region near it, nor is it well to resort to appendectomy just because we are aware that it gives trouble sometimes, and because the surgeons may be operating upon the ovaries or the kidneys.

I saw two interesting operations upon the urinary bladder, one by Dr. Ryerson Fowler, of Brooklyn, N. Y., and the other by Dr. Carl Beck, of New York. One was a case of supra-pubic lithotomy on an Italian boy about sixteen years of age. He had come into the Brooklyn Hospital for treatment, and gave symptoms of tenesmus and pain upon urinating, together with other symptoms of calculus, yet he had not been sounded for stone until he was placed upon the operating table. The reason for this was that he was examined by the house surgeon, who found the urethra was so small as not to admit of the instrument without pain, and he waited until he was under the anesthetic. He was pretty sure of his diagnosis, and when an ordinary steel sound was inserted into the bladder, the calculus was plainly felt. I was permitted to feel the instrument and note the grating of its beak against the stone. Then the bladder was filled with a solution of boracic acid and an attempt was made to get the elick of the instrument against it, but this was not so distinct as at times; still there was no doubt of the existence of the stone, and the operation was done for its removal. Neither was a rectal bag used, nor was the bladder filled with fluid more than to wash it out.

Dr. Fowler explained that the rectal bag was dangerous in causing rupture of the rectum, and that he had not used it for some years. He also considers it unnecessary to extend the bladder so as to carry the peritoneum above and out of the way of the operator, for he claims that the surgeon should be able to reach the part of the bladder without this help. I told him that would do for a man such as he was, but it would

not do to teach the average surgeon, because it was difficult enough to reach the bladder with a guide like we had and was now well recognized as being of value. He performed the operation successfully, where another might fail.

This led to the discussion of stricture of the urethra, and to my surprise he stated he never used a guide in performing operations for external perineal urethrotomy. His experience with this is similar to that of Dr. W. S. Goldsmith, of our city, who has adopted the treatment of these cases without a guide. It requires a knowledge of the appearance of the structure. While the anatomist may find this to differ after a diseased condition, the pathologist understands how entirely changed the special features due to a great many false passages are often made by instruments in examining the urethra.

Dr. Fowler claims that these very false passages are troublesome in introducing a guide, and that the surgeon may be led wrong by this process, while he cannot stray far off if he has the whole field open and before him.

This is begging the question, because we know that we have to operate without a guide when we have certain conditions that prevent the use of the guide, whether from stricture that is impermeable or one that is permeable but cannot be found.

I have myself found a great deal of trouble in reaching the bladder by the perineal route, on account of this false passage. In one case which I operated upon under cocaine, the stone in the bladder could be touched at first by the grooved guide, but later had escaped into the tissues, so that it could not be found. Probably an operation without a guide would have been equally unsatisfactory, for the guide was not probably in the bladder at all, but in a false passage.

The other case of supra-pubic cystotomy was for a papilloma, and was done at St. Mark's Hospital soon after I reached New York. It was a transverse incision about an inch from the pubic bone, when the bladder was reached, and it was incised so as to enable the operator to touch the papilloma with the thermo-cautery. It was done long enough before I left for me to see the good effect of the operation.

JAMES MCFADDEN GASTON, M. D.

Atlanta, Ga., April, 1904.

Analyses, Selections, Etc.

New Treatment of Serous Effusions.

James Barr, M. D., F. R. C., in a clinical lecture at the Liverpool Royal Infirmary, describes (*Brit. Med. Jour.*, March 19, 1904) what is evidently a new method of treating serous effusions. The idea occurred to him to inject a fluid drachm of *adrenalin chloride solution* into the pleural sac, in a case of abdominal cancer extending to the pleura, after aspiration of a large quantity of bloody serum—the object of the injection being to lessen the secretion. There was no further secretion; consequently no further tapping, and the patient spent the remainder of her life in perfect comfort so far as her chest was concerned.

This treatment was extended to cases of ascites due to hepatic cirrhosis, in which marked results were not expected. However, the rapidity of secretion was diminished and no ill effects were noted—the quantity of adrenalin solution used varying from two to three fluid drachms.

In a case of pericarditis with effusion, in a lad, 19 fluid ounces of serum was withdrawn from the pericardium, but a reaccumulation rapidly followed. The patient's condition becoming critical, the paracentesis was repeated, 20 ounces of fluid being withdrawn with immediate improvement in the quality of the pulse. Forty minims of solution adrenalin chloride, 1-1000, was injected into the pericardium. The pulse at the wrist disappeared, the boy became of an ashy leaden hue and had an anxious expression. Immediately nitroglycerin and atropin were administered, and the boy quickly rallied. No further tapping was required. The same patient had a subsequent attack of left pleurisy with effusion. Ten fluid ounces of serum was withdrawn from the chest and one fluid drachm of adrenalin chloride solution was injected. There was no reaccumulation.

In a case of tuberculous peritonitis and ascites 200 fluid ounces of serum was drawn and two fluid drachms of solution adrenalin chloride introduced into the peritoneal cavity, with four pints of aseptic air (to prevent adhesions). Thirteen days later 237 fluid ounces of serum was withdrawn, and two fluid drachms of adrenalin chloride solution and two pints of air were injected. Upon a third occasion, eleven days later, 196 fluid ounces of serum was obtained

by tapping, and three fluid ounces of adrenalin chloride solution and four pints of sterile air were injected. No reaccumulation of fluid occurred.

A female child of seven years was the next patient. One pint of fluid was withdrawn from her pleural cavity and one fluid drachm of adrenalin chloride solution and half a pint of sterile air were injected. Though it was highly probable that the pleurisy was tuberculous, there was no reaccumulation of fluid and the patient recovered.

Cerebro-Spinal Fever.

During the session of the Florida State Medical Association, at Live Oak, Fla., April 20, 1904, Dr. Hiram Byrd, of Jacksonville, Fla., read a paper on this subject, which bore special reference to an epidemic which occurred in the vicinity of Madison, Fla., during the months of February and March of this year. The paper describes the individual symptoms and shows how they vary in different cases, and how the cases themselves vary—some being so severe as to cause death in thirty hours, and others so mild as to get well almost as quickly. It shows how cerebro-spinal symptoms are wanting in fully half the cases, and concludes from this that it is not a local lesion, but a systemic infection. The paper concludes as follows:

“The only rational interpretation of the phenomena observed that is consistent with all the facts, is embodied in the following brief summary:

1. Cerebro-spinal meningitis may be caused by sundry organisms, but that *cerebro-spinal fever is caused by the diplococcus intracellularis, and that only.*

2. This organism has a preference for the cerebral membranes, but does not necessarily attack them; consequently in any given case of cerebro-spinal fever, there may or may not be a cerebro-spinal lesion.

3. The organism is widely distributed in nature, but in an attenuated state.

4. Under certain combinations of environments, its virulence increases till it is capable of causing a sporadic case of cerebro-spinal fever.

5. If this combination of environments extends to a whole community, the result is an epidemic, which may be regarded as so many sporadic cases.

6. The disease is not contagious, and when several cases occur in the same family or com-

munity, they all come from the same cause and not from one another.

7. In our present state of knowledge, we have no effective means of preventing it, but there is no doubt that wholesome hygienic living will increase our vital resistance and render us less easy prey to this fell disease."

Editorial.

Advanced Medical Education.

To state the popular conception of the character, bearing and scope of professional education would be difficult, if not impossible. It is a subject towards which the popular mind has not been directed and on which few beside those immediately concerned have thought at all. Indeed, the lamentable lack of high educational ideals amongst professional schools, until within comparatively a few years past, would seem to indicate that no one had thought seriously on the subject. It cannot excite wonder, then, that the attitude of the public towards professional education is one of indifference; nor should it be thought strange if the educational world at large has not yet grasped its correct relations.

That this is true needs no elaborate argument. A conversation occurred not many years ago between a professor in a literary college and an official in a medical college. The official made some simple, and, to him, obvious reference to the common interests of the two in educational work. To the professor this idea was so new, and, possibly, queer, that he gasped in surprise and quite innocently asked the official to explain how that came about. It had evidently never occurred to him that an official in a medical college could have anything to do with the consideration of educational problems. This may be an extreme case; but evidences are not wanting to indicate that it may be only a fair illustration of the estimate which even latter-day educators place upon the value of professional education as education.

One of the signs of the times is that there is a growing demand everywhere that the process of education shall have due relationship to the end of education—that is, that each man's education shall be conducted along the lines that shall fit

him for his special place and work in life. Thus it is evident that the educational world is approaching the standpoint of the professional school, and instead of misunderstanding there will be intelligent sympathy with this important factor in the work of education.

A few far-seeing educators in the hitherto isolated field of medical education have long known of this trend of thought in their direction; and, after careful study of the general situation, have concluded that there rests upon the colleges of medicine a corresponding duty of being in touch with modern educational ideals, and thus of being prepared for the awakening which must come to them when the understanding of their position by the world at large is clear.

It would be impossible within the limits at our command to give any idea of what is involved in the performance of this duty. The subject is vast, covering nothing less than human life itself in all of its manifestations. It is like travelling in the mountains, where, arrival at one height which a moment before seemed supreme, serves only to reveal many loftier yet to be surmounted.

A goodly number of colleges are addressing themselves to the situation, and it should be gratifying to Virginians to know that this old Commonwealth is to be found among the foremost in this movement. She has always championed the best ideas in education and still does. Massachusetts, with Harvard as her representative, is not more devoted to lofty ideals; Illinois, with Rush Medical College as her exponent, is not more eager to promote the efficiency of medical education. This state of affairs is recognized, and in this connection great credit should be given to that vigorous young institution, the University College of Medicine, which, with the activity and energy of youth, seems to combine a steadfast devotion to the great educational traditions of Virginia.

The consideration of this subject and the knowledge that the colleges of medicine are actively engaged in efforts for the common good, naturally lead to the conclusion that the time has come when members of the medical profession should assert their position as scientifically educated citizens, and assume a more conspicuous part in the solution of the great educational problems of the day; also that they should give earnest support to those institutions which stand for greater professional efficiency.

The Virginia Conference of Charities and Correction

Will hold their fourth annual session in Norfolk, Va., May 17, 18, and 19, 1904. This conference is scarcely sufficiently appreciated. It is undenominational, and has for its object the education of the public mind to a proper conception of the needs of the indigent, defective and delinquent classes, to procure data regarding the condition of these unfortunates—viz., the destitute, the homeless and neglected, the feeble minded, idiots, the insane, epileptics, the wayward, the criminal, etc., to study the best methods of relief and correction; impress upon the people the advantage of organization in charitable and correctional efforts, etc. Dr. Wm. F. Drewry, Petersburg, Va., as the originator and prime mover in the Virginia Conference, has worked and is working hard for its success. The aims and purposes of the conference are of such a character as to appeal to the intelligence and human spirit of every person concerned about the welfare of mankind.

The Medical Board of the New York School of Medicine,

At their meeting on April 9, 1904, made many changes and additions. Dr. J. L. Adams was elected Secretary of the School and professorial and other distinctions were conferred upon the following in the departments specified: *Mental Diseases*, Prof. E. C. Dent, M. D., Superintendent, Manhattan State Hospital West, Ward's Island. *Internal Medicine*, Prof. Wm. Brewster Clark, M. D.; *Gastro-Intestinal Diseases*, Prof. Robert Coleman Kemp, M. D.; Associate Professor, Graham Rogers, M. D.; *Hydro-Therapeutics*, Prof. Alfred W. Gardner, M. D.; *Ophthalmology and Otology*, Prof. Geo. Ash Taylor, M. D.; Clinical Instructor and Assistant, Wm. E. West, M. D.; *Genito-Urinary Diseases*, Chief of Clinic and Associate Prof., C. Stern, M. D.; *Dermatology*, Chief of Clinic and Instructor, L. D. Weiss, M. D.

The American Medical Association

Will convene at Atlantic City, N. J., June 7, 1904, the opening exercises beginning at 10 A. M. The House of Delegates of the Association will convene at the High School building at 10 A. M., Monday, June 6, 1904. The registration department will be open from 8 A. M.

to 5:30 P. M. on June 6-9, and from 9 to 11 P. M. Applicants for membership must present certificates of membership in their State Association or in one of its affiliated branches. The programme is very fine. The Trunk Line Association of Railways has granted a rate of one full fare continuous passage to Atlantic City, plus \$1 for the round trip. The hotel per diem vary from \$1.50 to \$10. Inquiries may be addressed to Dr. Wm. Edgar Darnall, chairman Hotel Committee, Atlantic City, N. J., for more specific information.

Florida Medical Association.

During the session at Live Oak, Fla., an amendment to the constitution was introduced making Jacksonville the permanent meeting place. The Committee on Legislation is instructed to prepare a bill to be presented to the next session of the Florida Legislature relative to a uniform system of registration of vital statistics. The following officers for the new year were elected: *President*, Dr. E. N. Liell, Jacksonville; *Vice-Presidents*, Drs. J. M. Jackson, Miami, J. F. McKinstry, Gainesville, and J. S. Holmes, Tampa; *Secretary and Treasurer*, Dr. J. D. Fernandez, Jacksonville. A resolution was adopted advocating a State Board of Medical Examiners. A number of good, practical papers were presented. Dr. J. H. Claiborne, Jr., of New York, is the only visitor noted as having read a paper—his subject being on the "treatment of trachoma."

The Piedmont (Va.) Medical Society

Has elected the following officers: President, Dr. J. Staige Davis, Charlottesville; Vice-Presidents, Drs. J. W. Scott, Gordonsville, and Harry Baptist, Ivy Depot; Secretary, Dr. Lewis Holladay, Orange, and Treasurer, Dr. James T. Walker, Barboursville. Dr. R. L. Taliaferro, Madison Mill, was chosen leader of discussion for the next meeting, which will occur in Charlottesville.

The Tri-State Medical Society of Iowa, Illinois and Missouri

Will meet in St. Louis June 15, 16 and 17, 1904. The officers of the Society are: President, Dr. W. B. La Force, Ottumwa, Iowa; Secretary, Dr. Louis E. Schmidt, Chicago, Ill., and Dr. James Moores Ball, St. Louis, Mo., is chairman of the Committee of Arrangements.

THE Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

Vol. 9, No. 4.
Whole No. 196.

RICHMOND, VA., MAY 27, 1904.

\$2.00 a Year.
10 Cents a Copy.

Original Communications.

PRIMARY SYPHILIS OF THE FAUCIAL TONSIL—TREATMENT OF SYPHILIS BY INJECTIONS.*

By G. A. ASCHMAN, M. D., Wheeling, W. Va.

Next to the skin the respiratory tract furnishes the most frequent manifestations of syphilis. Owing to the slight disturbances caused by the initial and secondary lesions, these are often overlooked; whereas the greater destruction of tissue and marked disturbances in the latest stage place them in greater prominence as factors in the disease. The initial lesion in this locality has been considered by many to be only a possible contingency, but the observation of men of large experience has proven that, as the occurrence of the extra genital chancre is not rare, primary chancre of the lip or inside of the mouth is more frequent than has been supposed. Fournier, Bulkley, Blackwell and other authors cite many examples of infection innocently acquired; and the laryngologist frequently meets with the results of such infection among children who have acquired the disease through innocent contact with some person suffering from syphilis.

In the nose the primary form is very seldom met with, which is surprising when we consider the uncleanly habits of certain people and the frequent interchange of handkerchiefs and towels, by which means infection can be so readily carried, and also the frequency of abrasions at the entrance of the nostrils. Bulkley, from an analysis of 9,058 cases of extra genital chancre, gives 95 cases occurring in the nasal cavities. In his personal experience he has found one case occurring in 113 cases of extra genital syphilis.

The mucous membrane of the pharynx,

* Read during the 37th annual meeting of the West Virginia State Medical Association, held at Fairmont, W. Va., May 10-12, 1904.

palate and faucial pillars, being a dense tissue coated with a squamous epithelium, affords little chance for the entrance of the virus; and, while secondary and especially tertiary manifestations are so very frequent in these regions, the primary chancre is of great rarity; while in the larynx it probably never occurs. The surface of the tonsils, on the other hand, with the open mouths of their crypts, and the erosions which are so frequent on their surface, present an exceptionally favorable site for the lodgment of the virus. Bulkley found 307 cases of chancre of the tonsil among the above mentioned 9,058 cases. Bosworth found a primary lesion upon the tonsil in 2 cases out of 753 extra genital chancres. Shadek collected 68 cases found in the fauces; 22 of these histories showed a rather doubtful diagnosis; of the 46 remaining, in 34 the lesion was located upon the tonsil. This shows that, while of comparatively infrequent occurrence, any practitioner may come across such a case, and should always think of the possibility of such a lesion whenever a sore throat persists for a long time under ordinary treatment.

A recent case coming under my care presents several unique features, and is worthy of record.

Mr. S. M., a cobbler; 57 years of age; came to me January 8, 1901, complaining of an obstinate sore throat. It had begun 5 weeks previous and he had been under constant treatment by a homœopathic physician of this city, first for tonsillitis, and, as during the last two weeks whitish-gray spots formed on the tonsils, for diphtheria. But he had gradually grown worse, had run down in strength and weight, until now swallowing even liquids was extremely painful. He had suffered with an almost constant headache. He wore a distressed look, and his face was pale. Examination of the fauces disclosed enlarged tonsils, both being covered with a dirty-looking gray deposit over their entire surfaces. To the touch with the probe, the tissue

of the tonsil was quite hard; the gray covering could not be removed in the slightest by rubbing or seraping, and this did not produce any bleeding, nor was there any secretion from it. On the lower lip was a mucous patch, almost the size of a silver quarter, which the patient had been told was a fever blister, and he himself drew my attention to swellings on both sides of the lower jaw, which I found to be enlarged and indurated submaxillary glands. His pulse was 90, and temperature 99.3°.

The above described conditions led me at once to abandon the idea of tonsillitis or diphtheria, and to formulate my diagnosis as syphilis. The only question in my mind was whether I had to deal with a primary or a secondary affection of the tonsils. The latter are much more frequently the site of secondary manifestations, together with the soft palate and the pharynx. Further inquiry decided the question. The patient is an honest, sober, hard-working man, a widower with grown up children, and denied having had any sexual connection for a number of years. Nothing abnormal was found on the penis or the rest of the body. When I told him of my suspicions, and that the poison must have entered through the mouth in some way, he told me that as a cobbler, in mending shoes, he was in the habit of moistening the leather with his lips, and when sewing the sole to the shoe he would pass the edge of the latter between the lips several times in order to soften and adjust the same. This then was the curious means of transferring the virus; for could there be found a more ready carrier than an old shoe which had been in contact with the filth of the streets?

The diagnosis being hard chancre of both tonsils, I told the patient that he must undergo, not only local, but also general treatment for an extended time. I cleansed the throat with an antiseptic spray and applied to the tonsils a 3 per cent. solution of nitrate of silver. A slightly astringent and antiseptic gargle was given to use frequently, and he was at once instructed to use daily inunctions of mercury. Upon his second visit two days later I noticed a faint rash over the forehead and a few papules on the forearms, which, after further three days, began to disappear again. The patient at once began to show a decided improvement, he could swallow better after the third day, when temperature and pulse became normal. The submaxillary buboes diminished in size, keeping equal pace with the reduction in size of the tonsils, the

grayish infiltration of which gradually grew fainter, until after 10 days it was entirely gone. After three weeks I placed him on iodide of potassium, but in spite of my instructions he failed to return, and I did not see him again until about seven weeks later.

On March 22d he returned to my office with an inflamed left eye. I found a well marked plastic iritis, with several posterior synechia—an additional proof of the correctness of my original diagnosis. At this time the tonsils and rest of throat, as well as all other parts of the body, seemed normal. He said he had finished the medicine ordered, but had then felt so well that he thought any further treatment unnecessary. I at once put him on inunctions again, and to this, as well as to the proper local treatment, the iritis rapidly yielded, so that in another month the eye was perfectly well. This time he continued the anti-syphilitic treatment for some time, taking up the iodides and mixed treatment in proper succession. I met him a short time ago, when he declared to be and looked perfectly well. The noteworthy features in this case are the peculiar source of innocent infection and the bilateral development of the chancres, of which only a few cases have so far been reported.

To the kindness of Dr. C. A. Wingerter, of this city, I am indebted for the following history of another case, which he orally reported to the Ohio County Society some time ago:

September 25, 1901, a young man appeared with an enlarged right tonsil, which was covered with a yellowish membrane; there was also cervical adenitis with tenderness on the right side. This condition had been present for two weeks. His temperature was 102°, and pulse 100; he complained of chilliness, thirst and malaise. The doctor prescribed quinine and strychnine internally and H₂O₂ for gargle, his diagnosis being diphtheria. Three days later he found a slight area of membrane on the left side back of the tonsil, and after another three days membranes on the pharynx back of both tonsils. He then administered 1500 units of Mulford's diphtheria antitoxin, which was repeated two days later. The following day, October 4th, temperature and pulse were reduced to almost normal, and the condition in the throat seemed improved. Iodide of sodium and chlorate of potassium aa grs. 4 were then given every three hours. October 7th the membranes on the pharynx had about disappeared. On that day

the patient exhibited a soft ulcer on the dorsum penis, and three days later several other small ulcers were found on the foreskin, to which ungt. hydrarg. nitr. was applied—the iodide of sodium being continued. The patient did not show up again until October 21st, when the right tonsil was found to be still ragged and enlarged. The ulcers on the foreskin were healed, but a general eruption was present simulating papular syphilide; there was no itching. Is it syphilis or iodism? The iodide was continued. On October 23d the patient appeared “done out.” The tonsil was ragged with yellow spots, and the papular eruption was worse. Mercurial inunctions were now begun, together with tannate of mercury $\frac{1}{4}$ gr. four times a day. A week later the eruption was gone, and in another week the tonsils and throat were clean and the patient felt perfectly well. Upon inquiry the doctor learned that the source of the disease was impure kissing, the young man being intimate with a girl the doctor himself had treated for mucons patches of the lips a short while previously.

Here, then, we have two cases of chancre of the tonsil which were not recognized at first, but treated for diphtheria. It behooves every practitioner, therefore, to weigh his diagnosis carefully when he finds an enlarged and indurated tonsil, the surface of which is granulated and of a grayish color, together with enlargement of cervical and submaxillary glands, occurring in an adult, and especially in a male.

In connection with these two cases I desire to consider some features in the general treatment of syphilis. While there are a few syphilographers, especially of the Vienna school, who still believe that general treatment should not be inaugurated before the appearance of secondary symptoms, or even later, the great majority of authorities to-day believe in attacking the disease so soon as primary lesions are manifest. The accepted rule of giving the mercurials in the early stage, and the iodides in the latter is generally followed. But for a long time I have been of the opinion that in this country physicians are far too fond of giving mercury by the mouth, which is the worst of all forms of giving the drug—certainly the most uncertain in its results, the most ineffectual in its operation and the one most frequently followed by relapses. It has been my experience in a large number of late tertiary affections of the organs of sense and of the central nervous system, upon inquiry into

the original mode of treatment of the first attack of syphilis, to very frequently receive the answer that it had been a very slight matter, and had been treated by internal remedies only, for a few weeks or months. The patients denied having had medicine rubbed into or injected under the skin; and only those who had visited Hot Springs, Ark., or other sanatoria knew anything of inunctions. Even the latter were often ignorant of the fact that the rubbings could be successfully carried out at home. I have made it a point to question a number of physicians as to their mode of anti-syphilitic treatment, and quite a number after many years of extensive practice have admitted never having prescribed inunctions.

Intra-muscular injections may be preferable in a few cases, but of all forms of giving mercury, that by inunctions is undoubtedly the best,—not the so-called inunction, however, in which a little mercury is applied to the inside of the thigh or armpit for, say, a few days, and then discontinued altogether, or the wearing of a belt on which a little mercurial ointment has been spread. This may, and sometimes will, answer in children, but in adults it is totally inefficient and inoperative.

For mercurial inunctions to be successful the ointment must cover a large surface of the integuments and must be thoroughly and systematically carried out. To do this three precautions are necessary—first: The skin must be prepared for the absorption of the mercury; second, the system during the treatment must be maintained sound both as regards diet and hygienic surroundings; and third, the inunction treatment must be carried out long enough.

With regard to the first point, in order to prepare the skin, the patient should take a warm bath from twenty minutes to half an hour's duration at a temperature of about 95° or 96° . The body is to be well cleansed with soap, so that the skin is in a fitting state for the reception of the blue ointment, which in many ways is preferable to the oleate. After the bath the patient is well dried and a drachm, usually, of the ointment is then carefully rubbed in. Whenever possible an experienced rubber should be employed, but the patient himself or some other person can be properly instructed. The ointment must be rubbed in with the entire surface of the palm, and with both hands conjointly, so that when, for example, the legs are subjected, the hands glide up and down simul-

taneously. I do not approve of gloves or pads covered with leather, sometimes worn by the rubbers, for much of the ointment, instead of penetrating the skin, is lost on the surface of the gloves or pad. The accuracy of this fact is easily demonstrated by weighing such gloves after a few rubbings. The mercury is but slightly, if at all, absorbed by the palmar surface of the hand, and absolute prevention is obtained by smearing the hands with soap or lard before the inunction. With such precaution the rubber need have no fear of evil consequences following to himself. The rubbing should last about twenty minutes, and it is best to divide the drachm of ointment in several parts, each to be rubbed in in turn with considerable pressure. Systematic application is of great importance, the different parts of the body being taken in order. For this purpose it is best to commence with the legs on the first day; on the second both thighs, on the third the abdomen and breast, on the fourth the back, and on the fifth both arms, reverting again to the legs on the sixth day. Instruction should be given to apply to the surface of these parts which is the least hairy; and in some people whose skin is sensitive or who are unduly hairy the parts may first have to be shaved to prevent suppuration of the hair follicles.

The second point indicated during a mercurial course is that the system be maintained by a proper and sufficient diet, and due regard paid to clothing and hygienic surroundings. The food must be simple and nourishing, with absolute abstention from all acids, salt kinds of fish, cheese, salads and raw fruit. Stewed fruits may be eaten, and the drinking daily of one or two glasses of milk is to be strongly encouraged if it otherwise agrees. A healthy condition of the mouth is of great importance in this, as in all other forms of mercurial treatment. Decayed teeth should be either filled or extracted, and the mouth rinsed out eight or ten times a day with an astringent and antiseptic wash.

The third and last indication in the treatment is that it be carried out long enough. When the diagnosis of syphilis is made, whether it be primary, secondary or tertiary, it is my custom to at once order from 30 to 50 rubbings, according to conditions, without a break. Nothing is more detrimental to the good effect of the mercury than a break, whether it arise from causes incidental to the mercury—such as diarrhœa,

stomatitis, etc.—or dependent upon the patient himself; and nothing is more to be deprecated than to give a larger amount of ointment to make up for lost time, the result being that diarrhœa, colic or some intercurrent mischief happens, which may entirely prohibit any form of mercurial treatment being adopted, the very object being defeated that was hoped to have been gained. Generally speaking, after from seven to ten rubbings the good effects of the mercury begin to show themselves; there is now, perhaps, slight puffiness of the gums, which does not materially increase during a full course if the mouth wash is steadily used. Sometimes patients complain of restlessness and inability to sleep at night. An opiate will generally suffice to overcome this, and the rubbings should not be stopped unless the irritability continues or diarrhœa or intercurrent trouble arise to preclude the continuance of the mercury.

One of the first indications we have of the good effect of mercury is an increase in the body weight. In fact, the patient seems to thrive and pick up generally under its use. This is a condition never to be lost sight of. In the first place, in doubtful cases it is a sure sign that the diagnosis of syphilis was correct, whereas if the patient continues to run down, it is pretty good evidence that the case is of a non-syphilitic nature. Furthermore, when the normal weight of the body has been reached, or when the weight becomes stationary, there is no use in pushing the drug beyond eight or ten further rubbings, as we have attained all the good we are likely to get for the present. Then should follow the use of iodide of potassium. first, in small, and then in gradually increased doses. After the maximum toleration of the iodides has been reached I diminish it gradually and finally give the so-called mixed treatment internally for several weeks or months, according to conditions. Then the patient may take a rest from all treatment for several months, but should be urgently instructed, if he wishes to be completely cured, to return at a specified time for a further course. As stated before, no matter what mode of syphilitic treatment is followed, it should be carried out long enough. Thus at the very start the patient should be told that he must make up his mind to undergo treatment—with proper intervals—for at least three years.

When he returns for the second course it is usually well to resort again to the inunctions,

which, in turn, are followed by the other treatment as at first. After a patient has had in all from 80 to 100 proper rubbings it is very exceptional to find him the subject of further relapses, so after the first year and a half or second year it is only necessary to give the iodides from time to time combined with some tonic. It is the recorded testimony of some of the first syphilographers in the world that if the inunction treatment were more resorted to, bad secondary and tertiary lesions of the organs of sense, brain, nervous system, viscera and bones would be very much less prevalent—aye, almost unknown.

I am aware that in private practice difficulties arise in carrying out the treatment efficiently, but difficulties arise in the treatment of all syphilitic patients. One of the greatest is the inherent prejudice of the use of mercury in any form; but I find that patients readily submit to the inunction when told it is the least injurious form of giving the drug, especially to the stomach. The long-standing complaint against this method that it is dirty entirely dies out when only a portion of the body is anointed at a time, to be preceded by a hot bath daily or before each round.

I have not dwelt further upon mercurial injections, the calomel bath, etc., because I have not used them, except the former in special and selected cases. All vegetable remedies, still used by some, can only be regarded as adjuncts at the best, and especially sarsaparilla, except in large doses, I have found useless as an adjunct.

CLINICAL PLEA FOR MERCURIAL PREPARATIONS.

By M. H. FELT, M. D., Hillsborough Bridge, N. H.,
Vice-President of Medical Society of New Hampshire, etc.

I do not propose to discuss the physiological action of the old and familiar remedy, but rather to relate a portion of my own clinical experience with some of the preparations of mercury—particularly the mild and the erosive chlorides. In this age of eager search for the new, we are too apt to forget what is old and well tried and useful.

Mercury was known to the alchemists as early as 300 B. C., as a derivative of cinnabar, but it

was not until the beginning of the sixteenth century, when chemistry and scientific medicine began to merge into one, that this mysterious substance—mysterious now as well as then—began to be considered an important remedy of various pathological conditions. Its application to diseases was commenced then on purely empirical grounds; and centuries of experience and experiment have done but little to eliminate empiricism, and substitute scientific reasons for a guide in the use of this metal.

In the early days of my professional career there existed among the laity of my precinct a strong, and, I think, well founded prejudice against the use of mercury or calomel, which seemed to be their synonym for all mercurial preparations. And it seemed to me that nearly every one of them enjoyed relating in my presence their personal or family experience with mercurial salivation—most always ending with a damn for the doctor who gave them. I also heard the older physicians relate their experience with mercury—how they had given calomel in ten and forty grain doses, and occasionally an even teaspoonful was given for its sedative effect in cases of long continued emesis. Smaller doses combined with opium were given to prevent purging, and continued until the system was thoroughly saturated. I saw a few of these cases with the resultant swollen and protruding tongue, and the saliva constantly dribbling from thickened lips. To “push calomel until the gums were touched” was common practice. In many cases, the gums and glands became tumid—the former ulcerated, the teeth loosened and sometimes were permanently lost.

All these things seen and heard made such an impression that I mentally resolved never to give calomel in any disease whatever. Of course, I did not stop to reason to a safe conclusion that it, like all other valuable remedies, could be wisely used without being blindly abused.

It was not long before I had a boy about four years old under my care, whose disease obstinately refused to respond favorably to any medication I had prescribed. I do not recollect my exact diagnosis, but located the lesion between the two extremities of the alimentary canal, or in some of the related internal organs. As there was no disposition to recover, I concluded it was time to lessen the similarity of my resolution to that of the mule, and I commenced the administration of calomel—probably because it

was about the only remedy I had not given. Very soon the child commenced to improve, and continued without interruption until recovery was complete.

I would not like to be understood as suggesting calomel in all cases we are unable to diagnose—any more than I would advise appendectomy for all cases of abdominal pain.

I had the pleasure recently of listening to a very able paper by an eminent surgeon upon abdominal surgery, and, as usual, appendicitis came in for its full share of consideration and discussion. All the surgeons declared in the most strenuous manner that there is absolutely no medical treatment for appendicitis. Nevertheless, I am of the opinion that calomel combined with opium has an antiphlogistic action in appendicitis, and in inflammations of some serous as well as mucous membranes. I have seen several cases of appendicitis recover that were treated by calomel and opium; and as years have elapsed without recurrence, I have a right to presume that in those cases medical treatment was as effectual as surgical intervention could have been.

In using calomel for its antiphlogistic effect, I would never push it beyond the first symptoms of its constitutional effect, readily distinguished by the characteristic fetor of the breath, soon followed by slightly tumefied gums, marked by a dark red line at the junction with the teeth. At this point, the dose should be greatly reduced, or, better still, in the majority of cases, entirely withheld. I have never found it necessary to continue the use of mercury beyond the fetid breath effect. Woods' *Materia Medica*, etc. (11th Edit.), says: "It is the general judgment of the profession, founded upon thousands of daily observed bedside facts that endorses the use of mercury as an antiphlogistic. In other words, our knowledge of the value of mercury in inflammations at present is clinical rather than experimental—empirical rather than scientific, but it seems scarcely possible that it is not correct."

In that condition of illness known as *biliousness* (though I have never learned just what the pathological condition is), one grain of calomel triturated with ten of soda bicarbonate, placed on the tongue and rinsed down with a swallow or two of water, will generally be about all the medication required to relieve it. Or if you desire to make the case more remunerative, give small doses—say one-tenth grain—every two,

three or four hours until the same result is obtained.

What is now considered a large dose of calomel—from three to five, or possibly ten grains—with soda bicarbonate is an effectual cathartic to clear out and render the bowels aseptic before an abdominal operation is begun.

Headaches due, as is said, to a disordered condition of the stomach and bowels—probably duodenal indigestion or fermentation—are readily relieved by a few days administration of small doses of calomel or the bichloride of mercury.

In tonsillitis, pharyngitis and laryngitis, a dust of calomel or a tablet of the biniodide of mercury are very useful remedies. Their good effect is in part, at least, due to their diffusion on the diseased surfaces, and the local antiseptic influence.

In my opinion, much of the beneficial effect of the internal administration of either of the chlorides of mercury is due to the antiseptic and disinfectant or germicidal influence on the ptomaines and toxins in the alimentary canal. If specific micro-organisms, under favorable conditions, live and multiply after their admission into the body by the ingestion of improper food or the imperfect digestion of proper food, this claim is certainly a reasonable one.

Notwithstanding the diversity of conclusions by careful experimenters in regard to the influence of mercury upon the liver, and its power to promote the secretion and flow of bile, and the conclusions of some competent observers attributing the appearance of bile in the dejections to chemical changes in the intestines, the *clinical* fact remains that the exhibition of a purgative dose of calomel or blue mass is followed by the escape of large quantities of bile from the alimentary canal, as I believe I have many times observed.

Malaria, with congested liver and spleen (which, by the way, is another condition to which the term "biliousness" is often applied) will yield more readily to the action of quinine after the administration of a purgative dose or two of calomel or blue mass.

In catarrhal jaundice—another morbid condition called "biliousness"—calomel or blue mass produces the most satisfactory results—rapidly restoring the natural brown to the clay or putty colored discharges.

A good many years ago I heard the late Dr. C. P. Gage state that he had many times stop-

ped the vomiting of children by the administration of a home-made pill containing a half grain of calomel, an eighth grain—more or less according to age—of acetate of morphia—(the sulphate would not do)—held together with moistened flour. Dr. Gage remarked that he had many times offered a six pence for every one they would throw up, but never had to pay a penny on that account. I have made and used such pills with nearly as good result, and can assure you that neither the acetate nor the sulphate of morphia will do, without the addition of calomel.

In acute sthenic dysentery, I have found that calomel gets in its antiphlogistic work beautifully, though it is quite possible that here, too, it acts as a germicide—especially in the tropical or diphtheritic forms.

As a diuretic, my experience has taught me that in children, when the urine is scanty, the quantity is increased under the use of calomel; and in acute suppression in advanced Bright's disease, a purgative dose rubbed up with soda bicarbonate has brought immediate though temporary relief.

In a few cases of albuminuria, bichloride of mercury decreases the amount of albumin during its exhibition, but on withdrawing the remedy the albumin reappears in amount sufficient to render it doubtful if the average amount had diminished.

Calomel, as a dry dressing to indolent ulcers and syphilitic sores, has, I think, been displaced by newer remedies, but I would suggest that when the new ones fail, try calomel, and probably the next time you will use it first.

In syphilis, mercury is, I suppose, in its full physiological dose the one drug indicated. But on retrofection, I cannot recall but a single case of syphilis that I have treated from beginning to end—if there is such thing as an end to syphilis this side of the grave. This man was apparently cured after some two years' treatment with mercury and iodides—separately and combined; but about twenty years later he died idiotic—in my opinion from the effect of syphilitic poison. I do not mean that this was the only case I have treated, but the others were imported after infection elsewhere, and being migratory in habit soon made their escape from my observation.

I had thought of calling attention to some of the many other preparations of mercury, but I fear your interest will not stand the strain. But

I will allude to two or three of the mercurial lotions or washes.

The black and yellow washes—both excellent in many cases requiring local treatment by such remedies—have been employed for years, and are just as efficacious now as ever. But in later years the plain solutions of mercuric bichloride in varying strengths have supplanted them—being indicated in about the same class of cases, and much easier to prepare.

Formerly, I had much trouble in relieving the very common and exceedingly annoying skin affections caused by contact with poison ivy or dogwood; but latterly I have not found a case of either that did not promptly yield to a solution of the bichloride, as have many forms of eczema from more uncertain causes. Until I know the sensitiveness of the skin, do not use a solution stronger than 1:1000.

The very general use of bichloride solutions by surgeons and its equally extensive employment by the general practitioner has rendered it so familiar as to make it superfluous to comment upon the aseptic or germicidal properties. Suffice it to say that although newer germicides and antiseptics have been and are being daily introduced, yet the bichloride remains at the head of the list, and will probably there remain till long after the promoters of the new have passed to that better land—

“Where the microbes cease from troubling
And the wigglers do the rest.”

TREATMENT OF LONG BONE FRACTURES.*

By M. E. NUCKOLS, M. D., Richmond, Va.,

Instructor in Surgery, University College of Medicine.

One of the most important chapters in surgery, and one to which too little attention is given in our medical schools to-day, is the subject of fractures. We can scarcely pick up a journal that does not contain some article on either gastric, gall-tract or appendicial surgery, but rarely one on fractures. We may judge from this that fractures are readily diagnosed, and easily treated, and that the results are uniformly good.

How few of the graduates of our colleges know anything practical of the treatment of

*Read before the Richmond Academy of Medicine and Surgery, March 22, 1904.

fractures—some of them never having seen a fracture; and yet how important it is that they should know! They may be called any day to treat a fracture on the result of which their reputation may stand a living monument to their skill. On the other hand, they may never have to operate for perforating gastric ulcer or cholecystitis, and if they should their failure would be buried and soon forgotten.

In order to be successful in the *treatment of long bone fractures* we must necessarily be able to make a diagnosis of the bone fractured, the seat of fracture, the variety and extent of fracture and the associated lesion, if any exist.

A *compound fracture* or an *intra-articular fracture* require somewhat different methods than for a simple fracture not involving a joint. Again, a fracture in an old person who has bronchitis, kidney trouble or some other constitutional disease, will need a different line of treatment from one in a healthy person. The treatment, therefore, resolves itself into treatment of the patient, treatment of the associated lesion, and treatment of the fracture.

The thing to be considered when we first see a fracture is a dressing which will fix the parts, and prevent further injury to the surrounding tissues and more extensive displacement. All fractures are attended by more or less laceration of periosteum, but rarely complete; a small strip remains, connecting the two fragments, called the periosteal bridge, which is so necessary to the healing of the fracture, consequently every effort should be directed to preserve this by some fixed dressing.

It is not always advisable to do more than this in the beginning. The parts may be so much swollen, and the surrounding tissues so much contused, and muscular spasm so pronounced, as to render a diagnosis of the character and extent of the fracture uncertain, and successful reduction still less probable. Fortunately this makes no material difference, as the work preparatory to union goes on just as well.

In compound fractures the primary treatment is addressed to the wound, only such dressings necessary to prevent injury to the surrounding tissues being used until healing is practically complete. The kind of treatment of the wound will depend on whether the fracture is produced by direct or indirect violence.

When produced by direct violence the soft parts are contused and lacerated to such an ex-

tent that the vitality of the tissues is very much impaired. These wounds are always infected, and sloughing usually occurs. The wound should be rendered as clean as possible, all fragments of bone being completely detached, removed, and free drainage instituted. Healing takes place by granulation and is usually very slow.

If the fracture is produced by indirect violence, the broken bone being forced through the skin, or if by a gunshot wound, the treatment is usually much simpler. Often the wound is not infected and with ordinary care heals by first intention.

Compound fractures produced by modern bullets may be extensively comminuted, and some fragments may require removal.

Occasionally, on account of advanced age or general systemic disease, we may have to give the patient the first consideration, using all means at our command to save life and regarding the outcome of the fracture of little moment.

Whenever it is deemed advisable, the fracture should be reduced, still there are a few cases in which reduction is inadvisable, as in impacted fracture of the neck of the femur in the aged, and in others reduction is impossible, either on account of the interposition of muscle or contraction of muscles attached to the broken fragment, as the tuberosities of the humerus, trochanters of the femur and olecranon process. Reduction should be accomplished in these cases by operation after failure by other methods.

In reducing fractures it is necessary to have an accurate knowledge of the muscles in relation to the part, to know their attachment, action and power of contraction, and to overcome them by position and mechanical appliances.

In fracture of the shaft of the humerus and femur the proximal fragment is always rotated outward and lifted, hence the distal fragment must be placed in a corresponding position. The muscles attached to these bones are very powerful, and overriding is frequent. To counteract this, extension and sometimes counter-extension is necessary. The amount of weight used in extension will depend on the size and degree of development of the muscles. The appliance used for extension in fractures of the femur will be wholly a matter of individual preference, Buck's extension being the most popular in this country. Hodgen's suspending splint is one of the best. Extension in children

is usually made in the vertical position. The limb should always be put up in the position which best relaxes the muscles attached to the broken fragment, thus rendering subsequent displacement less liable to occur.

After reduction is accomplished the simplest dressing which maintains apposition, gives perfect immobilization and allows free inspection of the parts, should be used. As a rule no dressing completely enveloping the fracture, such as plaster of Paris bandage, should be used at first, because it interferes with circulation, is hard to remove, if such becomes necessary, and does not allow inspection of the seat of fracture, which is important in order to detect recurrence of displacement. Moulded plaster of Paris splints, however, are often very useful in the early treatment, and makes one of the best splints. It is a good plan, I think, in many fractures, particularly Colle's, to remove the dressing from time to time to allow free inspection, in order to be assured that reduction is being maintained. I have used this plan in a number of instances and have never had occasion to regret it.

Fractures involving joints should not be immobilized too long, because a stiff joint is apt to result. The synovial membrane becomes inflamed, thickened and adhesions form. Callus is thrown out into the surrounding muscles, ligaments and capsule, and if allowed to become hard, will result in ankylosis. After two or three weeks usually passive motion and massage should be used.

Fractures involving the shaft of long bones, such as the humerus and femur, require perfect immobilization for six or eight weeks, and in old people for a longer period. Unless this is adhered to strictly fibrous union or non-union will occur. I do not hesitate to say that I am not much of a believer in the ambulatory treatment of fractures. I would recommend it for extremely old people where confinement in bed for a long period of time would mean death. Fracture of the neck of the femur, under these circumstances, after confinement to bed for about two weeks, could be treated by the Thomas hip splint. Just here I will say that I believe all fractures of the neck of the femur, it matters not how old the patient may be, should be treated, and not regarded as hopeless. Many cases where union would least be suspected will recover with good results.

In separation of an epiphysis and diaphysis

reduction is absolutely essential to success. It is claimed by good authorities that if complete reduction is accomplished ossification is not apt to occur, and arrest of growth does not result, but if reduction is incomplete, ossification takes place with failure of growth.

Before concluding I will say a few words about the treatment of ununited fractures. Formerly it was thought necessary to wire the bones together in order to secure union; now we know that this is not only unnecessary, but usually objectionable, because the wire remains and may set up irritation. All that is necessary is to freshen the surfaces, bring them in apposition with as little disturbance to the periosteum as possible, and retain them. Chromic catgut is used with best results, holding the fragments until sufficient callus is poured out to fix them, though no suture is necessary if the bones are placed in apposition and a plaster cast applied at once. Union is always slower because there is no periosteal bridge, it taking place from the medullary canal and by granulation of the bone surfaces.

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DISCUSSION.

Dr. D. Meade Mann said that he is of the opinion that more errors are made in the beginning of the treatment of fractures than at any other time, because in the anxiety to explain matters to the family and friends, the injured part is subjected to too much handling. If the patient is to be moved, it is best to defer application of the permanent dressing until he has arrived, simply immobilizing until that time. In the majority of cases, if no contraindication exist, it is of great advantage to both patient and physician to anesthetize. He believes that much non-union is due to too frequent change of dressing. If the patient is seen in time and the diagnosis can be made, the permanent dressing can be applied immediately, and it is seldom necessary to remove it. He does not believe in early passive motion, for it frequently does harm. If the fracture be in the joint, ankylosis will not result from fixation alone, but from defect in the joint and improper dressing. Frequently, where reduction is impossible, generally due to fracture of the head of the radius, ankylosis will result. In this case, it is best to do an operation immediately. The question of the efficacy of the ambulatory splint is yet to be decided, though the Germans continue to favor

it. There are cases in which it undoubtedly is proper. Recently, he had applied one in a case of fracture of the fibula, after the patient had been made to rest for a week. In fracture of the olecranon, the triceps pulls up one of the fragments. His treatment of a case of this kind was as follows: A strip of adhesive plaster was applied from the shoulder to the olecranon, leaving about eight inches, torn in two strips, hanging free. A rubber bandage, firmly applied from above downward, relaxed the triceps, and as the joint was reached the strips were applied to the sides of the forearm. The same treatment may be applied to the patella.

For fracture of the humerus, the following is efficacious to obtain constant extension: After reduction, apply the plaster cast from the elbow to the shoulder; then from the hand to the elbow. Before setting occurs, place a piece of steel that has been bent in the flexure, and move it from side to side to make a nest for it.

An annoying symptom which he had seen in those who were not drinkers, was traumatic delirium.

Dr. Stuart McGuire said that he has entirely discarded the use of steel and wood splints in favor of those of plaster of Paris, which are readily made, immobilize completely and do not obstruct the passage of the X-rays. If the patient be seen before swelling has occurred, it is best to apply the splints at once; if not, it is best to wait till it has subsided. The method of *Dr. James*, of Danville, Va., is to be recommended in fracture of the olecranon and of the patella. A rubber ring pessary, supplied with four tapes, is placed around the fractured bone in position, and an ordinary splint is applied. *Dr. McGuire* disagrees as to the necessity for taking down fracture dressings, as with plaster splints the X-ray examinations may be made as often as necessary. Recently while in New York, he had asked several of the best orthopedists their method of treatment of intracapsular fracture of the femur. All replied that they knew nothing better than *Buck's* extension with sand bags. He referred to a case in an old man who recovered, and reported three cases of operative treatment of ununited fractures.

Dr. J. Shelton Horsley said that, beside the *Buck* extension, there are three newer methods for immobilization in intracapsular fracture that promise good results. *Dr. Ridlon*, of Chicago, employs a soft iron splint, like the *Thomas* hip splint, which can be moulded and which

allows the patient to turn from side to side. *Dr. Ruth*, of Keokuk, uses extension according to *Buck*, combined with lateral extension outward. At a meeting of the American Medical Association, he exhibited specimens that showed bony union. *Dr. Thomas*, of Scranton, does a "bloody operation," and at the same meeting showed a patient upon whom he had operated. Therefore, *Dr. Horsley* does not think that all new methods should be discarded. *

Though in the majority of cases chronic catgut is better for making union, silver wire has its uses. In certain pathologic conditions, as osteomyelitis, in which fracture has occurred, silver wire will hold better.

That immobilization of the joint may be due to adhesion of tendons, *Dr. Horsley* illustrated by reporting two cases in which it was necessary to dissect loose the tendons after the osseous lesions had healed. He is of the opinion that many "stiff joints" following severe sprains may be due to this sequel and not to bony complications within the joint, as is generally supposed.

Dr. Nuckols said that he undoubtedly has seen union in intracapsular fracture. It is customary for surgeons to do nothing in these cases, but he thinks that one should always endeavor to obtain union. He does not advocate the removal of dressings in all forms of fracture, but in *Colle's* it should be done. When joints are involved, passive motion should be employed, but not when it is only near them.

Dr. Mann said *Whitman*, of New York, puts up fracture of the hip abducted as far as possible, in plaster of Paris, and allows it to remain thus for four or five weeks, when it may be shortened to allow action at the knee; and removes it entirely at the end of eight weeks. When the patient is seen in the first hour or two following receipt of injury, *Dr. Mann* does not think it necessary to remove the dressing; and if a *Colle* fracture is replaced properly, it will, in the majority of cases, remain so.

Hysteria is the expression of one form of nervous debility. *Celerina* is thus peculiarly indicated because of its tonic effect on the whole nervous system.

Case I—Ovarian Abscess; Case II—Sarcoma of Breast—Report of Cases Operated Upon, With Rare Specimens.

By EDWARD N. LIELL, M. D., Jacksonville, Fla.,

President of Florida State Medical Association; formerly Lecturer on Gynecology, New York Polyclinic.

The first specimen which I wish to present to your notice is a rare and *typical one of ovarian abscess*, its removal being accomplished without rupture of its walls.

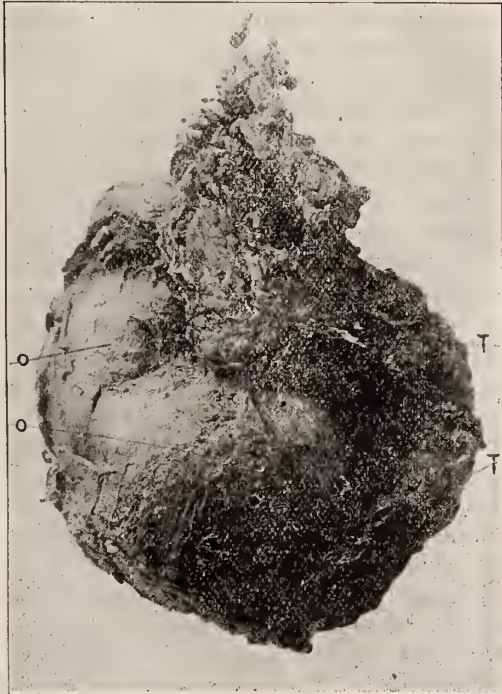
Mrs. X., aged 27 years, gave a history of mild pelvic trouble previous to pregnancy. Puerperal fever followed upon child birth one year ago, the fever being of two weeks' duration. Since then she has been complaining more or less of pain, aching and at times sharp in character, though she had not been obliged to take to her bed.

Upon examination, when referred to me in February, a growth the size of a small grape fruit, very tender to the touch, was discovered in the left ovarian region. Because of dense adhesions and fixation no fluctuation could be felt. A diagnosis of pyosalpingitis or ovarian abscess was made, as to differentiate between these conditions is almost an impossibility. The

latter and the ovary being entirely intact, although the tube is greatly enlarged, broad and adherent. The removal of this combined mass was by no means an easy matter, as localized peritonitis, resulting in deposits of fibrin and adhesions is always associated with suppurative streptococcus infection of the ovary, the latter being bound down to surrounding organs so that its liberation becomes most difficult. The patient made an uneventful recovery.

Abscess of the ovary invariably calls for its complete sacrifice, whether it be of simple or of multiple pus foci, though in the latter instance there is coexistent pyosalpingitis.

The second specimen to which I desire to call your attention is one of sarcoma of the breast.



patient was operated upon by me three days subsequent to examination.

In the specimen before you there is no evidences of pus in the tube, the tissue between the

Mrs. W., aged 64 years, first noticed a small lump within the left breast in December, 1902. Its development was gradual until September, 1903, since which time, up to the following November, the growth increased rapidly in size.

At the time of operation, November 16th, it had reached the size of an orange, occupying the outer portion of the breast, and was closely adherent to a portion of the skin, which was of a dark hue at this point. There was no retraction of the nipple nor was there any enlargement of the axillary glands. Pain was not a marked feature at any time.

From the foregoing history my opinion was that the growth was malignant in character, of

a sarcomatous instead of a cancerous nature, and an immediate operation was advised, to which she readily consented.

The entire breast, enclosing the growth, was removed and the wound closed with silkworm gut suture, a small counter-opening being made at the dependent axillary end, for temporary drainage by means of rubber tubing of fine calibre—the latter being removed on the third day. The sutures were not removed until the fifteenth day, the wound having healed throughout. There has been no pain nor the slightest indication of a return since, now over five months.

A section of the growth was sent to Dr. Andrade, the pathologist of the State Board of Health, in order to determine the exact nature of the growth. Dr. Andrade verified the diagnosis by reporting the specimen to be one of typical sarcoma.

In this connection it may be well to state that in no organ of the body is tumor formation more frequent than in the breast gland; and other than malignant tumors of the breast are comparatively rare. I am insistent, therefore, of both early operation and total sacrifice of the gland, and even contiguous tissue if needs be.

REMARKS ON UREA.*

By JOHN E. WALSH, M. D., Washington, D. C.

All living matter upon chemical examination is found to be composed essentially of carbon, hydrogen, nitrogen, oxygen, sulphur, phosphorus, chlorine, potassium, sodium, calcium and iron. These elements are combined to form highly complex chemical bodies which belong to the class of albumins, carbohydrates and fats, upon the presence of which both animals and plants are dependent for their existence. The method by which these various elements are combined to form the different tissues is more or less uncertain.

The chemical processes which are involved in the transformation of inorganic matter into living tissue is essentially the same in plants and animals with certain differences. Thus plants have the property of building up from relatively simple compounds those complex substances

which form their structure, while animals apparently do not possess the power to any great extent. In the former, synthetical chemical processes prevail; while in animal life, analytical processes are foremost. These analytical processes are in the nature of oxidations.

It was formerly supposed that the various organic substances which occur in living matter could only be produced through the agency of a special vital force, but we now know that a number of such bodies can be produced in the chemical laboratory. Urea was first produced synthetically by Wohler in 1829 from ammonium cyanate, thus demonstrating this possibility. In order to form these organic chemical compounds in the laboratory very high temperatures are necessary. This temperature is so high that it would destroy life; hence there must be some other mechanism in the body which produces the change.

The nature of this force is unknown. As will be mentioned later, the cells of different organs have the power of resolving the more complex chemical compounds into simple forms.

The food of man must, in order to preserve his physical structure and enable him to perform work, take into his system the elements of which his tissues are composed. His food must therefore consist of a due proportion of albumin, carbohydrates and fats—each of which has a different duty to perform in the economy. The one of which urea is the end-product—namely, albumin or protein—is the most important. Indeed it can most certainly be affirmed that they are the only food stuffs that are indispensable and cannot be replaced by any other material. They form the chief part of every cell and are found in every animal and vegetable tissue. There are various kinds of proteids presenting differences in their chemical and physical properties, but they are all composed of the same five elements—carbon, hydrogen, nitrogen, oxygen and sulphur. The study of these different albumins, their solubility and insolubility in water, acid and alkali solutions, and reactions to different tests is very interesting but is not within the scope of this paper.

The study of the decomposition products of the albumins has long occupied the attention of investigators. The most important of these are certain amido-acids formed from the natural albumin, as tyrosin, leucin, asparaginic acid, glutaminic acid and glycocol. The nitrogen split off is spoken of as mono-amino-nitrogen, another

*Read at a meeting of the Medical and Surgical Society of the District of Columbia, March 3, 1904.

portion being liberated at the same time in the form of amom-amido-nitrogen.

In man and all vertebrate animals, except birds and reptiles, the most important end product of nitrogenous metabolism is urea. In the human race about 86 per cent. of the total nitrogen elements in the urine occur in this form. The other end products are uric acid, hippuric acid, creatin and creatinin.

The study of the origin of these substances in the body has been attended by great difficulty, but the experiments by which our present knowledge was obtained are very interesting. That the synthesis of benzoic acid and glycochol to hippuric acid did occur in the body was demonstrated.

G. Bunge and Schmeideberge conjointly resolved to locate if possible the organ in which such synthesis took place and under what conditions. Their experiments were instituted on frogs which bear the extirpation of their liver very well, living four or five days after the operation. They found by introducing benzoic acid into the dorsal lymphatic sac hippuric acid was invariably formed, and was more copious when glycochol was injected also. No trace of hippuric acid was found, however, unless benzoic acid was injected. This experiment proved that the liver was not the organ for the formation of hippuric acid.

In order to determine if the kidney was the source of this compound dogs were used, as it was necessary that a warm blooded animal be experimented on. They survived the ligation of the vessels of both kidneys for several hours and no appreciable disturbance in the circulation in the other organs was noted. Glycochol and benzoic acid were injected into the blood. After three or four hours they were bled to death and the blood of the liver and muscles examined for hippuric acid. Benzoic acid only was found—not even a trace of hippuric. This demonstrated conclusively that the kidney was the proper organ for the manufacture of hippuric acid.

To confirm this deduction they next undertook to show that the kidney separated from the other organs could in itself produce the synthesis. In this they were successful. They bled a dog to death and removed the kidneys and then passed the defibrinated blood to which glycochol and benzoic acid had been added through the artery and out of the veins of one of them under approximate normal pressure. This blood was repassed through the kidney in this manner for several

hours and then examined. Hippuric acid was invariably found in the blood after its passage through the kidney, and also in the fluid that escaped through the ureter during its passage. But in the other kidney, and in the blood which had not passed through the kidney, *no* hippuric acid was found. The amount of hippuric acid found was greater when glycochol was added to the benzoic acid than when the latter was used alone.

As to the locality in which urea is generated the most complete and reliable researches have been made by W. von Schröder. He removed both kidneys from a dog and immediately examined the blood from its carotid, and found it to contain 0.5 per thousand of urea. The animal was bled to death more than 27 hours afterwards and again its blood examined, and found to contain 2 parts per 1000. It follows, then, that the kidney cannot be the only source of urea.

The kidney as a source of urea was eliminated from consideration by the following experiment, which is analogous to that for hippuric acid: Blood to which carbonate of ammonia had been added was passed through the excised kidney. No change was noted in the amount of urea contained in the blood before and after passing through the kidney. The kidney is merely a means for its excretion.

By a similar method—that of passing blood containing carbonate of ammonia through muscular tissue—it was found not to be a source of the generation of urea.

The next experiment as to its derivation or locality for its manufacture was made on the liver. Schröder removed the liver from a small dog whose blood, containing carbonate of ammonia, was mixed with that of a large dog and introduced into the portal vein and allowed to pass out through the vena cava above the diaphragm, the hepatic artery being closed. The blood was allowed to pass for from four to five hours, when it was examined and the urea found to amount to nearly three times the previous quantity in the blood. If the blood passed contained no carbonate of ammonia the amount of urea increased a little, and then only in blood passed through the livers of dogs taken from them during digestion. No urea was found in the blood which passed through the livers of fasting dogs unless carbonate of ammonia was added. Thus it is pretty conclusively shown that the liver is the location for the formation of nearly, if not all, the urea produced in the body.

The direct manner in which urea is formed in

the liver is still uncertain. The proteids passing into the system are converted into a number of nitrogenous substances, such as leucin, tyrosin, aspartic acid, glutamic acid, glyocol, lysin, lysatin, histadin, arginin, and it is very probable that all these nitrogen compounds are the precursors of urea. Up to this time only the amido acids have been subjected to direct experiment. Leucin and glyocol were administered to dogs by Schultzen and Nencki, who found that these compounds did not appear in the urine but there was an increase of urea. This fact was confirmed by Salkowski.

Aspartic acid by a similar method was found by Knieriem to be converted into urea. Bunge holds, however, that only a small part of the urea could be formed from amido acids; that there is not nearly enough of carbon in the proteid to permit of all the nitrogen issuing as an amido acid.

From chemical reasoning he concludes the largest portion of the nitrogen is split off from the proteid molecule in a compound containing very little carbon. He holds that it is possible that a part of the urea may be separated directly from the proteid as a neutral compound; and it is also possible that ammonia and carbonic acid may split off from the proteid, subsequently combining with the elimination of water to form urea. Through a process analogous to that involved in the formation of hippuric acid—that is, diabasic carbonic acid unites with two molecules of ammonia to form urea, losing two molecules of water.

Buchheim and Lohrer were the first to suppose that the carbonate ammonia was the antecedent of urea, being based on the following experiment: The latter (Lohrer) took three grains of the citrate of ammonia expecting it would behave in the body like the citrate of potash or soda which pass into the urine as carbonates, and render the urine alkaline; instead of which the urine remained acid. The carbonate ammonia formed must therefore have been converted into a neutral compound, and it was assumed urea had been formed.

Experiments have been performed by Knieriem and by Salkowski and in Schmiedeberg's laboratory which show conclusively that the carbonate of ammonia is converted into urea. There are other theories regarding the chemical formation of urea. Hoppe-Seyler and Salkowski regard cyanic acid as the immediate precursor of urea and Drechsel that urea arises from carbonate of ammonia.

The question, however, of the locality for the formation and the chemical changes through which the proteids go in the production of urea are of more real interest to the physiologist and physiological chemist.

The real interest to us as general practitioners is in its excretion. We know that urea and the other nitrogenous compounds in the urine are waste products and should be eliminated from the body. In the examination of urine the nitrogen waste is expressed in terms as urea because this compound contains about 86 per cent. of the total nitrogen eliminated. An inconsiderable amount of the nitrogen is eliminated in the faeces; but for all practical purposes we may consider the amount found in the urine the index of the albuminous metabolism of the system.

The amount of nitrogen or urea excreted in the urine is practically equivalent to the amount ingested. The amount of urea excreted in 24 hours has a normal wide range, depending upon the amount of muscular exercise, the kind of food ingested, and the habits of the individual. Where large amounts of albuminous foods are taken in to preserve the nitrogenous equilibrium a larger amount is eliminated. In persons who take great muscular exercise, as laborers or soldiers on forced marches, the amount of urea excreted might be from 40 to 50 grains in 24 hours. While among the well-to-do who take little exercise or lead sedentary lives the amount excreted might not exceed from 20 to 30 grains in 24 hours, and yet there be no disturbance so far as the general health of the individual is concerned.

To determine, therefore, if there is any disturbance of the nitrogenous equilibrium, it is necessary to know the amount ingested.

According to Pettenkofer albumin exists in the body in two forms—an organized albumin which is built up into tissues, and a circulating albumin which is an excess of what is required to build up the structure and is broken down and eliminated in the urine without entering into the construction of the body. Most of the urea is formed from this albumin.

As stated before, the amount of nitrogenous waste depends on the amount of albuminous food ingested, and while there is a nitrogenous equilibrium the body has the power of accommodating itself to raising the level of equilibrium. But beyond a certain point this power is abolished—the body cannot retain more nitrogen. As a result we have various digestive disturbances, and thus the body is able to protect

itself from an over-accumulation of circulating albumin.

If no albuminous foods are ingested there is a gradual destruction of the organized albumin and although the fats and carbohydrates protect the body for a while against the undue nitrogenous waste, death finally results.

It is very important, therefore, that a close watch be kept on this nitrogenous equilibrium in order that the bodily health be kept perfect.

Simon has a rule by which the amount of nitrogen excreted can be estimated in terms of nitrogenous matter ingested with reasonable certainty. For instance, he says that 100 grams of lean muscular tissue contain about 3.4 grams of nitrogen, corresponding to 7.286 grams of urea. One gram of urea, therefore, is equivalent to 13.712 grams of muscular tissue. In order to obtain an idea of the extent of the destruction of albuminous tissue in the body it is only necessary to multiply the quantity of urea eliminated in 24 hours by 13.72. For instance, a patient eliminates 50 grams of urea in 24 hours. This multiplied by 13.72 gives 686 grams of lean muscular tissue. On the other hand, he ingests an amount of nitrogenous material equal to only 10 grams of urea—i. e., 10 multiplied by 13.72—equivalent to 137.2 grams of muscular tissue. The difference between the amount ingested and excreted in this case is 548.8 grams, representing the destruction of organized albumin.

An increase in the amount of urea excreted is observed in the acute febrile diseases, and is due to the increased tissue destruction. An increase in the elimination of nitrogen is also noticed in pneumonia about the time of the crisis—also in diabetes. A moderate increase has been found in cases of pernicious anæmia, leukemia, scurvy, chorea and paralysis agitans, also in case of functional albuminuria and in cases of gastro-intestinal diseases. Certain drugs have the power of increasing the elimination of urea. For instance, coffee, caffeine, morphine, codeine, ammonium chloride, chloride of sodium, chloride of potassium, and carbonate of lithia.

The amount of urea eliminated is decreased in certain diseases of the liver, as in carcinoma, cirrhosis, acute yellow atrophy, and in Weil's disease. This might be expected from the fact that so far as our knowledge extends at present this organ is the source of the formation of urea.

Conditions which may affect the elimination

of urea in hepatic diseases are destruction of the liver tissue, diminished blood pressure through the liver and insufficient excretion of bile. There is also a diminished elimination in diseases of the kidney. There is also a diminished excretion of urea in melancholia and advanced stages of paresis and in Addison's disease, and all forms of chronic and unprogressive anæmia, osteomalacia, impetigo, lepra and chronic rheumatism.

Now, probably all I have said is well known to you. My object is simply to bring the matter before you for discussion, hoping thereby to obtain information on this subject which is very interesting to me.

We can readily understand in diseases of the kidney characterized by destruction of the tissue that the urea, although perhaps normally produced in the liver for mechanical reasons cannot be eliminated. It is then reabsorbed, passes into the circulation, attacks the nerve centers and produces the characteristic symptoms of uræmia—namely, intense headache, convulsions, stupor, coma and death. But what takes place when there is no renal disease, and yet a diminished elimination of urea far below the amount of nitrogenous food ingested? Is there a decreased formation of urea in the liver? If so, what becomes of the rest of the nitrogen? What symptoms are produced by this decreased waste and to what are they due? These are important questions upon which I will be glad to be informed.

During the past several months I have had several patients come into my office complaining of pain in the back part of the head with a sense of fullness, loss of appetite, and a tired, sleepy feeling. No organic trouble was found in them, but invariably there was a marked decrease in the amount of urea excreted in 24 hours. Whereas the quantity should be from 20 to 30 grams, in these cases it ran from 8 to 15 grams. One case in which there was a marked decrease in the amount of urea excreted suffered from mitral insufficiency. The decrease in this case might have been due, therefore, to a reduced pressure through the liver.

The history of another case was as follows: H., white, female, aet. 32, married, having three children; family history good and apparently perfectly healthy except for an extensive chloasma on the forehead. About a year ago she began to complain at times of violent headaches. Examination of the urine showed no organic dis-

ease of the kidney, but only 8 grams of urea was excreted in the 24 hours. She was put on tonic treatment—iron, quinine and strychnine—and although the headache disappeared the amount of urea excreted never reached normal. This condition was repeated several times. About three months ago while nursing her little child during an attack of typhoid fever she became suddenly ill with a violent headache, rise of temperature, and pain in the region of the common duct. A diagnosis of biliary calculi was made out and phosphate of soda and olive oil given, as well as citrate of magnesia to overcome the constipation. Search was made in the vessel for calculi, but none were found. In the vessels, however, there was found a sand-like substance which was evacuated from the bowel. On chemical analysis this sand was found to be composed of bilirubin and oxylate of lime. Immediately after recovery from this attack the amount of urea excreted was found to be 30 grains in the 24 hours, which is about the normal amount.

Several tests have been made recently, but the amount excreted has never exceeded 12 or 15 grams, though the patient seems perfectly well and has regained the flesh lost during her illness.

These cases came under my observation, excited my interest and I bring the matter before you for discussion.

202 E. Capitol Street.

ETIOLOGY AND PATHOLOGY OF DIPHTHERIA.*

By R. ANGUS NICHOLS, M. D., Richmond, Va.

Whereas diphtheria has been a recognized disease for many centuries, Galen having written extensively upon this subject in the second century, yet, it is only within recent years that anything of importance has been contributed to the subject. Virchow, in 1845, was the first to point out the difference between croupous and diphtheritic inflammations; and although the field has been continuously worked over ever since that time nothing worthy of note was brought to light until 1883, when Klebs dis-

covered the causative bacillus. These wonderful bacteriological revelations were promulgated to the world and were received with much incredulity and wagging of the head. However, a year later Loeffler succeeded in isolating the bacillus in absolutely pure culture, and was able to describe its morphology, tinctorial and cultural and biological properties. These discoveries furnished a firm and reliable basis on which subsequent workers could build with confidence. From that time on numerous observations were made in Germany, France and America until 1891, when Welch declared that all the conditions necessary to the demonstration of the specific relation of the Klebs-Loeffler bacillus to diphtheria had been met—viz.: First, its constant presence in cases of diphtheria; second, its isolation in pure culture; and third, the production of all the symptoms of the disease by the inoculation of pure cultures in susceptible animals. Since that time evidence has been accumulating from many reliable sources till there can no longer be any doubt that the essential cause of diphtheria is the growth and development of this bacillus within the body. The development of the disease must, therefore, be dependent in every case upon the presence and action of the diphtheria bacillus.

The fact that the bacilli were always found at the point of inoculation in guinea pigs and not in the blood, led Loeffler to believe that the micro-organism produced a powerful poison, which was absorbed and carried through the body. Subsequently, in 1887, he established the fact, and a year later succeeded in isolating the poisonous product of the bacillus.

The diphtheria bacillus is a small organism, somewhat shorter than the tubercle bacillus, but much broader, and usually presents clubbed extremities, is somewhat curved and sometimes spindle shaped. It is capable of deep staining with Loeffler alkaline methylene blue solution or by the Gram method, and then presents a segmented granular appearance. The bacillus of diphtheria grows readily on a variety of culture media, and, according to Welch and Abbott, is killed by an exposure of ten minutes to 50°C. or 138.4°F. Other experiments have shown that it is killed in an aqueous solution of 1-8000 corrosive sublimate, 1-2000 salicylic acid, and 1-50 carbolic acid. Under favorable conditions, however, they will remain alive for many months or even years. They often persist in the throats of patients for months after an at-

* Read before the Richmond Academy of Medicine and Surgery, December 8, 1903.

tack, and thus prove a source of infection in susceptible individuals.

Infection generally takes place through the mucous membranes of the upper air passages, and it is believed by many that an abraded surface is necessary for the virus to become active; this, however, has not been proved.

Diphtheria is highly contagious within the immediate neighborhood of the patient, but it is said the radius of direct contagium is limited to a few feet. A number of epidemics have been traced to contaminated milk, the infection arising from the presence of diphtheria among those engaged in handling the milk. Certain English observers have also claimed to have discovered a specific disease among milch cows characterized by vesicular and pustular eruption upon the teats accompanied by the presence of the diphtheria bacillus in the local lesions, and capable of being reproduced by infection of the bacilli.

Although we know positively that diphtheria is caused by the Klebs-Loeffler bacillus, yet there must be conditions existing which favor their development. It is practically a disease of childhood, most cases occurring between two and seven years of age. It is very rare in early infancy, and its tendency diminishes very rapidly after youth, although it may occur at any age.

Some families are more prone to chronic pharyngeal disease than others, in consequence of which they would be very easily infected if exposed to direct contagium. Previous acute catarrhal attacks invite the advent of diphtheria. Epidemics of influenza, measles and scarlatina are frequently accompanied by diphtheria. Likewise acute follicular tonsillitis in localities where diphtheria is prevailing invites attacks of the disease, so that we have as it were two diseases co-existing. Tubercular tendency and lowered vitality from any cause increase the susceptibility.

Diphtheria is found in all climates, but not so frequently in the tropics as in the cold and temperate regions. It is most prevalent in the autumn, winter and spring months, although large cities are seldom free from it the year round. The presence of sewer gas, moisture, etc., are certainly factors which favor the development and spread of the disease, but however much these things may contribute to the development of diphtheria, the active and essential cause must be the diphtheria bacillus, and our hope of limiting the ravages of this disease must be the con-

trol of the individual cases, each of which is a focus for the further spread of the disease.

Social conditions seem to have no marked influence as a predisponent, although in crowded communities the children of the poor and squalid suffer most from the disease; yet if proper isolation and hygienic care be instituted the number of new cases becomes rapidly lessened, showing conclusively from an individual standpoint that the children of the poor are no more liable than those of the well-to-do, excepting as they may be subjected to greater exposure.

The inflammation affects the mucous membrane with an intensity varying from a congestion, with a thin grayish or yellowish film spread over the surface, up to the formation of a thick, firmly attached pseudo-membrane covering a tumefied mucous surface with more or less necrosis of the deeper layers. Bacteria of various forms are commonly present in the false membrane and some of them penetrate deeply the underlying tissues. The diphtheria bacilli are largely confined to the seat of local lesion, and sometimes occur here in enormous numbers, especially in the older layers of the pseudo-membrane. They may become widely distributed throughout the body. This appears to be especially the case when the pyogenic cocci are associated with the diphtheritic bacillus at the seat of the local lesion.

The pseudo-membrane is generally of a grayish white color; if superficial, it can be stripped off, and is found to be elastic and firm. If the deeper tissues be involved the membrane is more adherent, and attempts at its removal may lacerate the surface and produce bleeding. The color deepens as the membrane becomes older, becoming yellowish, and may be streaked with red from admixture with blood, or it may become dark brown. It may soften and break down into an offensive ichorous discharge. Very rarely the membrane may be absent, in which case the inflamed surface is swollen and of a grayish-white color from infiltration. When the pseudo-membrane is advancing, the edges are thin and shade off into the surrounding inflamed area; but if repair is about to take place the patches may thicken or wrinkle at their edges, which become distinctly separated from the membrane. The pseudo-membrane is loosened by effusion of serum and immigration of leucocytes beneath and by the ulcerative process, so that it sloughs off in fragments or, less often, in

one piece. Lesions of the mucous membrane undoubtedly aid the spread of the virus; hence the injurious effects of forcibly stripping off the false membrane and exposing a bleeding surface.

It is said that the reason the tonsils are more frequently the starting point of diphtheritic inflammation is partly because of their prominence, but also on account of the fact that their epithelial covering is not always everywhere continuous; and hence the virus has easier access to their mucous membrane. The virus may, however, undoubtedly attack a mucous membrane in which no abnormality is discoverable, possibly because a slight abrasion is readily overlooked after the local inflammation has begun.

The action of the toxins is characteristic and important. These substances have been isolated and studied especially by Loeffler, Breiger, Frankel and Yersin. They have been found to be allied to the albumins, and have been described as toxalbumins. Experimental inoculation in susceptible animals has been found to produce all the characteristic features of diphtheria except the membrane, especially the characteristic post-diphtheritic paralysis. These toxins are elaborated in the local lesions of the mucous membrane and are products of the diphtheria bacillus. The quantity and quality of the toxins generated seem, as a rule, to be proportionate to the severity of the local process. The results of these toxins are the constitutional symptoms of diphtheria, and lesions found in the lymph nodes, liver, kidneys, spleen, heart muscle, lungs and the peripheral nerves.

The lymphatic glands near the site of inflammation are the seat of hyperemia, and the glands at the angle of the jaw and those in the neck are apt to be affected, especially if the nares be involved. The various salivary glands may be enlarged. As a rule, the glandular swelling subsides without suppuration. Sometimes the periglandular tissues become infiltrated and greatly swollen. In malignant cases there is deep sloughing and even gangrene at the site of local inflammation. The lymph nodes, cervical, bronchial, axillary and inguinal glands are found to be swollen; there are hemorrhages either beneath their capsule or into the glandular substance. The cells show more or less degenerative changes, both in their nuclei and cell protoplasm. The nuclei are fragmented, the cell bodies are converted into a finely granular reticulated material apparently fibrinous. Simi-

lar changes are observed throughout the lymphatic system, Peyer's patches, solitary glands and the agminated follicles of the intestines, etc.

The spleen may be somewhat enlarged and is usually softened. There may be hemorrhage beneath its capsule or into the substance of the organ. The cells show degenerative changes similar to those seen in the lymph nodes. The liver is hyperemic and usually shows hemorrhage either upon its surface or parenchymatously. There may be advanced fatty degeneration of this organ or small areas of necrosis of its cells, the nuclei being fragmented or having completely disappeared, while the bodies of the cells show advanced degenerative changes. Some of these areas are infiltrated with leucocytes.

The kidneys show degenerative changes in the epithelium of the tubes and glomeruli, and also hyaline alterations of the glomerular capillaries and smaller arteries. The acute, diffuse or exudative nephritis, so frequently complicating this disease, is attributable rather to the accompanying streptococcus infection than to the diphtheria itself.

The heart shows fatty degeneration of the muscle sometimes so advanced as to produce changes in every fiber. The nuclei may also be fragmented.

Various lesions have been found in the spinal cord in cases of diphtheritic paralysis. The changes in the peripheral nerves, on the other hand, are looked upon by some as the most characteristic pathological lesions of diphtheria. The affected nerves are sometimes red and swollen from congestion and edema, but the degeneration of the nerve fibers is characteristic of the process. Single fibers or a whole nerve trunk may be affected. The changes may be either interstitial or parenchymatous. In the parenchymatous form, there is usually more or less marked infiltration of leucocytes within the nerve sheath, between the sheath and the nerve fibers or between the fibers themselves. The medullary sheath of the nerve fiber is swelled, undergoes a fatty degeneration and may altogether disappear. The axis cylinder undergoes a similar degeneration; it may be changed to a granular mass and be absorbed. The empty sheath of Schwann may be the only evidence left of the former nerve fiber. Sooner or later the degeneration stops, regeneration begins, and usually results in complete restoration of the nerve fibers. In the interstitial form, the increase

of the connective tissue of the endoneurium is the marked feature of the process.

The pulmonary changes produced by the experimental action of the diphtheria bacilli on their toxins are slight, and of no importance; but these complications of clinical diphtheria are frequent, severe and of great moment. And whereas the presence of diphtheria bacilli has been demonstrated in the lungs of fatal cases, it has been proved that their presence has but little to do with the production of these complications, but to streptococcus infection.

The blood coagulates poorly and is very dark. Ante-mortem heart clots and venous thrombi may occasionally form. Small hemorrhages may be found in the meninges of the brain and spinal cord, and there may be hemorrhages from the various mucous membranes, or general purpura, and parenchymatous degeneration of viscera as before stated.

Second attacks of diphtheria are rare, but do occur.

Analyses, Selections, Etc.

Surgical Tuberculosis from an Orthopedic Standpoint.

In the paper read by Dr. E. J. Huhner, of New Orleans, during the session of the Louisiana State Medical Society, May, 1904, Pott's disease and morbus coxarius were taken as the types of bone and joint tuberculosis. In the *treatment of the hip-joint disease*, the Taylor and the Phelps' hip splints were recommended as giving fixation and traction. Large abscesses should be aseptically incised and drained, and if necessary erosion or excision done. Forceful correction of deformity should only be resorted to after the disease had subsided. *For Potts' disease*, the Taylor brace and Goldthwaite's modification of it were recommended. The author then reported three cases: One, a case in which both spondylitis and hip-joint disease were associated; one, a case of hip disease which spontaneously healed after abscesses had formed and ruptured; and the other was a case of old Potts' disease, in which the kyphosis was forcibly corrected. The paper concluded by calling attention to the great importance in these conditions of sunlight, fresh air and wholesome food.

Book Notices.

Seventy-Five Years in Old Virginia. By JOHN HERBERT CLAIBORNE, M. A., M. D., Honorary Alumnus of University College of Medicine, Richmond; Ex-President and Honorary Fellow of Medical Society of Virginia; Formerly Member of House of Representatives and of Senate of Virginia; Latterly Major and Surgeon 12th Virginia Regiment; Subsequently Surgeon on General Medical Staff of Confederate Army, etc., etc. *With Portraits.* New York and Washington: The Neale Publishing Co. 1904. Decorated Cloth. Small 8vo. Pp. 360. Price, \$2, net.

One who starts the reading of this "account of the author and some history of the people amongst whom his lot was cast—their character, their condition and their conduct before the war, during the war, and after the war," can scarcely find place to stop until the reading of the entire book is finished. There is a pleasing style of writing peculiar to him that charms and entertains—even when telling of boyish days or trivial events. While much of the book is autobiography, it is also historical of Petersburg, Va., and its people—that city which for so long a time during the Confederate war was the centre of attack. Few Virginia physicians ever attained the author's eminence as a practitioner, nor is there a more forceful writer or speaker; and his statesmanship ranks with the cleverest men of the country. As to the value of his book, it should rank with the best of local histories of the Confederate war, for truly he has not "hesitated to fearlessly write the truth as he knows it." The medical profession of Virginia should feel honored in that one of its number has written such a book which must find permanent place in the leading libraries of the country, where facts about the Confederate war are sought.

International Medical Annual: A Year Book of Treatment and Practitioner's Index. By 33 Contributors. 1904. *Twenty-Second Year.* New York: E. B. Treat & Co. Cloth. Small 8vo. Pp. 770. Price, \$3.

This Year-book of Treatment is very complete as to the advances up to the time of publication. Part I, after a general review of therapeutics during the past year, devotes about 45 pages to the "dictionary of remedies." About 22 pages are given to "radio-activity and electro-therapeutics." Part II begins with a "general review of medical and surgical progress

for 1903"—referring to special diseases, etc. On page 91, the "dictionary of treatment" begins, taking up subjects in alphabetical order, until Part III is reached on page 735, which considers miscellaneous subjects, such as sanitary science, etc. The whole is very well gotten up, and arranged to meet the wants of the practitioner who wishes to readily refer to the progress during the past year regarding any special subject. The illustrations are specially well selected and well drawn.

Commoner Diseases of the Eye. By CASEY A. WOOD, C. M., M. D., D. C. L., Professor of Clinical Ophthalmology, University of Illinois, etc., and THOMAS A. WOODRUFF, M. D., C. M., L. R. C. P., London, Professor of Ophthalmology in Post Graduate Medical School, Chicago, etc. Cloth. Small 8vo. Pp. 499. Price, \$1.75, *net*.

The object of this book is to consider ophthalmology *from the standpoint of the physician in general practice*—how to detect and how to treat the commoner diseases of the eye. It proposes describing such diseases in non-technical terms, by numerous illustrations, synopsis headings and a complete reference index. It is a book that is of special importance to all general practitioners who are at all remote from the specialist—where diagnosis and treatment must be undertaken from the very nature of the surroundings. It is a valuable work for all physicians in their daily rounds of duty.

Manual of Clinical Microscopy and Chemistry. By DR. HERMAN LENHARTZ, Professor of Medicine and Director of Hospital at Hamburg, etc. *Authorized Translation from Fourth (last) German Edition, With Notes and Annotations* by HENRY T. BROOKS, M. D., Professor of Histology and Pathology at New York Post Graduate Medical School and Hospital, etc. *With 148 Illustrations in the Text and 9 Colored Plates.* Philadelphia: F. A. Davis Co. 1904. Extra cloth. 8vo. Pp. xxxii-412. Price, \$3, *net*.

The reader of this book will find himself magnifying to its just position the study of clinical microscopy and chemistry. He will recognize the importance of the thorough teaching of these subjects to students of medicine. It is a book on laboratory methods of examination of diseased solids and tissues and fluids of the body, and interpreting the diagnostic significance of the findings in practice. Details of examination of the urine are given, while

only the practical tests of the blood and gastric contents—including forensic examination of blood stains—are discussed. It is remarkable to us that more physicians have not established themselves in towns of 10,000 population and more, as well equipped specialists in the field of laboratory diagnosis; for with the increased education of the profession, the need for the help of such specialists is becoming rapidly more apparent.

Manual of Clinical Diagnosis by Means of Microscopical and Chemical Methods. By CHARLES E. SIMONS, M. D., Baltimore, Md. *Fifth Edition, Thoroughly Revised and Enlarged. Illustrated with 150 Engravings and 22 Plates in Colors.* Lea Brothers & Co., Philadelphia and New York. 1904. Cloth. 8vo. Pp. 695. Price, \$4, *net*.

That there is demand for this book is proven by the fact that the first edition was issued 1896; in 1904, the fifth edition is required. The object of the work is to simplify the physician's work by laboratory methods—thus enabling the elimination of doubt from diagnosis. Each edition of the work has been a practical improvement upon the preceding, until now we have a book that is essential to the practitioner's library, and which should develop active interest in the development of personal chemical and microscopical laboratories.

Medical News Pocket Formulary. By E. QUIN THORNTON, M. D., Assistant Professor of Materia Medica Jefferson Medical College, Philadelphia. *New (Sixth) Edition—Revised.* Lea Brothers & Co., Philadelphia and New York. 1904. Leather—Wallet shape for the pocket. \$1.50, *net*.

Under an alphabetical arrangement of diseases, the most efficient prescriptions for simple cases, as well as for their various stages and complications, are given. The indications and annotations as to the use of each formula are also useful. Under appropriate headings will be found prescriptions containing such recent drugs as have proved therapeutically valuable.

Pain and Its Indications. By EDWARD C. HILL, M. S., M. D., Professor of Chemistry, Medical and Dental Departments of University of Denver; Physician to St. Anthony's Hospital, etc. Chicago: G. P. Engelhard & Co. 1904. Cloth. Gilt top. Small 8vo. Pp. 328. Price, \$1.

This handy volume is an encyclopedic work on *pain* as a symptom in numerous conditions.

And as it points out the indications of treatment in given cases and even contains many valuable prescriptions garnered from many sources, this would appear to be *the book that practitioners need*. Not only is the book well arranged as to classification in the text, but the index also adds great help in the matter of ready reference. The great variety of causes of regional pains and the consequent difficulty of differentiation and of rational causal treatment will make this book specially appreciated by physicians, etc.

International Clinics. Vol I. Fourteenth Series, 1904.

Quarterly of Illustrated Clinical Lectures and Especially Prepared Articles by Leading Members of the Medical Profession. Edited by A. O. J. KELLY, A. M., M. D., Philadelphia, with a corps of Collaborators, etc. Philadelphia: J. B. Lippincott Co. 1904.

This Volume contains articles of interest alike to the therapist, physician, surgeon, gynecologist and neurologist—with an excellent review of the progress of medicine and surgery during 1903, and a review of new or approved plans of treatment of infectious and constitutional diseases, diseases of the blood, ductless glands, circulatory system, kidneys, respiratory tract, stomach and intestine, and of the liver.

System of Practical Surgery. By PROF. E. VON BERGMANN, M. D., of Berlin; PROF. P. VON BRUNS, M. D., of Tübingen, and PROF. J. VON MIKULICZ, M. D., of Breslau. Vol. II. Translated and Edited by WILLIAM T. BULL, M. D., Professor of Surgery, College of Physicians and Surgeons, Columbia University, New York; and CARLTON P. FLINT, M. D., Instructor in Minor Surgery, College of Physicians and Surgeons, Columbia University. New York. *Surgery of the Neck, Thorax and Spinal Column*. Lea Brothers & Co., New York and Philadelphia. 1904. Large 8vo. Pp. 820. Cloth, \$6; leather, \$7; half morocco, \$8.50, net. Sold by subscription only.

Volume I of this *System*, on *Surgery of the Head*, was noticed in our issue of April 22, 1904. That there was demand for this *System* is shown by the Publishers' announcement of the rapid sale of Volume I. Beside the three authors named in the title a list of nine other contributors of distinction abroad are given. When to these contributions, the annotations by the able American Translators and Surgeons are remembered, it will be recognized how per-

fect the work has been done. In regular order, this Second Volume considers, Malformations, Injuries and Diseases of the Neck; of the Larynx and Trachea; of the Thyroid Gland; of the Thorax and its Contents; of the Mammary Gland; and of the Spinal Cord and Vertebral Column. Of course it is a standard work. The three remaining volumes will follow in rapid succession. To the professional surgeon, the *System* will prove almost invaluable. This volume is profusely illustrated—by 24 plates in colors, and 321 wood engravings.

Gynecology. (Volume IV of *The Practical Medicine Series of Year Books*, under the *General Editorial Charge* of GUSTAVUS P. HEAD, M. D., Professor of Laryngology and Rhinology, Chicago Post Graduate Medical School). By EMILIUS C. DUDLEY, A. M., M. D., Professor of Gynecology, Northwestern University Medical School, Chicago, etc., and WILLIAM HEALY, A. B., M. D., Instructor in Gynecology, Northwestern University Medical School, etc. March, 1904. Chicago: The Year Book, Publishers. Cloth. 12mo. Pp. 216. Price, \$1.

To properly appreciate this book, remember that it is one of a series of volumes, issued monthly, on the year's progress in medicine and surgery, etc. It is not a text-book; for the editors presume that the doctors have their standard reference or study books. But it is a compilation of what is valuable in the journals, etc., on the subject in hand during the preceding year, and this is an *addendum* to the standard work on the practitioner's library shelf. The present number is well up to date, and contains many facts of value to the gynecologist not yet in the text books.

Manual of Materia Medica and Pharmacy. By E. STANTON MUIR, Ph. G., V. M. D., Instructor in Comparative Materia Medica and Pharmacy in University of Pennsylvania. *Third Edition, Revised and Enlarged*. Philadelphia: F. A. Davis Co., Publishers. 1904. Cloth. 8vo. Pp. 192. Price, \$2, net.

This *Manual* is "specially designed for the use of practitioners, and medical, pharmaceutical, dental, and veterinary students." It is divided into three parts: Part I—a synopsis of medical botany. Part II—the essential points of value about individual drugs; while Part III is devoted to Pharmacy. The metric system is generally adopted. The drugs studied are arranged in alphabetical order. The book

has numerous blank interleaves for notes, etc. While it is a good book for the class room, we are afraid that it is not sufficiently full for the needs of the practical pharmacist of to-day, who has calls for a thousand and one things not referred to in this book. The book, however, seems to be thoroughly reliable in its facts—as far as they go.

Editorial.

The University College of Medicine Finals

Brought to an end on May 12th one of the most successful sessions of its history. During the course of a few remarks by the Dean, statement was made of the recent decision on the part of the faculty, who have been its owners, to reorganize the University College of Medicine so as to do away with its features as a stock corporation, to surrender their stock without any financial return, and place the institution and its management under a board of trustees. This step was taken because the purposes for which the institution was founded could be better subserved and its scope enlarged and rendered more effective. Since the establishment of the college years ago, with a capital of only \$20,000, the value of the property has increased each year until now it is estimated to be worth more than \$100,000 above liabilities.

The board of trustees will be composed of thirteen members of the present faculty, together with the following gentlemen: Hon. John Goode, Washington, D. C.; Dr. R. L. Payne, Norfolk, Va.; Hon. R. T. Barton, Winchester, Va.; Dr. Egbert W. Smith, Greensboro, N. C.; Col. Thomas S. Kenan, Raleigh, N. C.; Governor W. S. Jennings, Tallahassee, Fla.; Rt. Rev. George W. Peterkin, Parkersburg, W. Va.; Judge George L. Christian, Messrs. John P. Branch, T. A. Miller, E. D. Taylor and L. Z. Morris, of Richmond, Va.

After an address by Dr. Henry Louis Smith, President of Davidson College, N. C., in which he appealed for the old ideals and standards of the South, diplomas were delivered in the various departments, as follows:

Graduates of Medicine.—I. K. Briggs, Jr., V. A. Brooks, Wm. F. Driver, Charles E. Dyer, H. R. Farley, Michael Gaydosh, H. D. Gilmer,

A. W. Greene, Ernest L. Grubbs, J. E. Hugheart, Thomas F. Jarratt, C. J. Kinsolving, Jr., T. B. Leonard, E. Blake Martin, C. P. Obenschain, Nathaniel A. Orr, Walter S. Quaintance, Henry L. Robertson, W. S. Slicer, Francis H. Smith, Joseph H. Smith, J. Blair Spencer, J. M. Williams, George A. Wright, and Edward F. Younger.

Graduates of Dentistry.—C. H. Banks, Alfred P. Curtis, Harry A. Duncan, M. C. Field, Marion M. Harris, J. C. Johnson, T. W. Laguna, C. E. Nicholas, Marvin St. Clair, Harry LeCato Smith, J. H. Smith, W. E. Snipes, J. L. Spittler, R. M. Squires and R. W. Stephens.

Graduates of Pharmacy.—R. K. Akers, H. W. Boyd, Wm. Seabrook Cavedo, Edward D. Coleman, W. S. Hmt, Fred. K. Lake, Hugh W. Royall, Charles H. Sebrell and G. E. Turner.

Bachelors of Pharmacy.—Dick C. McClenny, J. C. Ray and L. E. Wayland.

Hospital Appointments.—Virginia Hospital, Drs. I. K. Briggs, Jr., George A. Wright and Nathaniel A. Orr; St. Luke's Hospital, Dr. Francis H. Smith; Retreat for the Sick, Dr. V. A. Brooks; Richmond Eye, Ear and Throat Infirmary, Dr. D. A. Forrer; City Hospital, Dr. T. B. Leonard; Sheltering Arms Hospital, Dr. Henry D. Gilmer; U. S. Marine Hospital, Chicago, Ill., Dr. Ernest L. Grubbs; St. Vincent's Hospital, Norfolk, Va., Dr. Courtney Edmond; Sarah Leigh Hospital, Norfolk, Va., Dr. Thomas F. Jarratt; Central State Hospital, Petersburg, Va., Dr. Wm. F. Driver; Sheltering Arms Hospital, Paint Creek, W. Va., Dr. Charles J. Kinsolving, Jr.; Reynolds' Memorial Hospital, Glendale, W. Va., Dr. Michael Gaydosh; and Virginia Home for Incurables, Mr. Ernest E. Epperson.

Following the exercises at the Academy, there was a reception at the Westmoreland Club.

The Medical College of Virginia

Held their sixty-sixth commencement exercises at the Academy of Music, May 10th, 41 diplomas going to graduates of medicine, 8 to young dentists, and 4 to pharmacists, as follows:

Graduates of Medicine.—W. M. Archer, Jr., H. S. Baker, Elisha Barksdale, Moses Beumoesche, A. C. Biller, D. C. Burks, W. E. Croxton, J. J. Davidson, Charles S. Dodd, H. O. Forbes, C. A. Foster, J. M. Gouldin, E. G. Hamilton, C. R. Hartsook, A. C. Herbert, T. J. Holt, W. J. Judy, A. D. Louthan, W. B. Lyles,

D. M. McIntosh, C. W. Mercer, R. P. Minnick, J. H. Parker, J. R. Perkins, W. O. Pollard, R. R. Preston, J. L. Rawls, W. M. Revercombe, R. A. Rice, N. M. Robinson, J. W. A. Sanders, H. B. Sanford, S. W. Selden, W. A. Shepherd, F. A. Sinclair, J. W. Sloan, W. T. Smith, L. O. Vaughan, Thomas Watkins, and A. M. Willis.

Graduates of Dentistry.—Benj. F. Eppes, Robt. M. Harris, Page S. Lester, Jos. R. Perkins, Frank R. Talley, G. D. Taylor, W. P. Williams and A. Cecil Wright.

Graduates in Pharmacy.—J. W. Irons, T. C. Maddox, S. E. Massey and James L. Morgan.

Hospital Appointments.—Memorial Hospital, Drs. H. O. Forbes, A. D. Louthan, J. W. Sloan, Thomas Watkins and A. M. Willis; Retreat for the Sick, Dr. W. B. Lyles; City Hospital, Drs. C. W. Mercer and J. R. Perkins; St. Vincent's Hospital, Norfolk, Va., Dr. J. L. Rawls; Protestant Hospital, Norfolk, Va., Drs. H. S. Baker and W. T. Smith; Newport News Hospital, Dr. W. E. Croxton; Central State Hospital, Petersburg, Dr. W. M. Revercombe, and Workhouse Hospital, Blackwell's Island, N. Y., Dr. W. A. Shepherd.

Hon. A. Caperton Braxton, of Staunton, Va., was orator of the evening, speaking many words of caution and giving much good advice. Immediately after these exercises, there was a reception and supper at the Masonic Temple.

The Chair of Practice of Medicine, made vacant by the resignation of Dr. H. H. Levy, was filled by the election of Dr. Robert F. Williams. The Chair of Materia Medica and Therapeutics was filled by the election of Dr. F. M. Reade.

The Drug-store Competition With the Doctor.

Quite a timely editorial in *American Medicine* for April 23, 1904, under the above heading says that in a recent issue of a "reputable" newspaper in an Eastern city there are 91 advertisements of 91 druggists of the city, each landing the secret and proprietary preparation manufactured by the druggist as cure-alls for all the diseases which professional men are called upon to treat. In the same newspapers, and even in the same advertisement, the druggist would ask for the physician's patronage, and guarantee that "prescriptions will be compounded with care."

The editorial calls attention to the fact that in every village and city of the United States the same principles of business are being

pushed, and adds, "Should not the local medical societies warn their members, and blacklist the druggists who dishonor two professions and humbug the public at one business stroke?"

In Richmond at the present time patent medicines are being advertised "to a finish" by druggists who have hitherto been held in the highest esteem by the local medical profession. By large show-window cards, hand-bills thrown around, and through the daily newspapers the sale of patent medicines is being pushed by the "cut-rate," and "cut-right" druggists, who claim to sell such remedies *at or below cost*. Such methods by responsible firms not only injure their own trade-standing, but also interfere indirectly, if not directly, with a patronage which should naturally go to their best customers and friends—the doctors. Not many hereabouts are withstanding the onslaught of the patent medicine advocates, who would soon necessarily close their shops but for the extra charges made on prescription work to equalize their *ad captandum* measures of advertising well-known patent medicines to a gullible public, whose tacit belief is that prescription work is also done *at or below cost*. Will physicians of this and other communities allow this evil to exist without an attempt to counteract it in favor of firms where such practices are not recommended?

In marked contrast to the character of the advertisements above referred to, we are glad to note that Messrs. W. P. Poythress & Co. announce that they do not encourage the sale or use of patent or quack medicines by advertising them at and below cost. Pure and fresh drugs are sold at prices reasonable and consistent with the high grade of goods handled, and the family physician is called upon for reference.

The American Red Cross Society

Has sustained a heavy loss in the resignation, on May 14th, of their president, Miss Clara Barton. She has been succeeded by Mrs. Gen. John A. Logan, formerly the vice-president of the Society.

The Medical Examining Board of Virginia

Will meet in Richmond, Va., June 21-24, 1904. Applicants must report in person to the Secretary and Treasurer, Dr. R. S. Martin, and register on the first day, for which purpose the books will be opened at 10 A. M. At 8 P. M., June 21st, the Board will meet for routine work. Examinations begin the next morning.

For full particulars, note the standing advertisement on the fourth cover page of this journal.

The Association of Medical Officers of the Army and Navy of the Confederacy

Will assemble in annual session in the Medical Department of the University of Tennessee, at Nashville, Tenn., during the reunion of the United Confederate Veterans on June 14th, 15th and 16th. The president, Dr. J. R. Gildersleeve, of Tazewell, Va., has issued a circular letter urging each member to be present and contribute some historic fact bearing on this branch of the service. Dr. Deering J. Roberts, of Nashville, is secretary.

The American Protologic Society

Will hold the sixth annual meeting at the Seaside House, Atlantic City, N. J., June 8th and 9th. Papers are scheduled by many leading authors, and as the American Medical Association will be in session at Atlantic City at that time, doctors interested in this branch of medicine may find it convenient to hear the many matters of general importance discussed. The profession is invited to attend all meetings. Dr. A. B. Cooke, of Nashville, Tenn., is secretary.

The American Therapeutic Society

Will have their fifth annual meeting at the Academy of Medicine, 17 West 43d street, New York city, June 2d, 3d and 4th.

Obituary Record.

Dr. Walton Fuqua

Died at his home at Stewartville, Va., April 26, 1904, aged 32 years. He graduated from the Medical College of Virginia 1896, and was elected a member of the Medical Society of Virginia in 1899. He had a large practice, and will be greatly missed in that section of Bedford county. He leaves a widow.

Dr. Henry A. Wise,

Of Williamsburg, Va., died in Richmond, May 6, 1904, after an illness of several weeks.

He had a host of friends, who will hear the news of his death with regret. He entered William and Mary College while quite young, and afterwards graduated from the University College of Medicine, of this city. Dr. Wise commenced the practice of his profession in Williamsburg and soon built up a large patronage. He was a member of the Board of Medical Examiners of the National Soldiers' Home. He was thirty years old, and leaves one sister.

Dr. A. Nash Johnston,

A prominent physician of Natural Bridge, Va., died very unexpectedly after an illness of several days from pneumonia. He was born in Tazewell county, Va., July 25, 1853. He studied medicine at the University of Virginia, though his graduation was from the Medical College of Virginia, in 1873, and later from the Medical Department of the University of the City of New York, in 1876. He located for a while in Richmond, then for several years in Goochland county, and about fifteen years ago went to Rockbridge, where he became prominently identified with the medical, political and industrial life of the county. Some years back he represented his district in the State Senate, and for four years was county superintendent of schools. Dr. Johnston was twice married. His second wife survives him with several children; also a daughter by his former marriage.

Dr. James Gray Thomas,

Of Mobile, Ala., died May 13, 1904, aged sixty-nine years. He was born in North Carolina, and during the Civil War served as a surgeon in the Confederate army. In 1889 he was appointed commissioner from Alabama to the Paris Exposition. At the time of his death he was a member of Governor Jelk's staff.

Dr. A. M. Henkel

Died suddenly at his home in Staunton, Va., April 19, 1904, from Bright's disease. He was born in Shenandoah county, Va., sixty years ago. He graduated from the Medical Department of the University of the City of New York in 1868, and has been a member of the Medical Society of Virginia since 1885. He was also a member of the American Medical Association, the National Association of Railway Surgeons, and of the Board of Trustees of the Western State Hospital.

THE Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

Vol. 9, No. 5.
Whole No. 197.

RICHMOND, VA., JUNE 10, 1904.

\$2.00 a Year.
10 Cents a Copy.

A PLEA FOR EXPLORATORY INCISION FOR DIAGNOSTIC AND CURATIVE ENDS IN MASKED CONDITIONS OF THE UPPER PORTIONS OF THE ABDOMEN.*

By HUGH M. TAYLOR, M. D., Richmond, Va.,

Professor of Practice of Surgery and Clinical Surgery, University College of Medicine; Surgeon to Virginia Hospital, etc.

A plea for an early exploratory incision for diagnostic purposes in morbid conditions of the upper portion of the abdomen implies in many instances great difficulties attending a special and differential diagnosis, and also the imperative need of an early diagnosis to bring this field within the province of safe and successful surgery. Pathfinders in clinical surgery and medicine and in the laboratory are here and there noting landmarks of value, but we are in many instances still far from a state which enables even the combined efforts of clinician and laboratory worker to weld a chain of evidence devoid of weak links. In this field, as in others, we have typical cases with classic symptoms, and the diagnosis in such cases is not infrequently easily made. But, unfortunately, we have many atypical cases, and often it is difficult, if not impossible, to arrive at a reasonable diagnosis, and these cases present us with many ante- and post-mortem surgical surprises. "*Qui bene diagnoscit, bene curat*" is signally true as applied to morbid conditions in this field.

A limited study of this subject, as presented in the literature of the day, and a limited experience suffice to show that too many are permitted to die or are consigned to lives of invalidism for the want of a correct diagnosis and a surgical intervention which promises, in many instances, the only hope of life and restored health. There is need for every voice that can be raised to sound a note of warning that when in doubt we should not deny the patient the benefit of an exploratory incision. The

dread of opening the abdomen and not finding a remediable condition is common experience; but experience in abdominal surgery confirms the fact that to wait for classic symptoms in many instances is to rob the patient of a probable cure by surgical means. Within the sound of my voice are many who recall how little even the masters in surgery knew of pelvic diseases twenty years ago. Knowing so little of the morbid anatomy and the causes, our therapy was often wrong. Not until light was shed into the pelvic cavity through abdominal and vaginal incisions was modern pelvic pathology and the surgery indicated brought to the proficiency of the present time.

In the incipency of its study, appendicitis was unrecognized by many. Ocular inspection of the virulent infection in the ileo-cæcal region suffices in a majority of instances to convert the greatest skeptic to the wish of consigning such cases to some one else, and not infrequently these new converts are little prone to procrastinate even in the absence of pronounced symptoms. The evolution of surgery of the upper portion of the abdomen promises to rival, if it does not outstrip, that in the pelvic and ileo-cæcal region. To note the confusion of symptoms met with in some of the morbid conditions involving the stomach and bile tract, it will be sufficient to impress this subject; to do more than present a brief of these would carry us far beyond the limits of this paper.

There are perhaps no subjects more pregnant with surgical interest than *ulcer and cancer of the stomach and infection of the bile tract*. An extended review of these would include many phases of gastric ulcer and its sequences, and many phases of the consequences of bile tract infection. If we recall the close juxtaposition of these organs, we note that it is as marked as is the case of the organs in the pelvis, and we have not the rectum and vagina as routes of approach.

*Read before the North Carolina Medical Society at Raleigh, May 25, 1904.

Gastric Ulcer.—Some years ago, while lecturing to a class of about one hundred men, to impress the frequency of gastric ulcer, I quoted Ewald to the effect that 6 per cent. of the men before me would have gastric ulcer. A few days later, without premonitory symptoms, a young doctor from North Carolina, a member of the class, bled to syncope from a gastric ulcer. At that time our interest in gastric ulcer was largely focused in gastric hemorrhage and in perforation. Later research, largely through exploratory incisions and post-mortems, shows that our interest includes not only the acute complications, hemorrhage and perforations; but conspicuously the sequences of gastric ulcer are full of the deepest surgical interest and importance, and operative intervention for the relief of the complications incident to gastric ulcer has opened up one of the widest surgical fields.

Cases of acute, subacute and chronic ulcer may be manifested by typical symptoms, but all symptoms may be latent; and the first indication may be a gastric hemorrhage of greater or less violence. A perforation anteriorly into the peritoneal cavity, or posteriorly with the occurrence of a phrenic abscess. Conspicuous symptoms, such as circumscribed pain in front, pain reflected to the left scapular angle, hyperchlorhydria and hemorrhage, pain on taking food and the relief incident to vomiting may all be absent, even in the active stage of ulceration, and the symptoms manifested be only such as are common to indigestion from other causes. A knowledge of the possibility of the co-existence of ulcer and unpronounced symptoms has led the progressive spirits in surgery to open the abdomen in suspicious cases of stomach trouble which do not in a reasonable time yield to medical and dietetic treatment. The result of this treatment has shown that in a surprising number of cases the cause of the stomach disorder was due to existing gastric ulcer or some one or more of its many sequences.

Few will question the assertion that the prognosis of perforating ulcer of the stomach and duodenum will improve in the same degree as the practitioner learns to make early diagnosis of the case and to immediately secure surgical treatment. My only case of duodenal perforation saved ate a hearty supper, took a long walk, and was on the street when taken with violent pain incident to an acute perforation.

For several days she had been treated for a supposed slight indigestion. Localized peritonitis sufficient for a time to wall in the threatened perforation by its adhesion to the transverse colon further evinces what progress may go on while the patient is up and about and unalarmed by the symptoms presented.

A case of perforation unsuspected was recently seen; a phrenic abscess had formed and until the symptoms of acute peritonitis were manifested, the patient had not been incapacitated for work. He had, however, been a prolonged sufferer from indigestion. Prior to an exploratory incision, it was impossible for me to be more accurate in my diagnosis than to surmise that it was an abscess from pericholecystitis or perigastritis, probably incident to a perforation of the gall bladder or stomach.

An experience such as I have related in these selected cases impresses and depresses me to the extent of causing me to watch with anxiety cases which ordinarily do not assume surgical importance, but any one of which may do so, and with few, if any, notes of warning. Gastric ulcer assumes a surgical interest when life and health are threatened by hemorrhage, by perforation and peritonitis, by perforation and phrenic abscess, by pylorospasm, pain, vomiting, by perigastritis and adhesions, by scar tissue inducing stenosis of the pylorus, by hour-glass contractions and their sequences, and the soil for the invasion of cancer. If we recall how close these organs are together—i. e., pylorus, stomach, duodenum, gall bladder and pancreas—we fail to wonder that a perigastritis or periduodenitis or pericholecystitis should so commonly induce adhesions and result in a damaged function of the organs involved.

The mission of my remarks, as applied to the stomach, may be summed up in the single comment that in many instances there is a mechanical cause for the stomach disorder; in many instances a perverted motor power and not a secretory disorder is responsible for the chronic indigestion. Imperfect stomach drainage from mechanical causes, most of them the results of gastric ulcer, plays an important role in inducing disturbances, and gastro-enterostomy to secure stomach drainage includes within its scope the largest field for operation in benign diseases of the stomach. Early operative intervention finds the patient in the best condition to stand the ordeal of an operation. Experience at the

hands of so many whose opinions merit confidence evince the truth of the claim that it is not conservative to prolong indefinitely the medical treatment of indigestion of obscure origin. Operative intervention has disclosed in too many instances the fact that the cause would never be remedied by other than surgical means.

I have no wish to pose as an extremist. I do not wish to be classed as a pessimist as regards the work of the interne, including the painstaking laboratory worker. Every revolution in surgery savors of radicalism. It is equally true that stagnation is the soul of corruption, and certainly there is no conservatism in groping in the dark. As one who recognizes the difficulties attending an exact diagnosis, even with the cooperative work of clinician and laboratory worker, I join in the plea, now so commonly expressed, for a more frequent exploratory incision in those cases which are not relieved by less radical means within a reasonable time.

INFECTIOUS INFLAMMATION OF THE BILE TRACT.

Twelve per cent. is a conservative estimate of the frequency of gall stones. By some it has been placed as high as 10 per cent. of men, 20 per cent. of women, and 30 per cent. of the insane.

It is estimated that 2,000,000 cases of gall-stone exist in the German Empire all of the time, but fortunately only 100,000 of the two millions of cases have symptoms sufficiently pronounced to enable the diagnosis of gall-stones to be made. One million nine hundred thousand are in the so-called quiescent state. It is known that by no means every case of cholecystitis results in gall-stone formation any more than does every case of urinary cystitis result in the formation of stone in the bladder. Cholecystitis, being more common than gall stones, must indeed be frequent in its occurrence. If we accept the conclusion that gall-stones are the sequence of cholecystitis, just as vesical concretions are sequences of cystitis and appendiceal concretions sequences of appendicitis, we must concede that there must have been symptoms of cholecystitis—only they were beyond recognition as such by the profession. Few recognized cases of gall-stone are met with that have not been through a prolonged course of treatment for indigestion in some form, and not infrequently for malaria, biliousness, etc. Infectious cholecystitis, and cholangitis are wide-

spread in their influence through the bile duct and pancreatic duct infection, through the formation of gall-stones and their sequences, and through peri-cholecystitis and peri-cholangitis and adhesions.

The diagnosis of typical cases is often a matter of grouping symptoms and history, but the occurrence of atypical cases is far from infrequent. To differentiate an acute cholecystitis from an acute appendicitis is often impossible. A perforation of the gall-bladder or rupture intra-peritoneal of a pericholecystic abscess, with local or general peritonitis, is often impossible to differentiate from a perforating gastric or duodenal ulcer with local or general peritonitis and this is equally true of acute pancreatitis; while a subacute cholecystitis and pericholecystitis may give rise to symptoms indistinguishable from chronic gastric disorder or even from malaria.

More diagnoses of bile tract infection and fewer cases of biliousness is in keeping with the teaching of exploratory incisions for diagnostic purposes. Exact diagnosis through exploratory incision should not be delayed until gross pathological changes, adhesion or abscess, gangrene, perforation, cholæmia, chronic pancreatitis, hypertrophic biliary cirrhosis of the liver or cancer places such cases in the class of desperate, perhaps inoperable, surgery. It is as irrational to permit an infected gall bladder to remain untreated and do the damage of which it is capable, as to leave an infected appendix to work the mischief of which it is capable. In doubtful cases, we had better operate many times unnecessarily than procrastinate too long through the dread of operating, because we cannot by the symptoms presented be sure beyond question of what we shall find. An exploratory incision is attended by a minimum of danger, and the danger of delay in a majority of cases far outweighs that of confirmatory incision.

Cancer.—If we accept the fact, as stated by Ewald, that "35 to 45 per cent. of all cases of cancer involve the stomach," and by Lockwood, that "next to the uterus the stomach is more commonly the site of cancer," and by Eichorn, that "among all of the organs of the body the stomach is most frequently affected with cancer," and the further fact that cancer is increasing in frequency and is only amenable to surgical treatment when diagnosed in its incipiency, we must be keenly alive to the import-

ance of an early diagnosis. Co-operative work by physician and surgeon was never more valued than at the present time, and in no field of medicine is it more conspicuous than in malignant conditions of the stomach, because of the difficulty and often the impossibility of making an early, special and differential diagnosis. The late diagnosis of cancer of the stomach is made with a fair degree of accuracy, but it is then practically useless to make the diagnosis as the case has passed beyond the operable stage. Dr. Jonas, in his address on Surgery before the New Orleans meeting of the American Medical Association, says: "Our only course at present is an exploratory incision as soon as reasonable grounds for malignancy exist."

Dr. George H. Brewer writes, "The surgeon is now making much earlier diagnosis of carcinoma than formerly. This is largely due to laboratory methods, but even these do not give the diagnosis in time to do a really radical operation. Whenever, therefore, a person at the cancer age has a sudden onset of digestive trouble or a sudden increase in such trouble previously existing, suspicion should at once be aroused. An early exploratory incision is attended with a minimum risk, and if malignant disease is discovered it can be treated while the affected area is still very limited and glandular involvement has not as yet occurred. Only thus can the disease be reached at a time when it can be thoroughly eradicated, and by the adoption of this plan excellent results are now beginning to be shown."

Dr. John H. Gibson reports a case of "supposed carcinomatous obstruction of the pylorus nine months after posterior-gastroenterostomy and exhibited the patient (1) to show that it was a difficult matter to differentiate gastric ulcer from gastric carcinoma when the ulcer is infiltrated even when the abdomen has been opened;" (2) to show the advantage of doing gastro-enterostomy even in the presence of apparently hopeless malignant disease, and (3) to explain why recovery occurs after supposed cases of gastric cancer.

"Pyloric cancer," says Mayo, "by its location introduces mechanical features which enable an early diagnosis. Laboratory diagnosis of cancer of the stomach has little importance during the operable period because the disease is of too slight extent to interfere with the secretions. When it does so it usually means a hopeless involvement." "Cancer of the stomach," he claims

"can be cured without excessive mortality only when early exploratory operation is undertaken."

Wathens claims, "In cancer of the stomach, chemical and microscopic examinations of stomach contents, of feces, urine and blood are only of greatest value when the disease has passed the inoperable period and often the beginning or the extent of cancerous invasion can only be known positively by an exploratory incision." This same writer says Osler recommends that an exploratory operation should be more frequently advised by physicians.

Eichorn believes "cancer can rarely be diagnosed before adhesions have taken place with other organs or before metastatic deposits have formed elsewhere."

According to Ewald, "Cancer of the stomach is an exceedingly insidious disease and at the outset is not to be distinguished from other affections of the organ which lead to dyspepsia."

Musser says, "Gastric cancer may occur without any symptoms whatever and be discovered after death from other causes."

Opinions confirming my limited experience could be cited indefinitely. I have preferred to present a census of opinions of others to sustain my position rather than try and impress my own.

With our present means, an early diagnosis cannot be made with certainty except by an exploratory incision. It is conservative surgery and should be more frequently practiced.

SURGICAL TREATMENT OF ULCER OF THE STOMACH AND DUODENUM.*

By WILLIAM H. WATHEN, A. M., M. D., LL. D., Louisville, Ky.,
Surgeon St. Anthony's Hospital, Louisville City Hospital and Kentucky School of Medicine Hospital; Member of the American Gynecological Society, etc.

Surgery of the stomach and duodenum has until recently been mainly confined to operations for cancer of these organs, but has now extended to hemorrhage in acute and chronic ulcer, perforation, pyloric retention and obstruction, perigastric adhesions and contractions, with results more encouraging than in our early operations

*Original abstract of paper read before the Kentucky State Medical Association held at Lexington, Ky., May 18, 1904.

for diseases of the appendix, gall bladder and bile ducts. The prohibitory results in operations for cancer by Billroth and his school are fresh in the memory of the physician and surgeon; hence, but relatively few surgeons have operated for other pathologic conditions and complications, leaving these patients under the treatment of the physician as cases of acute and chronic dyspepsia.

The recent surgery of the upper abdominal cavity by Robson, Von Mickulicz, Czerny, Mayo, Moynihan, and a few other surgeons has demonstrated that many cases diagnosed and treated for chronic dyspepsia with no permanent cure, are cases of chronic ulcer of the stomach or duodenum, with varied complications, and can only be cured by a surgical operation, which if performed timely may often prevent the development of cancer. This being true, it behooves us to encourage the physician and surgeon to diagnose these cases early and operate in the pre-cancerous stage.

It must be remembered that in about 5 per cent. of all necropsies, ulcer of the stomach, or its complications has been found, that 2 per cent. of all deaths are caused by cancer of the stomach, and that 40 per cent. of all cancers are found in the stomach. In a series of many patients with cancer of the stomach operated upon by Mayo, the pre-existence of the cancer was demonstrated in 60 per cent. of the cases. Statistics will show that in not less than 60 per cent. ulcer of the stomach is in the pyloric end, and that cancer develops in this part of the stomach in about the same ratio. This etiologic condition should stimulate us in our efforts to make an early diagnosis of ulcer, and to offer our patients the benefits of timely operation to cure the ulcer, and as a preventive of cancerous invasion.

Chemical and microscopic examinations of stomach secretions and contents will not enable us to diagnose acute or chronic ulcer or cancer, but we must carefully consider the history of the case and the physical changes in or about the stomach that interfere with its normal motility and drainage; in some cases an exploratory incision will be indicated, and this Osler believes should be more frequently advised by the physician, for the patient is usually referred to the surgeon, and is often influenced in giving his consent to any surgical operation by the attending physician.

Our most distinguished physicians now agree with Dr. Osler, that ulcer of the stomach, especially in its chronic form, with the symptoms of continued dyspepsia, is a disease about which the physician and surgeon should consult in its early stages, before pathological changes have developed that greatly endanger the life of the patient with or without an operation, and before cancer has implanted itself in the ulcer or in the epithelial cells about the scar of the healed ulcer.

An excess of hydrochloric acid is present in acute ulcer of the stomach, and is possibly an etiologic factor; for ulcer in the duodenum is seen only in the upper third of the bowel above the entrance of the alkaline secretions from the liver and pancreas, and in the jejunum below its attachment to the stomach after gastroenterostomy. But we may have continued hyperchlorhydria without ulcer. In the chronic ulcer, there may be normal amount, too much, too little, or an absence of hydrochloric acid; and the same is practically true in cancer of the stomach.

Traumatism is also a probable cause of ulcer, as indicated by the relative frequency of the ulcer in the pylorus, where an irritation may be continued by the grinding process of the circular and oblique muscle fibers in pulverizing the food and forcing it into the duodenum by rhythmic and peristaltic contractions. The traumatic cause does not apply with equal force in ulcer of the body and fundus.

Were the ulcer free of associated or resultant complications—such as excessive and continued hemorrhage, perforation, pyloric stenosis and obstruction, adhesions, contractions, disturbed motility, etc.—the disease would be self-limited, and the patient should then remain under the direction of the physician; but because of these complications surgery is often indicated as the only means that will give temporary or permanent relief.

The operation of election must be the one that restores as far as possible the normal motility and physics of the stomach, and establishes the best drainage; and the experience of our most successful men in surgery of the stomach has shown that gastroenterostomy gives better results than other methods, but good results have been obtained by gastroduodenostomy, or Finney's pyloro-gastro-duodenostomy. Pyloroplasty and dilation of the pylorus have been so unsatis-

factory in immediate and subsequent results as to justify the surgeon in excluding them as operations of election in any case.

Surgical treatment is indicated in hematemeses where the persistence of hemorrhage is endangering the life of the patient, and should then be limited to a gastroenterostomy, for with a stomach freely drained, hemorrhage will not continue. As the perforation in acute gastric and duodenal ulcer is sudden and of large size, admitting of free transmission of stomach contents into the peritoneal cavity, prompt surgical treatment is alone indicated to save the life of the patient.

The operation for perforation must be prompt, and quickly performed, the poured-out contents in the upper abdominal cavity gently sponged away, and if the abdominal cavity is infected, it should be drained by the introduction of a tube into the pouch of Douglas, or in the male into the vesico-rectal pouch, through an opening above the pubes. Too much sponging and irrigation by saline solutions can be of but little immediate value, and may so impair peritoneal resistance as to encourage the rapid development of pathogenic bacteria. The perforation may be closed by one or more catgut sutures through the entire thickness of the wall, over which should be carefully applied Lembert sutures, so as to infold the tissues over the ulcers.

In 271 gastroenterostomies by Mayo, the mortality is 6 per cent.; in 215 by Czerny, 5 per cent.; Robson in a long series of cases, 3.9 per cent.; and in 100 consecutive operations by Moynihan, but 2 per cent., and only 6 of his 98 cases were not cured, and of these six three have been greatly improved, and the other three are too soon after operation to say what may be the final result. In Czerny's cases there was no vicious circle, serious vomiting or obstruction. In most of Mayo's cases the gastroenterostomy was made anteriorly. His mortality and the immediate and subsequent results were not so perfect as in Moynihan's posterior gastroenterostomy of Von Hecker, as modified by Von Mickulicz and Czerny, by which the dangers of the *circulus viciosus* were eliminated by attaching the jejunum near its emergence under the mesocolon to the lowest part of the stomach, thus preventing angulation of the bowel. As the gastric curvature of the stomach lies below the base of the mesocolon, the jejunum may be anastomosed from two to four inches below this point, with-

out disturbing its normal relations or physiologic action, there then being no intestinal loop, and no afferent limb to become filled with bile, pancreatic secretions and stomach contents—abnormal conditions always present in the *vicious circle*. Czerny uses the Murphy button, usually supplemented by a circle of Lembert sutures, while Moynihan and Mickulicz use the suture, and Mayo in recent operations uses either the button or suture.

The vicious circle may also be usually prevented in anterior gastroenterostomy by making the anastomosis at the lowest part of the stomach, so as to avoid any stomach retention of food or biliary and pancreatic secretions, but this leaves the jejunum, colon and great omentum in an abnormal position, and disturbs the normal physics, and it is probable that the gastrojejunal opening will contract more readily than in the posterior method.

While the entero-enterostomoses of Wolfier and Jaboulay in anterior anastomoses, and Raux in posterior anastomoses did much to evolve our perfect technique, we no longer feel the necessity of connecting the proximal and distal ends of the jejunum. The operation of Raux is theoretically ideal, but practically it is difficult, prolonged and dangerous, and the mortality would be prohibitory were it generally adopted.

In performing the posterior gastroenterostomy, it is better to suture the stomach to the margin of the opening in the mesocolon, to prevent the possibility of the intestine passing into the small omental bursa and becoming strangulated, as occurred in a fatal case reported by Moynihan. With the exception of the transverse incision in the bowel, the gastroenterostomy with the suture or button should be completed just as in the anterior operation.

628½ Fourth Avenue.

Glyco-Thymoline.—Dr. Sarah Wells, St. Louis, Mo., has used glyco-thymoline for three years with satisfaction in gastro-enteritis and other morbid conditions of mucous surfaces. Recently a lotion of one part of glyco-thymoline in three of water gave more relief and benefit than all other treatments tried for several months in a case of cancer of the under lid of left eye.

THE MODERN TREATMENT OF THE MORPHINE, WHISKEY AND OTHER DRUG ADDICTIONS.*

By S. M. CROWELL, M. D., Charlotte, N. C.,

Member of the Charlotte Academy of Medicine; the Mecklenburg County Medical Society; the Seaboard, Tri State (the Carolinas and Virginia) and the N. C. State Medical Societies and, Proprietor of the Crowell Sanatorium for the Treatment of Inebriety, Charlotte, N. C.

The morphine addiction (or better called disease) will be especially spoken of in this paper. The etiology is too well known for comments, and the pathology will be referred to briefly and only to serve as a basis for the plea for this method of treatment.

The pathology of morphinism is only functional; hence, more amenable to treatment than diseases in which the pathological changes are of a structural nature. The entire system is surcharged with morphine and its by-products and toxins generally, as a result of faulty metabolism and defective elimination. On withdrawing the morphine, without the preliminary elimination and preparation, the pathology manifests itself by the following phenomena, viz.: colic, nausea, vomiting, diarrhoea or dysentery; cold clammy sweats, croups, chilly sensations, followed by rigors, severe aching of the back, limbs and joints and persistent insomnia.

The above train of symptoms are not due to the withdrawal alone but to the pathological conditions existing, i. e., it is nature making a bold attempt to rid the system of the effete material with which it is impregnated. These unpleasant symptoms can be wholly avoided by the proper method of treatment, of which, to our mind the only rational one is the *sudden withdrawal*.

The writer might appear rather presumptuous in making the above statement in contradiction to some of the writings of our most eminent men of the profession, but the assertion has been certified by a careful study and clinical research.

By "the gradual reduction methods," it is impracticable to remove the pathological conditions until the patient is in such a shape that he has neither physical strength nor mental firmness to resist the slightest pain. In all the gradual reduction methods, the patient is given medicine or so-called "tonics," all the time he is in charge of the institution, presumably to take the place of the morphine, and is usually sent home with

a sufficient amount to last for from one to three weeks. The usual result is that the patient, generally, begins to "substitute" when his "tonic" is exhausted, if he has been so fortunate as to survive the long drawn out process.

Sudden withdrawal. There is an idea prevalent that by the sudden suppression of the morphine, there is danger of collapse, heart failure, etc. This is erroneous. Should the heart derive any stimulation from the morphine, the unloading of the intestinal canal and relief of the general congested condition of the system, would more than compensate for the stimulus derived from that drug.

The elimination process is begun when the patient enters the hospital. He should have a hot bath. It is well, also, to give some simple diuretic, especially if the kidneys are not acting well. Late in the afternoon, give some good brisk purgative. Ordinary ones will not answer in these cases. Rather heroic doses must be given to accomplish the desired results, for the system is benumbed by the opiate and the good results depend considerably upon the completeness of the elimination. The patient should eat neither dinner nor supper.

The purgative employed by us consists of the following, viz.:

- R̄—Hydrarg. Chlorid. Mit.
- Cascarinaa gr. x
- Pulv. Ipecac. gr. ii
- Strych. Nitrat. gr. ¼ to ½
- Ext. Colocynth Comp. gr. x
- Aloin gr. j

M. et ft. capsules No. iv.

S: One at 4, 6, 8 and 10 P. M.

The patient may have his accustomed dose of morphine until bed time, say 10 P. M., when he takes the last capsule, when he is informed that it is his last dose of the morphine. From five to eight hours after the last capsule, give the patient a hypodermic of nitrate of strychnine, gr. 1-20—1-15, and a large dose of some saline cathartic. Repeat the cathartic until the bowels act freely. By this time the aloin and colocynth will have stimulated the lower bowel, the ipecac relaxed the intestines and increased the secretions from its mucous surfaces, and the mercury and cascarn stimulated the eliminating glands, and the strychnine accelerated the intestinal peristalsis.

This alone would fairly well empty the alimentary tract and relieve portal and lymphatic

*Read before the Tri-State Medical Association, Danville, Va., Feb. 22nd, 1902

congestion, but there is still work for the saline. Its depleting, flooding action carries into and out of the alimentary and urinary tracts a further residue of the effete material toward which our attention is now most directed. At this time, the patient should have another hot bath. Elimination is not yet complete, but the greatest obstacle has been overcome. As the obstructions have been removed to a great extent, the heart has little to do but roll the blood along on a level. However, should it coincidentally be weak, support it as in any other emergency. In these cases, after elimination has been completed, it is best not to use strychnine as it might unduly excite peristalsis. Spartine sulphate is an ideal support in such cases, in doses of from gr. $\frac{1}{2}$ to gr. ii. (Merck's). Now we have avoided the greatest troubles which would naturally occur upon withdrawal without elimination. Most of the other troubles are of mental and nervous origin. The administration of the morphine or a derivative would allay these symptoms an indefinite time, but upon the subsiding of the stimulating effects, the secondary would predominate, and the patient would be practically in the same pathological condition found in the beginning of the treatment.

With properly selected drugs, the disagreeable nervous and mental phenomena, incidental to the completion of the elimination, can be avoided and the process of recovery not interfered with. This time varies from 24 to 48 hours after the process of elimination has been well begun. At the end of that time, the patient usually needs but little, if any other medicine, and will remain comparatively comfortable and free from all cravings for the original drug, appetite and digestion good, will sleep sufficiently, and his stage of convalescence very materially shortened as compared with that by the gradual reduction.

Hyoscine hydrobromate, is an ideal drug to control the patient during the nervous and mental stage referred to above. It acts as a nerve sedative, produces comfort and prevents that indescribable feeling incidental to withdrawal of morphine, but has none of the bad effects produced by opiates, and without any inconvenience to the patient.

The administration of the hyoscine should be begun as soon as elimination has been well started up, or as soon thereafter as abstinence symptoms manifest themselves. The dose varies

greatly with individuals, ranging from gr. 1-200 to gr. 1-50 hypodermically, at periods varying from 30 minutes to 6 hours. At first give the smaller doses, and repeat till sleep is induced or the patient is easy and free from all pains. As the dose in one case is no index to that in another, the physician must be present constantly during the hyoscine period to observe the effects of each dose so as to determine each subsequent one. Hyoscine, in proper doses, does not injuriously affect the vital functions nor leave bad after-effects on either the mind or body; therefore, it should be given until the full physiological effects are manifested, i. e. to the point of delusions and hallucinations. The patient should be kept thoroughly under its influence for a period of 24 hours; then its effects should be allowed to subside. If at this time, the patient expresses a desire for morphine or if he is uncomfortable from abstinence, a full dose of hyoscine should be given, and after its effects have subsided it should be repeated, if necessary, until he expresses himself free from all desire for morphine, and abstinence symptoms do not return.

If elimination has been thorough, it will rarely be necessary to continue hyoscine over 24 to 36 hours. At the end of this time, the patient will remain free from pain and nervousness, will sleep from 5 to 8 hours out of each 24, have no craving for morphine, and in a very short while have an appetite hard to gratify. No other medicine is needed nor should be given except in unusual cases, and when given, should have a specific purpose, and the patient should be made known this purpose, so that he will not think that the medicine is a "tonic" or substitute for the morphine, and that his existence depends upon it. Never send the patient away from the institute taking medicine. Give a hot bath every other day alternating with cold douches or baths as indicated.

The diet should be light and easily assimilated.

Do not permit alcohol in any form during treatment and impress the patient with the importance of being a total abstainer after leaving the institute as alcoholic drinks in any form, invite a return to the morphine habit.

Time required for treatment. This varies with different individuals. One person may be more thoroughly cured and fortified against relapse in fifteen or twenty days time than another

in thirty or forty. This depends to a great extent on how anxious the individual is to be cured. Their amenability to suggestion has quite a great deal to do with their prognosis, and liability to a relapse. Electricity in its various forms, adds very materially to the patient's comfort and progress in convalescence, as well as to the "crown of stars" placed upon the head of the physician by his patients. For the lack of time, the various forms and methods of applying the electricity, cannot now be discussed.

With some modifications, this method can be used just as successfully for the whiskey and other drug habits.

A HISTORICAL NOTE ON THE HYPODERMIC SYRINGE.*

By GEORGE BARKSDALE, M. D., Ph. G., Richmond, Va.

There is probably no more constantly used instrument than the hypodermic syringe since the days of the bloody Moloch, when the practitioner went about with a thumb lancet in his pocket and a narrow mind on his shoulders, when as we all know blood-letting was as constant as a hypodermic injection now, but I am quite sure not so dangerous.

It being the physician's constant resort in time of urgent need and *dernier resort*, as the French say, when we are at sore need of doing something, it must appear that it is of paramount importance that we should know something of the useful instrument's antecedents.

The endermic method of medication has been known for more than a half century and is no doubt familiar to you. It consisted simply in applying a blistering agent to the skin until a vesicle had formed, removing the cuticle and then sprinkling the potent powder upon the denuded surface. This, of course, took time and in acute suffering it is probable that the sufferer would be relieved naturally before the remedy would take effect.

Naturally, then, investigations sought means to administer the potent alkaloids to secure their promptest effect, and the hypodermic syringe was the result.

Sertürner, an apothecary of Hanover, discovered the alkaloid morphine in 1816, and for

*Read before the Church Hill Medical Society, Richmond, Va., March, 1904.

more than twenty-five years it was administered by the slow endermic method and by the mouth.

The Scotch people, so wonderful in their sturdy knowledge acquired by profound thought and labored argument, were not long in devising a means to overcome this defective and slow means of administering medicines, and in the person of Dr. Alexander Wood, of Edinburgh, in the year 1843 gave the profession the hypodermic syringe.

It was during this year that Dr. Wood first made an injection of morphine through an opening made in the skin, but he made no haste to publish the details of his procedure, for it was twelve years later, in 1855, that he first made known by publication his method.

Previous to his publication, however, a number of other physicians in Edinburgh, and Dublin, Ireland, had adopted the use of the needle and that to a considerable extent owing to Dr. Wood's teaching.

In 1854, Scarenzio, of Pavia, a province in Italy, first used the syringe for the administration of mercury in syphilis. In the last edition of the Southern Historical Society's Papers there is an article copied from the Chattanooga News, of February 10, 1904, in which the writer appears to claim that the hypodermic syringe was first used in the Army of the Tennessee when commanded by General Braxton Bragg.

"At a meeting of the army surgeons in New Orleans last spring," says the writer, "one member thought it was used first in the Army of the Tennessee. Dr. R. D. Jackson, surgeon in charge of a military hospital at Ringgold, Georgia, wrote to Dr. J. P. R. Walker, of Augusta, to buy one for him, which the latter did. Dr. Jackson used it and likewise showed it to eighteen or twenty other surgeons, which was the first any one of them had seen." Now General Bragg did not assume command of the army until the death of Gen. A. S. Johnston in 1862 and in the mean time the syringe had been in use here in the city of Richmond.

Dr. George Ross, of Richmond, Virginia, while interne in the Banner Hospital, 1900 E. Franklin street, then in charge of Dr. William Alexander Thom, of Southampton county, used the syringe in giving a Confederate soldier a dose of morphine for myalgia, in August, 1862. The injection was given in the lumbar region, and it was strange that it produced one of the few abscesses of the Doctor's career.

Therefore, we can readily see that the syringe had been in use almost twenty years before the great war began.

One of the senior physicians in the city told me a few days since when I asked him concerning his first knowledge of the syringe, that while in Paris in 1860 he saw Dr. Pravaz use it first.

When the war broke out he found his way home immediately, where he served in the hospital and field corps, using the syringe himself repeatedly, but did not remember in what year.

He related to me the following incident, appalling as it was, concerning the use of it in the hands of a capable physician: In 1867, Dr. C. was called to see the wife of Dr. Simmons, of the United States Army, and finding her suffering most excruciatingly the visiting physician advised the use of morphine hypodermically. The husband consented and the injection was given with a sudden and unhappy result, for the patient fell back dead. Dr. C. was, of course, bitterly grieved at such an untoward result, but was candid enough to admit it, and to use his words to his fellow practitioners, "I tell you, that you may avoid having my misfortune likewise."

Continuing our talk, I asked the Doctor if he knew of any more unfortunate results from using the syringe, and he said he had known of six fatal ones occurring within a few years and traceable to giving this remedy hypodermically.

On one occasion Dr. Charles Mills gave Mr. Charles Y. Morris, of Richmond, Va., a hypodermic dose of atropine, and although the dose was between the maximum and minimum, the symptoms produced were alarming, and upon becoming worse Mrs. Morris exclaimed:

"Doctor, have you killed my husband?" To which the Doctor replied as calmly as such trying circumstances would admit of: "Madam, I hope to God I haven't." Fortunately, the poison was eliminated and the patient recovered.

Magendie's solution of morphine, named for Francois Magendie, a Paris vivisectionist, was then used. The solution is very strong—sixteen grains to the ounce.

Seven to eight minims were given at a dose, but these were often dropped instead of being measured, and perhaps as much as double the quantity intended has been given.

Before 1869 an English physician suggested the use of belladonna in combination with the morphine.

Upon my asking for the probable reason of

these alarming results the Doctor said: "When given by the stomach perhaps as much as half of the remedy is resolved into its elements, while the other moiety finds its way into the blood and thence is conveyed to the brain."

This is not in accordance with our present opinion in regard to its action, for we have learned that potent drugs taken by the stomach usually find lodgment in the liver—the great port of entry into the general circulation. It is thus we account for the pronounced effect of small doses frequently repeated.

If a small dose of a potent medicine is given, the liver permits its passage into the circulation, fearing no harm—just as if it were an intelligent being keeping ward over a castle. It does this repeatedly and the patient is profoundly affected by an aggregate medium dose.

The use of Magendie's solution has happily been abandoned for the tablets, but I often question the frequent and indiscriminate use of the needle even with a greater precision of dosage, and I must think such reprehensible.

I have not the least doubt that many of that "innumerable caravan" has come from too free use of one of God's blessings

Vin Mariani is not Cocaine.—Dr. Benj. Lee, Philadelphia, Secretary of the Pennsylvania State Board of Health, states that Prof. Samuel P. Sadtler and Dr. F. A. Genth—two chemists of excellent professional standing and recognized authority—analyzed samples of "Vin Mariani" purchased by the chemists themselves at drug stores of their own selection. These analyses were in general accord with other analyses made in this country and France—negating any suspicion that cocaine had been added to Vin Mariani. He adds that "Vin Mariani" is not a cocaine preparation, but a wine possessing the aromatic flavor of coca—being made according to the formula of a French Bordeaux wine, and containing the desirable qualities of two ounces of fresh coca beans to the bottle—there being the same difference between coca and cocain as there is between coffee and caffeine." So that the new Pennsylvania law, "regulating the sale or prescription of cocaine, or of any patent or proprietary remedy containing cocaine," does not apply to Vin Mariani—the sale of which within the State can continue as heretofore.

PREVALENCE AND MORTALITY OF EPIDEMIC PNEUMONIA.*

By LOUISE SOUTHGATE, M. D., Covington, Ky.

Tuberculosis has been characterized as "the captain of the men of death"; but as Prof. Osler says: "Pneumonia now has usurped the place," while consumption has been leveled to the ranks.

The mortality from pneumonia at the present time is much greater than that from pulmonary tuberculosis. In the decade from 1890-1900, pneumonia deaths in New York exceeded those from tuberculosis by 5,500; during the same period in Chicago, pneumonia mortality was greater by 2,200.

It has been computed that at the present time, out of the whole number of deaths, pneumonia is responsible for ten per cent. We have the statistics for Chicago between 1861-'71; and there we find that the deaths from pneumonia were only three per cent. of the whole number.

E. F. Wells (in *Jour. Amer. Med. Assn.*) gives statistics of pneumonia cases gathered from all over the world from 1804-1901 inclusive. He finds that the mortality from this disease, out of every one hundred cases is 21.8 per cent.; and that this percentage has remained practically the same for the last eighty years. He finds that the mortality from pneumonia in hospitals is greater than this. He also points out the more alarming fact that the disease is greatly more prevalent than formerly, and this is out of all proportion to the increase of population.

There are two questions in this connection which present themselves to me for consideration: (1) Why is it that we have not been able to reduce the mortality from pneumonia? And (2), what is the reason of its greater prevalence at the present time over former years?

In answer to the first question, it is claimed that the greater number of cases of disease of the heart, kidneys, and of the nervous system which we now have are largely responsible for the undiminished mortality at the present time. These, in spite of the better treatment of pneumonia cases, cause the death rate to remain high.

These diseases are brought about by the strenuousness of our modern business life, the struggle for social supremacy, the luxury of our

tables, the overheating of our homes, and the increased consumption of alcoholic beverages. Together with these may be mentioned the almost universal resort to coal-tar depressants for every ache and pain to which the human body is heir. The increased use of patent medicines, which are generally so ill adapted to self-diagnosed disease should also be included.

Dr. E. F. Ingal says that the man who is treated at his home—no matter how humble—is fortunate. In the hospitals, the influence of pathological research is against the possibility of doing any good to the patient suffering from pneumonia by therapeutic measures, and the cases are left largely to nature.

The general teaching of our colleges is against using any medicine in an attempt to limit or stay the processes of the disease. This largely ties the hands of our physicians, and prevents their trying any of the therapeutic means recommended by various practitioners and authors.

As to the second question, one of the greatest causes of the increase in prevalence of the disease is the more frequently recurring epidemics of la grippe, which have been a feature of the later years of the last century and the beginning of this. An influenzal attack leaves the respiratory tract in a condition which is most hospitable for the growth of the pneumococcus. The greater facilities for travelling which we now have also increase its spread. The environments of city life, the crowding of numerous people in tenement houses, flats of buildings, etc., are also to be taken into consideration. The herding together of many persons in crowded, illy ventilated factories, theaters, and public buildings, etc., should also be counted.

Another very important reason of the increased prevalence of pneumonia is that the physician fails to recognize in his daily rounds that the disease is an infectious process, and is therefore remiss in his instructions as to the necessity of disinfection. And yet, any one who reads our medical journals as he should of the past decade or more, must have been impressed with the number of cases of pneumonia which have been brought forward—showing not only its infectious nature, but also at times the possibility of contagion from individual to individual. Because of the well known fact that we carry pneumococci always within our mouths, many doctors have become skeptical as to the usefulness of disinfection. But Washbourne,

*Discussion of paper by Dr. R. D. Pratt read at session of the Kentucky Medical Association (held at Lexington, Ky., May 19, 1904) on "The Present Epidemic of Pneumonia."

of England, has shown us that the virulence of the pneumococcus varies greatly—that it is almost impossible to increase the toxine of the mouth pneumococcus by successive animal inoculations; while that obtained from pneumonia sputum is virulent from the first injection.

The immunizing serum is active against some pneumococcic forms, and not against others. Germano has mixed pneumonia sputum with earth and sand, and yet found it living and toxic after 140 days. One case is reported of an epidemic which started from pneumonia sputum thrown on the manure heap, spread on the field. During the next two months the winds blew almost wholly in one direction. In a short while, a number of cases of pneumonia were reported in homes in the direction over which the winds blew from the contaminated fields.

Our pneumonias may also arise from cases suffering with pneumococcic endocarditis, meningitis, etc., as well as from a previous case of pneumonia.

When we as physicians, together with the health officers or authorities, have used every means in our power to carry out careful disinfection, as well as isolation of our patients, with private and public prophylaxis, pneumonia will no longer present itself as a hydra-headed monster, frightening us with its fearful ravages.

THE ETIOLOGY AND SEQUELAE OF PILES.*

By W. L. PEPLE, M. D., Richmond, Va.,

Professor of Histology, University College of Medicine; Assistant Surgeon St. Luke's Hospital, etc.

When man first stood upon his hind legs and thrust his forepaws into his pockets, nature, as if resenting the passing of this quadruped, set gravity to fight with his heartbeat, and among other things which she has thus aided in accomplishing is an inherent proneness to dilatation and distortion of certain groups of veins, viz., those of the leg, the spermatic cord and the rectum.

The veins of the rectum lie in the loose connective tissue which separate the epithelial from the muscular coat. They are inadequately, if at

all, supplied with valves. From a freely communicating plexus in this tissue arise three veins: the superior, the middle and the inferior hemorrhoidal. These pour their blood into the systemic circulation through the internal iliac, and partly into the portal through the mesenteric. The hemorrhoidal plexus, furthermore, freely inosculates with vesico-prostatic plexus of the male and the vaginal plexus of the female. Branches of the inferior hemorrhoidal penetrate the circumanal skin.

A pile is primarily a varicose hemorrhoidal vein. If this vein lies below the external anal sphincter, it is called an external pile; if it lies above this muscle, we call it an internal pile.

The causes which lead to piles are numerous. In some people, there seems to be an inherited weakness of the vein walls in general, as manifested by varicose veins in various parts of the body.

Man's erect position, and occupations which require him to maintain it for long periods have their influence. Sex seems to play but little part for each has its peculiar group of causes. Conditions which diminish the "*vis a tergo*"—whether it be functional weakness or actual disease of the heart—are causative; also conditions which retard venous return, especially of the portal blood. Cirrhosis and other diseases of the liver are fruitful sources; abdominal tumors pressing on the cava, by retarding the systemic return; violent straining, as in childbirth; the lifting of heavy weights; attempting to empty the bladder through a tight stricture or over a prostatic bar; repeated artificial stimulation of the bowel with the numerous patent purgatives which fill our papers and stare at us from sign-board, fence and house top, are productive of piles. The congestion of related venous plexuses, such as that of pregnancy or the vesico-prostatic in prostatic hypertrophy, and mechanical compression of the hemorrhoidal veins themselves, as from pelvic tumors, the gravid uterus, enlarged prostate, and lastly, but most important of all, the continued presence of fecal masses in the rectum, are potent causes.

Constipation, be it a habit, condition or disease, is the most potent factor in the production of hemorrhoids; for it is the exciting cause of the attacks in most cases, no matter what conditions combined in their production.

The external pile is a dilated branch of the inferior hemorrhoidal vein. It is covered by skin

* Read before the Richmond Academy of Medicine and Surgery, April 12, 1904.

and may attain a considerable size. A recent one that does not clot will, under favorable conditions, soon subside. When many exist and the venous congestion is considerable, it may bog the surrounding tissues giving rise to new connective tissue formation. When the condition has become chronic, it may so pervert the functions of the skin that it weeps, cracks, scurfs and scales in true eczematous fashion, giving rise to intolerable itching. When the blood clots in the vein, it gives to the touch the sensation of a buck shot beneath the finger. Unless removed, this clot will either be absorbed or suppurate. The thickened skin around a quiescent pile is usually spoken of as a tag. These tags at times become inflamed and painful.

The internal pile starts with the dilatation of some hemorrhoidal vein above the sphincter, from one or more of the causes enumerated. Where the unfavorable conditions persist, it grows larger and protrudes into the lumen of the gut. The small arterioles of the mucosa are also immensely engorged, new connective tissue and new vessels are formed, and the mass thus augmented falls still further into the lumen.

Frequently, in straining at stool, it protrudes past the sphincter and, unless immediately replaced, is constricted and thus further increased in size. Desquamation of the epithelium, ulceration and hemorrhage now come on. Continued protrusion through the opening may drag on the bowel till partial prolapse occurs. The everted mucosa, dried by the air, cracks and ulcerates. The constant pinching of the sphincter may lead to gangrene and sloughing, thus making a spontaneous cure.

The denuded and suppurating surfaces may be the starting points for deeper infections and, whether we accept the cellular or parasitic theory of cancer, this constant congestion and irritation at a point where epithelium changes from the columnar to the scale cell should make us regard it as a possible cause of malignant disease.

Internal piles, under favorable conditions, frequently subside, though recurrences are common where they have once existed for any considerable length of time.

No case of acute piles, whether internal or external, should ever be despaired of for we have all seen how the enormous piles induced by a hard or protracted labor will quickly subside with little or no treatment.

THE TREATMENT OF HEMORRHOIDS.*

By GEO. K. SIMS, M. D., Richmond, Va.,

The treatment of both internal and external hemorrhoids is palliative and operative. In diminishing pain, allaying inflammation and reducing the size of the tumors much can be accomplished by the use of palliative measures, and in many cases the patient may be kept comfortable and free from annoyance. Little, however, may be expected from them in the way of a permanent cure, especially when the tumors are large and protruding. If the patient is run down, his general condition must be improved by tonics, diet, outdoor exercise and the correction of any disease of the heart or liver which would cause congestion of the superior hemorrhoidal veins. Any disease of the colon, bladder or neighboring organs which induces straining or congestion of the rectal veins, must be removed. It is essential to prevent constipation, to avoid the accumulation of hard feces which aggravate the condition, by diet and exercise as far as possible. If necessary, small doses of salts, aperient waters or other suitable laxatives should be given to induce at least one semi-solid stool daily. When these do not act, use injections of warm soap suds containing oil or glycerin; but the enemata must be discontinued when unnecessary. The use of conical, hard rubber bougies to keep the sphincter relaxed and prevent congestion, is reported upon favorably with good results.

When the hemorrhoids are strangulated, ulcerated or inflamed, the patient should remain in bed, and have applied to the parts hot poultices, soothing astringent lotions and ointments, or the ice bag, until the inflammation is reduced and the tumors returned above the sphincter. Lotions containing alum, arnica, ergot, hamamelia, pinus canadensis, lead acetate, carbolic acid, boric or tannic acid, ichthyol, lignol, glycerin, etc.; ointments and suppositories of mercury, ichthyol, lignol, iodine, belladonna, tannin, cocaine, menthol, opium, ergot, etc., may be combined to suit the indications. The ointment should be used freely in and around the anus, and as far in the rectum as possible. The hard rubber pile pipe is useful for applying it internally.

Surgical treatment. It is unsafe and useless to operate upon persons in the last stages of

*Read before the Richmond Academy of Medicine and Surgery, April 12, 1904.

phthisis, Brights disease, diabetes or organic heart diseases. On the morning preceding operation, a liberal dose of some quickly acting cathartic should be given; three hours previous to operation, the rectum should be flushed out with a copious, high soap and enema, and one hour previous with a small enema containing enough glycerin to excite peristalsis and expel the water. The external parts must be thoroughly cleansed, and, if necessary, shaved.

The following operations have been used for the cure of internal hemorrhoids. Excision, clamp and cautery, ligature, submucous ligation, injection of caustic and astringent solutions, cauterization, divulsion, crushing, application of chemic caustics.

There are several methods of performing the *excision operation*, but for the majority of cases, the author prefers the one described by himself in 1898, performed as follows: After thorough divulsion of the sphincter, the piles are exposed by everting the anus, and their size noted. Each tumor is, in turn, firmly grasped with forceps and tension made. The mucous membrane around the base of the tumor is incised, and a silk ligature including only the vessels and fibrous tissue, is tied in the incision. The tumor is excised external to the ligature; and the cut edges of the mucosa are brought together over the stump with a continuous suture of catgut. The field of operation is irrigated with hot, bichloride solution, and a piece of gauze inserted. If desired, a gauze pad is applied over the anus and held by a T-bandage.

The advantages claimed for this operation are: It removes the tumor, leaving no raw stump exposed; the wound is so closed that recovery is more rapid; there are less pain and inflammation, and less danger of hemorrhage. In cases of moderate severity, patients are confined to bed but two or three days.

In some of the worst cases, the *Whitehead operation* is necessary. It consists in removing the mucosa of the whole pile bearing area, bringing down the cut end and suturing it to the skin at the anal margin.

The *clamp and cautery operation* is perhaps, the second best for the majority of cases, the advantages being the ease and rapidity with which it can be performed and the sterilization of the wound by the thermo-cautery. If cauterization of the stump is not thoroughly done, there is danger of hemorrhage.

The *ligature operation* comes down to us recommended by the ancients: Hippocrates, Celsus, Rhazes and others. The majority of authors in later years and up to the present time recommend it as being one of the best. It consists in placing a ligature about the pile which is either excised or allowed to slough off. The skin and mucosa may be severed at the muco-cutaneous junction and a ligature thrown around its pedicle. This operation causes a good deal of pain and tenesmus, and leaves the raw surfaces exposed to become inflamed and infected, and to heal by the slow process of granulation.

Submucous ligation. Divulse the sphincter muscle, and with a large semi-circular needle, pass a silk ligature subcutaneously from the anal margin to the upper border of the pile bearing area; then return to the point of entrance. Make taut the ligature and leave the ends hanging. The ligatures may be from one-half to an inch apart, and are allowed to come away spontaneously. In the opinion of the writer, this operation is inferior to those already mentioned.

The injection of caustic and astringent fluids in the treatment of piles was, for a number of years, confined almost exclusively to quacks who made many remarkable cures. This awakened the profession who investigated the method, and afterwards, many reputable surgeons became overzealous in commending the operation. The injection method has been condemned by most surgeons of Europe and America as not being the proper treatment for piles in general, and that when used at all, the cases should be selected. It should not be used when the piles are strangulated, highly inflamed, ulcerated, external, large and hypertrophied, or when they remain in the grasp of the sphincter. The advantages claimed for this operation are no cutting, general anesthesia not required, little pain, the patient is not confined to bed or detained from business.

Various solutions of carbolic acid, salicylic acid, glycerin, ergot, acetate of lead, chloride of zinc, creosote, olive oil, chloral, cocaine, etc., have been used. Under antiseptic precautions, from five to twenty drops of the solution are injected into the tumor which is then returned above the sphincter. Inject only one or two piles at a sitting, and keep the stools soft for a few days. Special syringes are made for this operation.

Cauterization may be used in three ways: By

puncture, linear and galvano cautery wire. Only one of these methods is much used now—the linear—which is useful when there is a general varicose condition of the mucosa without distinct piles.

Divulsion of the sphincter muscle is useful for external piles and small ones situated near the anal margin, especially when complicated with an irritable ulcer or fissure which causes a spasmodic action of the sphincter and prevents the venous return.

The crushing method is an old one which recently, with the advent of the angiotribe, has been revived. This operation is only suitable for small piles and is not a popular one.

The application of chemic caustics is indicated for only small, flat, capillary hemorrhoids, but not for large or protruding ones. Many acids have been used: Nitric and chromic seem to give best results.

External thrombotic piles are readily cured by incising them, turning out the blood clot and then suturing the cut ends under antiseptic precautions. Old, hypertrophied tags may be excised, and the wound closed by sutures. Both of the latter operations may be done under local anesthesia if divulsion of the sphincter ani is not necessary for this or complications.

West Main Street.

Aural Congestion with Threatened Abscess.

C. L. Stensen, A. M., M. D., Professor of Materia Medica, New York, etc., states that in acute attacks of aural congestion, with indications of suppuration, both internal and external, and seriously jeopardizing the tympanum, even with evidence of threatening abscess, accompanied with lancinating pains, he has prescribed antikamnia and salol tablets (two every two hours) with most satisfactory results—the congestion, fever and pain promptly yielding. With careful ablution and syringing of the external aural cavity with mild antiseptic and anodyne solutions, and the use of this remedy, he is firmly convinced that he has aborted the threatened attack and prevented suppurative sequelæ. The local application of tepid water with a mild antiseptic, as five grains of boric acid to each ounce, with a little tincture opium, is admirable. Antikamnia and codeine tablets may be substituted for the antikamnia and salol when required.

THE COLD WIRE SNARE AS AN AID IN THE OFFICE TREATMENT OF HEMORRHOIDS.

By CHARLES C. MILLER, M. D., Chicago, Ill.

A great deal has been written regarding the operative treatment of hemorrhoids by various suture methods, which can be practiced in an office with local anesthesia. Many times writers upon these subjects do not take into consideration the fact, that the average man does not have an unlimited number of assistants in his office, and the plan outlined is absolutely impractical, when attempted by one man.

The simple excision of a hemorrhoid is feasible and can be followed by immediate suturing for purposes of hemostasis in the hospital; but in the office, if a vascular hemorrhoid be amputated, and a free oozing occur, it may be difficult to suture satisfactorily without someone to assist by mopping away the blood from the field of operation.

Where we are going to operate in an office with local anesthesia, the work must be done without divulsion of the sphincter. External hemorrhoids being below the sphincter can easily be operated upon even though the sphincter be spasmodically contracted; but where the tumors to be amputated lie partly upon the sphincter or partly above this muscle, the surgeon upon examining might think it an impossible feat to gain access to the tumors to be removed owing to the tightly contracted state of this muscle.

How can we overcome this contracted sphincter? Unless we do, the tumors to be removed are inaccessible. In several instances I have found the following plan successful, although I have not tried it with sufficient frequency to say that it will work in every instance: A syringe armed with a fine one inch needle is loaded with a dram of a one per cent. solution of cocain. This needle is inserted into the interval posteriorly between the tip of the sacrum and the anus and carried directly inward into the sphincter muscle. The cocain solution is deposited in the median line and one each side of the bowel by carrying the point of the needle about in various directions. The needle is then withdrawn and inserted in the same way in front and the solution deposited in this manner on each side anteriorly. From fifteen to thirty minims of the solution are thus deposited before and behind, and the injection has been made into and above the sphincter. An examination

in from five to ten minutes will reveal a much relaxed sphincter, and tumors which previously were inaccessible can now be easily reached through the gently separated sphincter.

Sterile water injections have been recommended for the production of local anesthesia, but all surgeons, who have tried the weak cocain solutions will go back to them in this work after a trial of the sterile water, as the former will prove more certain in its effect.

The tumors and their bases must be rendered insensitive, when drawn down and this is accomplished by thoroughly distending them with a sterile one to five hundred cocain solution. The needle in this work should be carried well under the tumor so that when it is cut away the base will be infiltrated so as to permit of painless suturing.

The patient, for this work, is best in the lithotomy posture, if no assistant is at hand. The tumor selected to be removed having been drawn down and infiltrated, a groove is made around it with scissors. This groove should be made fairly deep below, especially, if the tumor be covered at this point with skin.

Having circumscribed the base of the tumor with a groove, a snare carrying a fairly heavy wire is thrown about the mass and carefully set in the groove. It is then quickly tightened and the hemorrhoid cut away. When the cold wire has thus cut through the vascular portion of the hemorrhoid there will be very little if any hemorrhage. The margins of the raw surface are to be grasped with a vulsellum forceps and drawn together and a mattress suture is passed from one side of the cut to the other and back again and tied, thus approximating the smaller wounds. Where the tumor is very large, and has a particularly large base, the margins of the raw surface may best be approximated by a continuous suture. Where the snare is not at hand after the groove has been made about the hemorrhoid, the remainder of the base can be tied with the finest catgut and then the tumor cut away without fear of the bleeding interfering with the work.

In hospital practice we frequently cut away hemorrhoids, and find very little bleeding follow; but now and then we find a patient who has more vascular tumors than usual, and it requires a good deal of care in suturing to control the bleeding which results. Operators should never forget that more than one case of fatal

hemorrhage has followed the amputation of hemorrhoids, where adequate precautions were not taken to control the subsequent bleeding.

The snare I usually use in this work is of the type of the Sloan tonsil snare, which is strong and can be worked quickly with one hand.

Patients before coming for this work should have secured several free movements of their bowels and shortly before coming to the office should insure an empty condition of the lower bowel by a copious injection. The operator should not neglect antiseptic precautions, and after the operation an antiseptic wash should be given for frequent use.

I usually order creolin, lysol or carbolic acid to be used in hot water a teaspoonful to the pint. This wash is used at frequent intervals, and should particularly be used after each bowel movement. The bowels should be kept slightly loose after this operation, and as a rule the patient will continue his daily affairs, even if several large hemorrhoids have been removed.

Small sized catgut is best as a suture material as it will come away of its own accord as soon as sufficient absorption has occurred of the buried portion of the loop. The separation of a wound leaving a raw surface will do no harm as healing will occur and the only inconvenience will be that the antiseptic wash will be needed for a few days longer.

100 *State Street.*

REPORT OF A CASE.—SPONTANEOUS FRACTURE OF THE CLAVICLE.

By JNO. E. CANNADAY, M. D., Paint Creek, W. Va.,
superintendent and Surgeon in charge Sheltering Arms Hospital,
etc.

Case—Geo. McG., by birth an Irishman, aet. 24 years, weight 170 pounds, C. & O. brakeman by occupation, strong and healthy in every way, of robust build—a sturdy son of Erin—received crushing injuries to his chest by being caught between two freight cars on the C. & O. yard at Handley, W. Va. He was badly shocked and apparently in almost a moribund condition when entered at the Sheltering Arms Hospital, February 13th, 4 o'clock P. M., one hour after receiving the injury.

On examination he was found to have an ex-

tremely oblique fracture of the right clavicle half an inch to the distal end of the junction of the outer with the middle third of the bone. As the fracture was exceedingly oblique and the violence had been considerable the proximal end had punctured the apex of the right lung and the resulting emphysema was extensive, involving the chest, neck and side of face. The fractured ends were approximated and Sayre's adhesive plaster dressing applied. Owing to the great obliquity of the fracture it was found impossible to maintain proper reduction by this method.

On February 14th an open incision was made and the fragments were wired in place. Sayre's dressing was reapplied, a pad placed between the shoulders and the patient instructed to remain quietly in bed in the dorsal decubitus with the head low.

The next day I was called in the ward to see him. The patient told me that a few minutes previous to my coming he had on rising to a sitting position in bed (patient was of a very unruly disposition and brooked but little restraint) both heard and felt something snap in the region of the left clavicle followed by severe pain in the same locality.

On examination I found a transverse fracture of the left clavicle near the centre of the middle third of the bone. The ends were placed in apposition and the usual dressing applied. The patient did not dare move about much after this.

The emphysema disappeared rapidly, the fractured bones united and he had an uneventful convalescence. To-day he is at his usual avocation and experiences no difficulty whatever in performing the somewhat arduous duties of a brakeman.

Happening as it did without violence or any great exertion in a young healthy adult, with neither history nor evidences of bone disease, no malnutrition or previous injury to the part, this case is unique.

Neuro-Lecithin, the only true Lecithin; a product of nerve tissue, not of eggs. Indicated in debility, arrested development, nervous and mental diseases, as a nerve reconstructive, in diabetes and tuberculosis. Mention this journal. For literature, address The Abbott Alkaloidal Co., Ravenswood Sta., Chicago, Ill.

THE NEED OF MEDICAL LEGISLATION FOR THE BENEFIT OF THE MEDICAL PROFESSION AND FOR THE PUBLIC.

By G. D. LIND, M. D., New Richmond, W. Va.

Most medical legislation everywhere is of recent enactment. Nearly every conceivable subject had been legislated upon, before there were laws for the prevention of disease and for the help of the physician. If the physician can prevent disease and prolong human life is adding to the earning capacity of the public and thus indirectly benefitting himself financially.

Diplomas are more easily obtained from some schools than from others. Examining boards differ widely in their curricula and standards of requirement. Physicians are already too numerous. We need fewer and better. Many physicians cease to study the moment they have passed their examination. Examinations ought to be repeated every fifteen to twenty years to weed out the incompetent.

Most of the State laws need revision. Epidemics spread more rapidly in some sections than in others with like natural environments. A National Department of Health with power and means to conduct experiments, publish literature for free distribution and establish standards of education is desired.

There are abundant instances in which quarantine laws are not enforced. There should be a severe penalty for non-enforcement. A system of signals for contagious disease and more effective inspection and reporting of all contagious and infectious diseases should be adopted. Disinfection should be enforced by law and under personal inspection of an officer. Physicians should have double fees for attending contagious disease—one fee to be paid by the State.

Antitoxin and vaccine virus should be furnished the poor by the State and vaccination made compulsory. Germany by this practice has practically exterminated small-pox. Some large towns are centers of distribution of typhoid fever and venereal disease through visitors from the rural districts. More care in regard to the water and food supply of towns and legal regulation of prostitution is demanded. Overcrowding in cities and public conveyances is a material means of spreading infection. This can be remedied by law.

Small towns and villages where there are no water works and the rural districts permit typhoid to spread from a single case, by the dis-

charges, particularly the urine, being thrown on the ground or into vaults in close communication with wells or springs. The urine contains the typhoid bacillus long after the patient is able to leave the house. A medical inspector in all centers of population should be appointed during prevalence of this disease.

The inspection of children in schools, now carried on in a few large cities should be extended to all schools everywhere. Thirty-eight States have laws aimed to prohibit spitting of consumptives in public places. This apparently unreasonable law should be explained by plain teaching in the form of free literature furnished by the national government and the law should be in all States and rigidly enforced.

Laws regulating the marriage of tuberculous and syphilitic subjects are demanded. The deadly toy pistol which last 4th of July had 450 victims should be suppressed. The leaves of the shade trees are burned in the streets in autumn in many towns. Bacteria are carried into the air by the upward currents. The leaves should be carted away when wet.

Sweden has legislated against proprietary medicines. The evils of the so-called patent medicines are shown. The tricks of the makers and vendors by which they impose on the people and frequently upon the physician who has not the means nor the ability to make analyses of the preparations are exposed. The writer has had experience, was in the employ of a proprietary medicine house. Many old and well known simples and compounds are placed on the market under new names, their nature disguised in various ways and extravagant claims made for them, frequently backed up by endorsement of eminent physicians who have been deceived.

The law should define the practice of medicine. Druggists and country merchants are constantly prescribing and surgery is practiced by the osteopath and the cancer doctor without license. These men should be prosecuted for malpractice and for attempting to practice without license. A considerable part of the millions of dollars which now annually flow into the hands of quacks would go under proper laws into the hands of the regularly licensed physician and the remainder be saved to a hard working people.

The same force of inspectors with a little addition to their numbers, who now see that the government gets the tax on all spirituous liquors

and tobacco, could be used to guard the manufacture of foods and medicines. The extra cost of the inspection could be reimbursed by a nominal tax on all legitimate proprietary articles. This would not probably add to their cost as they already sell at a great profit.

Educated public sentiment is ever in advance of law. Most religious periodicals and a few secular ones are now excluding advertisements of the worst sort of patent medicines and it is to be hoped that the next step will be their exclusion from the mails and then their suppression by law.

The morphine, cocaine and other drug habits are on the increase and laws are needed to curb this tendency.

Analyses, Selections, Etc.

Surgery of Urinary Tuberculosis in Women.

Dr. Guy L. Hunner, Baltimore, Md., Associate in Gynecology, Johns Hopkins University, read a paper on this subject before the Southern Surgical and Gynecological Association, 1903, which is published in *American Medicine*, April 30, 1904.

In his recent paper (*Johns Hopkins Bulletin*) is a brief summary of the histories of 35 cases of urinary tuberculosis occurring in the service of Dr. Howard A. Kelly and his associates in Baltimore. The present paper deals briefly with the etiology and pathology, devotes considerable space to the symptoms and diagnosis, and is concerned chiefly with the treatment of tuberculosis of the urinary system.

The average age of the patient at the time of onset of symptoms was 28 years. Several patients had foci of disease elsewhere, evidence of tuberculosis being present in the glands, joints, pelvic organs or lungs. The operation was on the right side in 17 cases, and on the left in 18 cases.

He considers nearly all cases of urinary tuberculosis in women are primary in the kidney. Of 31 cases examined with the cystoscope, 13 had normal bladders, while in 18 the bladder was diseased. In probably not more than 11 cases was the bladder disease tuberculosis.

Tuberculosis of the kidney may be the primary focus of tuberculosis in the body. Symp-

toms may be entirely wanting or may come on very late in the course of the disease. In 17 cases the first symptoms were referred to the bladder. Eleven patients complained at first simply of discomfort in the kidney region, while 5 gave history of acute onset with renal colic accompanied by nausea, vomiting, chills and fever. Pain in the course of the ureter is not uncommon.

Bladder symptoms were present at some time during the course of the disease in 31 out of 34 cases. In 3 of the cases the local symptoms were entirely confined to the bladder. Pain is often referred to the urethra or to its external orifice.

Hematuria is probably present at some stage of the disease in every case. Blood is easily overlooked in the ordinary routine urine examination because of the great number of leucocytes present.

Pus was present in every case. With blocking of the diseased ureter the urine may be temporarily clear. The quantity of albumen is generally not large. Casts are not uncommon. The urine was acid in every case.

As to results of bacteriological cultures in 9 cases, 4 were sterile, 4 contained a colon bacillus growth, and 1 a growth of streptococcus.

Tubercle bacilli should be found in practically every case. Of 22 cases in which a note is made as to search for tubercle bacilli, 15 yielded positive results. In one other case bacilli were not found, but inoculation of guinea pigs with urine from the affected side resulted in death of the animal from tuberculosis. The differential stain should always be used, because catheterizing urine from the bladder does not exclude smegma bacilli. A case is cited to demonstrate this fact.

Tuberculin reaction is generally not necessary in making a diagnosis, but at times it is a valuable adjunct.

One of the most valuable means of diagnosis is found in the cystoscope. The author does not believe in catheterizing a supposedly healthy kidney through a diseased bladder—catheterization of the diseased kidney and simultaneous collection of urine from the opposite side through the bladder being sufficient. If one fails to catheterize the diseased ureter, a preliminary incision may be made for investigation of the supposedly healthy kidney.

The absence of tumor formation is not of

diagnostic importance. Of 26 cases in which a note is made, there was a visible or a large palpable tumor in 6. In 10 others the kidney was said to be enlarged. In 5 the kidney was palpable, but of normal or diminished size, and in 5 the kidney was not palpable.

A note on palpation of the ureters is made in 19 cases. The ureter can generally be palpated as it crosses the pelvic brim, and in the pelvic portion it may be palpated through the vagina and particularly through the rectum. Palpation of the kidney often causes pain and a desire to void urine. These symptoms are more frequently elicited on palpation of the ureter. The base of the bladder may be thickened and tender, and its palpation may cause referred pain in the urethra.

The treatment in all of these cases was operative. Nephrotomy with drainage was the only operation in 3 of the cases. Two of these had evident involvement of the opposite kidney, and died from this cause, one within 11 weeks, and one after two years. The third case improved rapidly during 6 weeks in the hospital. She is the only patient of the series who has not been heard from since the operation.

In 9 cases nephrectomy was done. Eight of these patients are living, one having died six weeks after operation with evident involvement of the opposite kidney.

Nephrectomy and partial ureterectomy was done in 7 cases, all of which are living.

Nephro-ureterectomy was the operation in 13 cases, all of which are living. The complete removal of kidney and ureter is now done through two short incisions. The kidney incision begins in the angle formed by the erector spinae muscle and the twelfth rib, and is carried downward and forward about parallel with the rib, being from 8 to 12 cm. in length, according to the size of the kidney. In very adherent cases the author resects the twelfth rib, thus gaining a more direct exposure of the kidney and its vessels. The ureter is loosened to the pelvic brim, and after removal of the kidney the lumbar wound is completely closed, or closed with slight drainage, and the patient is changed to the dorsal position for the removal of the ureter. The ureter incision is made about 4 to 5 cm. above Poupart's ligament and runs parallel to this structure, beginning about opposite the anterior superior spine of the ilium. The ureter is freed throughout its pelvic por-

tion and cut off close to the bladder. At times it becomes necessary to tie and cut the ureter in its broad ligament portion as it dips under the uterine vessels.

Nephro-ureterectomy and partial cystectomy, or resection of the diseased portion of the bladder, together with the ureter and kidney, was done in three cases. Two of these died from the effects of the operation, and one is in perfect health. The author does not favor removal of a portion of the bladder at the primary operation, for he has found that many cases of bladder ulceration are not specific and clear up after removal of the tuberculous kidney and ureter.

Of the 23 cases in which there was partial or complete ureterectomy, the ureter was examined microscopically in 22, and of these 17 were tuberculous, while 5 showed chronic inflammation. An analysis of the series with reference to wound healing shows that a wound may close rapidly after the partial removal of a tuberculous ureter, or that it may suppurate for years after the complete removal of a non-tuberculous ureter; but that as a rule the partial removal or the leaving of a tuberculous ureter is followed by months or years of suppuration, while the complete removal results in rapid closure of the wounds.

Summary of Results.—One patient has not been heard from since leaving the hospital. Five patients, or 14 per cent., have died—2 from the results of the operation and 3 from involvement of the other kidney. Two patients now living after respectively 8 and 14 years may have tuberculous infection of the remaining kidney.

Eleven patients still have bladder symptoms, or are known to have a bladder lesion. The time elapsed since operation in these cases has been: 14 years in one case, 5 years in two cases, 4 years, 1 case; 2 years, 2 cases; from 18 months to 6 months, 5 cases. All but one of these patients are in good general health, 5 of them reporting better health than they have known for years.

One patient after three years still has partial incontinence of urine, due to treatment of the urethra before she was admitted to the sanatorium.

Two patients on dismissal six months ago had colon bacillus infection of the remaining kidney, but they had very little pus in the urine, no symptoms, and considered themselves well. One

of these was seen recently; she had gained 30 pounds in weight, the bladder was normal, but the colon bacillus infection was still present.

The patients are reported or known to be in perfect health. The time elapsed since operation has been: 8 years 1 case, 6 year 2 cases, 5 years 1 case, 3 years 2 cases, 2 years 2 cases, 1 year 1 case, 6 months 1 case.

One case was operated on for pelvic and abdominal tuberculosis in June, 1902, six years after her kidney operation. She now has fair health, and is pursuing field work in botany. This gives us 25 out of the 35 cases, or 70 per cent., to be classified as enjoying either fairly good or excellent health. Two cases are in poor health, each after five years with evidence of chronic interstitial nephritis. Two cases have lung tuberculosis, but they are both leading normal lives as housekeepers.

General Summary.—Tuberculosis of the urinary system is a surgical disease, being, as a rule, unilateral and often the only focus of tuberculosis in the body.

If the disease is bilateral, and there are no pronounced symptoms referable to the kidneys, the treatment should be that usually accorded tuberculosis of the lungs—viz., suitable climate, nutritious diet, and proper regulation of the patient's rest and exercise; but if one or both sides begin to cause marked local or general manifestations surgical intervention is often of great benefit.

In case of bilateral disease, or in associated disease of the lungs, the anesthetic is of great importance. Local cocaine anesthesia may be used for nephrotomy, and nitrous oxide gas for nephrotomy, nephrectomy, or nephro-ureterectomy.

Thickened ureters are generally tuberculous, and should be removed with the kidney if the patient's condition justifies.

Bladder disease in these cases is often non-tuberculous, and removal of the diseased area should not be attempted at the first operation. If the bladder fails to heal within a year under ordinary methods of cystitis treatment, the disease is probably tuberculous, and if not occupying more than half of the bladder it should be excised.

Pregnancy and Forceps Delivery with Uterine Cancer.

During the session of the Kentucky State

Medical Association at Lexington, May 18-19, 1904, Dr. I. A. Shirley, Winchester, Ky., reported the case of Mrs. F., age 38 years, who had lost four small children by drowning. The shock, of course, was severe. Shortly afterwards she found herself flooding freely and often from the vagina. On examination, the doctor found unmistakable evidences of cancer of the cervix. He sent her to Dr. Chas. A. L. Reed, of Cincinnati, who concurred in the diagnosis, and advised immediate vaginal hysterectomy—stating that he considered it an ideal case for operation. On attempting the procedure a few days later, however, he found such involvement of the surrounding structures that he contented himself with removing a portion of the anterior lip of the cervix, and sent her home to die.

Instead of dying, however, on her return home she became pregnant. When Dr. Shirley informed Dr. Reed of this he said that it was impossible. But a few weeks proved the correctness of the diagnosis of pregnancy, and Dr. Reed was so assured. He then said that natural delivery would be impossible, and advised removal of the patient to a hospital, where a Porro or a Cæsarean operation could be promptly performed. But this advise she refused to accept.

At term Dr. Shirley succeeded in dilating the os through the cancerous mass sufficiently to introduce high forceps, and delivered a good size girl baby that is living to this day—now some eight or nine years old. Profuse hemorrhages came from many tears in the malignant growth, but these were finally checked by gauze tamponade of both the uterus and vagina. The mother recovered without special departure from the usual getting up, but died eighteen months later from a continuation of the disease.

The question is, did the severe shock of grief due to the drowning of her four children—as is believed by some—have anything to do with the starting of the malignant growth?

The case is worthy of record because of the occurrence of pregnancy and parturition at term in a woman whose cervix uteri had been removed.

The Regulation of the Duration of Exposure and the Distance from the Tube in X-Ray Therapy.

Was the title of a paper read by Dr. Ennion

G. Williams, Richmond, Va., at the late meeting of the Southern Surgical and Gynecological Association, held in Atlanta, and published in the *Medical News*.

He first considers the variable factors in the production of X-light, and shows how in the different machines they can be regulated and made constant factors, leaving only the duration of exposure and the distance from the tube variable. He applies to the rays the rule for all forms of radiant energy, that the intensity varies inversely as the square of the distance, and gives a table showing the relative effect of the rays at distances of two inches interval from two to twenty inches. In the table is a column of safety limits, which shows the length of time that it is safe to give a continuous exposure without causing a burn. The figures were reached after an experience of nearly two thousand exposures, and by actual experiment with his coil, having a current supplied to the primary of fifteen volts and one ampere and a parallel spark gap of five inches, and with a medium tube. He found out the time at which redness of the skin was produced, and approximately half this was taken as the safety limit, thus allowing a wide margin for idiosyncrasy.

Another point discussed is the treatment of deep growths. From figures in the table it is shown that the further the part is from the tube the less is the difference in the intensity on the surface and the parts beneath. The difficulty in treating deep growths has been the danger of burning the surface before the deeper parts are affected. Since it is not necessary to bring about a necrotic effect to cause the malignant growths to disappear, if a uniform effect can be produced throughout the tissues, then the problem of treating deep growths will be solved. This is accomplished approximately by putting the tube far off and making due compensation by increasing the duration of exposure. The discussion points to a more rational technique in the use of the X-rays.

Cost of Smallpox to the County.

The county of Mecklenburg, Va., is now wrestling with bills for about \$7,000 for the suppression of smallpox within its limits. How much of these costs might have been saved by proper provision and forethought upon the part of the county authorities does not appear.

Book Notices.

Epitome of Pediatrics. By HENRY ENOS TULEY, A. B., M. D., Professor of Obstetrics in Medical Department of Kentucky University, etc. *The Medical Epitome Series*, Edited by V. C. PEDERSEN, A. M., M. D., Instructor in Surgery, etc., New York Polyclinic Medical School and Hospital, etc. *Illustrated with 33 Engravings.* Lea Brothers & Co., Philadelphia and New York. 1904. 12mo. 266 pages. Cloth. \$1, net.

This little book well fills the part of an epitome of pediatrics—useful for ready reference when full discussions are not wanted. This *Epitome* considers the whole subject of pediatrics—from birth to adolescence, including the anatomy, development, care and examination of infants and older children, and therapeutics suited to their age. Then the various diseases are systematically and clearly considered with necessary directions and prescriptions. As a “manual for students,” questions are appended to each chapter by which he may test his own knowledge. It is wonderful how much of valuable information is condensed in this book.

System of Physiologic Therapeutics. Edited by SOLOMON SOLIS COHEN, A. M., M. D., Senior Assistant Professor of Clinical Medicine in Jefferson Medical College, etc. *Vol. VII—Mechanotherapy and Physical Education, including Massage and Exercise.* By JOHN K. MITCHELL, M. D., Physician to the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases, etc., and *Physical Education by Muscular Exercise.* By LUTHER HALSEY GULICK, M. D., Director of Physical Training in Public Schools of Greater New York, etc. *Special Chapters on Orthopedic Apparatus.* By JAMES K. YOUNG, M. D., Professor of Orthopedic Surgery, Philadelphia Polyclinic, etc.; *Corrective Manipulations in Orthopedic Surgery, including the Lorenz Method,* by H. AUGUSTUS WILSON, M. D., Clinical Professor Orthopedic Surgery in Jefferson Medical College, etc.; and *Physical Methods in Ophthalmic Therapeutics,* by WALTER L. PYLE, M. D., Assistant Surgeon to Wills Eye Hospital, etc. *With 229 Illustrations.* Philadelphia: P. Blakiston's Son & Co. 1904. Cloth. 8vo. Pp. 420.

This system is “a practical exposition of the methods, other than drug-giving, useful for the prevention of disease and in the treatment of the sick.” This special volume is by able authors, and shows how efficient are massage and

physical exercise, when scientifically directed, in the development of the body, the prevention of disease, and even in the treatment of various affections. As to the class of diseases claimed to be successfully treated or benefited by such methods as are described in detail are: Organic heart disease, gout and diabetes, fractures, dislocations and sprains, scoliosis, kidney troubles, etc., etc. The Schott, the Oertel, and various other methods of treatment of diseases of the thorax are described in detail. Throughout the work is well illustrated, showing the steps of massage, exercise, etc., adapted to the various conditions. All in all, this “System of Physiologic Therapeutics” is one of the most valuable of recent contributions to therapeutics.

Roentgen Ray Diagnosis and Therapy. By CARL BECK, M. D., Professor of Surgery in New York Post Graduate Medical School and Hospital, etc. *With 322 Illustrations.* New York and London: D. Appleton & Co. 1904. Cloth. 8vo. Pp. 460.

This book is written chiefly from the surgical standpoint, and as such it is a valuable contribution. It describes apparatus and the means to utilize the same. Its pages are profusely illustrated by cases chiefly under the author's care, and gives many interesting and valuable details in radiographic diagnosis and therapy. But the book confines itself too closely merely to the personal observations of the author to have the wide range of usefulness which the title might lead one to hope for. Thus, nothing is said of the value of the Röntgen ray in such every-day diseases as progressive locomotor ataxia, which was pointed out by Dr. Arthur Edwards, of Bristol, Tenn., Drs. E. G. Williams and A. L. Gray, of Richmond, Va., and others. But in reference to the treatment of carcinomatous conditions, to the diagnosis of fractures, to the localization of foreign bodies inside the body, to the recognition of vesical and biliary calculi, etc., this book is a good instructor, finely issued by the publishers, etc.

Practical Treatise on Medical Diagnosis. By JOHN H. MUSSER, M. D., Professor of Clinical Medicine in University of Pennsylvania, etc. *Fifth Edition, Revised and Enlarged. Illustrated with 395 Wood Cuts and 62 Colored Plates.* Lea Brothers & Co., Philadelphia and New York. 1904. Large 8vo. Pp. 1213. Cloth.

While every requirement of the scientist is

satisfied in this book, it is especially a *practitioner's book*—by far the best of available works for the purposes indicated in the title. With the assistance of an able corps of specialists, it would seem that there is something about everything the physician desires to learn as to questions in diagnosis; and there is a well prepared index which helps greatly for ready reference. Whatever was of service in the former editions has been retained in this; and the new and valuable methods of diagnosis developed up to date have been embodied. The present edition is also a fundamental rearrangement of subjects, planned with the object of explaining the subject in the most logical and natural sequence. It would be impossible in a brief notice to bring out the practical characteristics of the work; but the physician willing to depend on our judgment will find this to be best of books on *medical diagnosis*. The publishers have also done their part well.

Editorial.

Antitetanic Serum to Prevent Tetanus.

It may be hard to prove a fact that does not occur. But when we consider the great number of cases of tetanus that usually occur from toypistol accidents and the like as the result of Fourth of July celebrations, etc., it may be timely to direct attention to the proper mode of preventive treatment of tetanus in all such cases.

During the session of the Mississippi Valley Medical Association at Memphis during October, 1903, Dr. G. C. Stanton, Chicago, read a valuable statistical paper on "the prophylaxis of tetanus" (*Med. News*, October 31, 1903). He recommended the open treatment of all wounds, however insignificant, in which, from their nature or surroundings, there was any risk of tetanus, and the immediate use of antitetanic serum in all cases of Fourth of July wounds, or wounds received in barnyards, gardens or other places where the tetanus bacillus is likely to be present, or tetanus infection to occur.

Dr. Joseph McFarland reports (*Jour. Amer. Med. Ass'n*, July 4, 1903), results of a series of

800 observations upon horses which illustrate the value of antitetanic serum as a prophylactic agent. During a period of four years there had been a death rate of ten per cent. from tetanus, in spite of all precautions then known. A systematic immunization with antitetanic serum was then begun—injections of 10 to 25 cc. of serum being used every three months. As a result, the death rate from tetanus rapidly decreased, and in the second year was *reduced to less than one per cent.* The practical conclusions drawn from these observations may be applied to the human subject. Antitetanic serum should be given as a prophylactic measure in all cases of suspicious wounds that are at all likely to be followed by tetanus. Experiments by the author made on guinea pigs demonstrated that the dried serum fully protects inoculated animals.

Dr. George F. Butler said (*Medicine*, Aug., 1899): "Dr. Joseph Hughes, one of the most eminent and conservative veterinary surgeons in Chicago, has used the serum as a prophylactic in over 500 cases following wounds, both surgical and accidental." Not a single case of tetanus developed, though he used the serum where, by former experience, he was justified in expecting the disease to manifest itself.

Bazy (*Bul. et Memoires de la Soc. de Chirurg. de Paris*, N. S. XXII, 186, 191), had four cases of tetanus develop in his wards. Afterwards, he applied preventive treatment to all cases of wounds that could be supposed to be suspicious—making 21 preventive inoculations of ten cubic centimetres each. None of these patients developed tetanus, although their wounds belonged to that category which includes most cases of tetanus.

At a meeting of the Paris Society of Surgery M. Labbe (*N. Y. Med. Jour.*, March 26, 1904), stated that, since the injection of antitetanic serum has been employed as a routine prophylactic measure, the disappearance of tetanus after surgical operations on horses is a prime fact in support of its preventive efficiency.

In France, Noeard observed 375 animals of various kinds which had been wounded accidentally or surgically, and subjected to tetanic infection. These animals were given antitetanic serum at once, before the disease had time to develop. As a result, not a single case of tetanus developed among them. On the other

hand, he noted 55 traumatized animals that had been exposed to tetanic infection—every one of which developed the disease.

An editorial in *Therapeutic Gazette*, Feb. 15, 1903, directs attention to the fact that "although tetanus is, comparatively speaking, a rare disease, it is sufficiently frequent and fatal to make an antitetanic serum a much sought for remedy." It also points out that the failure of antitetanic serum depends "not upon the fact that it is possessed of no virtue, but rather because it was used too late to combat the disease." One fact stands out above all others, and that is that thoroughly good results cannot be expected from antitetanic serum *unless* it be given in the very earliest stages of the infection. So true is this that experienced observers have insisted that its best results can be obtained only when it is administered immediately after exposure to infection—without waiting until the micro-organisms have had a chance to develop in the body, and produce early symptoms of poisoning.

Disappointment as to the results of antitetanic serum treatment of the established disease no doubt arises from the fact that the amount of the serum needed in proportion to the body weight of the patient increases enormously with each advanced stage of the disease, in consequence of the extremely rapid production by the bacilli—millions of times, whereas diphtheria antitoxin increases but tenfold.

An editorial (*N. Y. Med. Jour.*, March 26, 1904), remarks that "the present drift of opinion seems to be to the effect that tetanus antitoxin, while probably of considerable prophylactic efficacy, is of little use as a curative agent."

Recent experience in the immediate topical employment of this antitoxin in cases of toy-pistol injuries appears to support the trust in its prophylactic value.

From such experiences as above referred to it has been proposed to immediately inject antitetanic serum in every case of traumatism of a suspicious character—hoping in this manner to prevent the subsequent development of tetanus. It has been suggested to inject prophylactically all new-born infants in certain sections of Europe in which trismus neonatorum prevails.

The serum is harmless to man, and may be given hypodermatically as the other serums. Nocard recommends that a first injection of ten

cubic centimetres should be made in adults as soon as possible after traumatism. A second injection should follow in from twelve to fifteen days. The use of antitetanic serum in no way precludes the employment of spinal antispasmodic remedies, as chloral, bromides, morphine, eserine, etc.

Dr. Margaret A. Cleaves, of New York City,

Requests that an error regarding the work she is doing, spoken of by Dr. James McFadden Gaston in May 13th issue of this journal, be corrected as follows: "Finsen first used the concentrated electric arc light, devising the apparatus for the same, after having first shown that it is the chemical activities which are active in the destruction of bacteria and in the treatment of lupus vulgaris, etc. However, she does claim to have used the electric arc *therapeutically* before Finsen." Dr. Cleaves adds, "There is no Finsen light, but there is a Finsen method and a Finsen apparatus. The light is universal." She states further that induced radio-activity from radium falls to one-half its value in 28 minutes.

The Medical Examining Board of Virginia

Will hold its meeting at the Richmond High School building on the 22nd, 23rd and 24th of this month. Applicants must report in person to the Secretary and Treasurer, Dr. R. S. Martin, and register on June 21st—the day before the examinations begin, for which purpose books will be opened at his room at Murphy's Hotel, at 10 o'clock that morning. Note further particulars in the standing advertisement on the fourth cover page of this journal.

The Philadelphia Polyclinic and College for Graduates in Medicine.

At a regular meeting of the board of trustees of the Polyclinic Hospital held May 19th, of the five vacancies occurring in the resident staff, two of the appointments were given to University of Virginia graduates, two to University of Pennsylvania, and one to Jefferson Medical College.

Dr. J. K. Corss, of Newport News, Va.,

Has been appointed as a member of the Board of Medical Examiners of the Hampton Soldiers' Home, to succeed the late Dr. Henry A. Wise.

THE Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

Vol. 9, No. 6.
Whole No. 198.

RICHMOND, VA., JUNE 24, 1904.

\$2.00 a Year.
10 Cents a Copy.

UNUNITED FRACTURES.*

By STUART MCGUIRE, M. D., Richmond, Va.,
Surgeon in Charge St. Luke's Hospital, Richmond, Va.

A generation or two ago writers of popular literature alluded to doctors as "bone setters." To-day they are referred to as pathologists, neurologists or gynecologists. A generation ago the leading surgeons of the country were famous for their ability to set a fracture; to-day they are better known for their ability to set a fee.

The enormous increase in medical knowledge, the limitation of study to special lines, the fascination of modern aseptic and antiseptic surgery, the striving after the new and original to the neglect of the old and established, have led me to the sad but inevitable conclusion that the average surgeon of to-day is not as competent to treat an ordinary fracture as were his forefathers.

In our medical schools enthusiastic professors teach microscopic technique, serum therapy and the indications for opening the abdomen in obscure diseases, and the student is either referred to his text-book, or turned over to an assistant, for instruction in the diagnosis and treatment of fracture. In our medical societies papers are read and discussed on the mosquito theory of malarial infection, the methods of catheterizing the ureters, and the choice between the perineal and suprapubic routes in prostatectomy, to the exclusion of any but a rare reference to the many important points concerning the reduction and immobilization of a fracture.

I plead guilty as a teacher and writer to having done my part in bringing about this condition of affairs. In fact, the recognition of my own deficient knowledge of "bone setting" has made me determine to give the subject closer study, and has led me to make this plea for the better education of students and the more

thoughtful attention of practitioners to what, if I am not unduly pessimistic, threatens to become one of the lost arts.

Babies are born and bones are broken in every community, and while specialists in large cities may formulate and teach the principles for the management of such cases, it is to the general practitioner that the public still looks for delivery in labor and first aid to the injured.

If lack of study and hence lack of skill shall lead to poor results at the hands of the local attendant, the laity will soon learn to transport fracture cases to the cities, and the country doctor will be responsible for the creation of an additional specialist to the number which already encroach upon his practice.

With few exceptions a broken bone properly set and splinted will heal, and the increasing number of cases of ununited fracture that come to a surgeon doing referred practice is a clear index of the lack of knowledge possessed by the average doctor with regard to fractures.

I claim no personal exemption from my own condemnation, for I am free to confess that I respond to every call to set a broken bone with reluctance, and leave the case with misgivings; and I know, from the confidence with which I undertake other work of greater responsibility, that my timidity comes from ignorance.

Public criticism is frequently withheld when a surgical blunder is committed in the abdomen, but it is sharp and relentless when it is apparent in a limb. A man who dies after an operation is buried and soon forgotten, but the man who had a deformed arm or shortened leg from a badly treated fracture, lives for a generation a walking or limping advertisement to his community of surgical limitation or incapacity. Let us, therefore, study fractures more in order that we may treat them better—if not for the sake of our patients, then for the sake of our profession.

But little has been learned and much has been

*Read at the meeting of the North Carolina State Medical Association, held at Raleigh, N. C., May 23-25, 1904.

forgotten in regard to the immediate treatment of simple fractures since the publication of the classical work of Malgaigne more than fifty years ago, and as this and other books are accessible to the profession, I will limit my paper to a brief review of what has been accomplished, and what remains to be done, in the treatment of a special class of cases commonly called ununited fractures.

When a bone fails to unite after being immobilized for a certain length of time the condition is spoken of as either delayed union or non-union.



CASE I. Ununited fracture of humerus one year after operation. Silver wire suture indicates line of union.

Delayed union is where reparative action is present, but owing to lack of nutritive vigor, callus is either tardy in development or imperfect in its transformation. Improvement of the general health, the establishment of a more perfect local circulation, or the irritation of the seat of injury by forcibly rubbing the fragments together may stimulate the halting process and finally result in solid union.

Non-union is where reparative action is ab-

sent, from local or constitutional causes, and the result is either a ligamentous union or the formation of a false joint. The ends of the bones round off, the medullary cavities become closed, and the blood supply to the part is diminished. There is always abnormal mobility, often displacement of the fragments, and sometimes absorption of the bone.

The division of ununited fractures into delayed union or non-union is based on the fact that cases in the first class can be cured without an operation, by making more active the reparative forces already in existence by means of constitutional and local treatment, while cases in the second class cannot be cured except by an operation which freshens the rounded ends of the bones, opens up their medullary cavities and changes the existing passivity to the activity of a recent fracture. Unfortunately this prognostic distinction cannot always be made clinically, and usually the surgeon when called to treat a case of ununited fracture, deals with it at first by non-operative measures, with the hope that union may simply be delayed, and should his efforts prove unsuccessful, he operates on it later under the conviction that it is a case of non-union not amenable to less heroic measures.

As delayed union and non-union cannot be differentiated except by the ultimate result in the individual case, it is not only practical, but proper to discuss them jointly. Here, as elsewhere, it is necessary to consider the causes which, singly or combined, result in the condition, for by their early anticipation and prevention, or later by their recognition and correction much time and suffering may be spared the patient.

The causes of delayed union or non-union of a fracture are usually classified under the heads of general and local. Under the first, authorities give a long list of constitutional conditions or diseases, such as age, pregnancy, lactation, acute infectious diseases, starvation, loss of blood, rickets, marasmus and syphilis. All except the last are of doubtful influence, for it is a strange but authenticated fact, that failure of a fracture to undergo proper ossification is more apt to be observed in a vigorous adult than in the debilitated, the marasmic or the aged. While it is true that syphilis and fractures are both so common that they must often co-exist without detrimental influence one on the other, still in my personal observation patients with delayed union have responded so often and so promptly

to anti-syphilitic treatment that it is now my practice to prescribe iodide of potash in such cases as the first effort to secure union, and this whether any history of specific infection can be obtained or not. If it does no good it does no harm, and as we all know, syphilis, like accidents, is likely to occur in the best regulated families, and patients suffering with the disease are sometimes ignorant of their condition or untrustworthy in their statements.

Under the local causes of delayed union or non-union may be mentioned—first, marked displacement or wide separation of the fragments; second, interposition of muscle, fascia or foreign bodies between the fragments; third, defective nutrition through faulty innervation or deficient blood supply; fourth, infection and suppuration, destroying or preventing the formation of callus; fifth, defective immobilization or premature passive motion. In fact, any defect in the primary treatment of a fracture, such as failure to effect accurate reduction and to secure proper immobilization, too tight bandaging, undue pressure of splints, frequent removal of the dressings for the purpose of inspection, and finally permitting the patient to use the limb too soon on account of the unfounded fear that prolonged fixation endangers the function of an adjacent joint.

When a surgeon takes charge of a case of ununited fracture his first attention should be directed to the general health of the patient. An examination of the urine should be made; errors of digestion should be detected and corrected; anemia and debility should be combated, and the system gotten in the best possible condition. If the case is not over a year's standing iodide of potash should be administered unless the drug has already been tried without result.

The local treatment should be based largely on the result of an X-ray examination. In some cases it will appear probable that the patient can be cured without subjecting him to an operation; in other cases it will at once be obvious that nothing short of bloody surgery will prove effective, and it will be a waste of time to try milder measures. The following is a brief summary of local methods that have been advised, each of which will prove of service in properly selected cases—first, light elastic constriction above and below the fracture producing more or less hyperemia; second, active use of the limb encased in an immobilizing dressing

of plaster of Paris; third, percussion of the limb by the surgeon with a rubber mallet, or by instructing the patient to strike his heel on the floor, if the fracture be in the lower extremity, or pound the hand or elbow on a table if it be in the upper; fourth, injection of from three to ten drops of a 10 per cent. solution of chloride of zinc between the ends of the fragments by means of a hypodermic syringe; fifth, administration of an anesthetic and forcibly tearing

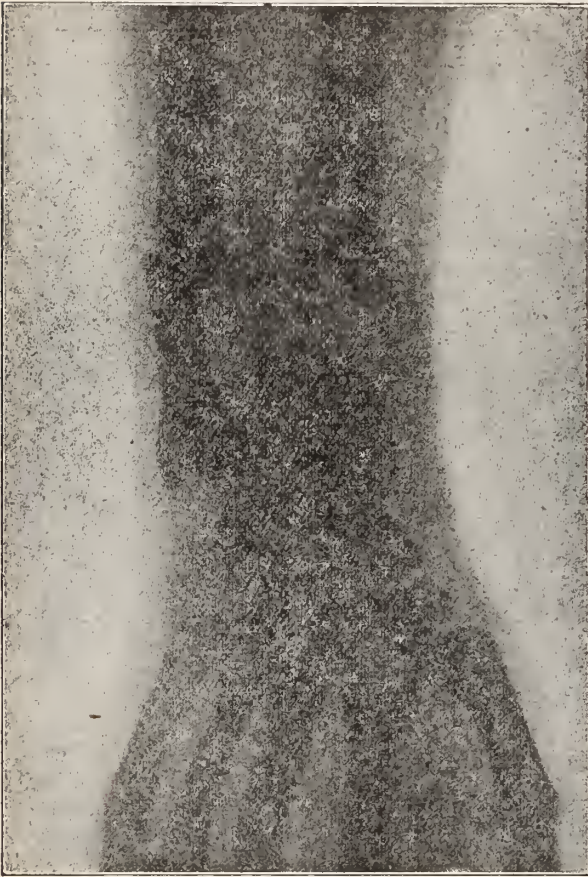


CASE 2. Ununited fracture of patella three months after operation.

loose fibrous adhesions, effecting accurate apposition and treating as a recent fracture; sixth, subcutaneous drilling of the ends of the fragments, the perforations opening up medullary space and the small particles of bone detached acting as a stimulus to plastic repair; seventh, resection of the ends of the bones by an operation, the accurate adjustment of their freshened surfaces, and the maintenance of the fragments in correct position by means of sutures, nails, medullary splints or bone ferules, all reinforced,

of course, by a rigid external dressing, which immobilizes the two adjacent joints.

Time does not permit me to discuss several interesting points in the technique of this operation or to describe many ingenious methods that have been devised to make it one of the most successful and satisfactory in surgery. I therefore content myself with the exhibition of skiagraphs of three of my cases.



CASE 3. Ununited fracture of forearm six weeks after accident.

The first case was a gunshot fracture of the upper end of the humerus, attended by loss of one or two inches of the shaft of the bone. Suppuration prevented callus formation. The ends of the fragments were exposed, squared with a saw, and the revived surfaces united with a silver wire suture. Subsequent immobilization was secured by rest in bed with sandbags on each side of the arm, and extension from the elbow by means of a modified Buck's apparatus. In the photograph the line of union can only be de-

tected by the location of the silver wire suture.

The second case was that of a man who fractured his patella by muscular violence. He was treated by his physician and good union apparently resulted. He was allowed to get up too soon, however, and by a slight fall widely separated the fragments. Believing that the condition justified an operation, I opened and washed out the joint, freshened the bony surfaces and sutured them together with chromicized catgut. The operation was done three months ago, and the function of the joint is perfect.

The third case was a fracture of both ulna and radius just above the wrist. The man came to me six weeks after the accident, and I found there was no union, owing to overlapping of the fragments from failure on the part of the attendant either to effect or maintain reduction. Muscular contraction was such that I was unable to correct the displacement; so I exposed the ends of the bones through a posterior incision, resected and drilled them and united them by catgut sutures. One photograph shows the arm immediately before the operation, the other shows it two weeks afterwards, when the dressings were removed to inspect the wound. The case is still in splints, and it is too early to report final results.

Despite the success that has followed the treatment of ununited fractures since the introduction of aseptic and antiseptic surgery there still remains one fracture that up to this time gives as poor results as it did a century ago—namely, fracture of the neck of the femur. For a time it was believed that failure to secure bony union was due to some unusual pathologic condition resulting in failure of callus to form in sufficient quantity to effect repair; but now it is known that the defect is due to failure of known mechanical methods to secure accurate approximation and to maintain adequate immobilization of the fragments.

The argument that in intra-capsular fracture of the femur the upper fragment has not sufficient blood supply to maintain vitality, much less to produce callus, is controverted by the following facts:

1. Completely detached fragments of bone at other localities, such as a disk removed by the trephine, take an active part in reparative action.

2. Post-mortem examinations in cases of intra-capsular fracture show that the upper

fragment not only maintains its vitality, but in a majority of cases exhibits evidence of callus formation.

3. In cases of intra-capsular fracture where impaction has taken place, bony union will almost invariably result if the fragments are permitted to remain in apposition for a sufficient time.

4. In experimental cases of intra-capsular fracture produced on lower animals, bony union was the rule when the fragments were held in position by direct fixation with a nail or screw, while in the control cases not treated no union except of a ligamentous nature was ever observed.

Writers no longer lay stress in fractures of the hip on the division into intra-capsular and extra-capsular fractures, but strongly urge the importance of distinguishing between a non-impacted and an impacted fracture. An impacted fracture of the neck of the femur is considered the best setting of the bony fragments that a surgeon can obtain, and practitioners are urged not to try to elicit crepitus in doubtful cases, but to rely for diagnosis of the nature of the injury on the shortening and eversion of the limb, the change in posture of the trochanter major, and the loss of tension of the fascia lata between the trochanter and the crest of the ilium. Post says: "Better an imperfect diagnosis for the surgeon and a perfect limb for the patient than a perfect diagnosis for the surgeon and an imperfect limb for the patient."

Much more could be written, but I trust I have said enough to convince you that failure to secure bony union after intra-capsular fracture of the neck of the femur is not due to any peculiar lack of reparative power of the part, but to ignorance of efficient means to effect reduction and maintain apposition of the fragments. In other words, the bad results that follow the injury are not due to any fault of nature, but to absence of efficient methods of treatment.

Buck's extension apparatus in the original form, or modified by counter or lateral traction, rarely, if ever, secures a good result. Senn's method of manual reduction and fixation by the application of a plaster of Paris dressing, with a padded screw incorporated for making lateral pressure against the trochanter, is of doubtful value in the hands of the average practitioner. An open, or subcutaneous operation for the direct fixation of the fragments by suture, nails or

screws is applicable to but few cases, as the injury usually occurs in the feeble and aged, who are but poor subjects for surgery.

The problem of how to treat successfully cases of unimpacted fracture of the neck of the femur is a difficult one, and has not yet been solved. That it will finally be satisfactorily settled I do not doubt. Congenital dislocation of the hip is rare, and few men ever have an



CASE 4. Ununited fracture of forearm two weeks after resection and suture of bones.

opportunity to diagnosticate a case. Senile fracture of the hip is common, and all of us are frequently called on to treat such cases. The deformity of youth is distressing, but the suffering and helplessness of old age are even more appealing to our sympathies. May this Society have the honor of producing a man who some day will accomplish a work greater than that ever aspired to by the distinguished Lorenz.

ACUTE OEDEMA OF THE LUNGS.*

By WADE H. ATKINSON, M. D., Washington, D. C.

The almost total exclusion from consideration of this disease from our text-books has led me to select this subject and to report the most desperate case to recover that I have found in my search of the recent literature.

Mrs. Y., white, 33 years old, fine physique, with good previous history, nervous temperament above normal, otherwise healthy. Family history good with exception of father having pulmonary tuberculosis, perhaps contracted. At the age of 28 she gave birth to a child after a tedious labor, which left cervix lacerated. Slight epileptic attacks occurred at night at the age of 31, averaging about six attacks a year. Lacerated cervix was repaired, but no marked change in these epileptic attacks was noticed, except about three months passed after operation without an occurrence; this was from 30 to 40 days longer than the usual time between attacks.

On the evening of June 2, 1903, she attended a musical in evening dress, leaving a very warm room and walking several blocks to her home with very light wraps, and made the remark that the evening was chilly. She retired about 12 o'clock and before 3 I was called. This was the second time I was called at night to treat this patient for an epileptic attack, which was light in character. The previous attack responded readily to treatment with the exception she was dull the following day. When I arrived the patient had had about three convulsive attacks and was in a comatose condition. Upon closer examination, I found rales over the lungs, gurgling in throat, and a cyanotic condition added to the grave symptoms, also respiration between 55 and 60 per minute, a high, bounding pulse, dry skin, and a restless delirium. Without further examination I realized I had a case of acute œdema of the lungs—the treatment of which has been but little noted in our text-books and met with in my practice only once before in this acute manner.

The cyanosis was more and more marked, in spite of free stimulation with strychnine, nitroglycerine, digitalin and whiskey. Coma became more profound, and death seemed inevitable. I called Drs. Fry and Ellyson in consultation. I had already pushed stimulants, so we resorted to a large hot mustard poultice covering the whole

chest, which soon reddened the skin, and also pushed stimulants to maximum doses. Hot black coffee was given per rectum and hot bottles packed around patient. This treatment giving no relief at all, we resorted to blood-letting, taking a liberal quantity of very thick, dark, venous blood from the arm. This relieved the left ventricle and helped to sustain the heart, but no other decided change occurred. Several hours passed, the family were notified that death was almost inevitable.

But finding still a good heart, I suggested the use of oxygen which met the approval of my consultants. Promptly a tank was procured and the oxygen was administered freely, with the greatest satisfaction; for it was delightful to see the cyanotic condition gradually disappear, the restless stage returning and the patient soon becoming conscious enough to answer and then go on to convalescence. Patient was unconscious and cyanosed for 14 hours. The respiration was between 55 and 60 most of this time. Twenty-four hours after consciousness, respiration was 50; pulse, 110; forty-eight hours, respiration 40, pulse 90, while the temperature was about 100. It was more than a week before the respiration, pulse and temperature remained normal. Oxygen was given for half hour at a time, and after a short interval repeated. As the patient convalesced oxygen was given less frequently, but it was given several times daily until respirations were normal. Of course heart stimulants and proper diet constituted a part of the treatment. Perhaps I have not made it quite clear that the epileptic attacks continue about once in two months and have always occurred during the night after some hours sleep, but has never had but this one attack of œdema of the lungs. Urine normal, and no lesion has been discovered in the heart, lungs or kidneys.

The rarity of œdema of the lungs and the almost complete absence of reference to the subject in the standard text-books of medicine led Hewlett (*Intercolonial Med. J. of Australasia*) to report four cases. American text-books of practice of medicine do not give a description of œdema of lungs. The same is true of most of the English authors. Strumpel, in his text-book of medicine, refers to œdema by inference. Von Leube and Eichorst are silent on œdema of the lungs. The French have long noticed this condition and described it. Flint, *Principles and Practice of Medicine*, 1886, has by far the best article on pulmonary œdema to

*Read before the Medical and Surgical Society of the District of Columbia. May 5 1904.

be found in a text-book. Osler refers to œdema of the lungs mostly as a complication of other diseases, but says: "When acute œdema does occur it should receive appropriate treatment," which is given in a few words.

There are only a few cases reported in the journals in the English language. They are easily referred to at the library of the Surgeon-General's office, Washington, D. C. More articles have been written recently in French and next in number in German.

Edema of the lungs is characterized by dyspnea, marked cyanosis, moist rales over the entire chest, and there may or may not be present a frothy expectoration tinged with blood of a low specific gravity. It is not always coughed up by the patient. Labored heart action and engorged jugular veins are evident. The mental condition depends upon the extent of lung involved.

In the case here reported, there was a complete loss of all the reflexes for a period of about 14 hours. As a rule there is no fever. The skin is usually cold and livid.

Physical examination reveals feeble tactile fremitus, dullness, weak breath-sounds and numerous fine moist rales; throbbing heart sounds with misplaced apex beat, are often observed. Pathological condition of the lungs shows the presence in the air-cells, bronchioles, and bronchi, of a serous or sero-sanguineous fluid. The tissue affected is increased in size, boggy to the touch, heavy in specific gravity, pale or dark in color, more or less hyperemic and when incised, allows the escape of a clear blood-stained air-mixed fluid. The microscope shows the fluid to contain erythrocytes, leukocytes, desquamated alveolar epithelial cells and pigment granules.

In œdema of the lungs the exudate begins immediately, and the mechanical obstruction which it causes to the air entry, is, in the opinion of Lands, the cause of the dyspnea, cyanosis, and labored breathing. Prof. Martin regards the escape of this highly albuminous fluid as being due to a sudden altered permeability of the capillaries and alveolar cells of the lungs, and reasons that it is impossible to be caused by increased pressure in the pulmonary vessels. Welsh's experiments also prove that no amount of pressure would drive almost a pure serum through living animal membrane in their normal condition. A rupture of the vessel would occur instead; however it has been proven that the permeability of living membranes can be altered. Hewlett thinks

altered permeability is conditioned by nervous activity. Upon this theory he recommends inhalation of chloroform and morphia by hypodermic.

Causes.—Most writers say œdema of the lungs is an event in the course of some other disease. Sometimes, however, the existing disease is not understood. The diseases that might lead to œdema of the lungs are angina pectoris, mitral stenosis, chronic disease of the aorta, heart lesion, interstitial nephritis, pneumonia and bronchitis. The inhalation of irritants or of excessively cold air, as when leaving a warm, close room and immediately exercising, as running, anemia, cerebral lesion, acute infections, and intoxication, are also causes.

Lissaman (*London Lancet*, February 8, 1902,) attributes this phenomena to vaso-motor spasm of the pulmonary vein causing pulmonary stasis. This may be a plausible explanation of the case here reported, as this acute attack came on during a night epileptic spasm.

Frequency.—Prof. Owen, of London, says the frequency with which œdema of the lungs is met with in necropsies has long been noted, though the tendency has been to overlook or to ignore its clinical importance, and treat it as an inevitable and irremediable terminal phenomenon. Dr. Trevas, the pathologist of St. George's Hospital, London, reviews 228 consecutive necropsies from January to November which showed 124 had œdema of both lungs and 8 more had œdema of one or both lungs in such amounts as to preclude the possibility of its being due to post mortem oozing. No mention, however, is made of previous conditions of patients before death as to diseases existing at that time. Hewlett, of Australasia, thinks that œdema of the lungs nearly always occurs in women. The writer recalls a fatal case in a man caused by smoking opium. After a short walk on a very cold night he smoked opium with a party of smokers and while asleep, as they thought, became unconscious. Case was reported to this Society in 1896, "Death from Opium Smoking"; immediate cause, however, was œdema of the lungs.

Diagnosis is easily made when you note the symptoms, such as frequent respiration, dyspnea, with more or less cough with muco-serous expectoration, moist bronchial rales over the parts of the lungs affected, dullness prevails where the liquid has filled the air-cells; also the accelerated heart and often distended jugular veins.

Prognosis depends upon the pathological lesion that might have produced the œdema, as well as the extent of the lung tissue involved.

Treatment.—The treatment is of the greatest importance. Dr. Cum (Northwestern Lancet, Vol. XXII, No. II,) says œdema of the lungs lasts from 4 to 6 hours and passes off with or without treatment; and still he adds, death might occur during an attack. Another writer, whose name and article escape me, says there is no disease that it can be said of so emphatically, that a doctor has saved a life, as when he has rescued a patient from acute œdema of the lungs.

The same author says: "When the patient's countenance changes, when his complexion grows pale and dusky, when he becomes drowsy, apathetic, and his pulse begins to flag, do not content yourself with folding your hands and saying toxæmia, collapse, asthenia, or cardiac failure, but examine with care. Unless the heart walls are the seat of fatty degeneration, it is a more resistant organ than is usually admitted, and has very little tendency to stop work.

Dilatation of the right ventricle, even in a previously healthy heart, might give way before the strain of a sudden and severe obstruction of the pulmonary circulation. Dilatation of this ventricle gives dullness to the right of the sternum, displacement of the apex—beat to the left, leaving impulse over the middle of the heart, coupled with blunting of the apical beat, or the transference of the most marked impulse to the epigastrium. Distention of the jugular veins is often noted. The indications for the relief of this condition are the re-establishment of the circulation in the lungs and stimulation of the functions of the lungs themselves as well as to protect the heart. Therefore, *venesection* should be performed at once, without fear, taking from six to twenty ounces of blood from the median cephalic vein according to the condition of the individual case. Phlebotomy has been resorted to from the earliest times of this known affection (œdema of the lungs). We must at the same time support the heart with hypodermies of sulphate of strychnia, digitalin and nitro-glycerin. Counter-irritants are useful and a method used by Bishop of Philadelphia (*Trans. Med. Soc. N. Y.*, 1896), is worth repeating. He applied a strong mustard poultice over the entire chest—back and front—keeping it on until the skin was very red, replacing this with a thick hot poultice. He procured linseed meal by half bushel and made his poultices between sheets. He

claims this large, thick, hot poultice repeated as cooled, soon relieved the water-logged lung and gave a speedy recovery.

Cupping over the chest and sides has been recommended, also leeching over the front of the chest with 6 or 8 leeches. This is slow relief in a great emergency, it seems to me, when compared with blood-letting. Free watery purgation from the administration of elaterin, jalap, or gamboge could be tried.

After the above treatments have been carried out as far as possible to meet the indications, the next step is to give this crippled lung a helping hand to properly oxygenate the blood. The air-cells have been diminished and bronchioles damaged to such an extent that it is impossible to get the required oxygen from the air; therefore we should give freely the inhalation of oxygen and that in almost unlimited amount until the cyanotic condition is relieved. This is rational treatment and should always be given when the patient is cyanosed.

Hot-air baths are not always applicable. Diuretics are too slow and almost useless. Pilocarpin is most likely contraindicated by the state of the heart. Jaborandi has been highly commended in one case. Huchard, of London, lauds the hypodermic injection of camphorated oil, saying it surpasses ether. Dr. Crummer, of Omaha, reports a case where the attacks were shortened from 6 to 3 hours by the use of adrenalin chloride. It seems its use should be encouraged. If it could be administered in the form of a vapor it might be of double use. Inhalation of chloroform and the hypodermic use of morphia have done good work in some hands, but they should be used with great care. Black coffee, caffeine and other stimulants can be given per rectum.

Without active and energetic treatment I believe my patient would have died; so would others that have been reported. I deem this one of those diseases that should call forth our every effort to be carried on without the least faltering; for as long as there is even an effort to breathe or a pulsation of the heart, there is hope for us to work and perhaps win an unexpected recovery.

1402 M St., N. W.

"Laugh and the world laughs with you,

But that isn't all by half;

Just bear in mind that we must find

The things to make us laugh."—Plain Dealer

The Cure of Consumption by Feeding the Patient with Subcutaneous Injections of Oil, and Its Digestion by the White Globules of the Blood.

By THOMAS BASSETT KEYES, M. D., Chicago, Ill.,

Chairman of the First Organization Committee of the American Congress of Tuberculosis, and one of the Vice-Presidents of the International Congress of Tuberculosis, St. Louis, 1904.

By the method of treatment which I am about to describe in this paper I believe that consumption can be absolutely cured. However, before entering into the merits of this treatment let us briefly consider the disease.

Tuberculosis is a disease of mal-nutrition, and while the presence of the germ confirms the diagnosis, before the germ can grow it must find a suitable soil, there must exist a pretubercular condition. It is estimated that we all breathe in a great many of these germs, but they cannot grow in a healthy well nourished individual. People who have consumption do not eat fats, oils, and cream in sufficient quantities.

The first requisite in an attempt to cure tuberculosis has been for many years to give the patient oils of various kinds, and the most successful sanitariums of late years have adopted a process of food forcing, using the fats of meats, butter, and cream as the principal foods to be relied upon to effect a cure, each article of diet being selected for its fat producing and strength giving properties. To this a vigorous out of door life has been advocated, because it promotes appetite, and the out door life is conducive to placing the body in condition for the absorption of more fats. I was one of the first to advocate tent life for the treatment of tuberculosis in two articles entitled "Camp and Out Door Life as an Aid to the Permanent Cure of Tuberculosis," February 21, 1900, and "Some Results of Camp and Out Door Life in Northern Wisconsin," read before the Congress of Tuberculosis, May 15-16, 1900. Some four years ago I located an out of door camp for the treatment of these invalids in Northern Wisconsin.

To maintain nutrition has long been considered the prime requisite of cure, and an increase of weight is an indication that nutrition is overcoming the disease; and as weight increases there comes strength and the passing away of the other distressing symptoms, such as the products of the disease, expectoration of mucus, fever and finally cough. Prof. Osler has stated that the arrest and cure of the disease

is entirely a matter of nutrition and that the whole object of treatment is to so fortify the patient's constitution against the inroads of the disease as that the individual cells of the body have the stamina to fight against and destroy the tubercle bacillus.

Regarding tuberculosis Dr. J. H. Elliot, (*Canad. Jour. Med. and Surg.*, March, 1903), says that nutrition is dependent upon the proper assimilation of food, while improvement must be proportionate to the increase in the amount assimilated. And therapeutic measures, says Marfan, should be devoted to the end of nutrition, and the earlier such measures are instituted the greater the prospect of cure.

We will not go further into the fact that the whole cure of tuberculosis up to the present time is dependent upon our ability to nourish the patient, except to say that the methods of Dettweiler, von Leyden and Hoffman, of Germany, depend upon results from nutrition; and to this end they have advocated forced diet regardless of appetite. If the patient is to recover he must eat. Out of door life is important, inasmuch as it supplies to some extent the appetite.

Anorexia is one of the worst symptoms in a case of tuberculosis. It is impossible to get the average patient to eat enough fats, and a person who has consumption is the one who leaves the fat from his meat, eats very little butter, and little of cream and milk. When a patient is far advanced in the disease he is unable, on account of this loss of appetite and nausea, to eat sufficient food to maintain nutrition, and therefore gradually declines as the disease advances.

In the above few words I have tried to impress the importance of nutrition in the cure of this disease, believing that the cure rests entirely upon our ability to so nourish the system and stimulate the cells of the body that they will throw off the disease.

THE DIGESTIVE POWER OF THE WHITE BLOOD CELLS.

Experiments have been conducted principally by the Italian physicians, and a few others, viz.: Gabrelschewski (*Arch. f. Exp. Path.*, 1891, bd. 28), Czerny (*Arch. f. Exp. Path.*, 1893, bd. 31), Lieviertato (*Arch. Italiano di Clinica Medica.*, n. 3, 1893), Tarchettia e Parodi (*La Clinica Medica Italiana*, n. 10, 1899), Kraminer (*Berl. Klin. Woch.*, n. 6, 1890), Oliva (*Gazzetta degli Ospedali*, 17 giugno, 1900), Tarchetti C. Sull, "Esistenza di un fermento diastase nei corpuscoli bianche," (*Gazzetta*

degli Ospedali, n. 90, 1900); "Sull natura e sul significato della sostanza iodofila dei globuli bianchi, (*La Clinica Medica Italiana*, n. 8, 1900); Di una pretesa degenerazione amilodea sperimentale," (*Idem*, n. 7, 1900); "Ricerche sulla degenerazione amiloidea spermintale," (*Idem*, n. 11, 1902, Procile V.); "Sul valore semeiologico della reazione iodofilia nei purulenti," (*Gazzetta degli Ospedali*, Milano, n. 102, 1900), all of which go to show that there is a glycogenic ferment in the cells which has the power to digest starches. These experiments have been carried on principally to discover a cause for the disease of diabetes. It has been shown more or less perfectly by some of these same observers that fats also may be digested by the blood, and that the white blood cells have the power of digesting oils. Though these experiments according to Tarchetti (*Clinica Medica Italiana*, 1900), are not definite, it is clear that the white cells of the blood possess a ferment or property which has the power of digesting fats and starches.

Without going into the process, chemical, phagocytic, osmotic, etc., which has been gone into by Dr. Spezia in the numbers 5 and 6 of the *Gazzetta Medica Lombarda*, 1904, Tarchetti (*Gazzetta degli Ospedali*, n. 28, 1904) says is it possible to follow the rapid course of the oil injected into the internal organism and the phenomena positively chemical, of osmosis, of phagocytosis, of digestion intercellular?

Upon the digestion of oils by the blood I base this claim for a cure of tuberculosis. So far I have tried to show, first, that the cure of consumption must necessarily depend upon a proper supply of nutriment—the disease being primarily a disease of mal-nutrition; second, that consumptives suffer so much from loss of appetite, nausea, and perhaps non-absorption, that as a rule they are unable to take sufficient amounts of fats to overcome the disease; third, that the blood cells possess a ferment capable of digesting fats.

I shall now give my results in the cure of tuberculosis by the subcutaneous injection of oil. The oil which I have selected in the treatment of my cases has been olive oil of a very high grade, thoroughly sterilized—using olive oil in preference to other oils on account of it being non-irritating and very readily accepted by the system. The point selected for the injection has been over the shoulder blades, injecting one day over one shoulder and the next day

over the other, excepting when a large amount of oil is used, when it is necessary to inject over both. There is very little pain connected with the injection and the following day it is hardly possible to find where the injection was made. By being careful in my technique of cleanliness and sterilization, so far no infection has taken place and consequently no soreness, though I believe the non-irritating properties of the oil have a great deal to do with this. The amount of oil used varies. I commence by injecting 12 c.c. of oil each day and the third day increase the amount to 24 c.c. of oil. If no unpleasant symptoms arise I keep gradually increasing the dose to full tolerance of the patient, which varies with the individual and the stage of the disease. Those who are poorly nourished will sometimes assimilate large quantities of oil up to about 200 c.c. daily.

In this manner I have treated nine consecutive cases successfully, and within 24 hours after each treatment there is a remarkable benefit and amelioration of symptoms, such as diminished morning cough, night sweats, increased strength, and finally gain in weight. Some of the very worst cases of tuberculosis under this plan of treatment have gained each day, and I believe have been thoroughly cured. The syringe which I use is an aspirating syringe reversing the piston with a thumb screw, it requiring considerable pressure to force the oil under the skin.

By injecting oil thus it is absorbed and assimilated by the blood cells and there is a great increase in their numbers. Thus all of the indications for the cure of tuberculosis are met. It overcomes the disease through increased phagocytosis and thus the active cells destroy the disease. Nutrition is re-established.

The time required to overcome all symptoms is remarkably short and one will be greatly surprised at the benefits which come with each treatment.

Physicians should use great care in the amount of oil given, for very large doses if long continued might result in fatty degeneration of certain organs; but with the disease tuberculosis, this is not so apt to occur, as tuberculosis and fatty degeneration are antagonistic.

I have based the claims of this treatment as a cure for tuberculosis upon my experience and clinical evidence and from my conviction. I give my results this early believing that the cure of tuberculosis is solved and that by so doing

many lives will be saved. Of course to the above treatment should be added all that has been found useful in the treatment of tuberculosis, the principal of which is a forced diet of article selected for their nutrition, such as meats, fats, butter and cream, out of door life and hygiene.

I hope and trust that physicians will at once take up this method of cure, and I respectfully request that those doing so will communicate their results to me, as by broader knowledge much good may come, and it is my desire to report these results at the International Congress of Tuberculosis to be held in St. Louis this year.

THE PREVENTION OF TUBERCULOSIS.*

By HENRY WIREMAN COOK, M. D., Richmond, Va.

The present incidence and ubiquity of tuberculosis has been presented to you by Dr. Irving and Dr. Grandy especially with reference to local conditions, and we naturally ask, can nothing be done to stop the inroads and decimation of this scourge, so significantly termed the "white plague," which is the cause of one-seventh of all deaths and one-third of those occurring in the prime of life, between 15 and 45? The possibility of an affirmative answer to this question that something can be done, and something is being done is sufficiently attested by the numerous articles appearing from time to time in medical journals, popular monthlies and daily newspapers detailing plans, organizations and movements all directed to this one end, the prevention and stamping out of tuberculosis. This general trend has been worthily termed "The greatest humanitarian movement in the world's history."

No one rationally inveighs against death per se. When the deformed or demented child that is born into the world unfitted for life's struggles sickens and dies, we say, "It is better off." When the old man who has finished his work is kindly spared the misfortune and often disgrace of decrepitude and senility by an apoplexy or a terminal pneumonia we cannot rail at fate. These are but the manifestations of the natural laws of selection and survival. But

what of the husband and father of a young family who succumbs to typhoid because the water he drinks is poisoned? What of the thousands who died of smallpox in Montreal in 1885 because the isolation of a single case was neglected? What of drowned sailors who were sent to sea in rotten vessels? These are not evidences of a natural process, nor should we pass them over with a "God's will be done."

They are one and all the results of human neglect, and demand remedy and correction. How, then, of the 100,000 deaths per year from tuberculosis in the United States, for most part in the prime of life? Of those 12,000 cases in the State of Virginia,* afflicted by the same scourge, all weakened invalids, each one spreading his malady to others, and after infecting his relatives and friends with the disease, finally dies, leaving his family plunged in sorrow, and frequently in financial distress? Let us consider briefly the facts underlying this condition, and then take up in more detail what has been accomplished by methods of prevention, and what these methods are:

Historically, tuberculosis has been recognized since the times of the early fathers of medicine before the Christian era. Great truths often obtain limited and temporary recognition sporadically by certain individuals or in certain localities long before the world as a whole is prepared to accept them. We see this exemplified frequently in the development of religious thought, and often in medicine. It is well illustrated by the occasional local recognition of the infectious nature of tuberculosis, and by methods of prevention based on sound principles, which, however, could not be proven until years later. Thus we find over a hundred years ago that there were stringent laws and customs in certain cities of lower Europe, for example Naples and Florence, based on the recognition of this fact. We can see the effects of such measures illustrated in a striking manner as late as 1839 by a letter of George Sand written while travelling with Chopin, the musician, in Spain. She wrote: "Poor Chopin, who has had a cough since we left Paris, became worse. We sent for a doctor—two doctors—three doctors, each more stupid than the other, who started to spread the news in the island that the sick man was a consumptive, in the last stages. As the result there was great alarm. Phthisis is a rare disease in this locality, and is regarded as con-

* Read at fourth annual meeting of Virginia Conference of Charities and Corrections, Norfolk, May 18, 1904.

* Report of State Board of Health, 1904.

tagious. We were looked upon as plague infected."

While Paris and all France was a hot bed of tuberculosis, in this little island the disease was almost unknown, and because, as George Sand scornfully put it, they considered it contagious and would not permit consumptives to spread it among them. But the world looked on with eyes that saw not. Twenty-two years ago Koch proclaimed his epoch-making discovery and no longer could that be doubted nor overlooked which had ceased to be a theory, and could be demonstrated visibly to the skeptical; the cause of tuberculosis was shown to be an actual living organism which grew in the diseased tissues, was thrown off in the expectoration of the consumptive, and when taken into the lungs of a healthy individual could then reproduce the disease. In other words, all tubercular tissue is created by the action of a definite bacterium. This organism exists in great numbers in the matter thus formed, and is being continually coughed into the air of dwellings, and spit upon the streets of the cities, there to be dried and carried into the air and breathed again into healthy lungs. So what was not generally believed before, from clinical evidence, could no longer be denied, since it was absolutely demonstrable. Circumstantial evidence may be strong, but seeing is believing.

A new era now opened, with a basis of demonstrated fact which insured its permanency and general growth, so that the correct understanding of the disease does not depend on doubtful empiricism, but upon the firm scientific footing of fact. Public opinion need no longer be influenced by local illustrations of contagion as we now know that the disease from its nature depends upon reinfection and communication for its existence. Thus if the people at present afflicted with tuberculosis could in some way be prevented from giving the malady to others the disease would practically become extinct with their deaths, or in other words if the sputum coughed up by the consumptives now living could be prevented from being breathed by other people the disease would die out in a decade. Yet 12,000 people in Virginia are at present spitting the living virulent organism of tuberculosis into the streets of the cities and towns. In their homes the conditions are worse. Although the sputum may temporarily find lodgment in a handkerchief or receptacle, through carelessness and ignorance

of proper precautions it shortly becomes dried and is carried into the air. In the sunlight and the open air the organism may be soon destroyed, but in houses it may live for months. Is it any wonder, then, that one out of every seven of us will die of this disease, and that in the words of the German saying, "Jederman hat am Ende lin bisheen Tuberculose," everybody when he dies has a small focus of tuberculosis? Though we all acquire it as might be expected from present conditions, six out of every seven are able to wall off the diseased area in our lungs by healing processes.

The yearly financial costs of the deaths and invalidism from this disease is worthy of consideration and has been estimated at \$72,000,000 for Canada; \$9,000,000,000 for the United States and \$12,000,000 for the State of Virginia. When we look the conditions squarely in the face, the relative proportion of the cause and effect is remarkable, to say the least. Because consumptives do not or will not so dispose of their expectorations as to prevent its gaining access to the mouths and lungs of others, the community must submit to seeing children orphaned, young men and women stricken in the prime and the State taxed financially. This is no exaggeration nor fanciful imagining. There is no one of us who has not seen instances among our friends and acquaintances and we are fortunate if the examples do not come nearer home. Any physician on his rounds can take you to a dozen houses where this disease is day by day bringing the household to realize that one of their number has been claimed, past recall, and perhaps their resources are being taxed beyond their power by the demands of food, medicines and other necessities, or else the hoping and waiting are over and they are left destitute.

Though our subject is prevention, we may perhaps suitably say a few words on the treatment of pulmonary tuberculosis, the most frequent manifestation of the disease. At present we have given over any immediate hope of an antitoxin or specific cure and must confine our efforts to putting the patient under the conditions most favorable to him and most inimicable to the disease. We further his nutrition by as large a quantity of nourishing food as he can assimilate, and keep him in the open air the greater part of the time. While there is fever he should stay in bed, otherwise moderate gentle exercise is beneficial. Such treatment ac-

according to the records of various sanitariums arrest the disease or cures absolutely 60 per cent. of early cases who otherwise would probably all succumb if poorly nourished and kept in confining dwellings. These, then, are the conditions facing us; we have reviewed the cause, and we know the methods of its action, now to combat and prevent it.

First and foremost for a condition which is so universal in its malign influences, a remedy must necessarily be equally general in its application—that is, the concerted action of the whole community is essential. If the legal authorities pass measures against public sentiment, they will either remain unenforced or be broken secretly. There is usually a feeling of elation derived from breaking or avoiding what is considered an unjust law. So if a measure prohibiting spitting in the streets had not public support men would take pleasure in avoiding it under the plea of their right as freemen to spit when, where and how they pleased. Or if a hospital or sanitarium was provided by the State or city, people would cry out at unnecessary extravagance. This position changes when the people realize that promiscuous spitting infects and ultimately kills hundreds of healthy people each year in all the cities of the country, and that the cost of a sanitarium or hospital is very small in comparison to the financial loss from the deaths and invalidism of tuberculosis. If the physicians alone combat the evil they are regarded as fanatical or crazy about the "germ theory," as it is sometimes spoken of. People say we have gotten along very well these past thousand years or so and now you try to scare us about improbable germs. Well, it has not been so long that we have forgotten, when many people were quite as satisfied with having the country devastated occasionally by smallpox or yellow fever, and thought it a great imposition to insist on vaccination and quarantine. We do not now believe that the rights of citizenship even in a republic give one the privilege of having smallpox or yellow fever in defiance of the safety of others. Every one must understand the condition and take an interest in overcoming it.

Where civil or professional influence alone is helpless, so in greater degree must be the futility of individual effort. Organization is, then, of the first importance, and an organization for the prevention of tuberculosis should include all representative classes among its members and

so be assured of universal support. There is a movement on foot in this country to form a National Society for the Prevention of Tuberculosis, and if each city and town has its local society in affiliation with the State Society, and all harmonious with the National organization, we are then in a position to face the problem. The old public fire departments undoubtedly saved many lives. It is estimated that the New York fire department in its present wonderful state of perfection saves 400 or 500 lives yearly, but the sub-department of Prevention of Tuberculosis of New York's Health Department has in its embryonic state of development and at first in the face of much popular and professional opposition reduced the yearly mortality in that city from tuberculosis by over 5,000 lives.

Such organizations should have definite objects in view according with the conditions and with the similar movements in other places; for instance, those which have already accomplished such wonders in New York, where the movement has been brought under Dr. Hermann Biggs to the highest place yet attained in any city.

We may roughly outline the methods under three headings, as follows:

1st. The subject should be given as great notoriety as possible, and kept continually in evidence. This is done by enlisting the aid of the newspapers, which should publish from time to time detailed statements of the phases of the conditions and results of what is being accomplished locally and in other sections; in this way the efforts will meet with active popular support instead of their passive acquiescence or active opposition. Tracts and pamphlets should be distributed (in New York they are written in nine languages) detailing the nature of the disease and calling attention to the methods of prevention and treatment.

In addition to this occasional public meetings where general attendance should be encouraged for the demonstration of facts relating to the disease, and to which distinguished specialists from other places could be invited to further interest and enlarge the scope of the work.

2nd. The streets and public buildings and conveyances should be kept clean and free from the sputum of consumptives. The laws as to spitting in places where the sputum will sooner or later gain access to the lungs of others should

be rigidly enforced. In cities where hundreds of consumptives are spitting the refuse from their diseased lungs in places where it soon either floats in the air or gains access to the dwellings, on the skirts of the women, or the boots of the men, naturally the disease flourishes. This is probably the most important aspect of the whole question, as none can protect themselves against the consumptive who is too ignorant or careless to regard the health and lives of his fellow citizens or the simplest dictates of decency. Public spittoons should be provided, as in Paris and other European cities, not only in buildings, but in the streets. If this were done and the opportunity thus offered taken advantage of, the receptacles could be regularly emptied and cleaned just as the lamps are lighted or the mail collected, and then when dust was raised by a wagon or by the sweepers it would not be scattering everywhere the germs of tuberculosis, nor would a lady out walking bring back a collection of sputum into her house. She must do it under present conditions, as unpleasant a fact as it may sound, but it does not render a condition any less harmful to recite it, and such a course is only justifiable when there is no remedy. Some people might be offended by the sight of spittoons in the street, yet it would seem a perverted sensibility, to say the least, which would in preference allow the walking in and breathing of promiscuous expectoration. A most striking illustration of the danger from this source has been just recently brought to light by an investigation in New York City. It had been noticed for some time that the street cleaners were very subject to tuberculosis. A careful examination discloses these facts: Over one-third of the whole force, which numbers 5,000 men, more or less advanced in consumption. The average life of the men is only four to five years, and each year about 500 die of tuberculosis. Yet every one of these men had been examined by the same physicians before entering the service and been pronounced healthy.

Owing to the results of the fire, Baltimore is at present in a very dusty condition, and there is a determined movement there to overcome this danger. To quote the Sun paper of that city: "The question which naturally arises is this: If the members of the street cleaning force, who are inured to breathing the dust, contract tuberculosis in such large numbers, how much greater will be the percentage of those who will

contract it among the ordinary citizens who are unaccustomed to inhaling dust in such quantities as they are now forced to do? The question is considered a serious one, and one which city officials would do well to consider seriously before taking the responsibility of subjecting the population of the city to such a danger as will be constantly menacing them during the coming summer." Yet many cities, especially in the South, from the material from which their streets are made, are dustier than Baltimore in its temporary disordered condition, and the danger is the same. People who have not the instinctive decency to refrain from spitting anywhere and everywhere should be made to observe the rights of others.

Sleeping cars must be a very fertile source of infection in the present unregulated method of carrying tubercular patients. Advanced consumptives travel continually between the North and South, and will cough all night in a birth or compartment which is closed during the day and reoccupied the next night by some healthy and unsuspecting traveller, or else one of those invalids will stand up in the middle of the car and have the porter brush the dust from his clothes into the faces of the other passengers. Such practices are an outrage to the public and demand attention.

3rd. Provision for the tuberculous poor so that they may receive proper attention themselves, and be taught and directed how to prevent infecting their families and others with the disease. This is of great importance—no one can realize how important until they have visited these cases in their homes and seen the terrible conditions of over-crowding in close rooms and of insufficient nourishment, which not only insures a fatal termination for the consumptive, but affords the very best opportunity for the contraction of the disease by the children, wives and husbands. As a matter of fact, over 40 per cent. of wives with tuberculous husbands succumb to the disease, and about 30 per cent. of the children contract the disease from their parents and die. The well-to-do consumptive ordinarily receives competent medical advice, and takes precautions in his own home, however careless he may be about spitting in the public streets, and he is promptly hurried off to the country or mountains, and if he goes soon enough usually wins back health and vigor.

The poor, however, if unaided, can neither get away themselves nor take proper precau-

tions in their own homes. It is easy enough to tell a man he should occupy a bed to himself and live in the open air, keep windows always open, and should take six to eight eggs a day, and three quarts of milk, but if he and his wife and five or six children are living in one room with little or no fire or covering, and existing on the pittance he can still earn, he can hardly be expected to carry out such directions. Yet this is actually the condition which frequently exists, and for want of means to combat them, not only must he die, but a certain proportion of his family must follow his way.

No one can worthily portray the miserable state of affairs the doctor finds on entering one of these households in winter. Windows are tightly closed and the cracks stopped up to retain the meagre warmth from the few coals mouldering in the fireplace. If the father be so fortunate as to have work, he has left the polluted air for 10 or 12 hours to earn the dollar which must support his family. The mother, perhaps, does not feel well enough to rise this morning and lies pale, and exhausted by a racking cough which is continually throwing into the air poison that if injected into a rabbit or guinea pig would kill it. Any of the dust lying around on furniture and floor will produce tuberculosis in one of the animals. Perhaps she does not speak of herself first, but tells you the oldest daughter's cough seems worse, and that she fears the little boy that was so bright is getting thin and peaked. Well, you lie to her and say "they are just a trifle run down, and that when she gets up again or the spring comes they will all get well."

It would be only brutal to tell her they will surely die unless they can substitute pure fresh air for the poisoned atmosphere of the little room, and can get milk, eggs and other nourishing food in abundance. This is not overdrawn nor an isolated case. Similar ones are within a stone's throw of any spot in every town or city. Yet tuberculosis, which is responsible for one-third of all deaths between 15 and 45, is a preventable disease, and in a majority of early cases curable.

An organization for the prevention of tuberculosis should, then, give special attention to enabling the infected poor to first protect their families, and second cure themselves. Primarily the cases must be made known to the authorities, and for this there should be notification by physicians of cases coming under

their care. In this way it is possible to reach those who cannot help themselves. Second, as it is all important for a case to have an early diagnosis there should be a public laboratory and bacteriologist who would make free sputum examination for pauper cases. The discovery of bacillus in the sputum of the patient is the only positive method of diagnosis, and as few of these cases can pay the \$5 usually charged for a microscopic examination, they remain undiagnosed until they are far gone and practically hopeless. The hope of a cure lies in an early diagnosis. There is no town so small that some one of its physicians could not be paid to devote a part of his time to this work.

3d. In larger towns there should be a definite place assigned as a dispensary for poor tuberculous patients; justice cannot be done tuberculous cases in a general dispensary. It merely needs a room or building, as there are always physicians willing to give their services for certain hours during each week to examine these cases and prescribe.

4th. The tuberculous poor who are reported by physicians or registered in the dispensary should be regularly visited in their homes by nurses or inspectors, preferably women, as they can come into more intimate and personal relations with this class of people than men. This part of the work can best be done in connection with the various district nurses associations. Too much cannot be said in praise of these noble women. They tactfully and gradually teach the poor people the nature of the malady, show them the danger of infection, and persuade them to observe precautions as to disposal of sputum, and to follow treatment towards their own cure. When these administrations are financially backed by the power to provide nourishing food, suitable clothing, sufficient fuel or change to hospital or sanitarium, their influence for good is tremendous. Therefore there should be funds for the supplying of these necessities as reported by the physicians or nurses.

5th. There should be some house or hospital where hopeless pauper cases might be removed when conditions permit so that they cease to be a source of danger to relations and community. At present there is no home or hospital in Virginia which will knowingly accept a tuberculous patient, and of course it would not be justice to the other patients in a general hospital to take such cases. Such a negligent course had until lately been followed in the Bellevue Hos-

pital, New York, and not only did many of the patients but half of the staff of house physicians contract the disease.

6th. Finally a farm or sanitarium should be provided in the country where early cases might go and live in the air, eating the milk and eggs which they themselves could produce, and here kill out the disease instead of being killed by it. All such a plan needs is a piece of ground, some tent-like coverings, and it should be nearly, if not entirely, self-supporting.

Here, then, is a condition the cause of one-seventh of all deaths, and of untold misery and distress which is preventable by measures which are definite and already proven potent.

A reporter recently approached Dr. Howard Kelly, the surgeon of Baltimore, to ask if doctors had discovered a cure for cancer. In part his answer was: "The public at large have no moral right to expect us to discover a cure for cancer until they apply the knowledge which we already have and by which we can absolutely prevent tuberculosis. An efficient board of health provided with the proper number of aids, and passage of sanitary laws, with clean houses, clean living and above all clean streets, would almost wipe out tuberculosis in a decade. If I had 50 people in a room, half with tuberculosis and the other half with cancer, and some one came to me and said, 'I have discovered how you can cure those 25 who have consumption,' and I refused to make use of their measures, would I have any right to go to that same man and demand a cure for the 25 who had cancer?"

No fanciful theories are being proposed nor any untried methods attempted. The condition is fully recognized and well understood. The remedy has proved its efficiency by analogy in other diseases, and by practical application in this one; and furthermore, the good results already attained have far exceeded any financial outlay or individual effort. No question could appeal more strongly to civil welfare, to professional interest, or to individual philanthropy.

Surgeons with Isthmian Canal Commission.

Surgeons Wm. C. Gorgas and Louis A. La Garde, of the U. S. Army, and J. W. Ross and L. W. Spratling, of the Navy, have been ordered on duty with the above commission.

ADENOIDS IN CHILDREN—A PLEA FOR EARLY RECOGNITION AND TREATMENT.*

By R. J. TEAGUE, M. D., Roxboro, N. C.

There is no pathological condition met with in childhood that causes as much suffering and misery as enlarged adenoids, and at the same time it is the most neglected. Osler says that in spite of the thorough ventilation of the subject by specialists, practitioners do not appear to have grasped as yet the full importance of this disease. It is a subject which should interest the general practitioner as much, or even more than the specialist, as it is he who is first consulted.

We are indebted to Wilhelm Meyer, of Copenhagen, for having first brought the subject, in its clinical and pathological aspects, before the medical world, in 1868. Holt says that the enlarged adenoid is the source of more discomfort and the origin of more minor ailments than any other pathological condition in childhood.

In order to better understand the pathological conditions attending enlarged adenoids, we should not lose sight of the fact that the mucous membranes of the Eustachian tubes and middle ear, the mucous membrane of the nose and pharynx, are all continuous with the post nasal space. Normally there are groups of lymphoid tissues or glands in the vault and posterior wall of the pharynx. This embryonic or lymphoid tissue is excited to hypertrophy under slight irritation during childhood. It may consist "of one large mass with broad base completely filling up the vault of the pharynx, rendering nasal respiration impossible, and by pressing on one or both Eustachian tubes interferes with hearing; or, in other cases the growth may extend down the posterior wall of the pharynx, to such an extent as to be seen when the tongue is depressed, or the palate is retracted. In young children the tissue is usually soft and friable, very vascular and spongy, easily breaks down and bleeds freely. In older children and adults it is apt to be harder and fibrous.

In some instances they are lobulated and warty in appearance, quite friable and easily removed. On the other hand the fibrous variety is firm in texture, has a stronger attachment and is removed with more or less difficulty. Chronic hypertrophic rhinitis, follicular pharyngitis and chronic enlargement of the faucial tonsils are

*Read before the North Carolina Medical Society, at Raleigh, N. C., May 25, 1904.

intimately and almost invariably associated with cases of enlarged adenoids.

Etiology.—That condition known as lymphatism or lymphatic diathesis is responsible for most cases of adenoids. In many instances it seems to be hereditary. In some families every member including father and mother have enlarged adenoids. Delicate and rachitic children are more disposed to have it. Children of consumptive parents are specially liable. It is more prevalent in a cold damp changeable climate. It sometimes follows measles, diphtheria and scarlet fever. Influenza is a fruitful source, and oft repeated ordinary coryza sometimes causes it, and in other cases is caused by it. Some cases are congenital, and most cases begin to show symptoms about the second year of life, though no age is exempt. Many cases begin to show symptoms about puberty, while many others begin to atrophy and pass away at this age, and in nearly every case they leave the mucous membranes of the pharynx, naso-pharynx, Eustachian tube and the nose, in a crippled and abnormal condition, in which condition treatment can at best only palliate. Adenoids in adults is more frequently met with than is generally supposed. I have had in my limited practice quite a number of adult patients, in some of whom the growth was so large as to completely fill up the naso-pharynx, rendering normal respiration impossible. According to some observers it is more commonly met with in females. The Jewish people are peculiarly liable to it.

Symptoms.—Adenoid subjects do not as a rule breathe well through their nose. In many, nasal respiration is impossible. They are known as mouth breathers. The voice is changed in character and becomes the nasal or wooden voice, as it is called. There is an inability to pronounce the nasal consonants "M" and "N." Stuttering is frequently observed. In the very young, the symptoms are more of a chronic catarrhal nature, with a constant discharge from the nose. In older ones it is more of the obstructed variety. One of the most characteristic and at the same time striking objective symptoms of adenoids is the facial expression. The mouth is opened and the cheek flattened, the bridge of the nose is wide and flat, the inner canthi are pulled down and the eyelids are drooped. The root of the nose is puffy and oedematous. The face has a stupid and sad expression which no other form of nasal stenosis

gives rise to. The pharynx may have a nodular appearance, and in chronic cases there may be a dry form of pharyngitis, (pharyngitis sicca) due to the fact that the air is not properly warmed, moistened and filtered, and consequently it abstracts moisture from the mucous membrane of the pharynx, the constant irritation of which causes dry catarrh. Mental dullness is in most cases well marked. Children cannot in this condition concentrate their minds; they learn slowly. In cases of long standing they are as dull and idiotic as they look. The eyes are dull and expressionless. This condition is in part due to sluggish lymph-circulation in the base of the brain. Nocturnal enuresis is very often associated with post nasal obstruction.

The sleep is disturbed; the child breathes through the mouth and snores, rolls and tosses in bed, the throat becomes dry, the child wakes up and calls for water. Night terrors are common and many nervous phenomena manifest themselves such as laryngismus stridulus, asthma, and mild convulsions in some cases. The child awakes in the morning dull and unrefreshed, but brightens up as the day advances. Very often there is a dry, hacking, troublesome cough, which does not yield to medication. Chorea is a frequent symptom of adenoids. Some of the most important and at the same time most common symptoms are ear troubles of various kinds. In Swinburns' clinic twenty-seven per cent. had middle ear disease. Wokes thinks that in England twenty per cent. had diseases of the ear. Meyer in his original 102 cases found that seventy per cent. had aural complications. I think a conservative estimate in this country is sixty per cent. of all persons who have enlarged adenoids have more or less interference with hearing. The oft repeated earaches of childhood mean adenoids pressing on the Eustachian tubes in most cases. Bacon, one of the best otologists in this country, says that acute catarrhal otitis media is often due to enlarged adenoids. A very large per cent. of deaf mutes have adenoids. In many instances we find perforated or retracted drums in children which shows that the middle ear has shared in the pathological process. A much larger number of cases of meningitis have their origin in chronic suppurative otitis media than is generally supposed. From the middle ear the infection passes to the mastoid cells, causing acute mastoiditis and ab-

cess, or a chronic suppurative process is established which finally passes to the brain causing meningitis, abscess and death.

For the purpose of this paper we will say that the function of the nose is respiration. First, a passage way for the air in breathing. Second, warming, moistening and filtering the inspired air. Normal respiration should take place through the nose. It has been proven that the air in normal respiration passes directly upward from the nostrils to the superior meatuses, whence it falls toward the choana or posterior opening of the nose into the pharynx. The main currents of the air pass into the nasopharynx at the highest choanal arches, or superior meatuses—to a less degree in the middle, and still less in the inferior meatuses. Thus we see that a small enlargement of the adenoid tissue even slightly encroaching upon these openings interferes with normal respiration. The interior of the nose is completely lined with mucous membrane richly supplied with blood vessels, especially the lower and the posterior ends of all the turbinates, a part of whose function it is to warm and moisten the air. When the temperature is cold the turbinate swells, the vascular tissue is filled with warm blood which raises the cold air to a higher degree of temperature.

According to some observers the inspired air receives from twenty to forty degrees of heat and becomes nearly saturated with moisture in its passage through the nose. It is thus rendered suitable for the interchange of oxygen and carbonic acid gas in the lungs. The conditions are present for a perfect osmosis, a warm fluid on one side of a membrane and warm moist air on the other. Bosworth has calculated that about a pint of water is secreted by the structures entering into the nose together with the tears in twenty-four hours for the purpose of moistening the inspired air.

The functions of the nose in filtering out germs and dust is almost perfect, which is a great protection to the delicate pulmonary alveola.

Let us look for a moment at the effect of impaired nasal respiration. The air improperly warmed, moistened, and filtered, passes into the lower air tract. The mucous membrane of the larynx, trachæa and bronchi are irritated and manifest a catarrhal tendency. The epithelial cells lining the air vesicles (normally only one layer) becomes irritated also. The cells at first

swell and then pile up until the lining is from two to twelve layers deep. The truthfulness of this statement has been demonstrated by Ballenger, of Chicago, by microscopic examination of air vesicles of guinea pigs that had breathed for a long time dry dust laden atmosphere. Because of this thickening a deficient amount of oxygen is absorbed by the blood. Faulty oxygenation of the tissues results and uric acid is freely formed and circulates through the system. The thickened vesicle walls prevents or retards the proper elimination of carbonic acid gas and other waste products, and allows it to accumulate in the blood in excess. When it is thus in excess it poisons the leucocytes and thereby impairs their functions.

If we but pause and think for a moment we shall readily understand why these children are so poorly developed, why they have barrel-shaped chests and pigeon breasts; why they have chronic naso-pharyngeal catarrhs; why they have chronic bronchitis; why they fall a prey so readily to disease; why they later in life make up such a large per cent. of those who fill the consumptive's grave.

And let me say right here that by early removal the child will be born anew, as it were, and put in the best condition, other surroundings being equal, for a perfect physical development and go a long way towards eradicating the dread disease, consumption, of which so much is being said and written about preventive measures, isolation, etc. My plea is to put these children in a position to let nature fight their battles for them, and with a perfect physical development stamp out as far as may be these predisposing factors.

As previously stated hypertrophy of the turbinates and tonsils are intimately associated with enlarged adenoids. The abnormal tissues furnish a lodgment and a good culture field for germs of various kinds which readily pass into the Eustachian tubes, thence into the middle ear and mastoid cells. In the nasal chambers they may pass into the various accessory sinuses causing antrum abscess, ethmoid and frontal sinus disease with all the consequences attending those pathological conditions, rendering the patient's life miserable.

The enlarged adenoid presses upon the Eustachian tube interfering with the proper ventilation of the tube and tympanic cavity. The retained air becomes rarified and finally absorbed. This condition produces hyperemia which ends

in suppuration, middle ear abscess, or a chronic catarrhal condition with thickened mucous membranes which finally obey the inevitable law governing all such pathological conditions, namely: shrinking and contracting of the thickened membrane. Then we have in the wake of this process a thin, white and retracted drum membrane. The ossicles are bound down more or less firmly. The mucous membrane of the ear shares in the process as does that also of the Eustachian tube. The ear is robbed of its normal secretion. Tinnitus is sometimes present to a distressing degree, and permanent dullness of hearing results.

In the great majority of these cases we have warning in time to prevent this condition, in the repeated head colds and earaches of children, which unfortunately are looked upon by the family and sometimes by the physician as a necessary evil of childhood; but if rightly interpreted they call for the removal of the offending adenoid which is pressing upon the Eustachian tube. I also believe the above pathological condition is directly responsible for most cases of atrophic rhinitis.

Diagnosis.—In older children is readily made with the rhinoscopic mirror. In children under fourteen years of age, it is best done with the index finger when the location and size of the vegetations can be readily mapped out. The finger should be protected by a metal shield or a turn or two of adhesive plaster to prevent chafing of the fingers against the child's teeth. In nervous and excitable children it is sometimes best to anesthetize them.

Treatment.—I shall speak of treatment in a general way and refer to works on surgery for the minor details and technique of the operation.

In my opinion the only treatment worthy of the name is early, thorough and complete removal, before the chronic pathological processes in the adenoid and surrounding tissues have commenced, as afterwards any line of treatment will be only palliative at best. The position of the patient is largely one of personal preference. In small children I prefer to have them lying on the back with the head hanging over the edge of a table supported in the hands of an assistant. In this position blood does not enter the wind-pipe. A mouth gag is placed in the left side of the mouth. The index finger of the right hand is passed up behind the soft palate into the vault of the pharynx, and the location and size of the vegetation is thus mapped out. A Gottstine's curette is inserted sidewise, rotated and ele-

vated; then make a single sweep from before backward well down on the posterior pharyngeal wall. Then similar strokes are made on either side, being careful not to wound the Eustachian tubes. The curette should be carried well up close to the choanal so as to leave no fragments of tissue in this region. The index finger is again inserted, and the finger nail breaks down the remaining fragments of the adenoid tissue. The throat should be well mopped or sponged out and the patient kept in bed for two or three days. For these children primary ether anesthesia is best and safest. For larger children and adults, the upright or sitting position, and cocaine anesthesia is preferable. After-treatment is very little. Occasionally sponge the throat out and spray the nose and throat with Dobell's or other antiseptic solutions. Plenty of fresh air, with the syrup of the iodide of iron and cod liver oil should be given in all cases. Bleeding is often very profuse for a few seconds, but in most cases it stops readily. If it persists the rhinopharynx may be packed with strips of gauze soaked in peroxide of hydrogen.

The operation should be done whenever nasal respiration is interfered with or ear symptoms are developed, before chronic changes in the tissue commence, as then treatment cannot eradicate but only palliate, and the patient will go through life with a post-nasal catarrh, or some other pathological condition of the organs of respiration or of hearing. Sometimes they recur and require removal the second time.

One contra-indication for operation is acute inflammation of the middle ear. The operation should be deferred until acute symptoms have subsided.

DIGITALIS AS A THERAPEUTIC AGENT.*

By I. G. ANTHOINE, M. D., Nashua, N. H.

The present is so full of demands, activities, modern methods and new remedies, that the lessons learned from past experiences are too often overlooked or forgotten, and the old remedies upon which we used to rely are abandoned for the new. This is right if the new give better results than the old, without unfavorable reaction. New methods are frequently only advance steps

*Original abstract of a paper read before the New Hampshire State Medical Association, held at Concord, N. H. May 20, 1904.

of the old—but in adopting the new, let us not forget our past experiences and the good to be derived therefrom.

I selected this subject because a large majority of the papers read before this society are of a surgical nature—and because digitalis is a drug that can be given to great advantage in such a variety of pathological conditions.

Its active principles are readily absorbed, reducing the rate of the heart's action, lengthening the period between the heart beats, thus allowing more time for the heart cavities to become more completely filled; and by its action on the muscular fibre force is given to the organ to more thoroughly empty its chambers. Added to this, its contractile effect upon the arterioles throughout the body increases arterial tension; and this arterial tension, brought about in this particular way, is one of the most important effects of digitalis.

By this action upon the arterioles as well as upon the heart through the vaso-motor nerves, every organ of the body is beneficially affected. For instance, after all debilitating diseases we get a more or less flabby condition of the walls of the heart thus rendering it incompetent to propel the blood thoroughly throughout the system. Consequently the larger veins about the stomach, liver, bowels and all of the internal organs become loaded with blood, and thus retard the action of those organs. Digitalis in maximum doses at long intervals will in a few days empty those engorged veins and restore the normal equilibrium of the circulation and the physiological action of all the organs of the body.

Digitalis as we find it in many of the drug stores, is very unreliable—much of it indeed inert; hence the disappointments and lack of confidence in the remedy. The English leaves from the wild plants of the second year's growth, gathered at just the right time, while in bloom, should be used and these only. Cultivated digitalis is so unreliable that it ought never to be used. If we are thus careful in our selection of the drug we shall not be disappointed in its therapeutic effect.

In pneumonia, when the right side of the heart is laboring, pumping against the loaded veins in the pulmonary circulation, and the glued condition of the air cells which constitute hepatization, digitalis given in connection with some remedy to open up the capillary circulation (like belladonna, atropine, nitroglycerine, or

calomel), is the best remedy at our command. In such cases, it should be given steadily and persistently, together with a vaso-dilator, till the pulmonary circulation is cleared up and the dyspnea relieved.

Digitalis is almost never needed during the first stage of pneumonia—on the contrary it might do harm if given thus early, by needlessly stimulating and overtaxing the organ which should be carefully kept at its best for the great struggle it must encounter during the second stage of the disease.

It has been considered by some that we have in digitalis a remedy capable of aborting pneumonia if given at the very onset, by the increased power that it gives to the heart, propelling the blood through the lung tissue with such force as to prevent stasis and congestion—but we seldom see a patient at this stage, and even if we do it is so difficult to make a positive diagnosis that if we gave it a trial and if the disease was apparently aborted we might have a doubt whether or not it really was pneumonia.

The infusion may be given subcutaneously to great advantage when it is not tolerated by the stomach, especially in those cases in which the stomach and all the internal organs are engorged. A dram or more of the infusion may be thus given every two or three hours as the symptoms may indicate.

The pulse in pneumonia is an uncertain guide for the use of digitalis. While the pulse may be regular and the volume good the right heart may be becoming exhausted and dilated from overwork, struggling to force the blood through a lung loaded with an inflammatory exudate.

The condition of the right heart at this time can be well studied by placing the ear or the stethoscope at the junction of the sternum and the second left intercostal space, which is exactly over the pulmonary semilunar valves. If the second sound is feeble, digitalis is indicated even though the pulse may be good.

Just here, if I may be allowed to digress, comes an opportunity to apply a remedy, long since discarded, which will materially aid digitalis in its work: abandon the newer idea of "bleed the patient into his own vessels," and open a vein and give the heart immediate relief. How absurd to "bleed the patient into his own vessels," at this moment when the veins are already overloaded and the right heart dilated!

It is too late at this stage to give *veratrum viride* when the respirations are from 40 to 60

per minute with purple lips and anxious countenance. To resort to venesection now is the chief remedy. Then give a vaso-dilator and follow in 20 minutes with 15 to 30 drops of tincture of digitalis and the good effect will promptly be observed in reduced respiration and pulse; the anxious face and all the alarming symptoms becoming modified. The left heart on which the pulse depends, is not overtaxed at this stage of the disease, which fact accounts for the pulse being an unreliable guide for the use of digitalis in pneumonia; still you have your guide, a most certain one, in the use of the stethoscope. In valvular disease of the heart, digitalis is the great remedy and should be given in full doses at intervals of 8 to 12 hours.

Any irregular action of the heart is relieved by digitalis, because all irregular actions of this organ involve waste of power, and too frequent contraction does the same. Digitalis will generally regulate both.

In endocarditis, which so frequently follows articular rheumatism, digitalis is a most excellent remedy. Dropsy, resulting from heart disease or from a feeble heart such as we often find in old people, is quickly relieved by digitalis. In these cases the infusion of the English leaves is the better preparation and mercury in some form, (I prefer calomel) is an excellent synergist because it is a good vaso-dilator.

Digitalis by its mechanical action on the heart assists in restoring the mechanical balance of the circulation which has been disarranged by the heart lesion, which lesion has caused stasis of blood in the veins and a deficiency of blood in the arteries. In this condition of the system digitalis will in a short time unload the engorged veins of the stomach, liver and intestines which condition has handicapped these organs.

The appetite is then very soon restored and normal digestion ensues; the dyspnoea also disappears, the hacking cough is relieved, the action of the kidneys renewed, and the dropsy and other symptoms disappear.

Masonic Temple.

Dr. George Ben Johnston, Richmond, Va.,

Was elected President of the American Surgical Association during its twenty-fourth annual session held at St. Louis, Mo., June 16-17, 1904.

A Preliminary Communication on the Surgical Aspects of Typhoid Fever, with Special Reference to Intestinal Hemorrhage.*

By M. E. GARDNER, M. D., Morgantown, W. Va.

In dealing with a subject so broad in its scope and so diversified in its phenomena as typhoid fever, I concluded that a discussion would be vastly more profitable to the general practitioner were it limited to some phase of the title of this brief communication. To enter into a lengthy discussion of the various surgical complications of typhoid fever would require much time, and would also defeat the object of this paper, which is to deal mainly with intestinal hemorrhage complicating typhoid fever from a surgical standpoint.

I have for several years entertained the idea that this condition is no less a surgical affection than intestinal perforation, and I therefore quote Dr. J. C. Wilson, *Philadelphia Medical Times*, December 11, 1886, as equally applicable to hemorrhage as to perforation. Dr. Wilson said, in speaking of the advisability of surgical intervention for perforation: "The courage to perform laparotomy at this time will come of the knowledge that the only alternative is the patient's death."

The mortality from surgical repair of a perforated bowel as a result of typhoid fever is about 70 per cent. The mortality of unoperated cases is about 95 per cent. to 100 per cent. This gives a sufficient margin to encourage the procedure in perforation. Statistics teach us that perforation occurs in about 3 per cent. of all cases of typhoid fever, and that it causes death in from 6 per cent. to 7 per cent. of all fatal cases of the disease.

Graves and Trousseau do not consider hemorrhage a very fatal complication, though they do not quote statistics to make good their claim. Osler, on the other hand, says that intestinal hemorrhage is a dangerous complication, and that it occurs in 3 per cent. to 5 per cent. of all typhoid cases. He mentions the fact that statistics show that about 50 per cent. of these prove fatal. In cases of free and profuse hemorrhage the mortality would probably reach 95 per cent.

In comparing these two fatal abdominal complications, we find them similar in symptoms also; but when we consider them pathologically we have two very different pictures. As the

*Read before the Medical Society of West Virginia during its session held May, 1904.

symptoms and pathological conditions of these complications are understood, and as much has been written concerning the surgery of perforation, I shall briefly outline the treatment of intestinal hemorrhage complicating typhoid fever.

A consideration of the treatment of this subject includes an inquiry into:

1. The causes of intestinal hemorrhage.
2. Some general disturbances that follow.
3. Remedial measures.

The etiological factors giving rise to hemorrhage may be:

1. Mechanical.
2. Neurotic.

1. The peculiar anatomy of the intestines, with their many convolutions, is a *mechanical cause* of intestinal hemorrhage. The ileum (which is the seat of the hemorrhage in about 99 per cent. of the cases) is narrower, its coats thinner, and it is more convoluted than the rest of the small intestine: a given length weighs less than the same length of jejunum or duodenum. It receives its blood supply directly from the superior mesenteric artery—a large branch given off from the fore part of the aorta—and consequently subjected to considerable blood pressure. In view of this anatomical defect, if I may be permitted to call it such, we can readily understand why a mass of fecal matter from the jejunum entering the ileum, an organ of smaller and weaker dimensions, could easily dislodge the slough of a healing ulcer and thus precipitate a severe hemorrhage. We can also understand how a purgative, even if it did nothing more than increase peristalsis, could predispose to hemorrhage.

Having pointed out some etiological elements concerned in the production of hemorrhage, I shall next mention some of the disturbing consequences, chief among which is shock, which in its broad sense includes the symptoms of hemorrhage. By this I mean that hemorrhage is a concomitant symptom of shock, presenting many symptoms in common. Some special features resulting from hemorrhage as distinct from shock are, an anxious but intelligent facial expression, extreme restlessness, recognized by tossing of the arms, and frequent attacks of syncope, in the intervals of which the patient *regains consciousness*. This does not occur in shock.

2. *Neurotic causes*.—The great solar plexus is the source of nerve supply to the abdominal viscera, controlling circulation and intestinal

peristalsis. You are all familiar with certain reflexes and their influences upon the circulation, therefore, is it not likely that such nervous influences contribute no little toward the production of hemorrhage?

3. *Remedial measures*.—Having a fair knowledge of the above conditions, and having done all we could to prevent the accident, we come now to a case of profuse free hemorrhage, the patient with a subnormal temperature and profoundly collapsed from loss of blood—symptoms which would indicate the loss of considerable volume of blood. We are thus brought face to face with two perplexing conditions, and they must be met promptly or we might just as well give a fatal prognosis. The conditions to which I refer are:

1. To restore the loss of blood.
2. To prevent any further loss of blood.

Are there any constitutional measures we can address to the relief or conservation of the remaining circulatory medium, and finally to the speedy restoration of the volume of blood lost? Are any of the remedies or measures detailed for the treatment of hemorrhage or shock as laid down in our works on Practice of Medicine called for? To both of the questions I must answer in the negative.

Surgical treatment.—The surgical treatment would demand, as the surgical axiom puts it, to “cut down and tie the bleeding vessel” in the presence of hemorrhage of a degree sufficient to cause grave constitutional symptoms. The more profound the shock the more imperative is this demand for its immediate arrest. We read in the early history of gynecological surgery that one of the most perplexing problems was the control of hemorrhage, and the earlier mortality tables would to-day exhibit an alarmingly high percentage of deaths from hemorrhage. So adequate are the present resources for the control of hemorrhage that this accident seldom occurs, and does not give the operator any concern.

Why, then, does this not apply to hemorrhage occurring in typhoid fever? So far as I am informed, no improvement in the management of this fatal complication has been made since the recognition of the disease itself.

The profession is slow to learn that hemorrhage occurring in typhoid fever is not a condition to be treated by drugs, and that all cases of free hemorrhage resultant from typhoid should demand the careful consideration of a skillful surgeon.

The greatest difficulty, I presume, and one of the chief reasons why laparotomies have not been undertaken to arrest bleeding, especially in all well-equipped hospitals, would be the inability of the surgeon to secure the bleeding vessel, though I cannot understand why it would be more difficult than to find intestinal hemorrhage due to causes other than typhoid fever. In the latter case you would expect to find the bleeding vessel anywhere from the stomach to the anal orifice, while in typhoid you would find it in the ileum. It seems to me that in a free hemorrhage where blood has poured from the bowel it should not be difficult to find the bleeding vessel. It certainly would not be difficult where the hemorrhage is associated with perforation, as is not infrequently the case.

Having opened the abdomen and exposed the intestines we proceed to find the seat of hemorrhage by a careful and systematic search of the intestine, of course under the most rigid antiseptic precautions. Failing thus to find the bleeding point I should not hesitate to call into service the exploring needle, as recommended in cases of brain abscess. As a matter of course, the needle must be rendered perfectly aseptic before the puncture is made. If no blood is withdrawn different sites are explored in the same manner until the bleeding point is located. Finally, the bleeding point having been located, it should be brought under immediate control by some of the various expedients of hemostasis. To this end, perhaps, one of the most valuable of our hemostatic measures would be the electrohemostatic forceps of our late Dr. Skene, of Brooklyn.

After the bleeding vessel has been tied or at least controlled, the next step is to restore the loss, and the amount of saline infusion should correspond with the loss of blood sustained during the hemorrhage. If intravenous infusion is not demanded, the most effective way of restoring the loss in the volume of blood, as well as to overcome the shock, is enteroclysis, performed as follows: Place the patient upon his side, with the hips elevated and the legs flexed, allowing from one quart to half a gallon of the hot salt solution to gradually flow into the colon. The temperature of the fluid should be 110 to 115° F. The only precaution required is not to allow the fluid to flow into the colon too rapidly or it will be expelled. This can be obviated by having the fountain syringe elevated slightly above the long flexible tubing previously inserted. The

colon is powerfully absorbent and the heat effectively overcomes the shock as well.

To collate, I would say: 1. Intestinal hemorrhage is a surgical affection. 2. The causes of the hemorrhage are (a) mechanical; (b) neurotic. 3. Sloughing of an ulcer is the most frequent causal factor. 4. Sequelæ are shock, collapse, unconsciousness, death. 5. The treatment is surgical and should be addressed to the cause. 6. Intravenous infusion of hot saline solution or enteroclysis are of inestimable value.

Editorial.

Reorganization of the University College of Medicine, Richmod, Va.

The first meeting of the new Board of Trustees of the University College of Medicine was held on June 16th, 1904. The new charter, which was recently granted by the Corporation Commission giving enlarged powers and privileges to the Board, was adopted, and other matters looking to the improvement and development of the institution were discussed and formulated.

The charter under which the University College of Medicine will henceforth operate places the management of this institution under a Board of Trustees selected from the States of Virginia, North Carolina, West Virginia and Florida, and provides for a President of the Faculty, a Secretary, a Dean for each of the departments of Medicine, Dentistry and Pharmacy, and a Proctor, together with an Advisory Board of business men, who will assist in its management and development.

This movement is in line with the progressive policy that has marked the history of this institution, and it is believed that a wider field for usefulness will be given than under the auspices of a private stock company, as it was heretofore managed.

The Board of Trustees permanently organized by electing Hon. R. T. Barton, a prominent lawyer and banker of Winchester, Va., as Chairman, and Judge Geo. L. Christian, of Richmond, Va., as Vice-Chairman, Dr. J. Allison Hodges as President, and Dr. Paulus A. Irving as Secretary and Treasurer.

The Deans of the different departments and the Proctor will be elected subsequently by their respective faculties.

An Advisory Committee was elected, consisting of Mr. L. Z. Morris, Judge Geo. L. Christian, Mr. E. D. Taylor, Dr. J. A. White and Bishop Geo. W. Peterkin.

This institution considers itself fortunate in commanding the services of such distinguished men as compose the Board of Trustees, namely: Hon. Jno. Goode, Washington, D. C.; Col. T. S. Kenan, Raleigh, N. C.; Hon. R. T. Barton, Winchester, Va.; Rt. Rev. Geo. W. Peterkin, Charleston, W. Va.; Dr. Egbert W. Smith, Greensboro, N. C.; Gov. W. S. Jennings, Tallahassee, Fla.; Dr. Robert L. Payne, Norfolk, Va.; Mr. Jno. P. Branch, Judge Geo. L. Christian, Messrs. T. A. Miller, E. D. Taylor, L. Z. Morris, Drs. Hugh M. Taylor, Stuart McGuire, Landon B. Edwards, Wm. S. Gordon, J. A. White, Edward McGuire, Jacob Michaux, P. A. Irving, J. Allison Hodges, M. D. Hoge, Jr., L. M. Cowardin, Jno. Dunn and Wm. R. Jones, of this city.

The Tabernacle Infirmary, Atlanta, Ga.,

Is adding sixteen rooms to their present building. It will be equipped with modern conveniences for aseptic surgical work. Contagious and incurable diseases will not be accepted. The institution is non-sectarian, and any reputable physician can place patients there and retain control. The Infirmary has an able staff of physicians who will receive and treat free a limited number of charity cases. An intern capable of doing bacteriological, pathological and laboratory work is desired. Dr. R. R. Kime is chairman of the staff.

The Hygeia Hospital, Richmond, Va.,

The private sanatorium of Dr. J. Allison Hodges, will be closed this year during July and August for the purposes of enlargement. This institution was established six months ago for the treatment of medical cases, and has had a most successful career. Experience has shown that more space was required, and in a short time a large addition will be made to the present building.

The Statue of Dr. Benjamin Rush,

A gift to the United States government by the American Medical Association, was accepted by President Roosevelt on June 11th, in commemoration of his work as a statesman, signer of the Declaration of Independence, and

eminent physician. This statue is an heroic bronze figure, erected in the grounds of the United States Naval Museum, at Washington, D. C.

The Medical Examining Board of Virginia

Has been in session in this city during this week, with an unusually large list of applicants for examination. The attendance of members of the Board was large. As soon as the marks of the papers presented can be received from the examiners and compiled by the Secretary, Dr. R. S. Martin, of Stuart, Va., the report will appear as usual in this journal.

Ewell's Spa Water.

We are authorized to say to each new subscriber and to each old subscriber who pays his twelve months' subscription a case of Ewell Spa Water will be sent free until January 1, 1905, *provided* the party will pay the low express charges and return bottles and case when empty. See advertisement in this journal.

Journal of the Mississippi State Medical Association

Is the new name of the *Mississippi Medical Record*, which has recently been made the official organ of the Mississippi State Medical Association and its component societies.

The Walter Reed Memorial Association,

Having for its purpose the securing of funds for the erection in Washington of a monument to the late Walter Reed, Major and Surgeon, U. S. Army, has recently been incorporated.

Obituary Record.

Dr. Edward William Parkins, Bramwell, W. Va.

Was killed June 18, 1904, by being thrown from a buggy in a runaway accident. He was chief surgeon at the coal mines at Bramwell. He was born at Ft. Defiance, Va., 1875. After receiving academic education from Augusta Military Academy at Staunton, Va., he graduated as Doctor of Medicine from the Medical College of Virginia 1901, although he passed Medical Examining Board of Virginia 1900. Just prior to removal to West Virginia, he was elected a Fellow of the Medical Society of Virginia.

THE Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

Vol. 9, No. 7.
Whole No. 199.

RICHMOND, VA., JULY 8, 1904.

\$2.00 a Year.
10 Cents a Copy.

PROGRESS IN AURAL AND OPHTHALMIC THERAPEUTICS.*

By D. B. St. J. ROOSA, M. D., LL D., New York, N. Y.,

Professor of Diseases of the Eye and Ear in the New York Post-Graduate Medical School.

AURAL THERAPEUTICS.

It can hardly be said that any very striking progress is being made in aural therapeutics at this moment. The drugs used in the ear, either in the external auditory canal, the Eustachian tube, or the tympanum, for the cure of swelling or suppuration, have not been marked by many changes, except that *argyrol* is, in many instances, taking the place formerly held by silver nitrate.

The methods of operation for mastoid disease, infections of the jugular vein, and for the radical cure of chronic suppurative otitis are being perfected. Possibly in the matter of *mastoid disease*, which is thought to be more prevalent in this country and abroad since the epidemics of grip, no better results have been attained than twenty-five years ago when only urgent and pre-eminently fit cases were operated upon. But since aseptic methods of treatment have been everywhere adopted, operations are very properly performed upon cases which were formerly abandoned to their fate. The after-treatment is now simplified and perfected. Formerly the opening in the mastoid was packed with gauze for drainage, and a poultice to favor continued suppuration was sometimes added to it. The greatest progress has been made in endeavoring to secure healing by first intention in part and by a rapid and healthy granular process for the remainder.

As to the *Stacke radical operation* for the cure of chronic suppuration of the middle ear, many obstacles are met to the general employment and complete success of this method. It is possibly undertaken with too great facility.

*Read before the American Therapeutical Society, June 3rd, 1904.

It is an operation not without danger, and it is not always certain that the end of completely removing the suppurative process will be always attained, as the result of the attempt to convert the tympanum and auditory canal into one cavity, lined by cicatricial tissue. There is no doubt in the mind of the present speaker, that operations for mastoid disease and a radical cure of chronic suppuration, have far outgrown the general professional knowledge of the proper treatment for acute inflammation of the middle ear. The principles of treatment—which were such an immense advance on the centuries of neglect—laid down by Wilde, Hinton, Troeltsch and Politzer are sometimes lost sight of, although the results of neglected suppurative aural disease are treated with a very much increased skill and success. If an acute otitis media be seen at all early, and the treatment in children and adults of leeching and irrigation, with a stay in bed and in a room with equable temperature, be diligently and thoroughly practiced, the number of cases requiring opening of the mastoid will be greatly diminished. But any one who will take a cursory look at the later aural treatises, and read the transactions of aural societies, will see that there is a great poverty of instruction and relation of experience as regards the treatment of acute inflammations of the Eustachian tube, the tympanum and the mastoid. It should not be forgotten that all these inflammations run into each other, and that no line of demarcation can, as a rule, be drawn between them. There is no part of the practice of medicine that will more rapidly and thoroughly respond to treatment than acute aural disease when managed by a stay in bed, in a warm room, with local blood-letting and irrigation, assisted by continuous applications over the mastoid of such a fluid as the acetic-tartrate of alum.

In the same way, the man who learns how to thoroughly clean a *chronic* suppuration of the

tympanum, and finally teaches it to his patients, will in very many cases cause the discharge of pus to cease without operation; and in others, where it might be dangerous to interfere, he will enable the patient to keep the ear in an aseptic condition, which, if thoroughly done, will obviate the necessity of an operation, for the latter, although if successful it may end the discharge forever, will generally destroy the remaining hearing. I have heard it said that one must operate very early in cases of mastoid hyperæmia and congestion, because, in certain cases, a meningitis supervened within a very few days of the initial trouble, which might have been avoided by operative interference. Before the drumhead is bulging and the mastoid tender, leeches will do as much to prevent the occurrence of meningitis as will any opening into the bone, which has not yet begun to suppurate. It is a very sad fact, however, that in a very small proportion of cases an acute otitis media—so thin is the roof of bone separating the tympanum from the dura mater—is a meningitis from the start, as Troeltsch long since observed; and there are also cases where the mastoid bone breaks down at a very early period, but usually there is ample opportunity to be sure before operating that the mastoid is softening or suppurating.

My experience of last winter, both in hospital and private practice, has only confirmed my formerly expressed opinions, that want of early and radical treatment for acute otitis media is the chief cause of the necessity for mastoid operations. In quite a number of cases where I had deemed it almost certain that I should be called upon to open the mastoid, when the cases were sent me for that purpose, where the process was sensitive, painful and tender, with high general temperature, I have seen the urgent symptoms disappear and the case be converted into a simple and curable purulent otitis media in forty-eight hours, and finally the drumhead was healed and the hearing restored.

As to chronic non-suppurative processes in the Eustachian tube and tympanum, the greatest progress has been made in the last few years in determining the origin of these conditions in the nose and pharynx, and in operations upon adenoid growths; so that the next generation will not suffer probably as this one has. But in the treatment of chronic catarrhal and proliferous inflammation, that has once set in, no substantial advance has been made over the ordinary local treatment through the Eustachian catheter, by

Politzer's method of inflation and the masseur, with great care of the general condition. It is folly to attempt to relieve such chronic cases by operation upon the turbinated bone. It is believed that such attempts are generally abandoned.

OPHTHALMIC THERAPEUTICS.

In turning to the progress in ophthalmic therapeutics, our strain is somewhat the same as that in aural. It is hardly likely that there will ever again be such an epoch-making period in ophthalmology as that which produced about sixty years ago the ophthalmoscope, the ophthalmometer, and the discovery of hypermetropia and astigmatism and the classification and means for the correction of the errors of refraction. The years that followed these wonderful discoveries have converted the original clumsy ophthalmoscope into an easily managed instrument, by which the *fundus oculi* can be thoroughly illuminated, its diseases and those of the media be accurately made out, and the refraction, as to the existence of hypermetropia and myopia, with a fair estimate of its degree, positively determined, although no new principle remains undiscovered since Helmholtz made his first announcement on this subject to the scientific world. In the same manner, the ophthalmometer, invented by him, has been made a practical instrument through the long years of patient and skillful work of Emile Javal. After a good start but subsequently great deal of wandering through the desert, we have reached a habitable land, where the refraction of the eye is studied and corrected in a simple and successful way. There has been much unsuccessful work on the management of muscles by prisms and tenotomies, a departure from the principle laid down by Donders and never overthrown, that in the fixed, static conditions of the eyeball must be found the causes of asthenopia. But except in very few quarters, corneal astigmatism and hypermetropia are again considered the chief causes of inability to continue to use the eyes without correcting glasses, and myopia is properly regarded as essentially a diseased condition of the eyeball, not a frequent source of asthenopia, unless associated with astigmatism, to be treated fearlessly as to its correction, with concave or concavo-cylindrical glasses, when united with astigmatism, but with great caution as to its hygienic management and general outcome.

Especially in this country, the most extravagant claims have been made for the dependence

upon errors of refraction and want of proper muscular balance of the ocular muscles of a large variety of diseases, such as migraine, epilepsy, chorea, and even idiocy. Lately one author goes very much farther than all this, and in two interesting volumes,* traces the dyspepsias, discomfort, and diseases of Thomas Carlyle, George Eliot, Francis Parkman, Richard Wagner, De Quincey, and almost a score of others, to the want of adjustment of proper glasses. These papers are written in excellent English, and are entertaining in the extreme. There is much distrust and even contempt exhibited in them for the opinions of oculists, who cannot so magnify their calling as does the author of this work and who use instruments to assist in discovering and correcting refractive errors. But these interesting volumes have not served to convert many beyond the author, who seems to be able to accomplish the cure of migraine, with absolute certainty, by the proper adjustment of glasses. But, since he gives sixty-eight reasons why glasses did not give relief, it is to be feared that it is a gift granted to but few, that the coming generation will lose the art, and that again a Carlyle, a Coleridge, and a Parkman will continue to arise and struggle through their lives with manifold woes, just because they have not had eye glasses properly adjusted by one of the few men who knows how the work should be done by tests that do not involve the use of instruments.

Certainly in New York we have failed to cure epilepsy, chorea and migraine either by tenotomies or by correction of the error of refraction. In this most of our neurologists and ophthalmologists agree. Eye-strain, so-called, a name which has been terrifically abused, may cause headaches, and blepharitis, styes, and fatigue of the eyes, and even low spirits, but these symptoms, when thus caused, are easily recognized and readily relieved. But that the human character can be transformed, and the misery of the great minds of the world entirely remedied, in many of whom a gentle melancholy seems to be an accompaniment of genius, is not yet to be believed. The author can undoubtedly issue volume after volume of biographic clinics, in which all the misery and failures of geniuses of the world, all the loss of mute inglorious Miltons, are traced to their faulty eyes, for once

granting him his premises—which are far from being proven—we must accept his conclusions.

It is difficult to be serious in the light of such extravagant claims, but the student of ophthalmology, with a large hospital practice, whatever vast ideas he may have of the incomparable power of glasses to relieve all kinds of suffering, will soon come down to the more modest proportions of the masters of this science, who passed over these great discoveries without having once suspected that they were to be made, who found very few but local bodily ills from the non-use of glasses.

The good work in trachoma continues. A new addition to the means of treatment is found in the X-ray, which, although requiring more time than the operations of expression and gratage, is thought by some to diminish the tendency to cicatrization, and the necessity for long, continued treatment. Radium also is beginning to be used for the same conditions, but the hopes entertained chiefly by the writers for the daily press of its value in as yet incurable diseases of the optic nerves and their cerebral centers and points of origin, have not been realized.

Very lately Abadie has reinvestigated the subject of tuberculous iritis, and from several successful cases, he believes that the administration of a preparation of iodine, iodogenol, combined with meat food and carnine Lefrancoq will not only cure tuberculosis of the iris, but also holds out something for pulmonary tuberculosis.

Great activity is to be observed along the whole line of ophthalmic workers, and much is being done in simplifying and making practice even more exact in this part of our science and art.

Asepsis has converted its operative field, especially as to the extraction of cataract, into a most satisfying and productive region. In glaucoma, sympathectomy makes slow, if any progress, but strong solutions of eserine in oil have proved very efficacious in the hands of a few (since Panas published his papers), of whom your speaker is one, in inoperable and incurable cases, as well as in chronic cases with subacute exacerbations, while in acute glaucoma iridectomy remains where Graefc placed it.

Strabismus and its treatment now receives thorough study as to its etiology and treatment. It is more often cured by the use of glasses than ever before, while in those selected cases in which operations must be performed to correct

* Biographic Clinics, George M. Gould, M. D., Philadelphia Penn.

the deformity, and in some instances to secure binocular single vision, the results are highly satisfactory.

20 East 30th Street.

HISTORY OF CHIMBORAZO HOSPITAL, RICHMOND, VA., AND ITS MEDICAL OFFICERS DURING 1861-1865.*

By JOHN R. GILDERSLEEVE, M. D., Tazewell, Va.,

Ex-President Medical Society of Virginia; President Association
Medical Officers of Army and Navy of the
Southern Confederacy, etc.

*Fellows of The Association of Medical Officers
of the Army and Navy of the Confederacy,
Ladies and Comrades:*

One year ago we held our annual meeting in New Orleans, the beautiful Crescent city of our Southland, and through your kindness I was honored by election to your highest office. In accordance with a time-honored custom, it devolves on me to deliver the annual address before your body; but before doing so, let me again express my heartfelt thanks for your kindness in selecting me from the "rank and file," with no special fitness, no claim for extraordinary service rendered, no prominence in the subordinate rank held, to entitle me to this distinguished honor, and though I feel unworthy of the great trust bestowed on me, I hope, sustained by loved friends and old comrades, to merit at least your approbation in my efforts to discharge the duties of my position, and am indeed most grateful, and feel an honest pride in being so exalted.

My loyalty, zeal and devotion to the Confederate cause was never in question from the 16th day of April, 1861, when I entered the service a private, to those sad and cruel days when the pall of darkness rested on our furled banners in 1865.

I am here, then, in obedience to your commands, and my effort will be directed to filling as best I can this position of so much trust and responsibility, and happy indeed will I be if I can contribute anything worthy of your consideration in my efforts to preserve for our children and for future generations the historic

truths of our branch of the service in the dark days of our struggle for homes, principles and honor.

I have selected as the subject of my address the most noted and largest military hospital in the annals of history, either ancient or modern, "Chimborazo Hospital," at Richmond, Va., 1862 to 1865, and in connection therewith the commandant and medical director, Surgeon James B. McCaw, his staff and my confreres in other fields of the Confederate service.

East of the city of Richmond, whilom capital of the Confederate States, and separated from the city proper by the historic Bloody Run Creek, is an elevated plateau of nearly forty acres, commanding from its height a grand view. On the south, the river, spanned by many bridges, ships in harbor, Chesterfield and the town of Manchester; on the east, a long stretch of country, cultivated fields, forests, hills and dales, and the tawny James on its tortuous seaward way; and on the west, the city of Richmond, its churches and spires, the capitol, public buildings, dwellings and manufactories, the whirling, seething, rushing falls of the river, and beautiful Hollywood, "the city of our dead."

On this high and picturesque point, so well adapted to hospital purposes, in the year 1862, when the Federal troops moved in force on Bull Run, and the real campaign began, General Joseph E. Johnston reported that nine thousand men would have to be sent back to Richmond for admittance to hospitals before his army could proceed.

That grand old Roman and chief, Surgeon-General S. P. Moore, at once went to see Dr. James B. McCaw, of Richmond (who was not then in the medical service, having enlisted in a cavalry company), and as the result of conference held and at the suggestion of Dr. McCaw, Chimborazo Hill was selected as the most favorable site, and early in 1862 the hospital was opened, and in one week two thousand soldiers were admitted, and in two weeks' time there were in all four thousand.

The Surgeon-General had only twenty-five hundred beds when General Johnston made his report. Work was at once commenced, and one hundred and fifty well-constructed and ventilated buildings were erected, each one hundred feet in length, thirty feet in width and one story high, though not all built at one time, but as needed to furnish comfortable quarters for the

*Address of President, delivered before the Association of Medical Officers of the Army and Navy of the Confederacy, during its Annual Session, held at Nashville, Tenn., June 14-16, 1904.

sick and wounded. Five large hospitals or divisions were organized; thirty wards to each division. These dimensions allowed of two rows of cots on each side of central aisle; the capacity of each ward from forty to sixty. The buildings were separated from each other by wide alleys or streets, ample spaces for drives or walks, and a wide street around entire camp or hospital. The hospitals presented the appearance of a large town, imposing and attractive, with its alignment of buildings kept whitened with lime, streets and alleys clean, and with its situation on such an elevated point it commanded a grand, magnificent and pleasing view of the surrounding country for many miles.

The divisions of this immense hospital were five, or five hospitals in one, and five surgeons, each one of the five in charge of a division; also a number of assistants and acting assistant surgeons (45 to 50), each in charge of several wards or buildings, and subject to surgeons of divisions, and all subject to Surgeon James B. McCaw, in charge or executive head.

With natural drainage, the best conceivable on the east, south and west; good water supply; five large ice houses; Russian bath houses; cleanliness and excellent system of removal wastes, the best treatment, comforts and results in a military hospital in times of war were secured.

In 1861 there was on what is now known as Chimborazo Park or Hill built one house, owned by a Richard Laughton, and a small office building.

For the purpose of making the hospital an independent institution, the Secretary of War made Chimborazo Hospital an army post, and Dr. McCaw was made commandant; an officer and thirty men were detailed and stationed there, and everything conducted "selon de regles."

As the Commandant Surgeon McCaw was not in the regular army of the Confederacy, the Surgeon-General said: "I do not know what name to give the hospital or its chief." Not wishing to call it a general hospital, at Dr. McCaw's suggestion it was given a distinctive name and called Chimborazo, and Dr. James B. McCaw was made commandant and medical director in chief.

When possession was taken of the hill it was separated from Church Hill on the western side by Bloody Run gully. (After the war a street was built across the ravine connecting the two hills and completing the extension of Broad

street.) A large house north of hospital was occupied as headquarters by the medical director and chiefs of divisions, with a clerical force.

These five hospitals, or divisions, were organized as far as possible on a State basis; troops from the same States being thrown together and treated and cared for by officers and attendants from their own States.

In addition to the one hundred and fifty buildings, there were one hundred "Sibley tents," in which were put from eight to ten convalescent patients to a tent; these tents were pitched upon the slopes of the hill, presenting a very imposing sight.

Oakwood Cemetery, which up to that time had been comparatively a small grave-yard, was created by the hospital. It was near, suitable, and accessible, and is sacred to the memory of many brave soldiers who gave their lives for our cause. The loyal women of Oakwood Memorial Association erected a beautiful shaft on a grassy mound, midst the graves of the "boys that wore the gray," with the following inscription on the four sides of the base:

In memory
of
Sixteen Thousand
Confederate Soldiers
From Thirteen States
Erected by the Ladies
Oakwood Memorial
Association, Organized
May 10, 1866.
Maryland
Virginia
North Carolina
South Carolina
Tennessee
Arkansas
Florida

This Epitaph of the Soldier who falls with his Country is written in the hearts of those who love the Right and Honor the brave.

Texas
Georgia
Alabama
Mississippi
Louisiana
Kentucky.

As soon as the hospital was opened, the large tobacco factories of the Grants, Mayos and others were secured, their business being practically at an end for the period of the war, and the boilers from these factories were utilized in

making soup in the soup houses, and the large supply of splendidly seasoned wood, used in making tobacco boxes, was fashioned into beds and other furniture. The hands employed in factories were put to work in doing manual labor, incident to building, etc., in our hospital construction. A guard house was erected separate from other buildings, for unruly convalescents, attendants, et als, and sometimes in use. In addition, the hospital built five soup houses, a bakery, a brewery, and five ice houses.

Mr. Franklin Stearns lent the hospital his celebrated farm, "Tree Hill," for the pasturage for from one hundred to two hundred cows, and from three to five hundred goats. The latter proved to be the best subsistence we had in supplying the hospital with "kid" meat, a most palatable and nutritious food for sick and convalescent patients. Some idea of the dimensions of the bakery may be found from the fact that from seven thousand to ten thousand loaves were issued per diem, a loaf per man, and attendant would not go around.

Soap was made out of the grease taken from the soup houses; the lye was imported through the blockade.

An additional fact, the hospital never drew fifty dollars from the Confederate States Government; but relied solely upon the money received from commutation of rations. The medical departments and subsistence departments were organized all to themselves, and the money from commuted rations was used to buy what was necessary.

The hospital trading canal boat, "Chimborazo," Lawrence Lottier in command, plied between Richmond, Lynchburg and Lexington, bartering cotton, yarn, shoes, etc., for provisions. This was only one of the hospital's many resources.

At the close of the war, the Confederate Government owed the hospital three hundred thousand dollars, which Mr. Menninger, Secretary of Confederate States Treasury, agreed to pay in gold on the 29th of March, and on the 3d of April the city of Richmond was surrendered.

I now call your special attention to the fact that the total number of patients received and treated at Chimborazo Hospital amounted to seventy-six thousand (out of this number about 17,000 were wounded soldiers), and that it was the first military hospital in point of size in this country and in the world, the next largest hospital in this country being the "Lincoln," at Washington, D. C., which reported a total num-

ber of forty-six thousand patients; and the next largest in the world at large was the Scutari Hospital, in the Crimea, which reported a total of thirty thousand to forty thousand patients. The percentage of deaths at Chimborazo was a fraction over nine per cent. Complete records were kept, and are still in existence in the office of the Surgeon-General at Washington, D. C., upon which the name of every patient can be found when wanted, and the cause of his death.

The organization of Chimborazo Hospital: Surgeon, James B. McCaw, commandant and medical director.

First Division, Virginia—Surgeon P. F. Brown, of Accomac, Va., in charge.

Second Division, Georgia—Surgeon Habersham, of Atlanta, Ga., in charge.

Third Division, North Carolina—Surgeon E. Harvie Smith in charge.

Fourth Division, Alabama—Surgeon S. N. Davis in charge.

Fifth Division, South Carolina—Surgeon E. M. Seabrook, Charleston, S. C., in charge.

The medical staff numbered, or averaged, about 40 or 45 in all.

There was also a Medical Examining Board, composed of the surgeons of divisions, to pass on questions of furloughs and discharges. The subjoined roster is not complete, but includes some who are alive and still in active work:

First Division—Assistant Surgeon George Ross, of Richmond, Va., Assistant Medical Director A. P. Hill Corps; Vice-President Nat. Ass. R. R. Surgeons, etc.; commanded company of University students, April, 1861, at Harper's Ferry. In active practice.

First Division—Assistant Surgeon James C. Watson, of Richmond, Va. In charge First Division at surrender. Ex-Surgeon to State Penitentiary, etc. In active work.

First Division—Assistant Surgeon John G. Trevillian, of Richmond, Va. In active work.

First Division—Assistant Surgeon Dr. J. Prosser Harrison, of Richmond, Va. In active work.

First Division—Assistant Surgeon Geo. F. Alsop.

First Division—Assistant Surgeon W. H. Pugh.

First Division—Assistant Surgeon John G. Baylor, of Norfolk, Va.

First Division—Assistant Surgeon ——— Board.

First Division—Assistant Surgeon ——— Woodson, of Virginia.

First Division—Assistant Surgeon Samuel Smith, of Farmville, Va.

First Division—Acting Assistant Surgeon J. R. Gildersleeve, of Richmond, Va.

Second Division—Assistant Surgeon H. Cabell Tabb, of Richmond, Va. Med. Director L. I. Co., of Va.; Ex-Pres. Med. Directors Association of U. S., Canada, etc.

Second Division—Assistant Surgeon Edward Adams, Amelia county, Va.

Second Division—Assistant Surgeon J. C. Vaiden, New Kent county, Va.

Second Division—Assistant Surgeon Jack Harrison, Brems Bluff, Va.

Second Division—Steward in charge dispensary, Joseph A. Gale, now chief surgeon Norfolk and Western R. R., and President Medical Society of Virginia 1903-1904.

Division—Assistant Surgeon John Mably, South Carolina; Assistant Surgeon Shirley Carter, Virginia; Assistant Surgeon — Field; Assistant Surgeon — Holderby; Assistant Surgeon — Chapman, Assistant Surgeon — Wall, Florida; Assistant Surgeon Edward Wiley; Assistant Surgeon — Stratton.

Fifth Division—Assistant Surgeon W. B. Gray, of Richmond, Va. Ex-Vice-President Med. Society Va.; Richmond Academy of Medicine; Richmond Microscopic Society, etc. In active work.

Fifth Division—Assistant Surgeon Charles Lee Dunkley.

Fifth Division—Assistant Surgeon William A. Hardee.

Fifth Division—Assistant Surgeon C. Jerome Cherry, of Portsmouth, Va.

Fifth Division—Assistant Surgeon — Moss.

Fifth Division—Assistant Surgeon — White, of Portsmouth, Va.

Fifth Division—Acting Assistant Surgeon J. R. Gildersleeve, of Richmond, Va.

Fifth Division—Apothecaries, Jett T. West and Sursdorff, of North Carolina.

Among the staff were the following named gentlemen: John H. Claiborne, commissary; Col. A. S. Buford, quartermaster; Charles Wortham, quartermaster; Paine and Kent, our commission merchants, and many others. Every man did his whole duty, and everything went on without a hitch. The total staff, one hundred and twenty.

Mrs. Dr. Minge was chief matron. There were many interesting characters among the

matrons, and one in particular was Miss Mary Pettigrew, who was chief of the Virginia Division. She was a sister of General Pettigrew, of North Carolina, and was about twenty years of age. Also a Mrs. Pender, Mrs. Baylor, Miss Gordon, et als—forty-five in all. Rev. Mr. Patterson, a Greek by birth, was chaplain; he came to this country when a grown man, and was a very valuable officer.

The city of Richmond was surrendered Monday, April 3, 1865; General Weitzel's brigade in the van of the advancing Federal army. The General rode up the hill, and when he came through the post he was received by our whole corps of officers in full uniform. Dr. Alexander Mott, chief medical director of the staff of General Weitzel, exclaimed: "Ain't that old Jim McCaw?" "Yes!" said Dr. McCaw, "And don't you want a drink?" Mott's answer was, "yes," and he added, "the General will take one, too, if you will ask him." The invitation was duly extended and accepted. Dr. McCaw asked General Weitzel for a general permit for himself and his officers; this was promptly granted. General Godfrey Weitzel gave a free pass to the commandant and his entire medical corps, took them under his protection, and issued a verbal order that all Confederate soldiers there should be taken care of under all circumstances. Furthermore, he offered to put the commandant in the general service of the United States, so that he might issue requisitions, etc., and have the same filled as any other medical director in the United States army. As General Lee had not then surrendered, Dr. McCaw respectfully declined the proffered appointment, but voluntarily continued to perform all the duties incident to the position he held, and never solicited anything at all from them other than the passes in and out of the lines.

When we consider the size of this great military hospital, the number of soldiers admitted, treated, furloughed, discharged and buried; its successful work for nearly four years; the perfect discipline, order and harmony that existed from its establishment to its close; the immense amount of work done; the difficulties always attending the securing of supplies for such a large body of invalids, especially towards the closing days of the Confederacy, and also the generous rivalry between other posts or hospitals located in Richmond; and lastly, the comparatively low mortality, we cannot but accord to Dr. James McCaw, medical director of the

five Chimborazo hospitals, and its efficient commandant, the highest praise, and concede that he was in fact and in deed "primus inter pares." It is my greatest pleasure to offer this tribute to my chief, and to one of the grandest men in our profession, for he is still with us, though an octogenarian. "Clarum et venerabile nomen." Towering physically and mentally above his associates, and quoting from one of his admirers: "Princely Dr. James B. McCaw, sweet, gentle, tender and true," and I shall add, "brave, generous and loyal; just, honorable and upright, an exemplar worthy of emulation." Teacher, philosopher, scientist, editor and physician, over sixty years devoted to the acquisition of knowledge and disseminating the truth as acquired to his beloved pupils in class and lecture rooms; a magnificent physique, graceful and polished in manner, with a great amount of personal magnetism; in speech, clear, happy in illustration, chaste, humorous and pathetic, sometimes epigrammatic, a bon comrade around the social board, an ardent admirer of the beautiful, together with high, cultivated, artistic taste. His masterly handling as editor of advances in all branches of medicine, editorials, reviews, and original articles, the midnight research and investigations in new scientific fields, his active professional life for six decades as surgeon, obstetrician, and in general practice of medicine in a large, wealthy and exacting private practice, is in itself a proof of the high estimation in which he was held. Such a grand, noble and self-sacrificing nature, so optimistic, sunshiny and happy is seldom seen blended in one man. A beautiful loving cup was presented to him in 1901 at a banquet given by the Academy of Medicine of Richmond and friends on his retirement after fifty-seven years from the active practice of medicine, in honor of this nestor of the profession. In responding to toast from Dr. George Ross, toastmaster, Dr. George Ben Johnston, of the Medical College of Virginia, said: "This event has a greater significance to me than the gathering of a multitude to welcome a victorious general; Dr. McCaw has always been my example." Dr. J. Allison Hodges, of North Carolina, said: "The grandest sight I have ever witnessed is the sight of a noble and beautiful life, wrapping itself around the destinies of the sick and suffering children of men, and finding its blessed reward in the benedictions of everlasting love and peace; and such a sight I have witnessed displayed in the long and honorable life of my friend, Dr. McCaw."

Dr. James B. McCaw was born in Richmond, Va., July 12, 1823. Graduated M. D. University of city New York 1843. Editor Virginia Medical and Surgical Journal 1853 to 1861. Editor of Confederate States Medical and Surgical Journal from 1861 to 1865. Professor of Practice of Medicine and of Chemistry, and Dean of the Medical College of Virginia twenty-eight years. Now Emeritus Professor, Surgeon C. S. Army. Medical Director during civil war of the five Chimborazo hospitals in Richmond, Va. A charter member and one of the founders of the Medical Society of Virginia, and chairman of the Convention which organized the Society in 1870; Vice-President in 1871, Resident Honorary Fellow in 1894. Ex-President of the Academy of Medicine, Richmond, Va. Honorary member of the Medical Society of West Virginia. Member of the Association of Medical Officers of the Navy and Army of the Confederacy, and of other Societies.

Fellows and comrades, you will I hope, pardon me if for a brief space I become personal. My object is simply to preserve in regular order and to perpetuate the names and positions held by my most intimate associates in the medical service of the Confederate army, and, if time permitted, it would have been a pleasant task to present in this paper biographical sketches of each friend and associate herein mentioned.

My first hospital service dates from 1862; after my discharge from the service, on account of illness, I was then a private in Richmond Howitzers. I entered hospital "Midway" between the University of Virginia and Charlottesville, Drs. James L. Cabell, John Staige Davis, B. W. Allen, Peter Winston and others in control; the first three were professors at the University of Virginia. Dr. Cabell, surgeon in charge, was a man of profound knowledge and varied information, and a fine executive officer; it was said of him that he could fill creditably any chair at the University. Dr. Davis had a Southern reputation as a brilliant and beautiful lecturer. Dr. Allen an anatomist and skilful surgeon. Dr. Peter Winston left his studies in Paris and returned at the commencement of hostilities, and at once entered our service. My connection with hospital was brief, but long enough to retain in my heart the warmest feelings for each one of my associates.

The exigencies of the service demanded all who could administer to the sick and wounded

of the army, and I received an appointment as contract physician—i. e., acting assistant surgeon—July 8, 1862, from Surgeon-General Samuel P. Moore. The name of that grand head of the medical departments of the Confederacy impels me to acknowledge his kindness of heart to all of his subalterns; also his great work as an organizer, his remarkable executive ability, fitness for the high position, and his official work. Resigning his position of surgeon in the United States army, he was appointed Surgeon-General of the army and navy of the Confederacy June, 1861, and continued in office until the surrender; then in practice in Richmond, Va., until his death. Born in Charleston, S. C., in 1813, died in Richmond, Va., May 31, 1889. President of the Association of Medical and Surgical Officers of the Army and Navy of the Confederate States, at Atlanta, Ga., May 25, 1874.

I was assigned on my appointment to duty at Howards Grove Hospital, Richmond, Va., Dr. James Bolton, surgeon in charge. The tents and buildings were crowded with wounded soldiers from battle fields after seven days' fight below Richmond. Dr. C. D. Rice, of Charleston, S. C., succeeded Surgeon Bolton, and I was ordered to receiving and distributing hospital No. 9, "Seabrooks Warehouse," twelve hundred beds, Surgeon C. W. P. Brock in charge. Assistant Surgeons John Gravatt, Port Royal, Va., J. W. Brock, Richmond, Va., — Richardson, Texas, John Bragg, Petersburg, et als. Dr. C. W. P. Brock, one of the youngest men in the profession, and now chief surgeon of the Chesapeake and Ohio Railroad. Ex-Pres. Nat. Ass. R. R. Surgeons, 1893. Ex-Pres. Ass. Alumni Med. College of Va., and has held many other positions of honor and trust.

I was then ordered to Chimborazo Hospital, after short service at No. 9, and assigned to Division 5, "South Carolina"; afterwards to Virginia, Division No. 1, and remained until January, 1864. Ordered to appear before Army Medical Board, composed of Surgeons Gedding, Holbrook and Robertson, in Charleston, S. C. Passed successfully examination January 15, 1864, and was commissioned assistant surgeon Confederate States Army, and ordered to report to Medical Director J. D. S. Cullen, of Lieut.-General Longstreet's Corps, at Knoxville, Tenn. Reported to Surgeon Maury, in absence of medical director, and was ordered by him to report to Medical Director Frank A. Ramsey, of the Army of Tennessee, and by him

ordered to report to Surgeon R. D. Hamilton, Bristol, Tenn. A short time there in charge, temporarily of Wayside Hospital, and in hospital at Abingdon, Va., under Surgeon R. O. Curry, then in charge of transportation of sick and wounded from General Longstreet's army to hospitals along line of railroads in Virginia.

On General Longstreet's return to Army of Northern Virginia, was assigned to Kershaw's Brigade, and from Wilderness to surrender with Twentieth South Carolina Regiment (a short time with Seventh South Carolina). On retreat from Charleston, S. C., of General Joseph E. Johnston's army was captured at Fayetteville, N. C. Was paroled 13th day of May, 1865, at Charlotte, N. C., by Captain N. Haight, U. S. Army.

The medical staff of General Kershaw's Brigade, afterwards General Conner's Brigade, Dr. James, Brigade's Surgeon:

Second South Carolina Regiment—Surgeon Simon Baruch, now of New York, and well known in connection with hydrotherapy. Assistant Surgeon Nott.

Third South Carolina Regiment—Surgeon James Evans, Assistant Surgeon Dunlap, Assistant Surgeon Mackie.

Seventh South Carolina Regiment—Surgeon Carlyle, Assistant Surgeon J. R. Gildersleeve.

Eighth South Carolina Regiment—Surgeon Pearce, Assistant Surgeon Neal, Assistant Surgeon Speake.

Twentieth South Carolina Regiment—Surgeon A. S. Sally, Assistant Surgeon D. W. Bartron, Assistant Surgeon J. R. Gildersleeve.

Dr. Sally was a highly educated gentleman of the old school, honest, upright and pure. A writer and local historian.

My roster would be incomplete if I omitted that grand and venerable Bishop, William W. Duncan, of the Methodist Episcopal Church, South, who was chaplain of the Twentieth South Carolina Regiment.

Of the many who were my confreres in the different fields of service, a number have since achieved State and national reputations, due, in a great measure, I believe, to the stern lessons inculcated whilst participants in the bloody drama enacted more than four decades ago, which were potent factors, developing in the subsequent battles of life a courageous bearing, a self-reliant aggressiveness and progressiveness, ultimately leading to success—from defeat to victory.

I was, indeed, fortunate in my associations,

and the kindness, counsel and encouragement extended me from one and all made an indelible impression, and proved formative influences in my future life. For all of my dear comrades, alive or dead, in the deepest recesses of my heart there is love.

But inexorable and mysterious death, with relentless hand, has been busy, and is fast thinning out the few remaining comrades in our ranks, a reminder to those of us who are still living that—

“Each day a leaf falls withered from the tree
Whose leaves make up the life of thee and me;
The leaves are counted and the last is there
Ready to fall before thy destiny.”

“Where are the dear old faces gone a-hiding,
Where is the far-off place of their a-biding?
I ask the Wise, and thus the Wise to me,
They are gone, and there is never a-tiding.”

Let us hope, fellows and comrades—

“That somewhere at life’s journey’s end
Friend will again behold the face of friend.”

PREVENTIVE MEDICINE.*

By O. C. WRIGHT, M. D., Jarratts, Va.,

Member of Virginia State Board of Medical Examiners, etc.

I do not propose to offer anything new, but, believing as I do, that an occasional review of past work and discussions of its possible influence upon future efforts oftentimes stimulates renewed zeal to more definite advancements, I trust you will pardon my presumption in undertaking the task.

Preventive medicine—known also as sanitary science, state medicine, hygienic and public health—has been defined as an application of the laws of physiology and general pathology to the maintenance of the health and life of communities by means of those agencies which are in common and constant use. Its object is to curtail, and, if possible, prevent disease, to prolong existence and to render life happier by means of improved physical conditions.

A little more than one hundred years ago comparatively nothing had been accomplished in this branch of science, although it had been

thought of and mentioned for centuries. The Mosaic code contained “minute directions for cleanliness of person, purification of the dwelling and camp, selection of healthful and avoidance of unwholesome food, seclusion of persons afflicted with contagious diseases, and other points bearing on the physical well-being of the Jewish nation.” The Greeks and Romans, though not making hygiene a part of their religion, were far from neglecting it. It is said that the laws of Lycurgus contained enactments of matters pertaining to health, and ancient Rome constructed the “Cloaca Maxima”—a subterranean passage by which the filth of the town was conveyed to the Tiber. Private houses and public buildings of this ancient city showed evidences of some knowledge of the laws of health on the part of its citizens, and what may be regarded as the earliest types of our Board of Health were products of the Roman Empire. The modes of election of these “state physicians” was described in the Theodosian and Justinian codes: “There were ten in the largest towns, seven in the towns next in size, and five in the smaller towns. They collectively constituted a college, whose duty it was to look after the health of the public.”

We are justified in the conclusion that this move did not accomplish much, as we have no record of any advances in preventive medicine until the eighteenth century. On the other hand, “When an epidemic of disease arose it was supposed to be a manifestation of God’s special anger.” It was during this period that the cause and prevention of scurvy—once the bane of all sailors—was recognized; and with a proper system of drainage ague was eradicated from extensive districts; and with a knowledge of the therapeutic properties of cinchona, malarial disease was often cut short when it did appear.

About the middle of this century (1749) Edward Jenner—third son of Rev. Stephen Jenner—was born at Berkley, Gloucestershire, England. “His scholastic education being finished, he was sent to Sodbury, near Bristol, to be instructed in the elements of surgery and pharmacy by Mr. Ludlow, an eminent surgeon of his day.” It was here that Jenner’s attention was first attracted to the prevention of small-pox, by a young country woman, who came to his tutor for medical advice, and small-pox being mentioned in her presence she said: “I can’t take that disease, for I have had cow-pox.” What effect this remark had upon the distin-

*Address of the President of Southside Virginia Medical Association, at its Fourth Session, held at Emporia, Va., June 7, 1904.

guished surgeon we are not told, but we do know that his apt pupil stored it away in his gray matter, and some ten years later, 1775, began to investigate the tradition, and five years later, 1780, began to see his way clear to his great discovery. "Many investigations regarding the different varieties of cow-pox delayed the actual discovery sixteen years, when, in May, 1796, Jenner made his crowning experiment on James Phipps," and heralded to the world the discovery of his great prophylactic, vaccination—"the crowning achievement of the eighteenth century." In 1798 he published his memoirs on the subject, and though his evidence produced seemed conclusive, the practice of vaccination met violent opposition at first. A year later, however, seventy of the principal physicians of London signed a declaration of their confidence in it. In 1802 Parliament voted Jenner ten thousand pounds, and in 1807 another grant of twenty thousand pounds. In 1858 a public statue was erected in his honor.

After Jenner's successful demonstration of the virtues of vaccination, we have no record of any attempt at progress in hygiene until the first outbreak of cholera in Great Britain in 1832. This epidemic, terrible as it was, was doubtless of great good in directing the public mind to the prevention not only of this disease, but others also. "In 1834 a new poor law was enacted, authorizing commissions of investigation." Dr. Wm. Farrar, of this commission, deserves great credit for his efforts. Confused as it was, he reduced the whole subject to a science. This was practically the beginning of sanitation—since which time progress has been steady.

During the next decade chloroform and ether were put into practical use as general anæsthetics, and typhus and typhoid fevers differentiated.

About this time Joseph Jackson Lister, a merchant of London and father of Sir Joseph Lister, perfected the acromatic lens, thus converting the microscope, once a mere toy, into one of the most useful instruments of precision accessible to the modern physician. This instrument was a great factor in demonstrating the truth of the germ theory of disease, of which even the early Greek philosophers thought, and of which it is said Aristotle had an inkling, thereby completely revolutionizing some of the branches of the science of medicine.

About the beginning of the last quarter of the

nineteenth century the results of preventive medicine began to attract considerable attention. A supplement to the Registrar-General's report for England, reviewing the period 1871-1880, says: "The changes in death rate have given to the community an annual addition of one million eight hundred and forty-seven years of life shared among its members; and allowing that the changes in the death rate are the direct consequences of sanitary interference, we must regard this addition of nearly two million years of life as an annual income derived from money invested in sanitation." Since this time advances in this line have been by leaps and bounds; and as the century nears its close we can boast of great progress.

Tuberculosis is now known to be a preventable and oftentimes a curable disease. Puerperal fever, once a terror to all lying-in women, especially in cities and maternity hospitals, is no longer dreaded. With a better understanding of their causes, epidemics of typhoid fever and other infectious and contagious diseases are stamped out in an incredibly short time. With the aid of that God-send, antitoxin, diphtheria is shorn of its terrors. Cholera and yellow fever—once dreaded enemies of all nations on their rampage—are now met at the American seaports by our Marine Hospital surgeons and defied entrance. Since the introduction of asepsis and antisepsis, the one time laudable pus is now abominable pus, and surgeons once taught next to God to fear the peritoneum and other serous membranes, now invade their innermost cavities with impunity. With the X-ray added to our armamentation, many mysteries are now cleared that formerly balked us, and superficial cancers seen to wither, and the more malignant types rendered less painful under its influence; and still its possibilities are not fully developed. And finally, as a fitting climax to the many brilliant achievements of the nineteenth century, in its dying hours (July, 1900), that talented young Virginian, the late and lamented Dr. Walter Reed, and his associates, entered the very camps of the enemy and gained a victory over yellow fever that carries with it a prestige which insures its total annihilation at an early date.

The bare statement of statistics showing increased length of life does not properly represent the work of preventive medicine. These statistics do not take into consideration the strenuous age through which we are passing,

with its increased risk to life and health from accidents, etc., incident to perilous occupations and stress of business, etc.

Standing as we do at the beginning of the new century, we all recognize that, notwithstanding the fact that so much has been accomplished, there is yet far greater blessings in store for us. With such a heritage from our fathers to begin with, and with sons of such sires directing the work, who doubts but that this branch of medicine is still in its infancy, and that its wonderful achievements of to-day will dwindle into insignificance in comparison with what it will contribute to suffering humanity ere it reaches its zenith?

Some twelve years ago I heard a distinguished teacher of hygiene say that the time would come when doctors would be employed only to prevent disease. At that time I did not take him seriously, but in the light of developments since that date, who knows but that his predictions may yet prove true? With small-pox, cholera, yellow fever and malarial troubles eradicated, it is difficult to estimate its effect upon the health of the public.

With typhoid fever, the special enemy of the young adult, off the list, our autumnal labors as practitioners would be lessened by half, and many thousand noble lives saved to the country annually. With diphtheria relegated to the past, we will no longer witness the terrible deathbed scenes familiar to you all. With cholera infantum out of the category of diseases, "mother's little darlings" now ripe for the sickle would pass through the summer unscathed. With gonorrhœa a thing of history only, the gynecologist's finger, however delicate the touch, will fail to reveal any more pus tubes and his knife must be trained to other work; and the modest, innocent bride, with the bloom of youth still upon her cheeks, will cease to be a victim of the young man's criminal carelessness or indifference. With syphilis thought of only in connection with its distinguished victims, from David down, the "iniquities of the fathers" will not so often be visited upon his helpless children, through many generations.

With rheumatism and its kindred diseases known only by name, there will be fewer ankylosed joints and still fewer valvular lesions and sudden deaths. With no more diseased kidneys, many battles now lost will be easy victories. With pneumonia, "the natural death of the old man," out of the question, the welfare of our

dear old mothers and fathers will give us less concern. With the sword snatched from the relentless hand of "the captain of the men of death," tuberculosis, his cohorts, serofula, bone lesions and the like, will not long trouble us, and one-seventh of those who now perish annually will survive. With more attention to the laws of health and less to the demands of society, dysmenorrhœa and its attendant evils will cease to harass the modern woman, and race suicide no longer threaten us. With cancer cells unable to find congenial soil untold suffering will be prevented and many lives saved to the world. With our ambition curbed and with a full realization of that command, "Be ye temperate in all things," there will be fewer nervous wrecks and most of the State asylums closed. With appendicitis out of the way—a fad of the nineteenth century—many surgeons will be minus a job; and, lastly, with our ranks rid of the few black sheep now among us, truly ours will be a noble profession.

These, gentlemen, are indeed Elysian visions, and at a glance may appear an overdrawn picture; but I am sure, after reflection, you will agree with me that a great deal of it can be realized, though it will require time and hard work intelligently directed.

Preventive medicine will never be accorded its proper place in science until necessary laws are enacted and a public sentiment developed necessary to have these laws enforced; and we will not get either until the public is educated to understand its importance and possibilities. This education will, of course, necessarily be gradual, and it must be done by the physicians.

Millions of dollars are now spent annually on our army and navy preparing to meet armed forces that *may* threaten us with invasion, and only a paltry sum at the disposal of the warriors fighting against heavy odds—an enemy already among us, that slays millions annually. Why this discrimination, and I might say utter folly? It is because the public does not know of the benefit that would be derived from money judiciously spent along this line, or as I sometimes fears, it is in part a lack of confidence in our ability or honesty of purpose that causes the government to close the vaults of the treasury against us. Is it not strange that people when sick trust their lives in our hands, but when we ask for a small share of their money to prevent sickness they squeal?—some claiming that we cannot accomplish what we claim, while there

are others, and I trust they are in the minority, who accuse us of using the money for our own selfish purpose. I believe that by systematic and persistent efforts we can overcome this prejudice. Who is more favored with opportunities to mould public sentiment than physicians? And if we fail we must admit our weakness or indifference. Standing at the gateway of life, the first to receive and welcome mankind to this wicked world, and following him through life's journey, ever his counsellor and adviser in all things pertaining to his physical well-being. From the first wail of the new-born to the last moan of the octogenarian, we are constantly with him, and even then do not desert our post until we have closed his eyes in his last long sleep. With such opportunities, we are unjust to ourselves and to mankind if we do not use them to create a sentiment in favor of preventive measures.

In order to use these opportunities to the best advantage, it is necessary for the physician to first get the confidence of the public. You may be ever so skilful in the treatment of diseases, but unless you convince your acquaintances that you are honest, honorable and clean in every respect, you can never wield the influence over them necessary to accomplish our purpose. Therefore it behooves us to see to it that none but gentlemen enter our ranks. You may ask, how are we to do this? There is a way. A young man anticipating taking up the study of medicine usually consults his family physician and is influenced to a certain extent by his advice. He is then trained in schools run by doctors, and finally when he has graduated he is again passed upon by examining boards composed of medical men. With these opportunities if we cannot rid the profession of fakirs and rascals, we are indeed weaklings.

And right here I may add that I am sorry to say there is a difference of opinion as to the necessity of examining boards. Some, though I believe a very small minority, contend that it is unjust to the student after he has complied with the requirements of medical schools, with faculties composed of the best men of the profession, and men who know what is in a graduate when they confer the degree upon him, to require further examinations. This would all be very good argument but for one proposition. Nobody claims that examining boards teach anybody anything; but what raised the standard of the great majority of these colleges to their

present high plane? The medical examining boards are responsible. Medical schools now bend their every energy to so train their graduates as to enable them to make a creditable showing in any company. They know full well that their students are to have another reckoning, and that they are to either reflect credit or bring disgrace upon their alma mater. Erase from the statutes the laws requiring licensing boards, and immediately that spirit of commercialism now abroad in the land will seize upon enough of the medical colleges of this country to force out of existence those maintaining a high standard from principle. If there is any member of this Association who still doubts the wisdom of examining boards, I will say to him, come to my house the latter part of June and read some papers I expect to have in my possession about that time; I know I can convince him.

With our profession composed of only the best material, and the public mind thoroughly satisfied on this point, the battle will be half won. It will then only be necessary to spend a little energy in pointing out the advantages to be gained by preventive measures and making known our wants. In this campaign of education, do your work thoroughly. It is not safe to assume that we will not need the influence and support of this woman, these boys, or that tot, for no man can now pick the mothers of our future statesmen or the lad who is to become a great and wealthy leader in philanthropy, or the gifted journalist of coming years, whose pen is to wield such a mighty influence, or the prattling tongue of to-day that is destined in a few more short years to be trained into an eloquence that will sway nations with its music. Preventive medicine is the hope of our country, and to the beginner it is anything but attractive, but by a careful inquiry you will see it has inducements to offer all medical men.

To those of us whose sole desire is to benefit humanity, they cannot turn to a better field. If there are others who expect their good deeds to win for them a high seat in heaven, surely they cannot pass my subject by. To those whose ambition is to become rich, I will say that those who worship at the shrine of Hygeia have certainly an equal chance with the rest. Those who expect their families to be pensioned when they are gone have a better show here than elsewhere, and finally, if it is your heart's desire that your name and deeds shall be inscribed upon tablets of stone that will carry

your fame down through coming ages, this is your safest field, for with very few exceptions the few medical men who have been thus honored were disciples of preventive medicine. One who was an exception to this rule you all knew, though he was an exception, still without the aid of preventive means (anæsthesia) he could never have won for himself that fame he did—a fame that was not limited to his native State nor to the broad expanse between the Atlantic and the Pacific, but encircled the globe, nor gained the love and esteem of those noble men and women who erected, to his memory, that statue of bronze that will tell future generations of his noble deeds. It is needless for me to say I refer to Virginia's own great son, Hunter McGuire.

Mercurial Poisoning, With Report of Case. With Results of Operation for Correction of Deformity Caused by Poisoning.*

By JOHN EDWARDS KINCHELOE, M. D., Hardinsburg, Ky.

Those who by virtue of their work are most endangered to mercurial poisoning are those who are engaged in various manufacturing trades, such as the makers of mirrors, barometers and thermometers; sometimes in hat makers, bird-stuffers and furriers, who use mercury in the preparation of the skins. Numerous cases are recorded where mercury poisoning has been produced by absorption through the skin. It may also enter through the digestive tract in consequence of contamination of the food from the uncleanness of those engaged in handling it. While authorities say it is rare to meet with chronic poisoning from the medicinal use of mercury, in ordinary doses, when given either internally or applied to the skin, or used in the form of solutions for the washing of wounds or cavities, I believe that I had a case caused by the internal administration of calomel. We have not as many cases of mercurial poisoning from the internal administration of the drug as formerly, simply from the fact that its effects are better understood, and we pay more attention to the functions of the organs of excretion during its administration than we did formerly.

Some people have an idiosyncrasy for mer-

cury and are more susceptible to its toxic effects than others; especially are women and children very susceptible. In whatever form and by whatever channel it is introduced into the blood and tissue, it exists there in the form of an albuminate and is very slow to be eliminated. Hence the importance of keeping the excretory organs in an eliminating condition during the administration of mercury. Ludwig found it in cases of chronic syphilis, which had been treated by mercury, many years after the use of the drug had been discontinued.

The action of mercurial compounds, especially the therapeutic action, varies very much in intensity and in kind; this variation depending largely upon the condition, on the one hand, of the preparation, and on the other of the organism affecting its absorption. Besides being more irritant, the more easily soluble compounds are also more readily absorbed; but those which are soluble with the greatest difficulty, like metallic mercury, can also be absorbed and are by no means absolutely inert as regards their irritant action.

All mercurial salts, even metallic mercury itself, are, when in a state of sufficient subdivision, converted more or less readily from contact with the alkaline chlorides, especially when albuminous compounds are also present, into corrosive sublimate, which is easily soluble and is a powerful escharotic. This change is apparently hastened by the presence of free hydrochloric acid. As the general action of insoluble preparations of mercury depends entirely upon this change, so also do many of the local effects; as for example, the irritating and purgative action of calomel is solely dependent upon this conversion into corrosive sublimate. In this way, very unusual effects of calomel become intelligible. Thus we have reports of cases in which most violent and fatal stomatitis has been produced by very small doses of calomel. For example, very severe stomatitis, lasting for weeks with necrosis of the jaw, was produced in a boy eight years of age, after taking once a day for three days a dose of three-fifths of a grain of calomel. In another case a boy 14 years old died from mercurial poisoning (necrosis of the lower jaw) produced by one dose of $5\frac{1}{2}$ grains of calomel. Many cases are reported in which fatal stomatitis has been caused by from 6 to 15 grains of calomel taken during 24 hours, or in a single dose. We must assume that in these cases the change of the calomel into

* Read before the Kentucky Medical Society during its session at Lexington, Ky., May 18, 1904.

corrosive sublimate, which usually takes place only to a slight extent, is very much greater, perhaps owing to the presence of an unusually large amount of hydrochloric acid.

Different individuals show a varying susceptibility to mercury. An instructive case is reported by Kusmaul of a girl who was affected with mercurial stomatitis, caused by simply rooming with her sister, who was employed in manufacturing mirrors, and who remained entirely unaffected herself. Usually the symptoms of poisoning by mercury come on while the individual is still exposed to its action; but it sometimes happens that they are entirely absent during this period and do not appear until after removal from its influence. Several cases are reported in which the symptoms which first appeared in the disease were repeated later, and also returned again after the lapse of years without a re-exposure of the individual to the action of the poison.

Formerly more than at present, the severest diseases, especially ulcerated diseases of the skin and affections of the bones, have been ascribed to mercurial poisoning and especially abscesses following the hypodermatic injection of corrosive sublimate. I sometimes think we are too prone to jump at conclusions. Things that we do not readily recognize, we usually attribute to mercurial poisoning or some specific trouble. Often the abscesses following the hypodermatic injection of corrosive sublimate are due to an infection from the syringe, just the same as any other hypodermatic injection.

The symptoms of chronic mercurial poisoning, as given by Lloyd, are stomatitis, salivation, ulceration of the gums, necrosis of the bones of the jaw, falling of the teeth, fetor of the breath, emaciation, anæmia, digestive disorders, affections of the kidneys, a characteristic tremor and paralysis. The chronic form follows upon repeated acute attacks, or more frequently it is due to a slow, gradual action of the poison. This is the form most usually seen in all workmen. Many of the Spanish miners are toothless by the time they are 35 years of age, as recorded by Roussell. They believe that when a miner loses all of his teeth he is thenceforth exempt from all suffering so far as his mouth is concerned.

In severe acute poisoning by mercury the kidneys are violently inflamed; but in the chronic form, it has been observed by those who have had experience that they do not as often

find a kidney lesion. Kusmaul, in his discussion of the effects of chronic mercurial intoxication in the offspring, says there can be no doubt of the hereditary influence. Children born of women thus poisoned are often feeble and rickety, and seem to be prone to tuberculosis. Some of the facts handed down are the following: Children born of parents before they had ever worked in mercury were healthy; children born of the same parents, who had become workers in mercury, were diseased.

As to the treatment of these cases, the first thing to do, if possible, is to remove the cause, and then to use such medicinal remedies as will increase elimination. Chlorate of potash and iodide of potassium seem to head the list of medicinal treatment.

I have very briefly given the etiology, symptoms and treatment of chronic mercurial poisoning.

I have very briefly given the etiology, symptomizing to discuss mercurial poisoning as it was to report a case of poisoning by calomel, and the results of an operation for the correction of deformity caused by the poisoning.

The case I have to report is a little girl 5 years of age, who was given calomel in the forming stages of what terminated in typhoid fever. Through the kindness of Dr. E. P. Rogers, of Askin, Ky., who sent me the case, I received my information of the acute symptoms. I saw the little patient about eight months after her recovery from the typhoid fever. She had ankylosis of the jaw, with necrosis of the inferior maxillary bone. A portion of the left cheek about the size of a silver dollar had sloughed entirely away, exposing the teeth and the inferior maxillary bone. The sloughing of the cheek resembled very much that of the sloughing of the parotid or submaxillary glands following typhoid fever; but the location and previous history proved very conclusively, to my mind, that it was due to mercury. I removed at least two-thirds of the left half of the inferior maxillary bone; and with eight separate operations, under profound anæsthesia, succeeded in closing the cheek. I will state that while I have not done as much surgery as many of you, it was the most tedious piece of work I ever did.

On examination of the wound when union should have taken place I invariably found a bubble of saliva presenting itself. I used colloidion and gauze dressings, and adhesive strips.

As long as I used these dressings it seemed as if it were impossible to get complete union. These dressings with the moisture they received from the body made a real poultice, which kept the edges of the wound so moist and soft that the dressings acted as absorbing agent and kept the saliva constantly between the edges of the wound. I finally resorted to the adhesive strips, without any other dressing at all, and believe that the successful results were due largely to them. The little girl now has a complete cheek, also lateral and vertical motion of the jaw.

In plastic work done on the face, I now use adhesive strips altogether, and can see that my results are better. It has been my experience that the least dressings you use the better your results will be.

URIC ACID AND METABOLISM.

By BENJ. K. HAYS, M. D., Oxford, N. C.,
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Uric acid is a white, odorless and tasteless crystal, composed of carbon, hydrogen, nitrogen and oxygen. It is feebly soluble in 15,000 parts of cold water, and upon decomposition, yields by weight about $33\frac{1}{3}$ per cent. nitrogen. It is a constant ingredient of the urine of man, the quantity eliminated in health varying from five to ten grains per day. It is not found in a free state but is combined with sodium and potassium salts, and is frequently deposited as a brick dust sediment. Chemically, it is closely akin to urea, and like urea, is in a large degree the product of partially oxidized proteid.

The seat of uric acid formation has been much disputed. Formerly it was thought to be formed in the kidneys; at present most authorities believe that it is formed in the liver, though Simon, of Baltimore, thinks its origin is in the spleen, while Hutchingson holds yet a different theory, of which I shall speak later.

Modern pathology has traced a large number of diseases to uric acid, while Alexander Haig, of London, ascribes to it most of the ills to which flesh is heir.

In *gout* there is not only an excess of uric acid in the blood, but the urates are deposited in the joints. Every text-book on practice gives a chapter on *Lithaemia*, which means uric acid

in the blood. The gastric, cardiac, hepatic, nervous and cutaneous symptoms described are too familiar to require mention.

It is known even to the laity, that highly colored urine is a frequent indication of ill health, and medical men need not be reminded that this coloring is due to an excess of urates.

Are we to accept the views of Haig, and expect a speedy advent of the millennium to follow the adoption of a uric acid free diet; or are we to follow our distinguished American therapeutic skeptic, Dr. William Osler, and view askance the entire subject?

Before undertaking to answer this question, permit me to review the physiology of food, digestion, absorption and excretion, and note if possible the roll of proteids in metabolism.

If I may be permitted to use the time-honored comparison between the animal body and a steam-engine, it will at once be noted that food taken into the body must serve, not only as a heat producer, but must furnish the materials for an automatic repair of the broken down and worn out parts of the machine. There must also be an escape for the ashes or waste materials of the body, as well as for the gases which have been generated in the process of combustion; and to this extent at least the analogy holds good.

Foods.—Organic foods are classed as nitrogenous and non-nitrogenous. The nitrogenous foods include all proteids and albumenoids; examples, lean meat, eggs, certain constituents of milk and leguminous vegetables, and in a less degree, cereals.

The non-nitrogenous foods are the oleaginous and carbohydrate groups; examples, oils and fats, cane-sugar, fruits, cereals, milk, etc.

The inorganic foods are water and mineral matter.

In maintaining the heat of the body, all foods play their part, but in the repairing of waste tissue only the proteids are of service.

From this we would conclude that proteid is the only form of food which supplies all the demands of the body; and practice has shown this to be true, for there are tribes of men who live exclusively upon lean meat. Before a food can be utilized in the production of energy, it must be oxidized, and this process results in certain waste products which we will now consider.

In round numbers we may say that seventy-five per cent. of the waste material of the body

is water, its function being that of a sewer. It is less work for the kidneys to throw off a large amount of water with a low specific gravity than a small amount with a high specific gravity.

Next in quantity comes carbon dioxide, an invariable product of combustion, which is eliminated chiefly by the lungs.

Feces occupies the third place in quantity of the waste products and is composed of undigested particles of food, certain products of decomposition, mucus, bile and inorganic salts.

Finally we have for consideration the solid constituents of the urine, which compose under normal conditions from three to five per cent. of the entire quantity passed.

Urea is the chief of these, making up about one-half the quantity of solids, and uric acid is next in importance, being found in the form of alkaline urates.

We have thus noted two important facts: First, that man can subsist exclusively upon a proteid diet; second, that the waste material from proteid is eliminated chiefly by the kidneys.

Let us trace some proteid, say a piece of beef-steak, as far as possible in its course through the body.

Since cooking converts connective tissue into gelatin, a well-done steak is more easily digested than a rare one.* Next the steak is presumed to be thoroughly masticated, but as most Americans eat their steak rare and swallow it without chewing, and furthermore, eat far more than is needful, we at once find ourselves facing a pathological rather than a physiological condition.

In the stomach the diluent action of the gastric juice reduces the mass to semi-liquid chyme while the pepsin and hydrochloric acid present convert the insoluble, non-diffusible proteid into soluble, diffusible peptone.

Very little absorption takes place in the stomach. The acid chyme, passing through the pylorus, enters the alkaline medium of the intestines.

The trypsin from the pancreas not only continues the conversion of proteid into peptone as begun by the gastric juice, but is supposed to carry the process a step further. The leucin and tyrosin formed during intestinal digestion are thought to be the product of proteids acted upon by trypsin.

These products along with the peptones are absorbed by a selective action of the intestinal glands, collected by the capillaries and conveyed to the liver by way of the portal vein.

Leucin is converted by the liver into urea and as such is conveyed by the blood to the kidneys, where it constitutes the chief nitrogenous waste product of the body. This is not the only way in which urea is formed, but it is the chief way.

As we have seen, uric acid is closely akin to urea, and probably has its origin in much the same way.

In birds and reptiles no urea is found in the urine, but uric acid instead.

It is worthy of note that urea fed to birds appears in the urine as uric acid, while uric acid fed to mammals appears in the urine as urea. This leads Foster (*Text-book of Physiology*) to conclude that urea is better adapted to a liquid urine, while uric acid is the form assumed where the urine passes as a solid.

Uric acid cannot be regarded as a partially formed urea, nor is it the result of the decomposition of urea. It is more probably a synthetic product, composed of urea and glycochol.

If, then, urea and uric acid are so nearly akin, and if both are found in the blood under normal conditions, why should uric acid alone have such a pathogenic tendency?

To this question I shall give answers suggested by various students of the subject after noting:

1st. Uric acid is practically insoluble in neutral aqueous solutions.

2nd. It is freely soluble in alkaline solutions.

3rd. It has a tendency to unite chemically with certain alkaline salts, forming urates.

4th. Urates cause tissue necrosis.

The blood is always alkaline, but as there is a variation in its alkalinity, it must follow that the amount of uric acid which it will hold in solution varies. As soon as formed uric acid unites with the alkaline sodium phosphate of the blood, forming urate of soda, and as such circulates through the tissues. According to Haig, the deposit of urates resulting in gout and kindred diseases is simply a result of diminished alkalinity of the blood.

Garrod admits the diminished alkalinity of the blood to be a factor, but holds that the chief cause is defective elimination on the part of the kidneys.

Von Noorden thinks that the so-called uric

*This has been much disputed.

acid diseases are the results of a hypothetic ferment causing a tissue necrosis, and that uric acid has nothing to do with them.

It has been shown by Klemperer that leukemia is attended by an excess of uric acid in the blood equal to that of gout, and this would lead us to suspect some other factor in the production of the latter disease.

Osler lays stress on the frequent association of lithæmic and neurotic diseases. Every practitioner of any experience has had occasion to note this association, but the question still remains, does the nervous temperament cause the lithæmia or does the lithæmia cause the nervous temperament?

The association of gout, renal calculi and interstitial nephritis has often been pointed out. Samuel West says of this that the one does not cause the other, but all are the result of defective elimination.

The theory of Dr. Woods-Hutchinson, alluded to above, has recently attracted much attention. Briefly stated it is as follows:

The so-called uric acid diseases are in no sense dependent upon the diet of the patient, but are the result of a destructive metabolism of the nucleins of the body tissues, resulting in an auto-toxæmia; that uric acid is simply coincident with, and not the cause of these diseases, and that the only advantage to be gained by diet is to prevent intestinal fermentation

The great weight of authority, however, favors the theory that the uric acid diseases are the result of:

Excessive proteid diet,
Defective oxidation,

Imperfect elimination on the part of the kidneys.

To these we must add alcohol and hereditary influences.

If we accept these causes, and in the main we are compelled to accept them, the treatment suggests itself, and will be very briefly dealt with here. It may be summed up in: diet, eliminants, exercise, attention to atmospheric conditions, attention to nervous symptoms.

Diet.—Exclude red meats, all fried food, sweets and highly seasoned food. Require the patient to eat stale bread or toast in place of hot half-cooked bread-stuffs. Tell him candidly that he cannot hope to get well unless he is willing to do this. Let him understand that a very light meal of well cooked food, thoroughly masticated, will furnish more bodily strength

than double the quantity of poorly prepared food eaten hurriedly. Every particle of food should be chewed until thoroughly insalivated. Water should not be taken with the meal, nor ices, following it.

It was said of a certain boarding house that the weakness of the coffee was compensated by the strength of the butter. On the same principle the American people atone for eating too much meat by drinking too little water. Every teamster will tell you that his horse would better go without his dinner than without water, nor would he think of feeding his horse first and watering him afterward. And yet men of intelligence and culture persistently treat their own stomachs in a way that would be regarded as cruel if applied to a horse.

I am conscious of harping on a subject that has been worn threadbare in presenting this line of treatment, and yet as long as it is neglected, I think any writer on the subject is justifiable in urging it?

The patient having learned his lesson in regard to diet, we should next see that his emunctories are active. In the majority of cases we will find a scant, highly colored, highly acid urine. All authorities agree that the best remedy for this condition is a natural alkaline mineral water. There are many such waters on the market, the relative claims of which I have examined with some care, and have no hesitancy in expressing my belief that the Buffalo Lithia Water is without a peer. Many patients, however, are unable to pay for the continued use of any of the bottled waters, and should be advised to drink freely of some light pure spring water to be found in easy reach of their homes. The water should be taken in regular quantities, and upon an empty stomach.

The uric acid patient will usually be found to be either a person of sedentary habits or one who is constantly exposed to sudden atmospheric changes. We must, therefore, insist upon regular out of door exercise, and upon complete protection of the body from exposure to cold.

It is not my purpose to enter into a discussion of the many drugs that have been advocated in uric acid diseases. Perhaps no two cases require exactly the same remedy. There is a suggestion, however, that I wish to make with special regard to nervous symptoms. Send your patient away from home. Insist that he have a rest from the cares and duties of home

life. A change of scene, of faces, of cooking, a getting away, as it were, from ones dull and listless self, is invariably followed by good results. We have all observed how mountains and sea-shore dispel the mental depression from which both we and our patients so frequently suffer.

In conclusion, allow me to remind you of the value of suggestion in the treatment of these cases. Suggest health and happiness and a forgetfulness of self. Impress upon your patient the baneful effect of morbid introspection, and if possible help him to become interested in something that will take his mind from his physical condition. It is rarely, if ever, the case that we see an enthusiast upon the subject of out of door sports the victim of uric acid diseases.

SOME OBSERVATIONS ON THE TREATMENT OF RECTAL DISEASES.*

By WM. L. DICKINSON, A. M., M. D., Saginaw, Mich.,
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Carlyle says in "The Hero as Priest": "Every man is not only a learner, but a doer; he learns with the mind given him what has been; but with the same mind he discovers farther—he invents and devises somewhat of his own. Absolutely without originality there is no man. No man whatever believes, or can believe, exactly what his grandfather believed; he enlarges somewhat by fresh discovery his view of the universe, and consequently his theorem of the universe; he enlarges somewhat, finds somewhat that was credible to his grandfather incredible to him, false to him, inconsistent with some new thing he has discovered or observed."

These words, spoken sixty-four years ago, can be appropriately applied to the medical profession in general, and to the members of the "American Proctologic Society" in particular, for each individual member must endeavor to digest and assimilate the rich—and nutritious—mental pabulum served at our annual gatherings, and then, according to his individuality, make use of the new thoughts and ideas, appropriating and making them a part of himself.

When I was a medical student, the professor

* Read before the American Proctologic Society, at Atlantic City N J, June 9, 1904.

of general surgery gave the class one hour's lecture on rectal diseases, and he spoke of only one condition—namely, piles, external and internal; advised us to use opium and tannin ointment in both varieties, and warned us that the patient ran a great risk of death from hemorrhage if the piles were cut off, and that he was quite apt to have a stenosis of the anal outlet when subjected to the ligature operation. I cite this in order to show what changes have taken place in the teaching, and surgical treatment of piles alone during the last twenty-five years. To-day the surgeon does not hesitate to employ local or general anaesthesia, and remove either external or internal piles, by whatever method seems appropriate for the case before him.

I have had some good results follow the injection of boiling hot normal saline solution into internal piles. There is immediate blanching of the tissues and coagulation of the blood. The pain is trivial, and in three or four days a marked shrinkage has taken place, and the pile has nearly or quite disappeared in ten days. This treatment ordinarily does not confine the patient to the house, and there is not marked discomfort following the treatment; but in one case of muco-cutaneous pile, there was a severe inflammation set up, resulting in a marginal abscess. I was unable to determine why this occurred, as the same aseptic precautions were followed as in the cases where there were no untoward results.

We can resort to electrolysis in the case of patients who are opposed to any cutting operations for internal piles. We inject the pile tumor with a two per cent. beta-eucaine solution, distending the tumor to its full extent, and with a large dispensing pad attached to the negative pole, applied either to the back or abdomen, and a platinum or No. 5 cambric needle, in a suitable handle, attached to the positive pole of a galvanic battery, is thrust into the pile, and current of ten to fifteen milliamperes turned on for ten minutes. The tumor is quickly blanched and soon becomes quite hard.

One treatment is usually all that is required, and a second should not be done until perfect healing has occurred. There is usually considerable pain for three or four hours following this treatment, which can be controlled nicely with sponges wrung out of hot water and applied to the anus, or by the introduction of an opium and belladonna suppository.

There is an ill defined condition of the anus and lower rectum, where the patient complains of a fullness and bearing down of the parts, which can be easily remedied by the use of galvanism. A chamois covered copper rectal electrode attached to the positive is introduced into the rectum, while a large abdominal pad is connected with the negative pole. A current of eight or ten milliamperes should be used for about ten minutes, and applied every second day.

When the patient will leave the treatment to my judgment, in the case of internal piles, I prefer the excision method, as the healing takes place rapidly, and the patient is able to attend to his duties in about one week. Each pile is injected with a half of one per cent. cocaine solution, fully distending the tumor, and then proceeded with as though general anæsthesia had been employed. Since reading the article of Dr. Gant, I have used the sterilized water in several cases, according to his method, and found it satisfactory.

I consider pruritus ani, at times, one of the most stubborn conditions to overcome in rectal work. I recall to mind the case of a man, sixty-five years of age, who had suffered from pruritus ani for nearly three years. The irritation and loss of sleep, at times, made him temporarily insane, and one day following nearly a week of wakefulness, and intense pruritus, he threw his furniture out of the house, and then attempted to shoot his wife. He was restrained by the neighbors, and in a few days, his son brought him to my office for an examination. The patient was unable to answer questions intelligently, or to concentrate his thoughts. The anal integument was thickened and lacking in pigment. The pruritus extended well down the scrotum, and there were numerous finger-nail marks upon the parts. Examination revealed an anal fissure and internal piles. The patient was placed in the hospital and operated upon for the fissure and piles, and in two weeks returned to his home greatly improved; but at times there would be the most intense pruritus. I should have said that there was not at any time either albumin or sugar in the urine. After the patient had taken tonics for three months, and there was a good appetite, and gain in weight of twelve pounds, I put him on teaspoonful doses of alkalithia, and continued it for ten weeks, when he was free from all pruritus, and has remained so for nearly five years. I find

there are many cases of pruritus ani, where we must continue our constitutional long after the local treatment has been discontinued.

We read at times of some doctor curing rectal fistulæ by means of galvanism. The method briefly stated is as follows: First cleanse the tract, then cocaineize and introduce a suitable copper wire to the bottom of the fistula. This wire is connected with the positive, while a large abdominal pad is connected to the negative pole. A current of ten to twenty milliamperes is turned on for ten to fifteen minutes. In a few minutes there exudes from the external opening a greenish colored water, and the object is to deposit this oxychloride of copper deeply in the tissues. The treatment should be repeated every four or five days.

My experience leads me to consider this treatment only suitable for recent and very simple fistulæ, and where the patient is over-afraid of surgical treatment.

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LOCAL TREATMENT OF DIPHThERIA.

By JAMES R. ELY, M. D., Frankfort, Ky.

Diphtheria is a contagious and infectious disease, characterized by the formation of false membranes, the presence of Klebs-Loeffler bacilli, and the clinical features of this disease resulting from the entrance into the blood and glands of the bacilli and toxalbumens which are generated in and beneath the diphtheritic false membrane.

Excluding false membranes due to syphilis, scarlatina, herpes, follicular tonsillitis, and membranes after tonsillotomy and cauterization, we may justly diagnose all *other* false membranes as diphtheritic.

Primarily diphtheria is a local disease due to the growth of the bacilli on a previously denuded mucosa; systemic infection is a secondary result, produced by the Loeffler bacilli entering the blood and glands through the denuded mucosa as through an "open door," and the absorption through the same openings of the toxalbumens that are being constantly distilled by these bacilli in and under the false membrane. No bacteriocidal sprays or local applications made over this false membrane have a particle of power to destroy these bacilli, stop their distillation of toxalbumens, or prevent the entrance

of these toxins and bacilli into the blood and glands and the resulting systemic infection, except it be some local application that will dissolve this membrane without traumatism or much pain, and will also neutralize the toxalbumens in the membrane and mucosa, and destroy the bacilli and all germs in the mouth, nose and throat.

We have several remedies which when applied locally will dissolve the membrane, but we have two which will do this and will also neutralize the toxins in the membrane and on the abraded mucosa. These are lactic and tartaric acids. The toughest diphtheritic membranes will dissolve completely in five minutes when placed in a 5 per cent. solution of lactic acid, and both of these acids neutralize diphtheritic toxins. (Bourges.) We have no serum, which when injected, will destroy these bacilli after they have entered the circulatory and glandular systems. These bacilli will live and grow in the anti-diphtheritic serum, and they enter the body with great rapidity during the existence of the false membranes. (Louis Caines.) Antitoxin injections neutralize the toxins in the blood and stimulate the growth of Erlach's chains of alexines. They have the power to prevent anemia and degeneration of nervous and muscular tissues, but have not the power to destroy the bacilli in the blood and glands, or prevent their injurious effects on the heart, lungs, arterial or intestinal organs. (Abbott, Gaskey, Flexner, Howard, Stokes, Resner. See Johns Hopkins Reports.)

Wasserman has attempted to remedy this deficiency by making a combination of antitoxins, one made from the horse with one made by the distillation of the Klebs-Loeffler bacilli. His experiments on animals seem to indicate a possible success when applied to human subjects. If we can remove the false membranes without injuring the sound mucous membranes, destroy this distillery of toxalbumens under this false membrane, neutralize all the toxins in and around the denuded mucosa by the local applications of lactic or tartaric acids; and if after such removal we can render all the mucosa in nose, mouth and throat thoroughly aseptic and perfectly free from all germs, and keep them so, do we not minimize, if we do not prevent, all the systemic and serious results of diphtheria?

Alfred Jordan (London *Lancet*) reports 54 successful cases treated locally, and the mouth, nose and throat kept constantly free from all kinds of germs by the local application of a two

to four per cent. of formalin. He made careful bacteriological examinations of all these localities after such applications and always found them free from all varieties of bacteria or germs. Rennart reports 53 cures by daily applications locally of lactic acid and bichloride of mercury. Oertel (*Ziemssen's Encyclopedia*) reports 51 consecutive cures by local application of carbolic acid. Morel MacKenzie and Barthallow recommend a solution of lactic acid to remove the membranes.

Graucher and Grancher ablated the membrane and applied a solution of camphor and lactic acid, or lactic acid and carbolic acid, and claimed signal and unparalleled success by this treatment. (See Bulletin Mem. de Societies de Med. Practique May 15, 1890.) Aramainen, local application of a remedy the composition of Paris, reports 75 cases with 75 cures by the of which he is not willing to disclose until further tests.

Now if we will apply a solution of lactic acid to the diphtheritic membrane as soon as it forms, or on our first visit, in a little while we can wipe away the dissolved membrane with absorbent cotton on an applicator. If we then with a clean piece of cotton dip the applicator in a 4 per cent. solution of formalin and swab out all these localities we will have them perfectly free from all kinds of germs, and there will be no danger from any new infection from the Klebs-Loeffler bacilli or from any other germ or cocci. The mouth can be kept constantly free from all germs and the local applications will hasten the healing of the denuded mucosa.

Some of my medical friends object to all local treatment because children always struggle against any local treatment. Does any physician or surgeon refuse to intubate in laryngeal diphtheria either because the child will struggle against his efforts to introduce the tube, or for fear he will injure mouth, throat or trachea or remove some of the membrane?

Roll your patient tightly in a sheet, lay him down on the bed while the nurse holds his head, and it is impossible for the child to struggle. This is the best position also for intubation or for washing out the nasal passages.

Others object to removing the membranes because this uncovers an abraded mucosa, and subjects it to new germ infection. Well, have we not under each false membrane a raw surface covered by this membrane, where the Klebs-Loeffler bacilli are protected from all harm, where they are multiplying like the lice in

Egypt, where they are constantly distilling their toxins, and where both the bacilli and the toxins have an open door to the blood and glands? Are not all the fatal results from diphtheria due to the bacilli and toxins entering the blood and glands? Do they not enter entirely through this open door into the blood and glands? Why not, then, dissolve these membranes, uncover this distillery and kill the distillers and destroy their toxins, and keep the mouth, nose and throat free from all germs and thus prevent all secondary infection?

Medical writers and teachers tell us never to remove these membranes, but to use aseptic sprays and normal salt solution over the membrane! You might as well sing songs to a dead jackass as to rely on such medication! They are as powerless to do good as Mrs. Partington's mop against the stormy Atlantic, or the Pope's bull against the comet. Why leave these false membranes to disintegrate, soften and slough away and thus make a paradise for pneumococci, staphylococci and streptococci and all their fatal systemic results? But even if we find on visiting a case that these membranes have not been removed, and the mouth, nose and throat are filled with sloughing, stinking and putrid membranes, and some hanging out of the nose, bleeding and discharging a putrid acid fluid, even then we can confer no better favor on our patient than to remove all possible membranes or parts of such membranes from all approachable localities and swab them out and make them as aseptic as possible. You will see that your patient can swallow and breathe easier and can take food and enjoy sleep. I have often removed a quantity of such putrid membranes with great benefit and comfort to the sufferer. These membranes are incubators for all dangerous germs.

When you are called to a case of diphtheria do not hesitate to use local treatment to remove the false membranes and to keep the localities perfectly free from all germs. By this treatment you limit systemic infection by stopping the formation of toxins or entrance of bacilli into the blood.

Medical books tell us that the Klebs-Loeffler bacilli are never found in the blood and glands. Modern post-mortems show them to be the cause of broncho-pneumonia, endocarditis, cardiac thrombi and secondary arterial emboli and intestinal secretions.

Do not hesitate to use antitoxin and use it in 2,000 to 4,000 units. Use it on your first visit

if you suspect diphtheria. Do not delay for a laboratory test—first, because delays are dangerous and the sooner you use antitoxin the sooner you will neutralize the toxins in the blood and thus prevent nervous and muscular degeneration. No single laboratory test is final. The presence of virulent bacilli in the nose or mouth does not positively indicate diphtheria, for they are present in some healthy children, and in a less per cent. in adults; and the differential diagnosis between true and false bacilli is impossible without inoculation. It has almost come to this, that without an inoculation test a bacillus means little or nothing. The clinical diagnosis is surer, quicker and better for your patient. Maufan, Calger and Grancher made comparative diagnoses in over a thousand cases of diphtheria and found the clinical diagnosis as sure and far better for the patient.

Do not hesitate to give large doses of antitoxin, the younger the child the larger the dose. Don't let your patient die because you may be afraid of local treatment, or afraid you may kill him with large doses of antitoxin. Local treatment used late does not do the good that early treatment does. Antitoxin given during the late days of the disease is "no good." The toxins then have done all the injury. Lewis Carnes and others have given from 25,000 and 35,000 to 85,000 units in septic cases and given it intravenously.

I have always advocated local treatment, and removal of membranes, and making the mouth, nose and throat aseptic. I have used Rennart's formula of tartaric acid, lactic acid with bichloride, or Grancher of tartaric acid, carbolic acid and glycerin. I have never seen any disagreeable results from such treatment and have never had any difficulties in removing the membranes and no ill results.

I sincerely believe that if we will use the lactic acid to remove the membrane and formalin to render all the localities perfectly aseptic; use early and large injections of antitoxin, we will rob diphtheria of all its systemic infections and secondary terrors.

Analyses, Selections, Etc.

Classification of Gastric Ulcers.

A. L. Benedict, A. M., M. D., of Buffalo, in a paper read before American Gastro-Entero-

logical Association at Atlantic City, June, 1904, stated that, with certain qualifications, gastric hemorrhage and gastric ulceration may be considered synonymous; that is, ulceration cannot be positively diagnosed without hemorrhage, unless the stomach is directly inspected; while most causes of hemorrhage are either strictly ulcers or conditions that tend to become so. The word ulcer is used in the general pathologic sense.

The following types of ulcer are recognized:

1. The usual, peptic, or round ulcer, due to functional vasomotor disturbances which lower the vitality of an area and allows its digestion.

2. Superficial erosions due to heat, chemicals, etc., with which may be classed in anticipation, ulcers due to radiant force.

3. Ulcers due to organic vascular disease, such as obliterative inflammation, embolism and thrombosis. Such ulcers occur in older persons than the first kind or, at least, in those with tendencies to organic disease. An interesting case of this nature was described, the ulcer having allowed discharge of liquid through the mesocolon into the greater peritoneum.

4. Catarrhal ulcers, analogous to eczematous ulcers of the skin, also due to fibroid changes, but less definitely due to localized vascular disease.

5. Varicose ulcers due to venous obstruction, usually occurring in hepatic sclerosis. (This term is preferred by the author to cirrhosis.) Such ulcers may occur in the œsophagus and intestine, and the obstruction may lead to fatal hemorrhage or capillary oozing without the production of a true ulcer.

6. Toxæmic diapedesis with a tendency to rhexis, as in scurvy, purpura, etc.

7. Vicarious menstruation—not a true ulcer.

8. Gangrenous ulceration. Ulcers of the first, second, third, fourth and tenth types (spoken of in this paper) in which the necrotic tissue is not promptly digested away. Such ulcers are usually cancerous.

9. Phlegmonous ulceration.

10. Specific ulcerations—cancerous, sarcomatous, tuberculous, syphilitic, actinomycotic, and possibly typhoid, dysenteric, diphtheritic, pneumococccic, exanthematous, etc.

11. Traumatic lesions, which may or may not develop into true ulcers, due to crushing injuries and internal wounding by hard and sharp foreign bodies.

Book Notice.

Text-Book of Operative Surgery. Written for students and practitioners. By WARREN STONE BICKHAM, PHAR. M., M. D., Assistant Instructor in Operative Surgery, College of Physicians and Surgeons, New York; late Visiting Surgeon to Charity Hospital, New Orleans, etc. *Second revised edition.* Handsome octavo of 984 pages, with 559 illustrations, entirely original. Philadelphia, New York, London: W. B. Saunders & Company. 1904. Cloth, \$6.00 net; Sheep or Half Morocco, \$7.00 net.

In the arrangement of this work the subjects have been grouped under Part I, The Operations of General Surgery, and Part II, The Operations of Special Surgery. In dealing with each group of tissues, or class of operations (in Part I), or with each organ (in Part II), the following divisions of the subjects are taken up in order: (1) Surgical Anatomy (of the region or organ); (2) Surface Form and Landmarks; (3) General Surgical Considerations (in operating upon that region or organ); (4) Instruments (used in such operations)—all being introductory to the specific operations—after which each operation is taken up in turn under the following headings: (1) Title of Operation; (2) Description of Operation (including its general indications); (3) Preparation of Patient; (4) Position of Patient, Surgeon and Assistant; (5) Landmarks of Operation; (6) Incision for Operation; (7) Steps of Operation; (8) Comments.

This book entirely covers the surgical anatomy and technic of general surgery. Even in the matter of special surgery, the author has interpolated excellent descriptions that are true in special technic. For example, he has fully described and in a most lucid manner the operations on the mastoid, the invasion of the lateral sinus, the excision of the internal jugular, and even the Schwartze-Stacke operation for radical cure of chronic otitis media purulenta which is unattended by mastoid complication. In the line of eye surgery he has described particularly well the removal of the eye and the operation of exenteration whereby the contents of the sclera are shelled out and the sclera left to double on itself in healing—an operation which at times is preferable to removal. The nature of the text-book, however, does not permit the author to outline the conditions under which exenteration is preferable to enucleation. The operations upon the accessory sinuses are

fully described, i. e., the frontal sinus and the antrum of Highmore, and in such an accurate and circumstantial manner as to render these descriptions particularly valuable to the general surgeon.

A peculiar and valuable feature of this work is the treatment of the anatomical relations of the vessels and parts concerned in an operation. These descriptions are full and explicit and yet concise and add much to the value of the work. We would suggest the introduction of the description of Kronlein's operation for exposing the contents of the orbit from the temporal side. This operation is of the greatest value in cases of post-ocular tumors or those immediately involving the apex of the orbit and contiguous structures.

There are 559 illustrations in the text, and the lines of incision in each operation are clearly shown. This book should be the *vade mecum* of military and railroad surgeons. One could easily perform an operation hitherto unattempted by reading from the book at the operating table. The text is not burdened with the numerous views of other authorities. The author has eliminated unnecessary verbiage and presents the subjects from a standpoint of view thoroughly up-to-date. A demand for two large editions of this work within six months must certainly be most gratifying to the author and publishers.

J. H. CLAIBORNE, JR., M. D.

Editorial.

Pharmaceutical Exhibitors at World's Exposition, St. Louis.

We are somewhat surprised to learn of the relatively few leading pharmaceutical firms that are undertaking any form of exhibit on the grounds. Among those that are represented are The H. K. Mulford Co., of Philadelphia, in Social Science Building, Department of Hygiene; Wm. R. Warner & Co., of Philadelphia, in the Palace of Liberal Arts; The Ammonol Chemical Co., of New York, have an exhibit on the grounds; Kress & Owen Co., of New York, also have an exhibit of their preparations, such as glyco-thymoline, etc. The Lambert Pharma-

cal Co., of St. Louis, have an exhibit of Listerine on the grounds, but it is entirely enclosed. While no representative of the firm is in attendance, visiting physicians interested in the firm or their products will receive a cordial welcome at their offices, corner of Locust and 21st streets. The Peacock Chemical Co., of St. Louis, have no display on the grounds, but will be pleased to see doctors visiting the city at their offices, Nos. 112 and 114 north Second street. The Antikamnia Chemical Co., of St. Louis, also decline having an exhibit on the grounds, but will gladly meet visiting doctors at their offices, No. 1622-1624 Pine street, and will supply them, complimentary, with exposition guide books on request. There may possibly be a few representatives of other manufacturing chemists and pharmacists on the Grounds who escaped our attention.

Tazewell Co. [Va.] Medical Society.

At the annual meeting held at Tazewell, Va., June 28, the following officers were elected for the ensuing year: Dr. C. W. Greever, *President*; Drs. F. Pyott and M. B. Crockett, *Vice-Presidents*; Dr. C. T. St. Clair, *Secretary*; Dr. W. I. Painter, *Treasurer*. Dr. Landon B. Edwards, Richmond, Va., was elected an Honorary Member. The program for the meeting, August 30, includes papers by Dr. J. P. Haller, Pocahontas, Va., on "Catarrhal Jaundice;" Dr. W. I. Painter, Tazewell, Va., on "Diagnosis and Treatment of Gall Stones;" Dr. F. Pyott, Tiptop, Va., on "Acute Hepatitis;" and Dr. J. H. Crockett, Tazewell, Va., on "Cirrhosis of the Liver."

Tuberculosis as Dealt with in Some States.

The Board of Aldermen of Raleigh, N. C., May 6th, adopted ordinances requiring physicians to report to the Board of Health the names of all tuberculosis cases in their practice. Provision was made for supplying disinfectants and spittoons, and for disinfecting premises after removal of patients.

In the May 7, 1904, issue of the *Jour. Amer. Med. Assn.*, we find that the State Board of Health of Utah has also adopted a rule which provides that physicians must report to the health officers all cases of tuberculosis, and microscopic examination of sputum will be made free of charge at the State Laboratory.

THE Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

Vol. 9, No. 8.
Whole No. 200.

RICHMOND, VA., JULY 22, 1904.

\$2.00 a Year.
10 Cents a Copy.

THE BEDSIDE DIAGNOSIS OF TYPHOID FEVER, WITH SPECIAL REFERENCE TO THE EARLY RECOGNITION OF THE DISEASE.*

By CHARLES Z. CANDLER, M. D., Dillsboro, N. C.

Typical typhoid fever manifests itself by such evident and characteristic symptoms that to speak of its differential diagnosis would seem almost superfluous. However, mistakes are often made, but these are, as a rule, during the early days of the disease, before the cardinal symptoms, as it were, make their appearance. It is the early recognition and the diagnosis of atypical cases that baffle not only the young and inexperienced, but the old and experienced physician as well.

Delayed treatment affects in itself the life of one person, while the delayed recognition of the disease may affect many lives. This fact is manifested more particularly in private than in hospital practice. We know also that the earlier in a case we begin treatment, the better the patient's chances for recovery. Therefore, the early recognition of the disease is of the utmost importance from the point of view of treatment.

There is another important reason for endeavoring to ascertain as early as possible as to whether a patient is suffering from an attack of typhoid fever, and that is: As long as the malady is not identified there will be no steps taken towards the prevention of the spread of the disease to others. Think of the trouble that may arise from the so-called ambulant case, before his condition is diagnosed, if indeed it ever is diagnosed.

What, then, are the clinical symptoms of a case of typhoid fever in its early stage? It appears to me that the most important symptom is that of the *temperature*. The height to which the temperature rises is in itself not diagnostic; it may be 99°, or it may be 104°, or 105°. A

*Read before the North Carolina Medical Society, at Raleigh, N. C., May 25, 1904.

person may go for days without any apparent discomfort, except perhaps loss of appetite, more or less headache, indisposition to any kind of mental work, with, in some cases, a slight diarrhoea, and yet have a more or less elevated temperature. I have in mind now the case of a young man (a barber), who consulted me for a general malaise which had existed for several days, together with headache, bad dreams at night and loss of appetite. In spite of this condition he had kept up his work in the "shop." His temperature was found to be 103.6° Fahr. He was promptly put to bed, and went through a typical attack of typhoid fever. I have no doubt that had his temperature been taken a week prior to my first seeing him it would have been found above the normal. We are frequently consulted about just such cases. A man comes in with a pale face, a tired, drawn expression, lack-lustre eye, the pulse slightly accelerated, the tongue coated with a dirty white or yellowish fur, more pronounced in the centre than at the sides. The red edges spoken of in the text-books will not be seen at this stage. The skin may seem dry and hot, but this symptom depends upon the condition of the observer's hand.

A case with a sustained temperature and that peculiar facial expression—and *I would specially impress that facial expression*—together with other more or less obscure symptoms, would point strongly to typhoid.

We are compelled, then, to diagnose, clinically, by a system of exclusion. To some extent geographical limitations of the disease aid us in the diagnosis. There are, however, sections in which almost all diseases are mistaken for typhoid fever, and *vice versa*.

Before going into a discussion of the specific diseases, let us take up the temperature and a few other special symptoms that seem to characterize typhoid.

The typical temperature of the text-books is characterized by a series of regular step like ele-

vations, a remission of a degree or so in the morning, and an ascent of from one to two degrees in the evening, to reach the maximum about the fourth day. I am of the opinion that a large number of cases do not present this typical temperature chart, and that sometimes a temperature typical of typhoid fever may occur in other fevers. It has not been very long since physicians of eminence did not hesitate to be very emphatic in regard to the value of temperature as a diagnostic sign in typhoid fever. Sir William Aiken in his *Practice of Medicine*, said: "A temperature of 104° Fahr. on the second day is not typhoid fever; a temperature which is not above 102.5° after the evening of the fourth day is not typhoid fever; and lastly, a patient after the first day whose temperature has been found normal once during the first week, is not a case of typhoid fever." This was written twenty years ago. I do not believe that one of these three definite statements has ever been justified. Temperature, then, of itself, is not a guide to the diagnosis of typhoid fever, although a typical chart is strong presumptive evidence of the disease. In fact, any condition with a continuous fever, ascending or irregular, for four or five days is suspicious if no symptoms of other diseases are to be made out.

Diarrhœa.—This symptom was at one time looked upon as a cardinal symptom of typhoid fever. Now it is by no means so common. On the other hand, it is rather the rule than the exception. The disease probably affects the intestines in one of two ways. It either causes undue irritability or it paralyzes. In one condition we have diarrhœa, while in the other we have constipation.

Iliac tenderness and gurgling.—The iliac sign is a very unreliable one, as it may manifest itself in various other diseases. There is tenderness in some cases, though this will generally be found to be of a very indefinite nature. In some cases it is entirely absent, while in others it may be well marked. Gurgling in the right iliac fossa is present when there is much diarrhœa. However, this sign can be elicited in nearly as large a proportion of cases that are not typhoid; in fact, it can frequently be found in a state of health.

The spleen presents no abnormal symptoms in the early stages of the disease, though later on, during the second week, it becomes markedly enlarged.

Epistaxis.—Nose bleed frequently occurs, though in my experience it has been absent in about as many cases as it was present.

The eruption of typhoid fever makes its appearance generally during the second week, on the abdomen as a rule, though it has occurred on other parts of the body. It consists of rose colored spots, which vary in size and shape, and are characterized by disappearing on pressure, to reappear when the pressure is removed. The existence of this eruption is diagnostic of typhoid, though its absence is not proof that the disease does not exist.

DIFFERENTIAL DIAGNOSIS.—*Tuberculosis*, as a systemic invasion, apart from pneumonia, may be mistaken for typhoid. Especially is this true among the negro population. In both affections there is a prodromal stage with anorexia, progressively increasing fever, cough and bronchitis, headache and delirium. The temperature curve in tuberculosis is very irregular, eruption is absent, epistaxis is not common, and enlargement of the spleen is less constant than in typhoid fever. It is claimed that the knee jerk is never absent in typhoid, while in tuberculosis it is variable—being present one day and absent the next. The diazo reaction of the urine, once supposed to be diagnostic of typhoid fever, may also be present in tuberculosis. Clinically the disease is difficult to distinguish from typhoid with irregular temperature. The face will, as a rule, be flushed, in contrast to the pale, drawn expression of typhoid. The tongue is more likely to be coated with a whitish fur, while in typhoid the tongue will be found covered with a brownish fur about the center, the red edges appearing as the disease progresses. By waiting a few days the diagnosis can be made, clinically, by the appearance of more marked typhoid symptoms.

Primary lobar pneumonia is occasionally, though not commonly, mistaken for typhoid fever, as the sudden onset with a distinct chill, marked pulmonary symptoms, presence of herpes labialis, and the occurrence of the crisis from the fifth to the twelfth day, serve to distinguish the disease from typhoid.

Capillary or broncho-pneumonia is liable to be mistaken for typhoid, inasmuch as a capillary bronchitis is common in typhoid. But when due to the latter disease it is, as a rule, not met with before the latter part of the second week.

Influenza.—In my own experience I have known influenza to be diagnosed typhoid in two

instances. In some cases it may exhibit great prostration with early bronchitis and epistaxis, combined with sleeplessness, fever and perhaps delirium. Generally the sudden onset, frontal headache, pain in eyeball, rheumatoid pains and sthenic fever, and the sudden disappearance of these urgent symptoms, together with absence of rose spots and enlarged spleen, serve to distinguish the disease. But typhoid fever may begin with pain in the eyeballs, more or less catarrh of the conjunctival mucous membrane, together with other more or less atypical symptoms. Under these circumstances the best course to pursue is to wait.

Simple continued fever.—Pepper, in his "Theory and Practice of Medicine," says: "Simple continued fever may greatly resemble mild cases of typhoid fever. It is common to meet with patients who exhibit for a week or more a fever of continued type for which no satisfactory cause can be discovered, and the exact nature of which must remain in doubt even after convalescence." The more abrupt onset, the absence of the characteristic temperature curve, the comparative infrequency of nervous or abdominal symptoms, of epistaxis, or splenic enlargement, tend to exclude typhoid fever in the diagnosis.

Meningitis.—Typhoid fever beginning with marked nervous symptoms (cerebro-spinal type) may readily be mistaken for meningitis. I have in mind the case of a girl, sixteen years of age, who was taken sick with a severe pain in the head, delirium, stiffness of the muscles of the neck, retraction of the head, muscular twitching and high fever. In the course of a few days typical rose colored spots occurred on the surface of the abdomen, the spleen became markedly enlarged, there was considerable tympanitic distention and some nose bleed. On the appearance of these symptoms, the headache, delirium and other nervous symptoms passed away, and so did my patient. I did not have an opportunity of seeing her during the early days of her illness; therefore, I am unable to say whether there were any typhoid symptoms, especially a gradually increasing fever, in the beginning. However, I was informed by the family that she had not been well for several days, having complained of pain in her head, loss of appetite and lack of energy. In cerebro-spinal fever the onset is more abrupt, the pain in the head more intense, vomiting more common, while the abdomen is more apt to be re-

tracted, epistaxis less common, enlargement of the spleen less constant and herpes labialis more common than in typhoid fever.

Gastro-intestinal catarrh.—Again quoting Pepper: "Gastro-intestinal catarrh at times produces a group of symptoms highly suggestive of typhoid fever." However, there are some points by which we are enabled to distinguish the disease. In acute gastritis we would find marked tenderness in the epigastric region and vomiting, a bright red tongue, sudden rise of temperature with a rapid pulse and diarrhoea with fetid stools. In gastritis there is usually more colicky pain than in typhoid fever. In some of these cases it is sometimes necessary to wait a week or more before a positive diagnosis can be made.

Dysentery.—It is not probable that dysentery would be mistaken for typhoid fever inasmuch as the temperature would be found subnormal during the greater part of the day. The frequent and painful stools, and the location of the subjective pain—being low down in the abdomen in dysentery, while it would be more likely to exist in the umbilical region in typhoid, the absence of rose spots and enlargement of the spleen, would enable us to come to a correct conclusion as to the nature of the trouble.

Malaria.—There are several points of difference between these two diseases, some of which may be briefly mentioned: *Malarial fever* is usually ushered in by a distinct chill, followed soon by high fever; *typhoid* by chilliness followed by a gradual rise of fever. The rapid *pulse* early in malaria is in marked contrast with the slow and often dicrotic pulse of typhoid. In malaria *nausea and vomiting* are common, with absence of other abdominal symptoms. The presence of the Widal blood reaction would point to typhoid, while the detection of the plasmodium malariae in the blood by means of the microscope would be positive proof of the existence of malaria.

Septicæmia.—I have had no personal experience with this disease, but I should think the history of the case, the local trouble, intermittent fever accompanied by sweats, the absence of rose spot and Widal reaction would establish the diagnosis.

To summarize.—The combined symptoms which are present during the first week, and which may be relied upon for a presumptive diagnosis of typhoid, are: A daily increasing fever with headache and malaise, with or with-

out nose bleed, a brownish furred tongue and a pulse of 80 to 90, with some degree of bronchial catarrh. If to these be added, during the second week, the diazo urinary reaction, enlarged spleen, rose spots and the Widal reaction, the diagnosis would be absolute.

The general conclusions, then, with regard to the differential diagnosis of typhoid fever, clinically, are as follows:

1st. That the diagnosis of typhoid fever in the earliest stages of the disease presents probably greater difficulties than that of any other acute infectious disease.

2nd. That there is scarcely any disease accompanied by fever that has not been mistaken for typhoid fever.

3rd. That the disorders most likely to be mistaken for the disease in this country are: Tuberculosis, pneumonia, influenza, malaria, simple continued fever and catarrhal conditions of the gastro-intestinal tract.

I have omitted laboratory methods of diagnosis for the reason that a description of them would be too extensive for a paper like this. However, I would advise continued study along that line, for by the employment of such methods as are now at our command we are enabled to recognize diseased conditions, the existence of which we have been heretofore almost, if not entirely, in the dark. When possible every country practitioner should possess at least a microscope, for by its employment he may confirm a great many of his diagnoses.

In our mountain section of this State the people are becoming more familiar with sanitary laws; and as a result, the frequency of occurrence of typhoid fever is becoming less and less each year. The source of infection of every native case can usually be traced to an infected water supply. It is well known that the most of our population depend upon springs for the supply of their drinking water, and that the drinking water of our section is unsurpassed. Occasionally a family will become lax in sanitary matters; build a pig sty so that it will drain towards the spring, or do some other equally unsanitary act, with typhoid as a result.

In a paper entitled "An Unappreciated Source of Typhoid Infection," read at the meeting of the Medical Society of Virginia, at Roanoke, by Dr. P. B. Barringer, he calls special attention to the infection of railroad beds as a factor in the spread of typhoid. He claims that

the road bed becomes infected through the discharge of typhoid patients travelling over the road while in the infective stage. The proof he offers in support of this theory, as a means of infection, is very plausible. I regard his paper as a valuable contribution and think it should call for more extensive study along this line. Dr. Barringer is a son of North Carolina; now the distinguished professor of medicine in the University of Virginia.

CHOLERA INFANTUM.*

By W. H. WALLACE, M. D., Disputanta, Va.

Two of the things that strike us first when we consider cholera infantum and bowel troubles generally in children are the lack of a rational nomenclature, and how little we know absolutely of the pathology, and how empiric our treatment. To the first of these we must ascribe the great variation in mortality reports by different clinicians.

The term "cholera infantum" is misleading, to say the least. The infant has not "cholera"; which is an acute infectious disease due to the Koch comma bacillus, whereas the trouble we are discussing begins as an acute indigestion, and is non-infectious; and as far as we yet know, is not of bacterial origin. In the last couple of years the "Shiga" bacillus has pretty generally been found in the discharges of children affected with *all other forms* of diarrheal troubles except cholera infantum. There may be those that will probably dispute my definition of the disease, but after considering all the different and variable pathological findings, I find my definition will hold good.

The pathological findings in different cases are seldom constant, and the line of demarcation between it and other forms of bowel troubles are so ill defined that I think I am justified in making the assertion that they are at least primarily all one and the same disease, and are only divided by name along the lines of location in the bowel or by the degree of severity of the infection.

This is rather a sweeping conclusion, and it may be objected to that the finding of the Shiga bacillus in all other forms of diarrheal troubles

* Quarterly oration delivered before the Southside Virginia Medical Association, June 7, 1904.

proves that cholera infantum as a disease is an entity in no wise connected with the other troubles of the gastro-enteric tract. As a laboratory experiment this fact may be interesting, but from a clinical standpoint it is worthless. How many of us can distinguish between a case of gastro-enteric infection and true cholera infantum? How many of us can make a bacterial examination of the excreta and tell the Shiga bacillus when we find it? And how many children will live long enough for you to have a bacteriological examination made? And after made, what will the difference in treatment be? I do not think, though, that the Shiga or any other bacillus is the causative factor in the production of these diseases and I do not think any one claims it positively as yet. And until the bacterial origin is proven beyond the shadow of a doubt, I think we are justified in looking at it from the clinical standpoint. The man who practices his profession in the country is seldom called to a case of cholera infantum, except it be referred to him from a city brother who is anxious about his mortality reports. The reason of this is that in the country there are fewer bottle-fed babies and they are as a rule better nourished; and when they have some bowel trouble, under good treatment and plenty of fresh air they have enough natural power of resistance to throw off the infection before it reaches that stage of profound depression we all so much dread.

The key note of cholera infantum is shock—profound depression—the other symptoms being secondary. Considering this, it may be well to look at some of the causes.

It may be necessary to notice that the intestinal tract from the pylorus to the anus is roughly estimated as four and one-half times the length of the body. It has four principal coats, and this is worthy of note as bearing on the pathology.

The outer coat of the intestine is peritoneum and does not concern us so much; but the next coat, the muscular, is worthy of attention, as it consists of two layers of muscular fibres between which is the Auerbach plexus of nerves and a net work of lymphatic vessels distinct from those of the mucous coat. The next coat is the submucous, and that also has a nerve plexus (Meissner's) with ganglia and a full supply of lymphatics and blood vessels. The inner coat is the mucous. It will be necessary for us to recall the histology of it in order to have a thorough

understanding of its part in the tragedy of cholera infantum:

The inner surface of the intestinal (small) tract is covered with projecting villi, and in addition, the mucous lining is thrown up into rugæ, as though nature had intended that not a drop of nutriment should escape, for their function is to absorb. It is not necessary to go into the minute histology of the villi and the glands; for I think I have given a clear enough description to enable you to understand my idea.

I have omitted to mention the different glands along the gut; they no doubt figure largely in the pathology of bowel troubles. They are of three varieties: Lieberkuhn's, Brunner's and Peyer's. To save time I will pass over the histology of these glands, just noting that the Peyer patches are thickest in the small intestine, that they project from the submucous coat *to and through the mucous layer* of the intestine, and each of these glands is surrounded by the openings of Lieberkuhn's follicles. Thus it is we have a tremendous absorptive surface, and absorptive glands, greater in children and young persons even than in adults. Around the base of the Peyer glands ramify minute blood vessels, and the lacteals passing out of the villi communicate with the lymph sinuses around Peyer's glands.

It will probably be best to now look at the intestine of a child that has died from this disease. As I said before, the findings are not constant, but nearly enough so to show what I wish to bring out.

The intestine is usually described as having a washed out appearance. The glands are enlarged and much of the epithelium of the mucous coat is destroyed. In the intestine is found a greyish white detritus which is evidently destroyed cell protoplasm. The gut is distended with gas and various forms of bacteria are found.

Having looked at the normal gut and at the diseased one, let us see if we cannot explain the transition from the one stage to the other. I think I may make the assertion without fear of successful contradiction, that the first case has yet to be reported where a child that has been absolutely breast fed by a perfectly well mother has had cholera infantum. Again, I think it is doubtful if we can find a case that has died from this trouble even though bottle-fed without having had some preceding bowel trouble. This

being so, I repeat my assertion that primarily cholera infantum is a particularly acute form of indigestion.

When a child takes into its stomach milk that is contaminated with organisms or with some organic principles that a young stomach cannot digest, the curtain is rung up on the first act of this home-destroying tragedy. If the child be a strong, well developed one it may be able to throw off the trouble by the inherent power of nature provided by a wise economy. But if the child be delicate—the victim of unhygienic surroundings and bad feeding—there is no reserve power to call on to resist the invasion and you have a full fledged case on hand.

Just how this starts is not quite clear, but the first step is probably a chemical one. The food reaches the stomach in a different chemical form from what it has been accustomed to, and stomach digestion is not completed; and the stomach is unable to do more than hurry on the mass into the intestine in a more or less undigested state. This puts more on the intestinal digestive apparatus than it can bear and so we have a revolt. The food mass, instead of being absorbed, is now a foreign body and acts as a chemical and mechanical irritant to the villi and the lacteals of the intestinal walls. Some of these products are absorbed, but at a terrible expense to the whole economy. Remembering that the sub-mucous coat of the intestine is a mass of blood vessels and nerves and that below this in the muscular coat there is another mass of the same description, it is not so hard to account for the profound depression that is one of the marked symptoms in this disease. The toxins in the intestine act directly on the absorbents and directly on the nerve filaments in the mucous coat. This serves to stimulate the excretory ducts to unusual action, and thus we have the paradox of one agent stimulating one set of glands while it paralyzes another. I think the secret of this is that the deep layer of nerves and blood vessels are the excretory ones, while the superficial set are concerned with absorption. The deep set are protected somewhat from the direct chemical and mechanical action by the layer of muscular fibres that cover them, and are thus only acted on by what reaches them through the circulation. On the other hand, the other set exposed to the full force of the poison becomes paralyzed and no nutrition reaches the tissues. This will explain the fact that in no other disease is there so rapid a loss of weight.

In that remarkable work, "The Internal Secretions and Principles of Medicine," Sajous declares that there is a direct connection between the anterior pituitary and the solar plexus and splanchnic nerves of the sympathetic system. He asserts that all the symptoms of poisoning or of infection are due to over-stimulation or to insufficiency of the adrenal system, so called. The profound depression in cholera infantum is due to adrenal insufficiency caused by the absorption and action of the toxins on the anterior pituitary body.

I have not the time to go into the theories advanced and supported by him, but they speak wonders for his research in this field and I refer to them as suggesting a key to the treatment of cholera infantum, and that is stimulation. More lives will be saved when we stimulate more, but many will die still. Dr. Holland reported some time since a series of fifty cases treated without a death. I do not question the doctor's veracity at all, but I must question his diagnosis.

When men like Rotch, of Boston, and Holt and Jacobi, of New York, admit that their mortality is nearly two-thirds of all cases treated, I think we of the general body of the profession should be careful not to call every case of bowel trouble treated cholera infantum. In five years I think I have treated some seven cases of true cholera infantum, and with two exceptions they are all in Heaven. I know that this is not a record to be proud of, nor one to inspire confidence, but as an apology I may state that they were with two exceptions all treated when I had less experience than I have now and were all treated along the lines laid down by our best authorities. The last two I have treated have survived, due, I believe, to a slightly different plan of treatment.

If it were not for the conflicting reports of cures, I would not worry you with a rehash of the clinical symptoms of this disease; but these reports presuppose an ignorance of some; so it will possibly be best to freshen our minds before going into the treatment.

Very seldom do we see a case of cholera infantum that comes on suddenly. The child is usually fretful and peevish for a few days preceding the attack and may possibly have a mild diarrhoea. The parents pay little attention to the child, consoling themselves with the thought that he is "teething." Suddenly, however, comes on the violent nausea and vomiting and such a profound depression that a doctor is

hurriedly summoned. At the first there is generally high fever, and in many cases this persists throughout, but it is not constant in all cases. The bowel actions at first are copious but later are only slight serous stains. In one case I have seen the sphincter become so relaxed that the rectum became everted and there was a constant oozing of a slightly bloody serum. In a very few hours a semi-stupor comes on, the child lies as though dead, except that it may whine when moved. Emaciation is noticeable in a few hours after the onset of the acute symptoms. Another prominent symptom is the great thirst, but the poor little sufferers are rarely able to retain anything on their stomachs.

With such a train of prominent symptoms it seems inexcusable for any one to get confused as to diagnosis.

As the most prominent symptom is depression the keynote to the treatment seems to me to be stimulation. The two next most prominent symptoms are nausea and diarrhœa; and these may be treated by one drug. I always start treatment with calomel, giving it in heroic doses considering the age. I usually start with a one-fourth grain every half hour, if the child be over six months old, and continue till there are signs of bile in the stools or until three grains are taken. At the same time if the stomach will take it, I give whiskey *ad libitum*. No homeopathic doses for me in cholera infantum; whip up that anterior pituitary body that Sajous tells us about. Whip up that flagging pulse. The alcohol will not poison the child half so quick as the toxins that are circulating in the blood. As soon as I can detect bile in the actions, if the child's stomach will take it I give a big dose of castor oil and paregoric according to age.

Castor oil cleans out the alimentary canal as an oily cloth cleans out a gun barrel. After I get the tract clean I try to keep it so. Bismuth subnitrate is probably as good as gut disinfectant and astringent as we have; at all events it can be demonstrated in the stools about as quickly as any other drug of its class, and is well borne by the stomach and has the added virtue of being simple and safe. I also use the sulphocarbolates and Mulford's "protan" where bismuth is not enough.

For the first 24 hours in this disease the only food I allow is rice water, and indeed it is all I give in any case of acute bowel trouble in children—two heaping tablespoonsful of rice to two

quarts of water and boil three hours—adding water as it boils away, so that at the end there are still two quarts.

I give this liberally if well borne. Some contend that this is not nourishing, but I differ with them. I cannot help what physiological chemists say; I have seen Chinamen and Annimetes work hard for ten hours a day on nothing but a cake of boiled rice; there must be nourishment in it or they couldn't do it. I also try albumen water at times. Both the rice water and the albumen water leave very little detritus to be carried off by the bowel, and so there is nothing to harm the inflamed bowel.

Each case, however, is a law unto itself and special treatment may be required for special cases, but the great thing is early and bold stimulation with whiskey and brandy.

For the fever, I trust entirely to tepid sponging and bathing. Plenty of fresh air and good nursing are of course essential. A great trouble usually is to get the parents to leave the child alone. It is always better to keep the child in bed than to have it moved about.

As I said before, my record is not one to inspire confidence but I saved my last two cases along the line I have laid down; and although this record is not enough to establish an opinion, it does seem to me to be rational and is in line with the lessons to be drawn from Sajous' latest researches.

GASTRO-UTERINE DISEASE.*

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Intricate as may appear the underlying conditions which become responsible for the complex mass of symptoms referable to gastro-uterine disease, impassable may seem the barriers which surmount the attempt to unravel these pathological difficulties; yet how simple they all become when one systematically follows an investigation which is complete from beginning to end.

These poor creatures, the slaves of chronic gastric or uterine disease, cannot but attract our undivided attention and elicit our strongest aid as we see them coming to us in the resultant state of malnutrition and distress. The disease

*Read at the annual meeting of New Jersey State Medical Society.

becomes still more pitiable when we are told of the many failures happening as the results of careless examinations, inattention and even the forgetfulness by some of the fact that there exists far-reaching injury consequent upon the disturbance of the balance of sexual life.

That the female sex, as an entirety, suffers from one or more functional derangements of the organic body, is almost an axiom which is accepted as a fact. These simple departures from the normal state, though functional at first, mark the beginning of multiple and complex organic derangement ending at last in severe pathologic lesion.

Your patient complains of a feeling of unrest, a slight frontal or occipital headache, mere fatigue upon ordinary exertion, loss of appetite, distaste for her accustomed food, continued sleepiness, dragging pains in her back, fullness in her pelvis, soreness in the calves of the legs, disordered or painful menstruation followed by persistent leucorrhœa, a sense of "heaviness after meals" and increasing until epigastric pain is her constant companion. She is losing in weight; her muscles become flabby; the adipose tissue has lost its stability; her rotundity of figure is a memory of the past.

Matters of interest to other women are causes of anxiety and peevishness to her; coldness of the extremities, hot and cold flashes, numbness and tingling of the hands and feet give her the first warnings that a miserable state of existence has become her lot, which, unless relieved, will condemn her to chronic invalidism.

If we examine the woman when her symptoms first appear we may find a simple lacerated cervix uteri, a prolapse of one or both ovaries, a retro-deviated uterus with or without adhesions binding down the organ or its adnexa. The uterus entire may be inflamed or its endometrium alone diseased; a small fibroid may be felt upon the fundus or in the posterior wall. The purulent discharge from the cervix or the enlarged and tender tube may tell us the story that an infection was the starting point of the disease. The epigastrium is tender over the stomach centre, or along the greater curvature; perension shows its enlargement, examination of its contents shows lack of synchronism in its action. Constipation and the tympanitic enlargement of the abdomen mark the beginning of the gastric or intestinal indigestion.

As time passes by and a second examination is made, we find the uterus subinvolved and in

a condition of complete prociencia, with the fundus uteri pressing against the rectum, the cervix chronically inflamed, thickened and rendered inelastic by reason of its own hypertrophy. The tubes become the seat of purulent inflammations. The withdrawal of the examining probe is followed by a discharge of blood from the uterine cavity. The broad ligaments are engorged and tender. Burning micturition, frequent desire to urinate, prolapse of the bladder and the anterior vaginal wall, the adhesion between uterus and bladder show us how time and disease have accomplished their purpose.

The greater curvature of the stomach can be found at the level of the umbilicus, the margin of the liver projects well below the free border of the ribs, intercostal neuralgias, interseapular pains and lumbo-sacral disquietude are usually complained of. Nausea and frequent vomiting are present, and dyspepsia, acid eructations and cardialgias appear; the hydrochloric acid of the stomach is decreased, sulphuretted hydrogen is present in excess in the intestinal tract, resulting in non-assimilation and therefore anemia. The abdominal walls are distended from the loss of tone in muscle and aponeurotic tissue. Chronic endometritis with its resultant interglandular tissue is followed by indigestion. Menstrual congestion is accompanied by tympanitic distention, belching and vomiting; the epigastrium becomes sensitive and tender; faintness and anorexia shows the presence of ovarian hyperæmia.

To the end that I may explain the stomach and uterus in their correlative states and the symptoms or diseases referable thereto, happening as the result of their anatomical relations and directly through the medium of the nervous system, by means of its inter-connecting nerve branches, I submit to your judgment the following anatomical facts:

Nature has endowed these two organs very liberally with nervous structures; we find the cerebro-spinal, sympathetic and pneumogastric group of nerves. The cerebro-spinal system need concern us only as it forms connections with the sympathetic and also in its distribution to the external genital organs. The labia are supplied by the ilio-inguinal nerve; the perineum and clitoris by the pudic nerve.

The abdominal sympathetic consists of two major divisions: the splanchnic nerves and the lumbo-sacral chain of ganglia. The splanchnic nerves are: 1st, greater splanchnic; 2nd, lesser

splanchnic, and 3rd, smallest splanchnic. These three nerves arise from the fifth to the twelfth— inclusive—sympathetic ganglia. After passing through the diaphragm, descend, each crossing the adjoining crus, so that the right nerve is behind the inferior vena cava and the left is behind the pancreas; they there unite to form the semilunar ganglion. From the several terminal ganglia of the splanchnic nerves are numerous branches surrounding the cœliac axis of the aorta, and from which is formed the cœliac or solar plexus. Coming to this plexus are branches from the aortic plexus and the right pneumogastric nerve.

The solar plexus, in turn, gives out nerve branches which unite to form secondary plexi and are distributed to the abdominal vessels, accompanying them in their paths to the viscera. Various plexi are now formed, while to us the cœliac, renal, spermatic and aortic are of interest.

The cœliac through its gastric plexus is distributed to the lesser curvature of the stomach; it joins the lesser splanchnic, the right and left pneumogastric nerves.

The renal sends its terminal filaments to the ovary and receives the ends of the smallest splanchnic nerve.

The spermatic supplies the Fallopian tubes and uterus—fundus and anterior wall—its branches connect with the pelvic or inferior hypogastric plexus through the medium of the utero-vaginal, at which juncture it is also connected with the first, second and third sacral nerves.

The aortic is of interest to us only through its inferior mesenteric plexus in its supply to the upper part of rectum and its junction with the hypogastric plexus.

The lumbo-sacral chain of ganglia is a nerve cord which travels downward, resting upon the bodies of the lumbar and sacral vertebræ. It consists of four ganglia in the lumbar region and three or four over the sacrum. These ganglia connect one with the other and receive filaments from the corresponding spinal nerves. Branches from the upper three lumbar ganglia join with branches from the renal and solar plexi to form the aortic plexus. Branches from the aortic plexus—below the bifurcation of the aorta—join with the lower lumbar ganglia to form the hypogastric plexus.

The hypogastric plexus supplies the viscera of the pelvic cavity, contains no ganglia but

bifurcates below to form the pelvic plexus and receives the second, third and fourth sacral nerves.

The pelvic or inferior hypogastric plexus subdivides into the vesico-vaginal, inferior hemorrhoidal, cavernous and uterine.

The vesico-vaginal contains large portions of spinal nerves, supplies the sides and base of the bladder and upper third of the vagina.

The inferior hemorrhoidal supplies the rectum and joins with superior hemorrhoidal from the aortic plexus, also connecting with the median and inferior hemorrhoidal nerves of cerebro-spinal origin.

The cavernous supports the clitoris and is connected with the dorsal nerve of cerebro-spinal origin.

The uterine passes to the lateral portions of the uterus between the folds of the broad ligament to the fundus and posterior wall, connects with the second, third and fourth sacral nerves, hemorrhoidal plexus and ganglia at the side of the uterus which in turn supply the body and neck.

The left pneumogastric nerve in its distribution to the stomach forms the anterior gastric plexus which expands over the anterior wall, contains vaso-motor and secretory elements and unites with the solar plexus, the great and small splanchnic nerves.

The right pneumogastric nerve forms the posterior gastric plexus and joins with the sympathetic branches derived from the coronary plexus. This union of branches between the solar plexus and vagus nerves is accomplished in the muscular and mucous coats of the stomach, forming the so-called plexi of "Auerbach" and "Meissner."

To simplify this nervous complexity may I ask you to bear in mind the reflex paths which I have described—namely, the pneumogastric and lumbo-sacral nerves, branches of the cerebro-spinal system, are in close connection with the sympathetic system—solar and hypogastric plexi.

These sympathetic nerves contain vaso-motor and secretory functions. According to Rohrig they act in a centripetal direction. Thus it is easy to see how the reciprocity of the uterus with stomach is established.

One of the main causes, then, of gastro-uterine disease is the close anatomical relationship existing between these two organs; the reflex nerve paths are the means of transmission. Pri-

marily, the disease affects the uterus; secondarily, reflex symptoms appear which simulate gastric disorder. Thus the terms "reflex symptoms" or "reflex neuroses" represent a chain of symptoms which manifest themselves in the distant portions of the body and in a healthy organ or one that is without discernible disease. As McGillicuddy says: "The reflex neuroses are, of course, symptoms, but yet are more than simple symptoms as they are frequently productive of more distress than the organic disease from which they take their origin."

Peripheral irritation is undoubtedly an exciting cause and may result in the production of reflex disturbance. It is to be remembered that severe disease may be present with but slight reflex disorder; still that does not dispute the fact that reflex irritations may become the exciting cause in predisposed individuals. The sight or smell of cooking food may excite a reflex secretion in the salivary glands or gastric juice, I have seen a fasting dog with an inactive stomach upon the sight and smell of raw meat cause a copious secretion of the acid gastric juice to run through a gastric fistula to be caught upon the testing litmus sheet. A continued anxiety, a sudden fright or surprise may cause a reflex stimulation of the renal glands; the young female emigrant often consults us because of sudden amenorrhœa upon her first coming to our land, which is clearly a reflex condition acting upon the uterine nerves.

The necessity often arises to explain the correlation of symptoms otherwise than can be satisfactorily accounted for by the distribution of nerves. We may describe the same by the existing statical factors between the two organs, stomach and uterus.

In the normal condition the stomach is held in position by its ligaments and the surrounding organs, each one acting independently and all acting in unison for the preservation of the natural conditions. The uterus is held in position by its maintaining ligaments, the upward pressure of the levator ani muscle and the intra-abdominal pressure. The normal adjustment of both organs is accomplished by the intra-abdominal pressure. For the stomach it passes through the region of the greater curvature, pushing it upward; for the uterus it reaches the fundus or posterior wall, keeping it in antifixion.

The equilibrium of these organs is destroyed whenever their volume is altered; the normal

balance disturbed or a change occurs in the adjusting force. The descent of the diaphragm disturbs the intra-abdominal pressure and compensation becomes established, at first by an equal outward expansion of the abdominal wall, as in the normal inspiratory act. If this change is not sufficient to compensate for the altered condition, the force exerts its increased action upon the greater curvature of the stomach and pushes the organ upward, which in turn acts as an aid to compensation of space, until finally it may require the forward displacement of the intestines to meet the necessity of the changed intra-abdominal pressure.

There is a different position for the centre of the pressure force, in consequence of the new positions of the stomach and intestines, and the direction of the pressure now is from above downward and forward. The result of this changed acting upon the uterus may cause either a procidentia, by the force being applied directly upon the fundus or a retro-deviation should the direction of the force be against the anterior wall; thus the gastro-enteroptosis becomes the primary factor in the statical action and the intra-abdominal pressure the secondary factor in the production of the uterine displacement.

A large subinvolted uterus by reason of its own weight and bulk may fall downward and backward until an independent position of retro-deviation results. The displacement may remain constant as the line of intra-abdominal pressure has been changed, but it will have no power to alter the normal statical relations of the abdomen. The reflex gastric symptoms are the results of pressure upon the sympathetic and inferior hypogastric plexuses through the reflex nerve paths which I have before described.

307 York Street.

Modification of Cow's Milk.—It is necessary to prevent as far as possible the great coagulating effect that the lab-ferment of the infant's gastric juice has upon the casein of cow's milk; and this is satisfactorily accomplished either by adding an alkali, such as lime water, or some mucilaginous material, such as barley water or Mellin's Food. In this way the casein curd is rendered loose and flocculent, and more like that of human milk.—"*Diseases of Infancy*," by J. W. Ballantyne, M. D.

FRACTURES OF THE SKULL.*

By J. SHELTON HORSLEY, M. D., Richmond, Va.,

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Fractures of the spine and skull occupy a unique position in that they are of consequence not for the osseous lesion per se, but on account of the accompanying injury to the nervous structures they contain. The skull must be regarded, then, not as a frame upon which muscles work and consequently more or less necessary to the various movements of the body, but as performing the passive role of protection to the cranial contents. This being the case, fractures of the skull interest us only to the extent to which they invalidate this important protective function by injury to the brain and its membranes.

It is well known that the skull is markedly elastic. This can be readily demonstrated by dropping it on a stone floor; it will bound several times, whereas an inelastic mass would remain motionless. The degree of elasticity is determined by three things, the character of the bone and the shape and the position of the skull. If the skull were perfect sphere and its walls composed of the same material of equal thickness at all points, the direction and extent of its fractures could be determined with mathematical accuracy if we knew the character of the trauma. However, the skull is not only most irregular in shape, but in construction as well, and these things, together with its variable elasticity, make it difficult to diagnosticate accurately many injuries to the head.

Von Wahl has divided skull fractures mechanically into "bending" fractures and "bursting" fractures. Whenever the skull is compressed in a given diameter, this diameter is shortened, while circles perpendicular to the direction of pressure are increased in size. Thus its whole form is changed, but that portion directly subject to the pressure undergoes most change. If the force is applied momentarily, and is not sufficient to overcome the elasticity of the skull, that area to which the force is applied flattens out or becomes depressed and immediately resumes its former position. If the force is great enough to overcome this elasticity, a fracture occurs either locally—bending fracture—or at a distance from the applied pressure—bursting fracture. Which of these two

kinds will result depends upon the position of the skull, the amount of force and whether it is concentrated as from a fall on a sharp cornered stone, or spread over a considerable area as in a blow from a sandbag. In the former instance the force of the fall is exhausted by producing a depressed fracture in that part of the skull which comes in contact with the stone, so that little energy is left for the other portions. But if a person was struck on the top of the head with a sandbag, which more or less conforms to the contour of the skull, the force of the blow would be largely expended in increasing momentarily the fronto-occipital and bi-parietal diameters and in decreasing the diameter from the vertex to the base, so resulting in bursting fracture. If the fracture is a fissure it may open quite wide when the skull bursts and immediately close. In this manner hairs, orbital fat or the dura may be caught in the cleft and held firmly when the bone returns to the original position. Von Bergmann records a case in which the "external surface of the skull shows a moderate gonging out of the external table, but not the slightest opening is visible even when the macerated skull is held up to the light and the site of injury illuminated, and yet it was penetrated by a fragment of a bullet." of considerable size found imbedded in the brain.

It was formerly held that the excessive brittleness of the inner table was the explanation of those cases in which the inner table was more damaged than the outer table. This has been proved to be a fallacy, the true explanation resting on the same mechanical facts as in the case of a green stick fracture in a long bone. The fact that the violence comes from without and flattens the skull or even depresses it at the point of contact shows the analogy plainly. The resistance offered by molecules against being torn apart is always less than the resistance offered against compression. In breaking a green stick over the knee, it is the convex side that first gives way, that is the side most distant from the applied force; so in fractures of the inner table alone by violence from without, instead of table alone by violence from without; instead of tarily flat, or even convex, and is stretched and torn apart, whereas the outer table, being merely compressed and not stretched, springs back uninjured. If this be true, force applied from within should fracture the outer table before the inner one is injured. In a man who committed suicide by shooting himself in the right temporal

*Read before the Richmond Academy of Medicine and Surgery, April 26, 1904.

region, the bullet traversed the brain and struck the inner surface of the frontal bone on the left side, discoloring the inner table but not fracturing it. The outer table at this point was found distinctly fissured.

Much has been said and written by Chopart and others about fracture by contrecoup which has been defined by Grima as "a lesion produced by a blow in another place than that which received the blow." Since the mechanics of skull fracture have been more accurately studied, reports of such cases have been infrequent. It is well known that whatever partially prevents expansion in an elastic body tends to produce rupture or fracture, and the tendency is greater when the obstruction is in the line of the applied force. If a skull be suspended in the air and struck, it will take a much harder blow to fracture it than if it be struck while lying on an anvil. For this reason it is more difficult to fracture a skull by a blow on the side than one on top in a person in an upright position, provided, of course, the thin portions of the side of the skull be avoided. Violence on the summit of the head of a person standing meets firm resistance at the junction of the head with the spine, and so fracture of the base is apt to occur. The same mechanics apply and the same results obtain in falling: the apex of the skull strikes the ground first and the impetus of the after-coming spine fractures the base. This is called a ring fracture because its outlines form a rough circle around the foramen magnum.

The mechanics of fractures of the skull has been alluded to in order to assist us to an intelligent diagnosis. Undoubtedly many cases have been operated upon needlessly just as many exploratory laparotomies have been performed that more accurate and patient observation and logical interpretation of the facts might have rendered unnecessary. The old question of compression or concussion of the brain can be of little service to us in diagnosing fractures. Concussion merely means shock, and may accompany a scalp wound where the skull is not fractured. Compression, which is usually caused by hemorrhage, may likewise occur without fracture. I reported a case of this kind (*New York Medical Journal*, Feb. 9, 1901) in which there was complete hemiplegia and unconsciousness from rupture of a branch of the middle meningeal following a blow upon the head. The patient was operated upon, the clot removed and the hemorrhage controlled. There

was no evidence whatever of fracture. The skull had evidently bent in sufficiently to rupture the artery and sprang back in its former position.

In simple fractures of the vault, palpation is the chief diagnostic method. By its aid a fissure or a comminuted fracture can be made out. Care must be exercised to recognize natural depressions and protuberances and those due to an old injury, senile atrophy of the skull and syphilis; and differentiate between them and the results of the immediate trauma under consideration. Very little reliance must be placed on subjective symptoms unless they are distinctly focal in character. When a fracture of the vault is compound, inspection should be called to the aid of palpation. In order to appreciate fully the nature of the injury, the scalp wound may be extended and retracted so as to afford a full view of the osseous lesion. Fractures of the base are most difficult to recognize as well as most dangerous. The surgeon should always bear in mind the kind of violence, its direction and the position of the patient when it was inflicted, as pointed out above. Besides these things, we must look for, first, evidences of hemorrhage spreading from the site of fracture; second, the flow of brain tissue or cerebro-spinal fluid from cavities adjoining the base of the skull; third, injury to the cranial nerves.

The eyelids and connective tissue of the eye, mucosa of the nose and pharynx, and the skin of the back of the neck and at the region of the mastoid and the auditory meatus are places where we would expect to find extravasations of blood or hemorrhage after fracture of the base. In order to attach importance to those things we must be certain that the injury was inflicted at some distance from the point of hemorrhage or extravasation. It is well to recall that slight injuries may produce a black eye or bleeding at the nose. The signs of effused blood are of most value if they appear some hours or even days after the receipt of injury. This is particularly true of the eye, as the areolar tissue and skin of the lids are separated from the conjunctive and orbital tissue by the thick tarso-orbital fascia which extends from the supraorbital and infra-orbital ridges to the edges of the tarsal cartilages. Exophthalmos occurring at the time of injury or immediately thereafter is a most significant sign. Direct hemorrhage may occur from the nose or throat or from the ear. It must be remembered, however, that severe hemor-

rhage may come from the ear following a trauma that does not produce fracture of the base. If a fracture is the source of hemorrhage and the ear drum is broken, the blood will appear at the external auditory meatus and will flow freely. This may be due to a fracture of the middle fossa involving the labyrinth or tympanic cavity. If the tympanum remains intact the blood will follow the Eustachian tube and, appearing in the pharynx, is either swallowed or flows out from the nose. Hemorrhage from the nose may also result from fracture of the cribriform plate of the ethmoid, in which case fracture of the orbital plates of the frontal bone will probably also exist, and with it evidences of hemorrhage into the orbital cavity will appear sooner or later.

Appearance of brain substance in the ear, and rarely in the pharynx, has been recorded. Five cases are reported by Wilder in the *Medical News* (Vol. 46, page 625), in which brain substance escaped through the ear. Two of these cases recovered. The presence of cerebro-spinal fluid is more common, and is, of course, pathognomonic. It comes from the ear or nose, gaining exit from the cranium as blood does after fracture of the base. It may begin flowing immediately and cease in a few hours, but most often the flow commences twenty-four hours after the injury. It is first blood stained, but later becomes clear and presents all the characteristics of cerebro-spinal fluid. On chemical examination its reaction is found to be alkaline, its specific gravity to be 1010. It contains a trace of albumin and a large amount of common salt. If a small quantity be collected and a solution of nitrate of silver be added, an abundant white precipitate of chloride of silver will result.

Interference with the functions of one or more cranial nerves is a frequent occurrence after fracture of the base of the skull. The facial suffers most often from trauma, and on account of its supply to the muscles of the soft palate (through the branches of the otic ganglion, given off from one portion in its bony canal, and the chorda tympani, given off further down just before the facial leaves the skull), the fracture may sometimes be located, depending whether this nerve and all its branches are affected, or merely its facial distribution without paralysis of the palate muscles or without sensory disturbance of the tongue. After the facial, the abducens is next

most frequently paralyzed, producing a squint. The spinal accessory may also be injured, and is followed by drooping of the shoulders. The motor oculi is often disturbed to the extent of producing unequal pupils.

Any of the cranial nerves may be involved in fractures at various portions of the base of the skull, but those briefly mentioned are usually injured. Paralysis of the cranial nerves is either immediate from direct injury or occurs within a few hours from pressure of blood. This should not be confounded with an ascending neuritis that comes on some days after the injury has been inflicted, and is due to bacterial infection.

The prognosis of all fractures of the skull should be guarded, owing to the complications and sequelæ that sometimes follow the slightest injury. The generally accepted belief that fractures of the base of the skull are more dangerous than those of the vault is undoubtedly correct. We must remember that it is not so much the fracture itself as its complications and sequelæ that demands treatment, and the most important of these are damage to the brain substance, hemorrhage and infection.

As for lesions of the brain, we can do little beyond removing debris and establishing drainage; but correct treatment of hemorrhage furnishes brilliant results when bleeding is the chief if not the sole cause of the symptoms. Dr. Charles Phelps, in his work on injuries of the head, says: "If other intracranial injuries have been sustained, which are obviously or presumably of immediately fatal character, operation will probably hasten rather than retard the catastrophe. It is only when symptoms point to hemorrhage as the essential, if not the exclusive, lesion that operation for its relief will afford legitimate hope of success."

The surgeon should have excellent reason for converting a simple fracture of the skull into a compound one. Certainly this ought not to be done merely to verify a diagnosis that may be only of academic interest. It is very doubtful whether a simple fracture of the skull, with slight depression, should be subjected to operation merely to avoid a possible epilepsy. Dural adhesions at the trephine opening will probably cause as much irritation as the depressed bone. If the depression is marked, the bone should be elevated; but fracture with marked depression will be most likely compound fracture.

Whenever there are focal symptoms or evi-

dences of progressive hemorrhage following either a simple or compound fracture of the vault, operation should be done without delay.

In compound fractures, the scalp should be thoroughly cleansed and disinfected, taking care not to use any antiseptic in the wound itself; and, what is equally important, ample provision should be made for drainage by several openings in the skull, if necessary.

In fractures of the base of the skull, routine measures should be carried out as in all skull fractures—as rest, quiet, purgation and cold to the head. Cleansing and attempts at disinfection of the nose, throat and ears are exceedingly important, and should be undertaken at the earliest possible moment.

303 West Grace Street.

DISCUSSION.

Dr. C. M. Hazen said that injuries to the skull are, of course, important on account of its contents; and in treatment, this is the point to be regarded—i. e., not simply try to mend a broken skull. If there be a scalp wound and a break in the skull at the point of injury, it is expected that there will be a brain lesion at that point. Sometimes, however, none exists. But there is a *contrecoup* that may be sufficient to cause softening or hemorrhage producing compression, without injury at the receptive point. The important part is to decide the extent of the contusion or laceration. If the latter be present, there may be symptoms of compression. Compression may be the result of depressed bone, of hemorrhage (caused directly or by counter stroke), of pus formation, and lastly, of scar tissue resulting from operation or otherwise. *Dr. Hazen* impressed the importance of avoiding the formation of scar tissue. Sometimes, after the removal of a tumor, cicatrices or adhesions of the dura result; to obviate this, various substances have been used, of which silver foil is probably the best. From the standpoint of damage to the brain, each case is a law to itself, and so it may be that in fracture it may not even be necessary to trephine. Many cases are reported in which symptoms from apparently identical wounds differ, necessitating difference in treatment. Some operators emphasize the danger of converting a closed into an open wound; others say that in every case exploration should be made at the point of injury, at the point opposite where there is danger of *contrecoup*, and also wherever focal symptoms

point. He reported a case in which the latter procedure would probably have relieved symptoms, though postponing death but for a short while. In summing up, he said that the point of apparent injury is not the only point to be regarded. Every case is to be treated on its own merits. Surgery should go as far as conservatism admits.

Dr. Edward McGuire congratulated *Dr. Horsley* on the able paper which he had presented, but said he was surprised at the extent of conservatism advocated by him. He believes that unless there is absolute certainty that a fracture does not exist, every injury of the skull, especially of the vault, should be explored. From his own experience and that of others, he judges that under proper aseptic precautions there is not much danger of converting a simple into a compound fracture. This is shown by the small mortality following trephining. *Dr. McGuire* reported four cases of fractures of the skull and one of supposed fracture, the latter being that of his son. His opinion in regard to the last case was concurred in by two surgeons, but an incision showed that it was a subcutaneous laceration of the scalp. Regarding the importance of the prevention of scar tissue, he agrees with *Dr. Hazen*. He thinks its formation or non-removal may explain the lack of success in the treatment of traumatic epilepsy, more especially when an early operation is performed.

Dr. Lewis C. Boshier agreed with *Dr. McGuire*, that one cannot be too radical in operating for injury to the skull. In cases of simple fracture with marked depression, trephining often wards off such sequelæ as continuous headache, epilepsy or insanity. As to judging the extent of fractures from the external wound, he described two cases that barely showed any injury. In one case, operated upon, there was discovered a fracture extending from the left parietal to the right parietal and involving the temporal bone. Improvement was manifested almost immediately after elevation of the depressed bone. In the second case, where was found a clot which, when removed, revealed bleeding from a vessel, which was thereupon ligated. In all cases of compound or punctured fractures involving the brain, the skull should be widely opened, and the wound cleansed and properly drained.

Dr. Henry W. Cook said that there is one symptom, which he has had the opportunity of

observing in ten cases of traumatism of the skull, which seems of great value in diagnosing intracranial hemorrhage and so determining the advisability of operative measures. Of course, when intracranial hemorrhage is indicated, surgical interference is demanded promptly. As blood flows from the ruptured vessel into the skull, the brain becomes more and more crowded and anemic, so that first the function of consciousness and finally that of respiration is lost. In order to counteract this increase in intracranial tension, so shutting off the blood supply to the brain, the vascular system responds by proportionately raising the blood pressure. This elevation of blood pressure as measured by the sphygmomanomotor was present in these ten cases in which the hemorrhage was found at operation. One other case in which a small clot was found did not show a marked rise in blood pressure. Where present, however, this rise may be considered pathognomonic of intracranial hemorrhage.

Dr. Horsley, in concluding the discussion, said that the sphygmomanometer, to which Dr. Cook referred, is exceedingly valuable in diagnosing many conditions, and among others, shock and hemorrhage. It has been demonstrated that the injection of unirritating fluids into the skull (unless done rapidly) causes no symptoms until six per cent. of the space has been filled. When from twelve to fifteen per cent. of the space is thus filled, fatal coma ensues. Therefore in cases of hemorrhage into the skull there is no marked rise in pressure till the blood occupies six per cent. of the space, which probably accounts for those cases of slight hemorrhage in which there is no manifestation of systemic pressure.

Although the method of treatment upon which he touched but lightly is unpopular, he warns against converting a simple, even when accompanied by slight depression, into a compound fracture. If there are slight signs of hemorrhage or focal symptoms or marked depression, operation should always be done. All compound fractures should be operated upon. He said that he could never appreciate the reason for operating merely because it is not dangerous to do so. It is this sentiment that has resulted in too many abdominal explorations and other unnecessary operations. There are bound to be disagreeable results. The question is, Is it right to marked depression or compound fracture, why should one operate merely to remove a button

of bone and look at it, leaving a defect in the skull to which the dura will afterward adhere? For a large class of cases, an iron-clad rule of treatment cannot be formulated. For trauma of the brain, one can do little besides removing the debris and providing drainage. Epilepsy covers a multitude of sins. It has been "cured" more frequently than any other disease, and yet the latest statistics of the Craig colony show that only five per cent. are really cured. Every epileptic gives a history of head injury, but there is not one present here to-night who has not at some time sustained an injury of the head. Dr. Horsley said that he does not mean that some cases are not caused thus, but other conditions, as phimosi, may have as much connection with the etiology. The mere fact that a fracture of the skull has been followed by epilepsy does not necessarily mean that the relation is one of cause and effect.

Dr. Henry Wireman Cook exhibited his modification of the Riva Rocci sphygmomanometer for the accurate determination of arterial tension. He said in part that a recognition of pulse tension as an important element in practice has existed since the days of Galen; yet it has never assumed its rightful position as the most important element of the pulse on account of the impossibility of estimating it accurately by digital palpation, or of recording it in intelligent comparable terms. The first great advance in this direction was made by the physiologists, and Ludwig's instrument, the kymograph, constitutes at once the basis and proof of most of the physiology and therapy of the cardio-vascular system of the present day. The physiological methods, involving as they did vivisection, were, of course, not applicable clinically, but attempts were soon made to provide an instrument suitable for clinical use. Only within the past ten years has such a method been sufficiently perfected to be of practical value. This instrument is modified so as to give the Riva Rocci principle in simple, portable form for use in practice and general routine examinations. The pressure as applied by the rubber band is indicated in millimeters of mercury. Thus, instead of saying the pulse is hard or soft, we may say the tension is 250 mm. or 90 mm. Hg. No instrument can or should supplant the sense impressions of the trained clinician, but where accuracy may be desired or mistake excluded, mechanical devices which give definite values to otherwise indefinite impressions, fre-

quently constitute important adjuncts to practice.

The normal pressure in man is 130 mm. If after injury to the head, for example, coma exists, and there is suspicion of hemorrhage in the skull, examinations should be made at five or ten minute intervals. If there is a progressive rise of tension, it is absolutely pathognomonic of hemorrhage. In the case shown, the tension is 185 mm. Here there is a tendency to albuminuria, apoplexy or cardiac dilatation. Hypertension per se is a disease unfortunately not recognizable until a complication has rendered it unamenable to treatment. In certain families, especially those that over-eat, there is a gradual increase of tension, which ends in one of these three conditions, and is not recognized till then. The members are supposed to be in good or even robust health; but sooner or later the attack comes, with a tension running from 40 to 50 mm. increase. The condition may be recognized clinically, so that through treatment the patients may not wear themselves out. Often hypertension is confounded with arteriosclerosis and the patient condemned, when, as a fact, he may live for ten or fifteen years; but sclerosis is not necessarily as dangerous if no hypertension complicates. Treatment should be directed to reducing tension, especially in the direction of over-eating and auto-intoxication. Aside from elimination and diet, the vasodilators, as the nitrites, are indicated.

SUNDOWN JOURNALISM.*

By T. D. CROTHERS, M. D., Hartford, Conn.,
Editor Journal of Inebriety.

Institutions organized to give medical lectures and instruction only in the evening, are called "sundown colleges." The supposition is that a number of young men who are busily occupied during the day with other work are unable to take up medical studies until after sundown, or in the evening. It is claimed that limited means and urgent duties prevent them from studying medicine at any other time; hence this teaching is secondary, and is a form of by-product instruction, after the stress and strains of the day.

* Read before the Medical Editors' Association at Atlantic City, June 6, 1904.

I have used this term to describe some of the peculiarities and eccentricities which appear in journals and journalistic work—the simplest explanation of which is sundown work, or work done when the brain and body are debilitated and below par from the strains and labors of the day. Scientific work in medical journals or elsewhere, is rarely demanded under stress and strain, or should be consigned to sundown periods, when the brain is debilitated from other duties and is less clear and vigorous. Critical readers of medical journals are frequently surprised at the wide variation in the quality, style and tone of the work presented. The editorials differ widely and the point of view often changes, and the thought is sometimes harsh, discordant, or vague and confused. Credulity and skepticism alternate so rapidly as to confuse the reader. While the editor is known to be a man of excellent judgment and careful in his conclusions, the editorial work fails to confirm this estimate of his ability. The inference is that this is the work of other authors, and my plea last year before this Association to have all editorial matter signed, was to enable the reader to clear up this mystery. While journals, like individuals, have frailties, and editors have distinct personalities, the reader is distressed when these peculiarities change rapidly, and become confused and hysterical, and move on unusual zigzag lines. The real pleasure to the reader of a journal is to know and respect the author's consistency, good judgment and uniform impressions of the changing conceptions of science. When he fails in this, evidently some clouds have come into the horizon and broken up the usual order of events—one explanation of which would be sundown journalism—work done under unfavorable conditions, forced work, in which tobacco, coffee, tea, whiskey, morphine are appealed to for help. Editorial comments on matters of which we know the author's familiarity which fall so far below the usual levels of good sense and clearness of expression, must be attributed to this source.

During the past year, many of the contributed articles on consumption have brought out distinct ear marks and footprints of sundown thinking and working. Evidently some of these papers were written by persons suffering from this disease, with its peculiar delusions, and mental twists, largely influenced by the time of writing and the form of drugs used. Often papers on appendicitis have a markedly

sundown movement with a confused exhaustive tone. Such writers are working at night suffering from fatigue, strain and exhaustion, following the operations and other work which they have performed.

Most of the great weeklies and some of the monthly journals contain many marked examples of sundown contributions, noted in the jarry, exclamatory style from the effects of alcohol, or the softer notes and the assertive confidence in which conclusions are stated under the influence of morphine. The cocaine influence in these contributions are more pronounced than that of any other drug, particularly in the endless repetitions and explanations involved, and movement in a dreamy, hazy mass of words.

The query is often made why all this mass of journalist work coming from the press every week and month should be so ephemeral and valueless. The evident explanation of some of it, is sundown writing, stimulated by drugs, and efforts to work the body and brain at a time when rest is required.

The same errors appear in books. Often a clear, vigorous medical teacher, whose work in the class-room is stimulating, will write a book that utterly fails to sustain his reputation. The impression in the class-room as a teacher is broken up by the halting, obscure, non-stimulating, expressionless work in the volume. Reviewers are disappointed in the text-books of eminent practitioners and teachers, that fail to present the best thought and conclusions, and practically are nothing but involved literary patch-work, lacking in form, shape and vigor. The critic is conscious that the author has given only a weak production of what he could have done; hence his praise is formal and mechanical. One of the popular text-books on the market is notoriously a midnight work, stimulated by opium and cocaine; another text-book with a large sale has drug writing and drug work on every page, and the so-called brilliant passages are followed by vague statements so marked that the exact drug used can almost be pointed out.

Frequently some eminent physician in active practice will deliver an address as president or orator for some occasion, and the expectations of his friends will be greatly disappointed. The vigorous, clear-headed man when seen in print appears as a vague, sophomoric thinker, confused in range of thought, jarring in style and

seldom rising to the time and occasion. Often the effort to be strictly scientific appears most prominent by following other authors and restating their conclusions from different points of view, dove-tailed with his own opinions, and all covered with an air of mystery and technical words.

Lectures, essays and pamphlets which conclude with an enormous bibliography, convey the impression and expectancy of an exhaustive effort; yet, when critically examined, the sundown flavor and general feebleness of work is apparent. German literature is very often marred by these posing effects of bibliography following common place writing on well known subjects, mixed up with excessive technicalities and sentences so involved that the author's meaning is never clear.

Editors are always troubled with contributions from influential, active medical men whose writings are mere by-products and feeble sundown efforts. Their standing in the community and reputation makes it difficult to refuse such work, and yet the editor knows that it is mere stuff and fustian, and often without the merit of style and culture. The only objection that can be offered is that the columns are crowded and his stock of supplies exceeds the demand for a long time to come, and this is literally true of this class of work. I have come in contact with many medical men, noted as voluminous writers, who are, or have been, disabled from the use of spirits and drugs. They usually suffer from insomnia and take to writing midnight articles that reflect accurately their exact mental condition. Some of these writers after varied experience as journal contributors become book authors. It is needless to add that the paranoic brain, influenced by beer, alcohol and drugs, appear more or less prominently in all their work. Foreign medical literature both in journals and books often exhibit the same marked traits, the same banquet twist, the same wine and beer coloring, and the same midnight work often unmistakable. While the range of thought is less versatile and vigorous, it always excels in stupid conservatism and technical minutia.

To all careful observers, the examples of this kind of work apparent in general literature will be surprising. Magazines and articles and books present many illustrations of midnight work done under the influence of alcohol, morphine and cocaine. A book having a large sale

and admired by many persons was written by one using cocaine. The plots, the mystical style and the range of thought and other indications are conclusive. It is surprising to note how exactly the writer, both in scientific and general literature, unconsciously and exactly describes his mental health and condition in his writings.

As editors and writers, we may not always be able to make wise discriminations of the contributions offered or determine the real value of scientific writing, but personally we can avoid sundown work and midnight thinking, and thus cultivate sharper eyes and clearer brains in detecting the movement and direction of scientific progress. An article recently published by a very clever critic and medical man claims that much of the literature of to-day can be aptly characterized as the direct products of coffee, beer, wine, spirits and compounds of opium and cocaine. There can be no doubt this is true to some extent. We all realize that no one can think or write clearly on any subject with a weary brain, or one forced into service by drugs. It is difficult to understand how a medical man can expect, after the labors and duties of the day, to retire to his office at night and do any good scientific literary work. Medicine and literature in any form or direction to be successful requires the clearest thought and the best energies under the most favorable conditions.

Journals, editors, and authors can never bring out forced sundown products and become successful workers. Journals die of neglect and dementia, simply because they are the products of fatigue and forced, unnatural efforts. Editors become marasmic and disappear, because their best energies and efforts have been diverted in other directions, and their literary work is only by-products. Authors pose for a little time and then are forgotten, because they had no message and no thought to communicate. What they said was thought after sundown in an atmosphere of tobacco, coffee, spirits and drugs. In all this there was mental and physical starvation, acute mental poverty, with consequent confusion of thought and purpose. I repeat what I have said before—that these obvious conditions explain much of the failures in journalism and literary and scientific efforts by medical men. The surgeon, the neurologist and the active practitioner in every department of medicine can never write lectures, learned essays, or clear editorials after sundown. Such

work must be done in the morning under the very best conditions and favorable circumstances for clear thinking and exact writing. Dictating to a stenographer after dark when the duties of the day are ended carries with it a distinct impression which critical readers do not fail to discover. Sundown books, sundown authors, and sundown journals ought to disappear and will do so in the near future. When journals appear to meet a real demand, and editors understand the conscious and unconscious claims of scientific medicine, and authors feel that they have a real message and group of facts to communicate, then the mediocrity of medical and particular journalistic literature will pass away.

DIPHTHERIA.*

By J. A. WILLIAMS, M. D., Reidsville, N. C.

Diphtheria is an acute, specific and constitutional disease—being both contagious and epidemic. It usually begins by an affection of the throat, characterized by local exudation, glandular enlargement, more or less febrile reaction, prostration of vital powers, and frequently causes more or less paralysis of various parts of the body.

The *exciting cause* is a specific micro-organism known as Klebs-Löffler bacillus, which generates a poisonous substance—a toxalbumin—the absorption of which causes the disease, and not the germ itself. This specific micro-organism is found in the excretions, exudates and saliva, or it may be exhaled, thus contaminating the air, clothing, bedding, furniture, and whatever else may be contained in the room.

As to the *predisposing causes*, it is chiefly a disease of childhood, though not always confined to them; bad hygienic surroundings, nasal, pharyngeal and laryngeal catarrhs promote its development. Associated with bacilli of diphtheria are frequently found other pathogenic bacteria—the streptococcus pyogenes and the staphylococcus aureus; the former occurring more frequently.

The *pathology* is interesting because it is essential in making a diagnosis. The throat is red, containing spots almost entirely covered

* Paper for debate read before the Medical Society of the State of North Carolina, May 24-26, 1904.

with a grayish membrane, consisting of epithelial cells and leucocytes, which are granular and enangled in a network of fibrin. This is formed by the action of the germ on the surrounding tissue, causing coagulation, necrosis and exudation of fibrin, entangled in the meshes of which may be found the bacillus of diphtheria, as well as the germs of suppuration. This membrane may extend into the nose or larynx. It is characterized by being imbedded in the substance of the mucous membrane, so that in being pulled or mopped off, it leaves a free bleeding surface. Its natural mode of removal is by absorption, suppuration or gangrene. The muscular system, the heart, kidneys and liver, undergo more or less albuminoid, and less often fatty degeneration. The spleen and glands of the neck are enlarged. The brain and nervous system are frequently involved, and neuritis is often produced by these toxic substances.

The symptoms are rarely typical, but vary both in intensity and character. The onset may be mild, commencing with rigors, with but little fever, stiffness of the muscles of the neck, slight sore throat, headache, languor and but small amount of exudation of membrane. Or the invasion may be more abrupt, beginning with a chill, temperature of 103° to 105°F., quick pulse, severe sore throat, stiffness and swelling of the glands of the neck, coated tongue, loss of appetite, loss of strength and prostration, the bowels being slightly constipated or possibly with tendency to diarrhoea. The urine is scant, high colored and contains albumin. On inspecting the throat it will be found red, swollen and containing a grayish membrane, often covering the tonsil and uvula as well. The patient complains of the throat being dry, with constant desire to hawk and frequently spitting up pieces of membrane with ulcerated tissue, giving an offensive odor. If there is extension into the nose there will be an offensive discharge from this cavity, often epitaxis and frequently exco-riation of the upper lip. Extension into the larynx is indicated by hoarseness, croupy cough, noisy and stridulous breathing, and dyspnoea. Dyspnoea is so severe and spasmodic at times that the child will be cyanosed and may die from lack of oxidation unless immediately relieved. The disease lasts from ten to fourteen days, unless there is relapse.

Sequelae.—In severe cases the patient is often left cachectic and anæmic, with various paralyses, pharyngeal being the most common,

occurring often in mild cases. Paralysis of the heart and syncope are not infrequent with fatal results. Strabismus, hemiplegia and paraplegia may also occur.

Diagnosis has, with modern facilities for microscopical and laboratory work, been made much easier than in former years. The finding of the diphtheria bacillus, together with the history and symptoms as given above, will make the diagnosis complete. However, the finding of Klebs-Lœffler bacillus alone in the throat without local or constitutional symptoms does not always make a diagnosis of diphtheria. During an epidemic of diphtheria in the New York Infant Asylum in 1897, out of four hundred throats of children examined twice a week we frequently found the bacillus without further development of symptoms, local or constitutional.

The best means of obtaining a culture for examination, for practical purposes, is to have a sterilized test tube containing Lœffler's blood serum or agar-agar to the depth of about two inches; then with a sterilized steel swab wrapped at the end with a small piece of cotton mop the throat and insert this end of the wire into the media of serum or agar and plug the tube with a piece of sterilized cotton. This is then placed in an oven and kept at the body temperature for twelve to twenty-four hours. The culture can well be seen in the media around the end of the swab. With a sterilized needle smear some of this on a cover-slip, and pass it several times through an alcohol flame to fix it; stain one-half minute with watery solution of methylene blue, wash it off well with sterilized water, and by the use of a cedar oil emersion lense examine under a microscope, and you can readily discover the bacillus. However, unless one is expert in this examination he might mistake other micro-organisms for this, for which reason it would be better to send the specimen direct to the State Biologist, who could make the proper culture and give a diagnosis within twenty-four hours.

With the presence of the bacillus, the diagnosis is plain. Follicular tonsillitis with its slight or absent systemic symptoms, absence of glandular enlargement of the neck and with ulceration limited to the follicles of the tonsil, is usually easily told; scarlet fever shows presence of scarlatine eruption and absence of membrane; croup is diagnosed by the lack of constitutional symptoms and seat of the disease. In

diphtheria the pharynx is usually the chief seat and beginning of the disease, while in croup the larynx is the chief region affected. In diphtheria of the larynx the symptoms are chiefly those of mechanical obstruction. Diphtheria is highly contagious and epidemic; croup occurs spasmodically, and is not contagious. In diphtheria the temperature usually begins to decline after third to fifth day, while in croup it remains high in proportion to the mechanical obstruction. The urine in the former contains albumin, and not in the latter.

The prognosis in mild cases is favorable. If accompanied with high fever and by exudate spreading into the nose and larynx, with hemorrhages, glandular enlargement, large amount of albumin in the urine, rapid, feeble pulse, the diagnosis should be grave.

Treatment.—In order to simplify matters, I will divide the treatment into prophylactic, serum, constitutional, and local.

Prophylactic.—As soon as the patient is seen, even in suspected cases before the diagnosis is clear, he should be isolated, and passing in and out of the room prevented. The physician himself should use every means possible to prevent the spread of the disease. A gown to protect his clothing and a cap should be worn which can be removed on leaving the room, to protect others with whom he may come in contact. This is not always adhered to by the profession, who are often responsible for the infection of others.

Serum.—The antitoxin treatment of diphtheria has ceased to be an experiment and is now an acknowledged fact by the majority of doctors. It is one of the most wonderful discoveries made in the medical profession during the past century. While some still doubt its efficacy, I think this is because the dose has been too small to get the proper physiological effect, being given in from five hundred to one thousand units. This will usually be sufficient for prophylaxis, but not for cure. In mild cases I give from one to two thousand units (injected in the subcutaneous areolar tissue, preferably on the inner side of the thigh), to be repeated within twelve to twenty-four hours, unless there is considerable improvement in the patient. The number of units used should be in proportion to the severity of the case, severe cases requiring from two to four thousand units, to be repeated within twenty-four hours. English physicians have demonstrated the fact that severe epidemics demand heroic treatment, and

have given six, ten and even twenty thousand units within twenty-four hours with gratifying results. Gibney, in concluding an article on diphtheria, says: "There is little fear of administering an over-dose." In English hospitals it has been thoroughly demonstrated that by the use of large doses of antitoxin administered as early as the second or third day, the mortality has been reduced to two and one-half per cent., and if the laity would send for the physician early, and the physician make careful examination and early use of antitoxin, the death rate would be reduced even a great deal below this. With the proper use of serum therapy in the early stages, there will be but little need for local or constitutional treatment. However, a certain amount of such treatment is ordinarily necessary.

Constitutional.—I usually begin by giving small, broken doses of calomel every hour or two until the bowels move thoroughly. The patient is put on the most nutritious liquid diet, such as milk, beef peptonoids, egg albumin, broths, kumyss, etc. The diet should be given at regular intervals of from two to three hours, as nutrition is essential in sustaining vital powers. This being a very depressing disease, it is advisable to stimulate early, before exhaustion and prostration occur. There are no stimulants which act quite so well as whiskey and strychnine; whiskey in from thirty minims to one-half an ounce every three or four hours acts most charmingly, and strychnia every six to eight hours as indicated to support the heart and tone up the general nervous system. To reduce the temperature, use the sponge bath, one-third to one-half alcohol in water, and sponge the patient as often as is necessary to keep the temperature down. I am opposed to the use of coal-tar products, as they are all more or less depressing to the heart, which now needs support. An ice cap may be placed on the head, as this not only aids in reducing the temperature, but prevents brain complications. Given internally the tincture of iron in combination with quinine may be used throughout the attack with great benefit. In case of laryngeal diphtheria the inhalation of steam or unslacked lime will often give relief.

The chief aim in *local treatment* is to prevent or limit the action of the bacillus. The throat should be kept clean by the use of listerine or borolyptol as a frequent gargle, and by mopping the throat every two or three hours with a 50

per cent. solution of hydrogen peroxide. The following prescription I find very valuable:

℞.—Tincture of Iron..... $\bar{5}$ ss-j
 Acid, Carbolicmv-x
 Chlorate Potash $\bar{5}$ ss-j
 Glycerine $\bar{3}$ ss
 Water q. s..... $\bar{3}$ ij

Mix. Sig.—One teaspoonful to be gargled and swallowed every three or four hours. No liquids should be taken afterwards for some time.

If the nose is involved this cavity may be frequently irrigated with weak saline solution, and the following spray used:

℞.—Carbolic Acid.....
 Mentholaa m viij
 Eucalyptol1 to 2 per cent.
 Liq. Alboline $\bar{3}$ ij

M. Sig.—Spray nose and throat every three or four hours.

In case there is extension into the larynx, the same general treatment with the above spray can be used. Inhalations of steam or fumes of unslacked lime are beneficial, being directed by a funnel or placed under the sheet. In case these means fail, intubation or tracheotomy must be resorted to. Every physician should have an intubation set, as it will well pay for itself in the first case; it is much preferable to tracheotomy, is easier to perform, requires less after treatment, and is more readily submitted to by the parents.

The *after treatment* consists in complete disinfection. The clothing of the patient should be changed after giving a bath, and the patient moved into another room. Everything that can should be boiled, preferably in a two per cent. carbolic solution. Everything else should be left in the room, which is made air-tight by plugging all crevices with paper. Formaldehyde gas is then pumped into the room through the keyhole for one or two hours, and left for twenty-four. After this the doors and windows should be opened and the room scoured and washed. This should be left open and unoccupied for several days. If you have not the means for using formaldehyde gas, then sulphur about four pounds to 1000 cubic feet should be burned by placing the sulphur in a basin surrounded with water, leaving the room closed for twenty-four hours, and then have it thoroughly washed. If the prophylactic treatment is carried out by keeping at home for ten or twelve days all who have been exposed, and

giving them injections of from 500 to 1000 units of antitoxin, together with thorough disinfection afterwards with formaldehyde gas, there will be comparatively little danger of the disease spreading and diphtheria epidemics will be greatly lessened.

Correspondence.

London, England, July 1, 1904.

Mr. Editor,—On leaving Richmond some weeks ago, I expected to stop for a while in Liverpool, and then go on to London; but on board ship from New York, I met Dr. E. A. Hall, from Vancouver, who persuaded me to go to Leeds to see Mr. Mayo Robson and Mr. Moynihan. Unfortunately, Mr. Robson was in London.

There is only one large hospital in Leeds—the General Infirmary, with about 450 beds. It is for charity work. The private or pay work is done either at private homes or at small hospitals, called Nursing Homes. The same custom obtains in Edinburgh. It does not seem that the doctors and surgeons of these places take much to the idea of establishing private hospitals of their own.

Mr. Moynihan, of Leeds, is a young man, but is doing successful surgical work on the stomach, the gall tract, and the prostate. He is cultivating a reputation similar to that enjoyed by Mr. Mayo Robson.

I found another good man in Leeds—Mr. Littlewood. He is too reserved for his own good or for that of the profession.

Before these gentlemen left for the holiday, I saw some good work by each of them.

After remaining at Leeds for 3 or 4 days, I went to Edinburgh. The Royal Infirmary of Edinburgh has from 850 to 900 beds. There is also in that city the Royal Hospital for Sick Children, and I think there is one other charity hospital. The Dispensary—the out-door department, it is called—of the Royal Hospital for Sick Children is one of the most complete institutions of the kind I ever saw. Beside other convenient arrangements that I will not now undertake to describe, it has an operating room for minor cases almost as complete as one for general surgery. The floor is of “composition”

and highly polished, while the tiling reaches nearly up to the ceiling. On one side, off from this operating room, is the anesthetizing room, with a bath for the patients, and on the other side is a "recovery room."

Mr. H. J. Stiles, the surgeon to this hospital, is a Scotchman, of abundant common sense, and possessed of a high degree of cultivation and wide experience. He originated the nitric acid test for pathological epithelial growths. He does all osteotomies and tenotomies—including wry-neck operations—through open incisions. I do not agree with him as to dividing the tendo-Achilles in this way. For inguinal hernia, he operates, and with success, on infants even as young as a couple of months old, and has done a great many such operations. He prefers not waiting until older childhood, as he claims that infants stand the operation just as well as after teething, and that they can be kept quiet with less trouble. In these congenital cases of inguinal hernia, he does not disturb the inguinal canal, but pulls the neck of the sack well down, so that after ligation it will drop back beyond the internal ring. He sometimes takes a stitch in the external ring which is well so far; but he lets this stitch include the conjoined tendon which must pull the latter from behind the cord where nature has placed it to protect the ring. I do not like this method. He puts no dressing on these wounds except a little powder. The feet, hands and shoulders of the infant are comfortably fastened, so that sitting or turning over is impossible. A wire cage, covered with a sterile cloth, is put over the region of the pelvis and abdomen under the sheet. The urine and feces are passed on a pad placed under the baby—no napkin being on. The wound is then perfectly protected from contamination. The stitches are removed on the seventh day, and the little patient is sent home about the ninth day.

No one in Great Britain, it appears, ever opens the bladder by either route for uncomplicated cases of vesical calculus. Litholapaxy is invariably performed, except, I suppose, in young children.

It is very rare for a surgeon in Great Britain to do a prostatectomy by the perineal route. The prostate is removed by the suprapubic route, and the prostatic urethra comes with it. No opening is made in the perineum, even for drainage. Right much work of this kind is done both in London and in Leeds—particularly in London; and it is astonishing what suc-

cess is met with,—both as to recovery from the operation and the restoration of the bladder function.

Authors on the subject in our country state that symptoms of prostatic hypertrophy frequently appear about the age of 50; that you may expect them then; and that if a man reaches the age of 62 or 63, without symptoms, he may be looked upon as pretty safe. Mr. Littlewood states, and Mr. Moynihan agrees with him, that here in England you need not expect the symptoms before the age of 55 or 56, and that they manifest themselves at any age past that. Mr. Littlewood operated on a man the day I met him who was 66 years of age, and had not had symptoms more than eighteen months or two years. He cited another case then convalescing from an operation in which the symptoms had been noticed only for about two years before, and the man is now in his ninetieth year. There must be some condition in climate, habits, or food, to account for this. There is surgery here in abundance, and many interesting things besides. I am trying to see some of the many things that are here to be seen.

J. W. HENSON, M. D.

Buffalo, N. Y., July 7, 1904.

Mr. Editor.—I have just read the very valuable article of Dr. Paul B. Barringer, on "An Unappreciated Source of Typhoid Infection," in your issue of February 12, 1904. With no intention of detracting in any way from the credit due him for calling attention to the dangers of the railroad closet, allow me to say that in 1892, when city physician in Buffalo, and during the scare with regard to the possible introduction of cholera into this country, I published a very similar warning in the *Buffalo Medical and Surgical Journal*. The railroad bed, being usually fairly impervious, free from retentive dirt or grass and swept by violent currents of air, is a source of danger of anemphoric infection with all sorts of bacteria and animal parasites. Generally, not much surface dust reaches the cars, except at the end of a train, but railroad beds are travelled by many persons on foot, they cross numerous roads and streets at grade, and there is danger of convection to persons in stations beneath overhead crossings, etc.

The obvious remedy, simple in theory and difficult only in legislative execution, is that suggested by Dr. Barringer in the article cited

as well as by myself in 1892, and which must have occurred also to any one else whose attention has been called to the general subject. Some form of receptacle must be attached to the railroad closet, which will not leak nor scatter dejecta, and which can be thoroughly cleaned and disinfected at convenient stations.

By the way, considerable improvement may be made in the facilities at stations and in ordinary cleanliness in the present car closet. Pullman car closets usually are supplied with towels. Not knowing just what portion of the anatomy these are intended for, I have never used them, but it occurs to me that they might better be dispensed with, as the toilet paper is sufficient and more hygienic.

While many of our railroads show a laudable tendency to observe hygienic precautions, all should really be under the authority of a national commission, which would look after many details not at present covered by national, State and local legislation.

A. L. BENEDICT, M. D.

156 W. Chippewa St.

urinary tract; it is the favorite seat of chronic urethritis; it is the medium over which the inflammation travels from the urinary to the genital tract.

The prostate is solely responsible for the important urinary conditions which result as a consequence of its senile hypertrophy. It is the character and not the size of the growth that is important.

Prostatic conerctions may lodge in the bladder and act as the nucleus of larger vesical stones.

Chronic contracture of the bladder neck, neuralgia of the prostatic urethra (irritable bladder), prostatic tuberculosis, malignant prostatic disease, prostatic cysts and trauma of the organ, are all made evident by their effect on the urinary function.

Lastly, these numerous urinary affections justify the consideration of the prostate as a urinary organ, second only to the kidneys in importance.

Editorial.

Roanoke County (Va.) Medical Society Versus County Board of Supervisors.

For years Roanoke county physicians in doing pauper practice, presented their bills to the Board of Supervisors, who usually cut the amounts to suit themselves. Recently, however, the Board capped the climax by advertising in the county paper for physicians to submit sealed bids for this practice. Believing this would be prejudicial to the high standing of the profession, the Salem Medical Association (now known as the Roanoke County Medical Society) adopted resolutions discountenancing such bidding by reputable physicians, and recommended that no reduction from the regular fees be allowed.

Bidding by doctors for practice is objectionable; and if itemized accounts are to be rendered, it would be more in accord with the dignity of the profession to charge the regular fee, or else to render the service *gratis*. This question has been dealt with in various sections. Barring appeals which all civilized humanity must answer, county boards should not expect doctors to give their time and money in attending such cases, and yet insist upon a physician's special

Analyses, Selections, Etc.

Role of the Prostate in Affections of the Urinary Tract.

Dr. Abraham L. Wolbarst, M. D., of New York, N. Y., Attending Genito-Urinary Surgeon Beth Israel Hospital Dispensary, Clinical Assistant New York Polyclinic and Hospital, etc., in a paper read at the third annual meeting of the American Urological Association, at Atlantic City, N. J., on June 9, 1904, concludes as follows:

The prostate, though a sexual organ in health, is essentially a urinary organ in the diseased state.

Urinary symptoms are most often directly due to prostatic disease.

Any pathologic lesion of the prostate which increases its size favors interference with the urinary stream to a greater or less degree.

Inflammation of the prostate is always accompanied by urinary symptoms. The genital symptoms are least marked.

In reference to gonorrhœa the prostatic urethra is the most important portion of the

license tax. If counties, desirous of looking after the health of their poor, will pay reasonable living salaries to doctors for their work, we see no special reason why such appointments should not be made, just as the government or large corporations, railroads, etc., employ surgeons; but when practice of medicine is to be "knocked down to the lowest bidder" it is high time for the stamp of disapproval. Counties could easily pay fair salaries without drain upon their treasuries, which would be occasioned by payment for each individual case.

Southwest (Va.) Medical Society.

The meeting held at Big Stone Gap, Va., July 12-13, was one worthy of distinctive mention. The papers were all of a high order of excellence, and as this journal was selected as the medium of publication, they will appear in these columns in due course. Personal experience and observation formed the characteristics of these papers, as also of their discussions. The session was well presided over by Dr. M. M. Pearson, of Bristol, Va. The next session will be held at Bristol, Va., when the newly-elected president, Dr. James W. Kelly, of Big Stone Gap, will preside. Dr. E. T. Brady, Abingdon, Va., was re-elected secretary and treasurer, and a more efficient worker can nowhere be found. Dr. Landon B. Edwards, Richmond, Va., was elected an honorary member. This society is composed of about 125 practitioners, chiefly from the counties in the southwestern section of Virginia. Among the social features was a railroad trip to some of the coal mines in the vicinity of Big Stone Gap.

The Canadian Medical Association

Invites members of the Medical Society of Virginia to attend their next annual meeting at Vancouver, B. C., August 23-26, 1904. A pleasant and profitable visit, and a hearty welcome are assured. Excursions, entertainments and receptions are on the program. Further information will be given upon application to Dr. W. D. Brydone-Jack, Local Secretary.

The Central State Hospital, Petersburg, Va.,

Through the untiring efforts of its efficient superintendent, Dr. Wm. F. Drewry, has put up several canvas tents for a portion of its consumptives, and are now engaged in erecting suitable wooden cottages for that class of patients. So far as we are aware, this is the first attempt

of this sort for the care of consumptives in Virginia.

Examinations for the Army Medical Service

Have been materially modified since July 1, 1904. Hereafter applicants will be given a preliminary examination, consisting of a rigid inquiry into his physical qualifications and written examination in the following subjects: Mathematics (arithmetic, algebra and plane geometry), geography, history (especially of the United States), Latin grammar and reading of easy Latin prose, English grammar, orthography, composition, anatomy, physiology, chemistry and physics, materia medica and therapeutics, normal histology. Applicants who successfully pass this first examination will be employed as contract surgeons and ordered to the Army Medical School for instruction as candidates for admission to the Medical Corps of the army. The final or qualifying examination will be held at the close of the school term, and will comprise the subjects not included in the preliminary examination. Admission to the preliminary examination, the first of which under the amended regulations will be held about August 1, 1904, can be had only upon invitation from the Surgeon-General of the Army, issued after formal application to the Secretary of War.

The Bedford County Medical Society

Was organized at Bedford City, Va., June 27, 1904, and elected the following officers for twelve months: Drs. R. G. O'Hara, Bedford City, President; S. H. Price, Montvale, Vice-President; and J. A. Rucker, Bedford City, Secretary and Treasurer. Bedford City was selected as the place of quarterly meetings on the fourth Monday in July, September, December and March. The subject for general discussion at the regular meeting July 25th, at 10:30 A. M., will be Summer Diseases of Children—especially Cholera Infantum, Enterocolitis and Dysentery. The membership starts off with eighteen doctors of the county.

The Medical Examining Board of Virginia

Will hold its next semi-annual meeting in Richmond on December 13, 14, 15, and 16, 1904. The report of the June session has not yet been completed: the results of the examinations will, however, be given in full as soon as received from the secretary.

THE Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

Vol. 9, No. 9.
Whole No. 201.

RICHMOND, VA., AUGUST 12, 1904.

\$2.00 a Year.
10 Cents a Copy.

Original Communications.

APPENDICITIS.*

DIFFERENT FORMS; SYMPTOMS PECULIAR TO EACH; SYMPTOMS NOT ALWAYS AN INDEX TO PATHOLOGICAL CONDITION; REPORT OF CASES OPERATED ON.

By JOHN T. GRAHAM, M. D., Wytheville, Va.

The cases which I have selected to report under the above rather comprehensive title have been chosen for a special purpose—namely, to show that the external symptoms and the amount of pain suffered by the patient form no index to the pathological condition existing within the abdominal cavity.

Of all diseases requiring the opening of the abdominal cavity, appendicitis is the most common, and at the same time is one of the most dangerous; because the patient usually survives the first attack, and after the primary symptoms have subsided it is difficult to get him to realize his constant danger from recurring attacks—any one of which may prove fatal. That an appendix once diseased is always a source of danger has been so clearly proven by the experience of the best surgeons of modern times that it has been accepted as an axiom. The conclusion, then, is evident. Remove the appendix, the source of the trouble, as soon as it gives evidence of being diseased.

Several different forms of disease of the vermiform appendix are given by writers on this subject, but the most common are (1) catarrhal, limited to the mucosa; (2) ulcerative, due to pressure from retained secretions, a foreign body, or most frequently fecal concretions; (3) infective, due to invasion of the whole organ by bacteria, usually the common colon bacilli.

It is rather too dogmatic to say that an organ has no function because we do not know what

that function is, but such is the case with regard to the function of the appendix. Its anatomy is not different from the intestines. It has a mucous membrane continuous with and similar to that of the intestine to which it is attached; the same may be said of its muscular coat and peritoneal covering. Special functions are known to belong to these structures in the adjoining intestine. Then, why exclude them from the appendix? Many elementary substances familiar to chemists to-day were unknown a few years ago, but it cannot be said they did not exist because they were unknown. So far and no further is a point rarely reached in the study of the problems of any science, and especially in the mysteries of nature we often find the dark places cleared up when explored by the light of truth, by which the shadows of our own ignorance and prejudice are dispelled.

The symptoms of appendicitis are variable, but there are some that we can depend on as indicating a diseased appendix: *Pain and tenderness* are always present when deep pressure is made over McBurney's point; while rigidity of the abdominal muscles usually disappears as the acute attack subsides. Severe colic-like pains are caused by the twisting or kinking of the organ, thus preventing the escape of secretions or foreign matter. When the pain is continuous and grinding in character, you may expect to find adhesions. When a tumor can be made out in the right iliac fossa, there is agglutination of the cecum—the appendix—and folds of the small intestine into one mass by an inflammatory exudate. Don't be deceived into thinking you can palpate the appendix; it rarely gets as large as a potato without producing a serious condition that calls for prompt action on the part of the surgeon. Yet we are often surprised at the extent of the disease found when we operate.

One of the worst cases I ever saw was taken to the hospital from active life and operated on

* Read at meeting of Southwest Virginia Medical Society, at Big Stone Gap, July 14, 1904.

the next day, and his appendix was found filled with the most offensive pus one could imagine. There was nothing in the history of the case to indicate trouble except pain and tenderness at McBurney's point. He had complained, however, of some tenderness in the left iliac region. After the operation he progressed rapidly towards recovery, stitches being removed on the 10th day with complete union of the incision. On the 12th day the actions from his bowels were colored with blood. Pain and tenderness returned in the left iliac region. On the morning of the 14th day his temperature rose to 102.3°. A copious discharge of blood from the bowels was followed by shock, tympanites, and all the symptoms of general peritonitis. The incision became inflamed, and in a few hours ruptured, and through it was discharged a quantity of offensive pus and fecal matter. Thus a fecal fistula was formed through the opening made for the removal of the appendix. The bowels acted through this opening for 18 days, and the pus cavity, which was situated in the left iliac region, was washed out with peroxide of hydrogen and drained through the appendiceal incision, which was kept open until there was no further discharge of pus, when it was allowed to close. On the 22d day after its rupture the bowels acted naturally, and the patient progressed to a complete recovery.

On March 23, 1901, I operated on a recurrent case of appendicitis, having had the third attack within twelve months from the first. The pain, however, was never entirely absent after the first attack. The appendix was found to be five inches long, wrapped around the cecum, and adhering to it all the way. The adhesions were so strong that the organ had to be virtually dissected from the bowel. The continuous pain in this case can be easily accounted for, because the bowel could not be distended by feces or gas without pulling on the adhesion which bound the appendix to it. Recovery complete.

On May 28, 1901, another case was operated on, in which the pain was very severe at frequent intervals, attended with a great deal of nausea and at times vomiting. The pain was like a severe colic. The appendix was found free from adhesions, very short and thick, and from its external appearance did not appear to be diseased. When opened, the cause of the severe pain was found to be produced by retained secretions, muco-purulent in character. Re-

covery rapid and complete, the patient having no return of the pain, showing that the cause was removed.

On September 26, 1901, another case was operated on after the third attack, in which the appendix was found completely surrounded by a mass of inflammatory exudate, the last half inch doubled back upon itself and in a gangrenous condition. This patient came to the sanatorium on the train, walked from the station, a distance of one mile, the day before she was operated on. Her general condition was good, there was no indication of the extent of the trouble from external symptoms. The operation was advised because another attack was feared. Her recovery was complete and without incident.

On October 2, 1901, another case very similar to the one just described was operated on; appendix not gangrenous, but bound down by adhesions. In this case the patient suffered after the operation with the most severe nausea I have ever witnessed, the vomiting lasting four days, no nourishment of any kind being retained. The general condition of the patient during this period was good, there was no acceleration of pulse and no rise of temperature. On the fourth day a free evacuation of the bowels was procured by repeated high enemas, after which the case was without further incident, recovery being complete.

On April 9th, of this year, I had another case attended with continuous grinding pain and tenderness on deep pressure over McBurney's point. The pain had gradually increased since the first attack, which was twelve months previous. The appendix was found twisted and kinked, bound by adhesions to the under side of the cecum and adjacent structures. The cecum was delivered through the incision before the appendix could be reached. It was filled with a muco-purulent secretion, and ulceration had progressed in one point to its external coat. This case was operated on just in time. Her recovery was without incident and complete.

These cases, I think, will sufficiently prove the statement made at the beginning of this paper: That is, that the general symptoms and amount of pain in a case of appendicitis form no index to the pathological condition existing within the abdominal cavity. Therefore the safest course to pursue in any case of appendicitis is to open the abdomen as soon as possible

and remove the appendix—the source of an ever-present danger to the unfortunate possessor of this offending organ.

DISCUSSION.

Dr. W. R. Rogers, Bristol—I am so fully in accord with Dr. Graham's ideas, as expressed in his paper, that I can add little to the discussion. I believe in early operation, and consider certain recognition of the condition all that is needed to justify such advice.

Dr. W. W. Chaffin, Pulaski—I, too, believe that early operation cannot be too strongly insisted upon, and would even go further, and say that it should be done just as soon as the condition is reasonably suspected. It is my practice to put the patient on the operating table within a few hours of the diagnosis, when practicable, as it can best be done then; there are fewer complications, less exudate, and less danger of rupture if there be serous or purulent accumulations. The condition I consider an eminently dangerous one, and the sooner that danger is removed the better for the patient.

Dr. W. B. St. John, Bristol—The paper very tersely and correctly presents the usual manifestations of disease as found in the operating room. There are, however, so many conditions producing similar symptoms that I hardly feel that the accuracy of diagnosis can be uniformly depended upon. We should bend our efforts toward clearing up the field of diagnosis, and possibly during such a search more light may be thrown upon the definite distinction between operable and non-operable cases.

Dr. E. T. Brady, Abingdon—While it is certain that Dr. Graham's paper, his cases, and his management of them very fittingly represent the general consensus of opinion, particularly of surgical opinion. I believe that the pendulum has swung beyond the standpoint of absolute propriety. Myself an early advocate of prompt and surgical interference in appendicitis, I have seen such varied cases and results both in cases operated on and those treated symptomatically, that I am frank to say that my opinions have been considerably modified. Early operation has in more than one case revealed a normal appendix; cases of septic peritonitis, seen in extremis, were considered too hopeless to interfere with have been simply drained, and even when fecal sinuses followed, have progressed to good recoveries without further surgical interference. In the face of these facts, and the

frequent, almost universal indications of old appendiceal troubles found on the dissecting room tables, are we justified in our rush to open the abdomen? I can appreciate the almost careless approach of the city surgeon of this long, and I believe rightly, dreaded citadel, the abdominal cavity. He is prepared with almost positive asepsis, with competent and skillful assistants, a perfect hospital and nursing force; but for the occasional operator, without appropriate environment, without skilled help, often without any help, to open every abdomen which shows symptoms, which all acknowledge are an improper index of the conditions present, seems to me hardly best, even though justified by high authority. The symptomatology of appendicitis is most misleading, and I find that those who operate ofteneest are most apt to be positive in their diagnosis. A Price or a Deaver can very consistently advise invariable operation in the cases they see, because they, as a rule, see only cases where the attending physician has already decided operable. But I venture the assertion that were they to see the cases we see, and in the surroundings we find, they would not only be less daring in their work, but much more cautious with their advice. Are they consistent? Those who stand with Dr. Chaffin are. But I believe Dr. Graham's view as to when to operate is nearer that of the general surgeon. This is, that "after the first attack" is the best time to operate. Why? Is a future attack more to be dreaded than an original one? and if an original attack seems to do well without interference and the patient recovers, then subject him to the danger of an abdominal operation when well. In other words, let him get over a first attack then do him up, because they say he has a sword of Damocles hanging over him forever. But has he? Do not the resultant adhesions of an irritative process thicken the armor, as it were, against future danger? Do we not find even pus walled off thickly by the inflammatory depositions in extreme cases? I would not take the position that no case should be operated upon, but I would decry and deny that all cases should be operated upon, and I would warn the inexperienced to nurse the old dread of abdominal entrance without positive indication. We cannot shirk the responsibility of the supposably hopeless cases. We must learn to sacrifice reputation for the patient's good; we must undertake operations in extremis,

during attacks, when we know that only one chance in a hundred favors the patient, and we will surely get the criticism for the other 99; yet must we give that chance, and take our criticism like men. But let us not subject large numbers of cases which might never have another ache to the possibilities which even the most thorough work cannot eliminate from the field of abdominal surgery. My own idea as definitely as I can state what I don't feel to be a positively matured opinion, is, that there are but three classes of cases which should be operated on—first, the fulminant cases, with great depression and evident suppuration, these should be operated upon at once; second, cases in which pain persists after the first attack, to the extent of interference with usual duties; and third, frequently recurring cases, with increased disturbance of nutrition and digestion. The latter two classes should, of course, be operated upon between attacks. I further believe that to operate upon other cases embracing approximately 70 per cent. of all, would be, to say the least, not the best course to pursue. To say that the occasional bad result from failure to operate is a plea for absolutely immediate operation, does not seem to me a fair one. Occasionally deaths are reported from cholera morbus—would we, however, consider for a moment that there was immediate necessity for an operation to remove the offending substance? And I am fairly firm in the conviction that the best operations which are to be desired in both cases are such as are produced by castor oil or Epsom salts.

Dr. W. W. Chaffin—I believe the danger to be there, and believing this, I agree that, as Dr. Brady has said, it is more consistent, while holding that opinion, to operate at once, and in all cases. While it is true that many cases show no after effects, it is equally true that some do have very serious returns, and with them dangers which we should avoid. The fact that each successive attack is productive of fresh adhesions, making it more and more difficult to do good work, is to me a plea in behalf of early and thorough interference.

Dr. J. T. Graham—The discussion has fairly brought out the different viewpoints taken by the profession, and I have little to add, except to state my position as being a little less radical than Dr. Chaffin, and a little less conservative than Dr. Brady. The unreliability of symptoms

has been dwelt upon. This we must appreciate. The best general symptom is the final location of the tenderness over appendix. Pain at first may be absent, or it may be over the whole abdomen, or most acute at points very distant from and having no apparent connection with the appendix, but wherever it may or may not be, it finally locates itself, and deep pressure at the appendiceal point will in the later stages produce marked and confirmatory tenderness.

COMPLICATIONS AND SEQUELAE OF PAROTITIS.*

By D. L. KINGSOLVER, M. D., Stump, Va.

I will not occupy your time with a full list of possible complications and sequels of parotitis, but will simply mention a few interesting and important cases that have recently come under my observation.

CASE I. Nephritis preceding orchitis.—I was called to see Mr. B., aged 35, May 28, 1904. He told me he had contracted the mumps two weeks ago, and thought himself well, but that morning he had a chill. When I first saw him he was suffering with a severe head and back-ache, accompanied with nausea. His face was very full, eyelids a little swollen, and he had passed but little urine during the last twenty-four hours. His temperature was 101°F. There was no swelling of the testicle, and I thought I had a simple case of acute nephritis. I gave 8 grains of calomel, put a hot, wet blanket around the lower part of back and bowels, told him to drink plenty of water and take no food except milk.

The second day his kidneys acted better, although his temperature was not as low as it was the day before; patient very nervous. The third day I found his temperature 103°, and he was suffering with pain in his testicles; I found the right one swollen.

Treatment.—Applied a clay poultice and gave chloral to control nervousness. The acute symptoms passed away in two or three days, and then I gave tinct. nux. vom., and also infusion of digitalis and acetate of potash. In ten days

* Read before the Southwest Virginia Medical Society, in session at Big Stone Gap, Va., July 13, 1904.

the patient was out. I saw him a week after he commenced going about, and I did not think his kidneys were doing very well, although I did not examine his urine, and have not had the opportunity to do so since. Nephritis is very often overlooked in parotitis. If we would look after the kidneys more our patients would do better.

CASE II. *Ovaritis*.—Mrs. S., aged 40, was taken with mumps May 4, 1904. About the end of the first week she complained of pains low down in her right side. Unable to get a physician, she went on from bad to worse for about two weeks. When I saw her she was delirious and had frequent chills; pulse rapid and very weak; temperature 105°, with local peritonitis in the region of the right ovary, and a very offensive discharge from the vagina. On specular examination, I found the uterus practically full of pus. This condition made its appearance the day before. The amount of disease in the ovary I am unable to say, but it certainly was caused by the mumps. She was healthy before, and there was no evidence of a tumor or specific disease.

Treatment.—Kept the uterus washed out with bichloride, gave 1-20 gr. of strychnine every three hours, with two grains quinia, and brandy plentifully, with all the nourishment she could take. There was no perceptible change for a few days except a little lowering of temperature, after which she improved slowly. I then changed treatment to tinct. iron, quinia and strychnia. I kept her on that for two weeks, when her temperature was about normal, but very anemic, and I gave pepto-mangan. She is now in very good shape.

From my experience with these complications I am convinced that no one can tell what he may find following parotitis, when called in about the winding up of an attack. Study it with care and you may find yourself at a loss, as the text-books on the subject lend you but little light. The recent works name the complications, the older ones do not even do so much. The complications are evidently more frequent, as the subject is attracting more attention.

DISCUSSION.

Dr. E. T. Brady, Abingdon—I regret that the outside noises prevented the proper hearing of Dr. Kingsolver's paper. It is a plain, unvarnished presentation of just such cases as we frequently meet with. As the doctor says,

we get no light from text-books, and little from lectures. That orchitis is common, following mumps, many of us can testify from personal experience as well as observation. Nephritis, too, is not infrequently met with, though in the few cases I have seen they have yielded readily to appropriate treatment, and none could be more appropriate than that outlined by Dr. Kingsolver, as his results proved. The case of ovaritis is entirely new to me. I have never had such a case, and aside from the casual mention in some reading or lecture have not heard of actual cases. I cannot help but thank the Doctor for his report, and express the hope that more papers of the kind be read at our meetings. The comparison of cases and results is the best practical method of getting information. Let us have more such.

Dr. A. S. Priddy, Bristol, Va.—I heartily agree with Dr. Brady that this is a good model for society papers; practical experiences and actual results are far better guides than the most perfect theorizing. I wish I could have heard more distinctly. Doubtless more cases of ovaritis originate in this way, and may, even if unnoticed, account to a certain extent for sterility in women without other apparent cause. The Doctor is to be congratulated both as to his report and his results.

SUCCESS IN MEDICINE, AND THE WAY IT MAY BE ACHIEVED.*

By GEORGE TULLY VAUGHAN, M. D., Washington, D. C.

As the subject of my remarks I have selected "Success in Medicine, and the Way it May Be Achieved," thinking it would be of interest to our young graduates who are about to be committed to the tender mercies of a more or less confiding public.

It is a well-known fact that not all who receive the degree of Doctor of Medicine make a success of the practice of medicine. Some become impatient with the long time it may be necessary to wait for patients; others tire of the hardships inseparable from the calling—the physical wear and tear, the mental strain and responsibility; while still others, not having the

*Address before the graduates of the Medical School of Georgetown University, June 7, 1904.

love of the profession in their hearts decide to try a shorter and easier way to fame or fortune.

It has been estimated that something like 10 per cent. of physicians fall out of the ranks within ten years in order to engage in other pursuits. Of my own class of 21, graduated twenty-five years ago, only one has voluntarily given up his profession, and he still keeps in touch with it—having become a medical drummer; six entered the United States medical services, and four have answered the last “sick call” and have joined the great majority.

Success in medicine means something more than earning a living, gaining wealth or making a great reputation—it means *doing things* to improve the general welfare—to add to the sum of human happiness, and I believe that every physician worthy of his calling, and all great physicians have been actuated by such desires. If your object is to amass wealth, choose some other line of business—you are on the wrong road. It is true that affluence and even wealth are not inconsistent with the proper practice of your profession, but while these are exceptional, there is nearly always for the doctor who attends to his business, not only a good living, but the confidence and affection of the community. One of the attributes most essential to success is *sympathy*—not a maudlin sentiment, but true appreciation and pity for and desire to relieve the patient's trouble and suffering. It is the quality, beyond all others, which ennobles the profession.

Having selected a suitable location or undertaken any particular line of work, be *persistent*—don't be discouraged. Stick to it, and you will succeed. I once knew a young doctor who did not make enough during his first year of practice to pay one month's board, but in less than three years, by close attention to business, he had the patronage of almost the entire community. Don't be discouraged if your first patients fail to respond to treatment, and in spite of your best efforts, insist on dying. A celebrated surgeon was so discouraged at the beginning of his career because his first two patients died, that he pulled down his sign, threw it into an old well, and decided to abandon the profession. Happily for the benefit of mankind, circumstances prevented the carrying out of his hasty resolution, and he lived to accomplish a work which has afforded relief to a class of sufferers who, previous to his day, had been doomed to lives of hopeless misery.

Be honest and truthful—at the same time be *tactful*—but do not be brusque in your honesty or deceitful in your tact. Unpleasant information can be communicated in a gentle, sympathetic way and at the same time with perfect truth and sincerity, so that the blow is softened, the sting of disappointment or of grief is diminished. On the other hand, ordinary advice may be communicated in such a tactless or even boorish manner that offence is given. Tact means touch. Tactful is knowing how to touch your patients—not necessarily in their pocket-books, although this is not to be neglected—but in their feelings and sentiments.

It is the faculty of doing nicely whatever is best under the circumstances—a faculty which you cannot afford to neglect—at least not while you are young, struggling, impecunious doctors. When you have grown famous, rich and independent, you may affect abrupt and boorish manners.

Many stories might be told of the disastrous results of the practice of honesty and truth untempered with tact. I will select only one. The young physician says: ‘The case was that of a woman whom I considered distinctly old, although I now realize that fifty-five is not hopelessly venerable. She had always been very active and was annoyed to find herself losing strength and becoming easily exhausted. I have always done these things; why can't I now? she demanded. And I, out of my guileless youth, explained. “But you can't expect to—at your age.” Naturally that settled me. She sent for an old fossil of seventy, who had not half of my actual learning, but who could say the right things, and so still held a thriving practice.

Morality.—It goes without saying that one who holds the delicate relations which often exist between physician and patient must be of good character. A distinguished professor of surgery in his address to a graduating class advised them to get married as soon as they could, as it would thus be a guaranty to the public of good behavior, an evidence that the days of sowing wild oats were passed—and it would inspire confidence in their friends and add to their own dignity. I believe that this is good advice, and would only caution you not to talk *too* much to your wives. There are some things you had better not tell them.

The confessions made by the patient to the physician must be held sacred by the latter and

shared by him with no one. A well-known English physician, Dr. Playfair, told his wife a professional secret; she told her most intimate friend. The result was that the doctor after a law suit was compelled to pay the sum of \$60,000 to the indignant patient.

Courage and Self-Denial.—In the days before the discovery of anesthesia it required courage to become a surgeon. To one with the ordinary feelings of humanity the evident suffering of the patient under operation, whether shown by compressed lips and set teeth, or by shrieks and groans, must have been a fearful strain on the surgeon. There are still many occasions not only on the battlefield, in epidemics of disease, in self-imposed experiments, but in the every-day life of the physician which require the highest order of courage—especially moral courage—courage to do right and to refuse to do wrong. Many times the temptation may require all your strength and self-denial to resist, and it may come in such guise as almost to convince you that to yield would be right.

Let no unworthy desire for wealth inveigle you into questionable practice. If there is any question about the propriety of an act in contemplation give your character the benefit of the doubt, and don't do it. Have the manliness to shut out jealousy; or if you must admit its existence in your own breast—don't tell it, don't do anything to make any one suspect it—keep it a dead secret within yourself. It has been said that the medical profession has more jealousy among its members than any other profession. That ought not to be among those who are actuated by the true spirit of their profession, and it usually means too little philanthropy and too much commercialism.

In an article by Mr. Goodrich he divides medical men into professional doctors, merchant doctors and quacks, and remarks that it is the professional doctor—the true physician—working regardless of fees that holds the profession to its philanthropic ideal.

Versatility.—The physician should be a man of versatile accomplishments—a many-sided man; he should know something about everything and everything about his particular line of specialty. Our forefathers seem to have appreciated versatility in their medical men, as is shown by the following clipping by Conan Doyle from a newspaper of 1787:

“Wanted—For a family not blessed with

good health, a sober, discreet and steady person to act in the capacity of doctor and apothecary. He must often act also as a steward and butler, and occasionally dress hair and wigs. He will be required to read prayers, and sometimes, on wet Sundays, to preach a sermon or two. A good salary will be paid, and a preference will be given to such an one as, besides the above qualifications, can mend clothes.”

Prototypes.—As man is in the highest degree an imitative animal, it is well on the threshold of a career to select examples from the histories of great men whose lives have been characterized by some particular virtue worthy of emulation. For *persistence* take Marion Sims, who, refusing to be discouraged by twenty-nine failures, performed the thirtieth operation—all on the same patient—and succeeded, opening thereby the door of hope to a class of patients previously considered incurable.

For *courage*, take Ephraim McDowell, that pioneer in surgery, who dared for the relief of his patient to perform an operation unheard of before—when he knew that failure would have meant for him indictment and trial for murder.

For *simple faith*, but at the same time faith not without works, take the old French army surgeon Ambrose Pare. In the case of Count Mansfield, who was seriously wounded at the battle of Monecours, when Pare first examined the wound he thought it incurable—but after prolonged treatment and ultimate recovery, he refers to him “whom I dressed and God healed.” And again, in the case of Marquis d'Anret. In the consultation when the other surgeons pronounced it a hopeless case, Pare says: “I told them there was still some hope, because he was young, and God and nature sometimes do things which seem to physicians and surgeons impossible.” This proved to be another case where Pare dressed the patient and God healed him.

As a type of *industry and energy* in the pursuit of knowledge, take John Hunter, who for a good part of his life was in the habit of working nineteen hours out of the twenty-four, and did more to advance the science of surgery than any man who lived in the days before anesthesia had been discovered. Industry—love of work—without genius is better than genius without industry. It is an interesting question as to which is more important in determining success—opportunity or industry—both are

important. Shakespeare says: "There is a tide in the affairs of men which, taken at the flood, leads on to fortune." But without industry you may fail to seize your opportunity and get the advantage of the flood. Every man—and every woman, too—is given at least one chance for success.

According to Ingalls, opportunity knocks unbidden once at every gate:

"Master of human destinies am I,
Fame, love and fortune on my foot wait,
Cities and fields I walk—I penetrate
Deserts and seas remote, and passing by
Hovel and mart and palace—soon or late
I knock unbidden once at every gate.
If sleeping, wake—if feasting, rise before
I turn away. It is the hour of fate,
And they who follow me reach every state
Mortals desire, and conquer every foe
Save death; but those who doubt or hesitate,
Condemned to failure, penury and woe,
Seek me in vain and uselessly implore.
I answer not, and I return no more."

In the Hall of Fame—the American Valhalla—where the names of our most distinguished Americans are supposed to go when their bodies die, the names of many lawyers, soldiers, and business men, but remarkable to relate not one physician. This may be regarded as a tribute to the modesty of the physician—his work is done so quietly and unostentatiously that few of the public realize that it is worthy of recognition in the shape of monuments and memorials; but in closing I would like to ask: Is the *lawyer* or jurist who protects society by making and enforcing a good system of laws, a greater benefactor than the *physician*, who protects society by giving it a remedy which prevents small-pox, and thus saves millions from sickness and death? Is the *business man* who amasses great wealth, though he may spend it generously, give employment to many, and endow colleges and charitable institutions, more deserving of gratitude than the *physician*, who introduces a remedy which annihilates pain and permits the performance of the most frightful operations while the patient sleeps in blissful unconsciousness?

Is the *soldier*, who changes forms of governments and the map of nations, perhaps sometimes for the better, but at the cost of incalculable treasure and the suffering and death of myriads, more worthy of honor and fame than the *physician*, who saves millions of dollars to commerce and untold numbers of human beings from sickness and death by giving to the world a method for the management and prevention of yellow fever?

CHLOROFORM ANESTHESIA.*

By A. JACOBY, A. B., M. D., New Orleans, La.,

Visiting Surgeon to Charity Hospital; Chief of Clinic to Chair of Surgery, New Orleans Polyclinic.

It is not my intention to go into details about this subject, for the matter has received much attention in the medical literature of the past two years, and has been the subject of discussion heretofore before these meetings. Nor is it my intention to discuss the other anesthetics and their availability nor methods of mixed anesthesia, because the latter are only for hospital use, while we have just one anesthesia which may replace either ether or chloroform—anesthol—that has not been sufficiently tried to commend it. But my desire is to give some of my own experiences and observations in the administration of this anesthetic, and, if possible, to convert a few, who have not the trained anesthetizer near by, to use of ether. I wish especially to make the practitioner feel the greater responsibility attached to the administration of this anesthetic, to give it less often, and to recognize the dangers attached to each administration. There are few of us, indeed, who have not had some unpleasant experience with this anesthetic, and felt the extreme anxiety attached to its administration either by us or by some one for us. One does not doubt, and every one will acknowledge the necessity of the trained anesthetizer, but those who are not fortunate enough to have one near must begin the use of an anesthetic which is safer in administration, especially in the hands of the inexperienced.

It must be acknowledged that the method of administering chloroform, as practiced by many, is extremely dangerous, and is done with too much laxity. The cone at the commencement of the administration of the anesthetic should be held well above the face, and, as the chloroform is dropped upon the cone, be brought gradually closer to it. In this way, I feel that the danger of sudden death is greatly lessened, because it permits the terminal nerve filaments of the fifth nerve to become accustomed to the anesthetic, and minimizes the chances of shock, which may be the result of its too rapid administration. It should be given by the drop method, and with the admixture of plenty of air, which can be accomplished by the frequent removal of the cone. There is no doubt, also, that the pouring of the anesthetic upon the cone is a

* Read at the meeting of the Louisiana State Medical Society, May 10-12, 1904.

frequent cause of respiratory failure, for there is a rapid overwhelming of the respiratory centres by the anesthetic. Many of you have seen the anesthetizer place the cone upon the patient's face, tell him to take a deep breath, and pour on the anesthetic as if it were necessary to strangle the patient in order to narcotize him. Others will keep the cone glued to the face of the patient as if afraid, that otherwise the patient might awake and create a disturbance, not recognizing the necessity of plenty of fresh air as a most excellent safeguard. The anesthetizer should bear in mind that he must produce and retain anesthesia with the least possible amount of anesthetic.

For the administration of chloroform in infants and very young children, a different procedure may be necessary, and the one which I have used is to pour the chloroform upon the cone, place it upon the face, and after the child has taken a deep inspiration, remove it, and repeat again if necessary. When the signs of narcosis are present, institute the drop method.

There is no positive sign which shows that the patient is fully under the anesthetic, though one can depend practically upon the contracted pupils, loss of reflex, and muscular relaxation combined. However, I have found that the reflex might be present and remain so during the operation, without any disturbances resulting. In such a case, one can depend upon the muscular relaxation and the contracted pupils. It is often impossible to produce loss of reflex, and I see no reason why one should try to produce it, often at the risk of the loss of the patient. This is frequently seen, and should be as frequently condemned.

Another fixed idea with many seems to lie in the necessity of touch the cornea to determine the presence of the reflex. This is not required, as the touching of the under side of the eyelid is just as satisfactory. Nor is it necessary to determine it frequently, as the contraction and the relaxation of the pupil can be depended upon. The method of touching the cornea is not only dangerous, producing at times an iritis, but also adds chances of dropping chloroform into the eye. Indeed, I have seen some men, even hospital internes, determine the presence or absence of the reflex so very frequently as if the life of the patient depended upon it entirely.

Very often, after the patient has taken plenty of anesthetic and one is not sure that the patient is under its influence, he might allow the

operator to proceed. But, the operator should not begin until the anesthetist considers the patient under the anesthetic. For, it will not only mean much trial and tribulation to the operator, but chagrin to the anesthetizer. The operation is delayed, and the struggles of the patient renders the chances of infection greater, owing to the parts being exposed and the hands of the operator and assistants becoming contaminated. Besides, the patient may be badly shocked, from which he may never react thoroughly during the anesthetization, the patient never seems to be narcotized, and vomiting frequently persists throughout the operation, which interferes greatly with an operator in abdominal work. Some operators, however, never seem to appreciate the difficulty with which the anesthetist must contend, and should bear this well in mind.

The dangers of the administration of this anesthetic lie in three conditions—first, cardiac failure; second, respiratory failure; and third, after effects—(a) nephritis; (b) fatty degeneration of the organs. The first two are the ones with which the anesthetist must deal. I don't think that much can be said about the treatment for cardiac failure, because, after the heart has ceased beating, I feel that we have only two methods at our command, both of which are of but slight avail—adrenalin chloride injected into the veins or direct massage of the heart. The former is seldom of avail, and the latter only of momentary effect; besides, neither are of use to the general practitioner. The second, however, can be successfully managed if the pulse remains good, as it only requires coolness and the retention of the presence of mind of the anesthetist. No time should be lost in the administration of hypodermics, but the body should be brought down to the head of the table, the head resting over the edge, and, while rhythmic traction is made upon the tongue, artificial respiration should be performed. Ammonia should be held over the nostrils and stimulation given if necessary.

I would like to insist at this period on the use of larger doses of strychnine, digitalin or atropin, if they are indicated, for I have never hesitated to give a tenth of the former, a twenty-fifth of digitalin or a fiftieth of atropin. Regarding the use of morphine previous to operation, I believe that it is only indicated in those of nervous temperament or of alcoholic habits.

If we find the respirations becoming shallow,

the pulse slowing, the removal of the cone will frequently suffice to restore these conditions. But if this does not result satisfactorily, we must hasten to the use of our cardiac and respiratory stimulants. It is my opinion that one can rely safely upon the color of the patient, even if the pulse is affected, as this may be due to traction upon nerve trunk or some organ well supplied with nerve fibres. A pale color will always indicate either considerable hemorrhage or severe shock. But, a good color, with satisfactory respiration certainly indicates a favorable condition of the patient, while, if the features are pale, the pulse failing, and the respirations shallow, we are confronted with an extremely dangerous condition, which must require our immediate attention to the patient. In such a case, a hot saline enema with strong coffee, will prove quite satisfactory, and, if absolutely indicated, an infusion of from two to four pints may be given together with cardiac stimulants.

It seems to me that we make too frequent use of the tongue forceps, because, if the jaws are held well forward, they can be dispensed with, for they often lacerate and injure the tongue severely. An excellent method of holding the jaw forward is to attach the lower teeth in front of the upper and to hold them there by keeping the chin forward. The exception may be considered in those with short, fat necks, when a heavy silk thread passed through the tongue will prevent the traumatism which would follow the use of the tongue forceps. In regards to the use of the mouth-gag, I hold that it is dangerous, because it allows the tongue to fall back and occlude the larynx.

I have had four unpleasant experiences, three of which were respiratory failures, that may be worth relating. In one case, a forceps delivery, the doctor insisted on beginning manipulations before the patient was thoroughly under, and requested me to push the anesthetic. I followed his directions, and only a few minutes elapsed before artificial respiration had to be begun. Fortunately, the patient was restored to consciousness and again brought under the influence of the anesthetic before operative procedures were instituted, after which we proceeded without any further trouble. In this case, if the operator had not commenced until the patient was thoroughly under the anesthetic for several minutes, I feel certain that this unpleas-

antness would not have occurred. This is an extreme fault which many operators have, and, on account of which, they frequently hold the anesthetist responsible for all resulting unpleasantness.

Another case with which I had a close call was one in which a dentist desired to remove some necrosed inferior maxilla. This was done at the hospital, but the patient had not been thoroughly prepared for the anesthetic, and had been brought over to the amphitheatre from the clinic. I advised the doctor to go slowly and to wait until the patient was thoroughly under before attempting any operative procedure. However, as he was impatient and in a hurry, he began to scrape the inferior maxilla, which is rather a dangerous region for the anesthetizer, and the warning had hardly been uttered before respiration ceased. It required fifteen minutes of good work to restore her, and the dentist then completed his operation, but went about it in a more cautious manner. It might be mentioned here that it is best to have the reflexes absolutely absent in operations upon regions in which the fifth nerve is present.

A third case which I have had was one of a gynecological nature, and, as the operation was nearly completed, I allowed, as I usually do, the patient to gradually recover. However, the operator decided to do a perineorrhaphy, and I began to push the anesthetic again, when the patient stopped breathing. She was restored satisfactorily, and the operation was completed without any further trouble or anesthetic. In these three cases the pulse always remained good.

The fourth one, which I intend to relate, occurred after the anesthetic had been stopped, the operation completed, the patient slightly awake, and the bandage ready to be applied. It is difficult to place the responsibility anywhere, and, as he received only one and a half ounces of Squibb's chloreform, I cannot see how one can attribute the death directly to the anesthetic. The patient had not received any chloroform for at least five minutes, the cone had been removed from the face for that length of time, and the bandage just ready to be applied, when he gasped suddenly, stiffened out, and became cyanotic. Artificial respiration for three-quarters of an hour, injections of one-fifteenth of strychnine, one-thirtieth of digitalin, thirty minims of ammonia, availed nothing, as the

heart had ceased beating. The patient had stood the chloroform well, the pulse had always remained good, and I did not have any trouble during the operation, which was for an enucleation of the eye. His family history was bad, and there may have been some underlying, unrecognized condition. The last two cases were done in private homes, while the other two took place in the hospital. None of these cases had been thoroughly prepared for the administration of an anesthetic, nor had a microscopic test of their urine been made. These are experiences in over five hundred cases of chloroform anesthesia, and have been the cause of much to be remembered on my part.

As I am about to arrive at my conclusion, I have decided to say a few words about the preference for ether, and its administration. It has always seemed strange to me that, as I anesthetized for different physicians, they waited till the patient did badly under chloroform before they would begin the administration of ether. For, if one desires to get the patient under the anesthetic quickly and without much struggling, the procedure of administering chloroform until the desired effect is present, to be followed with ether, is very heartily commended; but, it is certainly not necessary to postpone such action until the ether is specially indicated.

One must acknowledge three important facts—first, that chloroform is the more dangerous anesthetic, as proved by statistics of competent anesthetists; second, that ether is more a cardiac stimulant than chloroform; third, that there is more danger from kidney complications when chloroform is used than in ether anesthesia, as proved by Willy Meyer's experiments and Israel, of Berlin, the authority on surgical operations upon the kidney, who use ether altogether. I do not desire to give all the facts of the statements, for the literature is full of the matter, together with statistics. It suffices to say, that ether anesthesia is becoming more general every day, and we have a report from the hospital of the Mayo Brothers, of Rochester, Minn., in which it has been administered 10,000 times without a fatal result, and that of Poncet, of Paris, who administered it 29,000 times with only one fatal result, a child with cardiac disease. Of course, this was done by experienced anesthetizers, but I doubt that even if chloroform had been administered by one of equal

experience, that such a result would have been obtained.

But, what I desire to impress upon the members is that ether is a far safer anesthetic in the hands of an inexperienced person than chloroform, for, in such a case, there is always a tendency to pour the anesthetic upon the cone, a method which is certainly safer with ether. The most important duty of the anesthetizer in that case is to watch the respirations, for that and the color of the face are the two data upon which experienced anesthetizers now depend.

Now, as to the administration of ether, we may adopt any of three procedures. The cone with cotton inside, the ether being poured into it, or any of the special inhalers, the ordinary Esmarch cone with two wet towels thrown across it, leaving a small opening only, into which the ether is poured, or the cone prepared in the same manner, but the ether dropped upon the opening continuously. I consider the last method the best, and very easy of application, which is the one used by the Mayo Brothers, of Rochester, Minn.

In conclusion, even if we acknowledge that chloroform or its various mixtures, given by competent anesthetists results in a small percentage of deaths in the healthy individuals, yet must we not also acknowledge, that on account of the greater safety of ether, in the hands of the general practitioner, who must frequently give an anesthetic and who cannot be expected to be an expert, that the general use of ether given in small quantities on an open cone and by the drop method is far the better and safer? If we insist on giving chloroform, let us see that it is administered with an admixture of plenty of air, by the drop method, and that the least possible amount be used to produce and retain anesthesia.

830 Canal St.

POSITION OF THE KIDNEY AFTER NEPHROPEXY.*

By AUGUSTIN H. GOELET, M. D., New York, N. Y.,
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Restoration of the prolapsed kidney to its normal position, the author believes, is essential to

*Original abstract of a paper read at the Second Annual Meeting of the American Urological Association, at Atlantic City, N. J., June 9, 1904.

restore to normal action the kidney already crippled in consequence of the displacement, which interfere with its circulation and function. He does not share the belief of those who regard the abnormal mobility of the organ as the sole cause of the symptoms, but rather its abnormally low position.

If downward displacement of the kidney causes inflammation of the organ, as has been shown,† because of interference with its circulation and function, it is not reasonable to believe that fixation in an abnormally low position will effect any change in the condition so far as the kidney is concerned.

The prolapsed kidney seriously interferes with its circulation and function. When fixation is made lower down than normal the same condition prevails, with this difference, that it is permanent, whereas before fixation the recumbent position of the subject permitted normal replacement, with consequent relief, for some part of every twenty-four hours, which is not possible after such fixation. An additional objection to fixation too low down, below the rib, is that compression of the kidney by the corset or clothing is permitted and it cannot escape as before. Such comprehension is a constant source of irritation. Hence fixation of the kidney lower than normal leaves both patient and kidney in worse position than before.

The author takes this occasion to repeat the position he has maintained throughout—viz., that splitting or peeling off the fibrous capsule of the kidney is both unnecessary and unwise, because just as firm attachment can be secured without such mutilation, and restoration of the kidney to its normal position will re-establish normal action and the associated nephritis subsides, provided the operation is resorted to early, before permanent structural changes have taken place. In other words, he believes that any case of nephritis due to or associated with prolapse of the kidney that is curable by splitting or peeling off the fibrous capsule, may likewise be cured by fixation alone without depriving the kidney of its fibrous capsule, if the organ is restored to its normal position.

The kidney suspended by its partially detached fibrous capsule, by sutures, securing it to the muscles exposed in the incision, must necessarily cause attachment of the kidney too low down.

The author believes his method of inserting

the sutures and bringing them out and tying them on the surface at the upper angle of the incision‡ is the best way of securing the kidney in its normal position. He reports 184 consecutive nephropexies by this method without mortality and without a failure to secure permanent fixation with subsequent relief of symptoms.

2030 Broadway.

SHOULD THE PROPOSED NEW CONSTITUTION AND BY-LAWS OF THE MEDICAL SOCIETY BE ADOPTED?*

By GEORGE B. JENNINGS, M. D., Ruckersville, Va.,
Ex-Vice President Medical Society of Virginia, etc.

This paper is intended, not as a full discussion of the subject, but rather "to stir up your sincere minds by putting you in remembrance" of the fact that at the annual session of the Medical Society of Virginia, to be held at Richmond, October 18-21, you will be called upon to decide whether or not the present Constitution of that Society shall be wiped out, and another substituted.

A careful scanning of the present Constitution fails to reveal any clause providing for so radical a measure as is proposed. While section 1 of Article X provides for its *amendment*, nothing is said anywhere as to any power of the members working under its provisions to declare its abrogation, and out of the ruins to speak into existence a new Constitution as the foundation of a new Society.†

In the domain of civil government, *conventions* composed of representatives elected for such specific purpose is the authority for the change of the State Constitution. Such conventions may make fundamental change, and it is usual to submit their report to the vote of the people for ratification or rejection. Since many members of the State Society cannot pos-

‡ Journ. Amer. Med. Ass'n, November 7, 1903.

* Read before Piedmont Medical Society, at Charlottesville, Va., June 18, 1904.

† It should be stated that in 1882 a committee was appointed to revise the original constitution, adopted 1870, and this committee reported the present Revised Constitution, which was practically unanimously adopted at the session of 1883, held at Rockbridge Alum Springs, Va. It is under this Constitution that the Society has been working since 1883, with some immaterial modifications adopted at various sessions since then — *Note by Editor.*

† Medical Record, December 20, 1902.

sibly attend the session at Richmond this fall, might it not be wise to allow the absentees to vote by letter or note as to the rejection or ratification of the very radical measures now proposed? Such a suggestion, of course, follows the concession that the present Constitution may be abrogated and a new one substituted by a two-thirds vote of those present at the session—since a full year's notice has been given that radical changes will be advocated.

Let us notice some of the very special measures proposed in the Constitution to be submitted for ratification or rejection—the basic law upon which the superstructure of the *new* Society is to be erected.

Article III of the proposed reorganization Constitution says: "Component societies shall consist of those county societies which hold charters from this (the State) Society." Section 2, Article IV, says also: "The members of this (the State) Society shall be members of the component societies." In other words, one must be a member of a component society before he can be a member of the State Society. Under such a law, which is the creator and which the creature? With the State Society already existing, and the so-called component societies not organized—which acts first? To be of valid force and effect, the State Society and those county societies which are to be "components" must act simultaneously. Such a strained hypothetical proposition plunges us into "the realms of metaphysical subtlety." We fear this retro-duplex action allows too much friction to secure the desired firm foundation—the harmonious action of the profession. An organization of professional people—each one an earnest advocate of professional development—should allow each of its members a voice in its government. Such an organization should have no uncertain, suspicious, or ambiguous base, but should be carefully and firmly founded on rock bottom. The ground work of certainty, harmony and stability should be so laid as to effectually avoid top-heavy dangers.

Time has attested the unstable, vacillating, ephemeral character of county medical societies—even in the most populous counties; and observation has shown that this truth applies with much greater force to smaller local societies. We are aware that it has been suggested that the profession of two or more contiguous counties might combine for the formation of the so-called

"component county societies." County lines, though generally imaginary, however, generally mark a pronounced difference in sentiment, local pride, opinions and interests, which are apt, sooner or later, to engender disagreements, prejudices, discords, etc., which are not likely to bring forth good fruit in the State Society.

Although the latter clause of section 3, Art. IV, of the embryonic Constitution adds the significant words, "which shall receive only *white* physicians," betraying, as it does, "a cat in the meal tub" fear, still, we refrain from allusion to possible political complications, affiliations and entangling alliances.

Glancing briefly at the practical workings of the proposed new plan, one of the by-laws directs that "the council shall meet in the mornin"; another by-law directs the so-called House of Delegates to meet at 2 P. M. But nothing is said as to the manner in which the rank and file of the Fellows of the State Society shall be entertained during the time that the *elect* deliberate within the santum sanctorum. No adequate provision is made for the entertainment of the very lonesome gentlemen (who were once in the habit of meeting on common ground with all the members of the Society) during the enactments of the close corporation.

Time is not afforded on this occasion to recapitulate the very many shaky points with which the proposed instrument bristles. Viewing it in its several parts—as to its doubtful incubative stage, with reference also as to the fickleness of the county organizations, which are to be "component societies," the vaguely defined council meetings, the exclusiveness of the House of Delegates, and the loosely ordered district societies—are we not justified in entertaining fears as to the wisdom of the charge, that the change of plan of organization may prove clumsy, unwieldy, complex and unmanageable, threatening such attrition and unpleasant friction as may ultimately result in want of harmonious action?

In consideration of such uncertain aspect, would it be wise to risk the experiment—to toy with a time-honored certainty?

We can point with pride to the Medical Society of Virginia under the present regime. We have an enrolled membership of between eleven and twelve hundred—embracing the flower of the profession of the State. It compares favorably, in its capacity for dispensing good to the

profession and people of the State, with any similar organization in the Union. It has a vigilant State Board of Health, guarding the hygienic and sanitary interests of the Commonwealth; a State Board of Medical Examiners, as effectually preventing imposition upon the people by charlatans and imposters as any other State; and the Legislative Committee has inaugurated measures which will hedge in more thoroughly the practice of medicine, etc. And another committee now at work will most probably succeed during the next Legislature in abolishing or greatly modifying the onerous special license tax on practitioners for the privilege of practicing medicine, etc. The Medical Society of Virginia has stood the test of thirty-four years of experience, and has defied adverse circumstances of various kinds. It has had a successful past; it enjoys a flourishing present condition, and unless violent hands are laid at its foundation—equal rights and privileges of all its members—an even brighter future awaits it.

Why, therefore, this Herculean effort of outsiders to relegate this State Society to the shades of obscurity and oblivion—to level it to the inferior position of certain other State societies?

Our Constitution doubtless needs some changes to keep it in touch with the onward march of events. Let us address ourselves to such needs in a prudent manner and in a proper spirit. But the proposed radical changes, as we view them, are not needed. A plenty of States have recently adopted the new reorganization plan as proposed by the American Medical Association. We can well afford to wait and see the result of the experiment. In two or three years the zeal so often manifest in any change of plan will settle down into routine work; and then, if we see that it is really a good thing—that the plan works better than that now adopted in Virginia, it will be time enough to follow. But if the present plan works best in Virginia, let conservatism prevail—"let well enough alone."

Until the time for decisive action arrives, during the session of the Medical Society of Virginia at Richmond, October 18-21, 1904, let each member of the Society carefully read and inwardly digest the trend of the proposed new Constitution.

PROFESSIONAL UNION; OR, A UNITED PROFESSION.*

By J. G. CARPENTER, M. D., Stanford, Ky.

This paper advocates a professional union by villages, towns, counties, districts and State, national and international unions. Every town and village and every county should have its medical society, every district of two or more counties should have a society. Every State has a medical union or State Medical Association, and in this Kentucky has excelled all others. Kentucky has 119 counties, over 100 of which have county medical societies, and in the year 1904 every county in the State will be organized.

Professional union resolves itself into these questions—viz: "Am I my brother's keeper?" Are you your brother's keeper? "Are we the keepers of our professional brethren?"

Yes, we all are our professional brethren's keepers. We must keep each other in the straight and narrow way, give aid, comfort, generosity, courtesy and unbounded hospitality to each and every one who honorably wears the name of doctor of medicine and surgery; and those who dishonorably bear the name we must pity and show the better way. Teach them by right thinking, right acting, and by charity, truth and scientific attainments that all doctors should be worthy of this great name, and that by a united profession we stand as firmly and strongly for each other's success, welfare and happiness as the rock of Gibraltar.

An ununited profession must fail and fall a prey to the charlatans, shark-lawyers and the meddlesome and garrulous laity, who never did like and love doctors who are studious, truthful and scientific, and charge well for professional services. Let our motto be, "United we stand; divided we fall." To fail or fall we become as the flotsam and jetsam on life's troublesome sea. If we will work, study, and go on to perfection, led by the precepts of the Great Physician, and hold to the principle of Thomas Jefferson, "the greatest good to the greatest number"; of the people, for the people, by the people—and not work alone with a selfish spirit of self-aggrandizement, we can attain the desired blessings.

The first medical society was organized about

* Read at Russell Springs Medical Society, August 13, 1903; at Madison County Medical Society, September 10, 1903, Richmond, Ky; at Central Kentucky Medical Society, October 15, 1903, Danville, Ky.

two thousand years ago, by the Great Physician, and St. Luke, the beloved physician, and the apostles, for scientific achievement, the welfare of humanity and on a sound money basis. Did not the Saviour say: "Render unto Cæsar the things that belong to Cæsar?" We doctors must demand of our clientele and the public, that they "render unto Cæsar the things that belong to Cæsar"—that is, always pay the doctor's bill. Like Henry Clay, we must have protection in sound money tariff. We must have a "professional union," do business on a sound money basis, have a protective tariff for the present, old age, and the rainy day, and nothing should prevent us from doing otherwise.

With county, district, State and National unions, the over one hundred thousand doctors of the United States form a power for good work that cannot be overestimated, and we should wield an influence that should be respected and honored. We should, through the boards of health, dictate wise, just, sanitary and financial legislation both for the respective States and nation at large, and we should control life insurance companies in their dealings with the profession, instead of their using the thumb-screw pressure on us. To have a professional union every doctor in his town or county should be of the right kind of material—a gentleman, a true man, and an able physician. All such will live by the Golden Rule. The schnolagosters and blatherskites in the profession are few indeed, and the twentieth century dawned upon the noblest and best work and most progressive profession on earth, filled with gentlemen and skillful physicians.

Is a lazy doctor any benefit to himself or profession? No. Is a drunken, intemperate and immoral or a stupid and illiterate physician any help to his profession? No. Is a vulgar or untruthful physician any good to anybody? No. Has an avaricious M. D. ever grown any larger than a silver dollar? No. Did an envious, selfish or jealous M. D. ever help his profession? No.

We must be a united business profession, do good scientific service, have a sound money platform, collect promptly, charge well for practice, treatment, advice, consultations, major and minor surgery, and specialty work; we must have better educations, better homes, clothes, and pay; we must have good pay, so we can have the money to buy books, journals, instruments, take

post-graduate courses, and take proper recreation each year. In other words, the Lord intended the true doctor to have the best of everything. Some doctors in the past, like the frog, have tried to live an amphibious life, as well as a fibious or Ananias career, which is deplorable. I once knew an old medical man who was so unreliable as to be called "Old Ambiguity." His children had inherited so much duplicity the people called them all "little ambiguities." In the eighteenth century there may have been a Dr. Jekyll and Mr. Hyde, but the twentieth century says, "Good-bye, Mr. Hyde; good-bye, Jekyll; you have had your day—a fond farewell."

We love knowledge; we hate ignorance. We love wisdom; we hate superstition. We love reason; we hate stupidity. We love scientific research; we hate duplicity. We love truth; we hate a lie. We love fact, fact is truth, and truth is science. We love ambition and courage; we hate cowardice. We admire an enemy who meets us face to face; we hate an enemy who attacks us from ambush, or when our back is turned. We love justice; we hate injustice. We love pity and mercy; we hate falsehood and oppression. We love sympathy and humanity; we hate revenge and cruelty. We love gratitude; we hate ingratitude. Ingratitude is the beast of crimes, the blackest and foulest of the twentieth century.

We are a friend to ethical consultations and honorable consultants; we are a foe to ignoble consultants and fakir doctor. We love the grand principles of religion, which are embodied in the Golden Rule, the practice and example set by the Great Physician; we hate hypocrisy and shams in all their hideous forms. We hate diplomaey—it is the twin sister of hypocrisy. We love the doctor who is trying to live right, be happy himself, and make some human being happy, and who will live in the bright beyond eternally and everlastingly. Man's inhumanity to man has made countless millions mourn. And doctor's inhumanity to each other have caused more headaches, tribulations, sorrows and persecutions to the medical profession than can be numbered by the sands of the seashore. We hate professional hypocrites who try to palm off the freaks of religion and falsehood for truth, skill and science, who create voodoo and voodooism upon ignorant and superstitious patrons. These religious hoodoos and voodooos in the reg-

ular medical profession are wolves in sheep's clothing, iguoramuses and "cheap Johnnies," and did they not charge cheap and work the church racket on mercenary, miserly and ignorant people, they and their families would have to beg for bread. These "cheap Johnnies" play "peke-a-boo" with science and truth, and many a good farmer and merchant, miner, blacksmith and shoemaker have been spoiled by making poor doctors. We hate indolence, ignorance and envy, avarice, jealousy and timidity, selfishness, delay and professional cowardice, dirt, morphine and opium dispensers, who make morphine eaters, blight and destroy human souls, and wreck happy homes for the sake of making a dishonest dollar.

The professional morphine dispenser is a man of little or no ability, and delights in making patients feel good, forget their sorrows and tribulations, that he may thereby conceal his ignorance, and make more money. These morphine dispensers batton down patients with opium, let them die from dirt, ignorance, superstitious neglect, cowardice and procrastination, thereby concealing important symptoms, that would be highly indicative of life-saving surgery. Opium and morphine dispensers are being driven out of the medical profession rapidly, and the sooner they are kicked out the better for humanity and the *honorable medical profession*.

(In every county seat of one or more thousand population, or densely settled county, the profession should be divided into branches of specialism—viz: Some physicians taking obstetrics and diseases of children, others diseases of eye, nose, throat, ear, etc.; but the ideal doctor is able to do all—is master of his profession. Each physician should be respected and honored and fraternized by his local and adjacent colleagues. In every county the profession would be better, wiser, more intelligent, scientific, skillful, have a larger clientele, have more money, and be happier than in the unsuccessful past.

The people for ages have been looking for the model Church, a Church upon which all good, respectable people could agree. We exclaim: "Eureka"—viz., the county medical society. Every well person, every sick person, who is a thinker, endorses the county medical society. Those who do not think so should be looked upon with compassion. Physicians should be, and, as a rule are, the exemplars and custodians of the communities in which they live; and in or-

der to do the most good, and make the greatest success in science and practice, they must of necessity be aggressive and progressive members of the "model Church"—the county medical society. Our creed is think right, do right, practice the Golden Rule, lead the lives of manly men and Christians, and American patriots. We believe in the perseverance of all doctors in science, truth and noble deed. Be happy yourself in doing good deeds, and make somebody else happy.

To be a member of the State Medical Association, you must be a member in good standing of the county medical society, and to be a member of the American Medical Association you must be a member of your State and county medical societies. The annual membership fee of the State Association and subscription to the Bulletin, is only \$2. The annual membership fee of the American Medical Association and subscription to the *Journal*, is only the small sum of \$5. For \$7 you get subscription to State and National Association, the Bulletin and Journal—financially, a prodigious investment, buying annually hundreds of dollars' worth of reading material for only \$7. All the papers, reports of cases and discoveries of the county, State and National societies are published in these journals.

The time has come for doctors to be appointed to county, State and National offices, by membership in medical societies, and on scientific qualifications—not through politics. In the future when a doctor desires an appointment, the first question will be, does he belong to the county and State Medical societies? If he does, his appointment and election will be certain. But otherwise he will be placed with the goats, and the anathema, "Depart from me ye cursed; I never knew ye," will be his reward.

The bigoted, self-righteous, bombastic, temperate or intemperate newspaper and other kinds of advertising doctor has had his day of inglorious shams, and nefarious practice to get business. If you like and love the way of a charlatan, be honest and be one, and do not be a wolf in sheep's clothing. If we are not monkeys we must be out of the monkey business. In past ages it was thought that any fellow could make a doctor, but now we know it takes the purest and best men, the strong minded, and men with strong constitutions, studious and persevering habits to make physicians. Knowledge

makes us proud—we know so much; wisdom humbles us, that we know so little.

Genius has been defined "capacity for work." To be a success as doctors we must have strong minds, strong bodies, and great capacity for work. We must send our students to the best colleges and hospitals, and prepare them correctly for the battle of life. Examine and see that a student is a gentleman to begin with.

No doctor at the present time can live in a state of idleness, selfishness, envy, hate and pure cussedness. He must live up to the full privileges of a gentleman, a Christian scholar. Every medical society is a "post-graduate course." How can a doctor spend his time better, with more profit to himself than in a medical society? Here we review and discuss more subjects and gain more knowledge than could be accomplished in weeks of hard study. Medical societies are mutual aids. Can you afford to miss one meeting? We should undertake the example set by the busy bee, but withhold our stings, and show the saccharine side of life—ever industrious, vigilant and economical; learn to see the bright, happy and beautiful side of life, and make others happy and prosperous; see the good in our professional brethren, and close our eyes and ears to faults that may be peculiar to them, and make them better and wiser men, and day by day, year by year, go outward and upward to higher and nobler deeds.

The word doctor means learned, able to teach. Are we worthy of this name? Are we able to teach by thought, word, deed, tongue, pen or precept? We should teach by cleanliness in person, dress, acts and conversation. Every doctor should pay his debts—be an exemplar to his community, in this line, and live up to this. "Pay what thou owest," and make them pay what they "owe."

Proceedings of Societies, Etc.

SOUTHWEST VIRGINIA MEDICAL SOCIETY.

This society was called to order by the president, Dr. M. M. Pearson, of Bristol, Va., in High School building, at Big Stone Gap, 8:30 P. M., July 12, 1904. Dr. E. T. Brady, Abingdon, secretary, etc., was in place.

Other members present were: Drs. Cam. Anderson, M. O. Burke, W. W. Chaffin, T. M. Cherry, B. F. Cornett, J. P. Edmonds, A. H.

Fulton, G. C. Gilmer, J. A. Gilmer, J. T. Graham, J. H. Hagy, A. G. Hamilton, T. D. Hutton, J. W. Kelly, Paul Kernan, D. L. Kingsolver, W. C. Moore, G. G. Painter, W. G. Painter, G. M. Peavler, A. S. Priddy, W. R. Rodgers, M. B. Rucker, D. M. Sanders, W. L. Spencer, T. F. Staley, M. L. Stallard, W. B. St. John, W. K. Vance, A. McG. Wallace, M. C. Wallace, Visitors: Drs. Landon B. Edwards, Richmond; J. B. Kirke, W. Va., and ——— Stocher, Big Stone Gap.

Hon. J. F. Bullitte, of Big Stone Gap, delivered a welcoming address.

In the absence of the Committee on Nominations, the president appointed Drs. G. M. Peavler, A. S. Priddy and W. B. St. John to serve as such, who reported favorably upon the following applicants, who were duly elected members: Drs. G. S. Wiley, Georgel; J. P. Edmonds, J. B. Harrold, W. C. Moore, Big Stone Gap; A. H. Fulton, Gibrais Station; T. M. Cherry, Glamorgan; Paul Kernan, M. L. Stallard, Norton; M. C. Wallace, A. McG. Wallace, Gate City; W. A. Baker, W. L. Spencer, Jonesville; J. A. McGuire, Wise; E. G. Hamilton, Mabe; S. E. Shelburne, Pennington Gap; H. C. Rucker, Geo. C. Gilmer, Stonega. One application was rejected, and one referred back to the Committee for report at next meeting.

Drs. Landon B. Edwards, Richmond, and J. B. Kirke, W. Va., were, on motion, welcomed and given the privileges of the floor. An excursion was announced by the local committee of arrangements for 1 P. M. to-morrow.

Dr. T. F. Staley, Bristol, read a paper on *Some Diseases of the Digestive System*. Discussed by Drs. St. John and Peavler.

Dr. W. W. Chaffin, Pulaski, read a paper on the *Abuse of Antiseptics*. Discussed by Drs. Priddy, Kirke, Burke, Cherry, Peavler, Brady, Edwards.

Adjourned till 9 A. M., Wednesday.

After session was called to order Wednesday morning, Dr. G. M. Peavler, Bristol, read a paper on *When Shall an Eye be Eneucleated?* Discussed by Drs. Graham and Priddy.

Dr. W. R. Rogers read a paper on *Administration of Anesthetics*. Discussed by Drs. Chaffin, Graham, Edwards, Priddy, Brady, Peavler, Hamilton.

Dr. W. B. St. John, Bristol, read a paper on *Tuberculosis Dorsalis*. Discussed by Drs. Vance, Brady, Edwards.

Adjourned for excursion through coal and

coke region, given by Wise County Medical Society—the trip included the mining towns of Appalachia, Josephine, Norton, Dorchester, Stonega, Blackwood, and other smaller places, and was both novel and instructive.

Society reassembled at 8:30 P. M., when Dr. J. T. Graham, Wytheville, read a paper on *Appendicitis*. Discussed by Drs. Rogers, Chaffin, St. John, Brady.

Dr. W. K. Vance read a paper on *Jenner and His Work*. Discussed by Drs. St. John, Priddy, Graham.

Dr. D. L. Kingsolver, of Stump, read a paper on the *Sequelæ of Mumps*. Discussed by Drs. Brady and St. John.

Papers by Dr. M. O. Burke, on *Cervical Lacerations*, and by Dr. A. S. Priddy, Bristol, on *Perineal Lacerations*, were read and discussed conjointly by Drs. Graham, Chaffin, Cherry, Brady.

Dr. E. T. Brady, Abingdon, reported a *Case of Attempted Suicide, with Entire Section of Trachea and Esophagus*.

The paper by Dr. M. L. Stallard, Norton, was read by the secretary, and discussed by Drs. Priddy, Brady, Edwards, Vance, Pearson.

Papers by Drs. Kernan, on *Puerperal Eclampsia*, and R. J. Preston, Marion, on *Typhilitis and Allied Diseases*, were read by title.

The Auditing Committee (Drs. Cherry, Hutton and Rogers) reported that examination of the treasurer's books, etc., showed his accounts to be correct and sustained by proper vouchers.

Election of officers for following year resulted: *President*, Dr. R. W. Sanders, Wallace's Furnace; *Vice-Presidents*, Drs. J. W. Kelly, Big Stone Gap, and W. B. St. John, Bristol; *Secretary and Treasurer*, Dr. E. T. Brady, Abingdon. *Executive Committee*, Drs. A. S. Priddy, Bristol, W. W. Chaffin, Pulaski, and M. M. Pearson, Bristol. *Committee on Nominations*, Drs. T. D. Hutton, Glade Spring, John T. Graham, Wytheville, and W. R. Rogers, Bristol. *Honorary Members*, Drs. M. M. Pearson, Bristol, and Landon B. Edwards, Richmond. *Bristol, Va.*, was selected as place for next session, January 17 and 18, 1905.

In the absence of the President-elect, the retiring President, Dr. Pearson, invited the First Vice-President, Dr. Kelly, to the chair, to whom he handed the gavel.

Drs. Graham, Priddy and Chaffin—the Committee to draft resolutions of thanks to the Wise

County Medical Society, etc., for the many and constant courtesies—presented well drawn resolutions, which were unanimously adopted.

American Proctologic Society, Sixth Annual Meeting, Atlantic City, June 8-9, 1904.

The *President's address*, upon "Things of Specialism and of this Society that Makes for Optimism," was a thoughtful and well-considered argument in support of specialism in general and of proctology in particular. The favorable recognition which had been accorded this specialty was largely due to this Society, and as a direct result, though only six years old, the advertising charlatan had practically disappeared. The high type of men composing the membership was alluded to, and the continued exercise of careful circumspection in admitting new members advocated.

"*The Surgical Treatment of Prolapse of the Rectum*" was the subject of remarks by Dr. J. M. Mathews, Louisville. He reported excellent results from drawing up the colon and suturing it to the abdominal wall. He had resorted to the method in a number of cases, and believed the operation, colopexy, worthy of more general adoption.

"*Treatment of Pruritus Ani with the Roentgen Rays*" was discussed by Dr. J. R. Pennington, Chicago. From an experience covering a period of several years, he had reached the conclusion that the X-rays were a valuable therapeutic measure in certain obstinate cases in which no cause for the pruritus is discoverable, and in which the secondary changes in the parts affected are most marked. He had succeeded in a number of instances in effecting a cure after every other form of treatment had failed.

"*Present Status of the Treatment of Cancer of the Rectum*" was the title of a paper by Dr. Lewis H. Adler, Philadelphia. He considered four methods of treatment: (1) The X-rays; (2) radium; (3) extirpation; (4) colostomy. Speaking from his own experience, he condemned both the first two mentioned—the X-rays as aggravating the disease and apparently hastening death; the radium as being non-effective. With reference to *extirpation*, cancer of the rectum, at the stage usually discovered by the surgeon, is far less amenable to operative treatment than cancer occurring elsewhere; extirpation even when thorough is followed by cure in only a small per cent. of cases, owing frequently to

prior metastasis. The danger attending excision of growths situated above the lower 2 or 3 inches is very great; and the results as to freedom from pain in successful cases are usually far from satisfactory. He personally had been unable to advise excision in more than five per cent. of cases. *Colostomy* the author regarded a valuable palliative operation, the patient living in comparative comfort an average of three to four years. Personally he does not advise colostomy as early now as formerly.

"*The Flexible Rectal Tube*" was condemned by Dr. S. T. Earle, Baltimore, as impractical and of limited utility. His investigations of the subject had led him to conclude that as ordinarily employed by nurse or patient, the instrument curls upon itself in the lower rectal chamber and very rarely enters into the sigmoid. This difficulty may be overcome in a measure by attaching the nozzle of fountain syringe to the tube and allowing enough water to enter the bowel to distend it in front of the advancing tube. In inexpert hands the instrument is capable of harm, and except in the hands of the physician himself, the writer thought it should give place to the ordinary enema nozzle and elevation of patient's hips, by which method the same results can generally be obtained.

Dr. G. B. Evans, Dayton, O., presented a paper on "*Polyadenomata of the Rectum*," in which he referred to the comparative rarity of the disease, and emphasized the importance of early and complete removal of the tumors—their tendency to undergo malignant changes being the chief danger. With the more general employment of instruments of precision in rectal examinations the writer predicted that polypi would be more frequently encountered in future.

In a paper entitled "*Some Observations on the Treatment of Rectal Diseases*," Dr. W. L. Dickinson, Saginaw, Mich., spoke of the great prominence diseases of the rectum had gained in the past twenty-five years. When he was a student the entire subject was disposed of in one lecture by the professor of surgery, "piles" being the only disease alluded to. Improvements in the office treatment of these conditions were discussed, the author showing that it is possible in a large number of cases to do good, thorough work without general anesthesia and confinement of patient to bed.

"*Rectal Valves, with Report of Operative Cases*," was the title of an essay by Dr. L. J.

Krouse, Cincinnati. The author discussed the indications for valvotomy, and endorsed it as a justifiable operation in properly selected cases, reporting a series of cases in which great and permanent benefit had followed its performance.

Dr. Howard A. Kelly, Baltimore, read a paper on "*Treatment of Simple Rectal Fistula by Excision and Suture Without Cutting the External Sphincter Muscle*." He described the technic of an operation devised by himself and successfully employed in a number of cases. The procedure is applicable only when the fistula is simple and direct, and consists of dissecting out the tract, beginning at the external opening. "The rectal orifice is then carefully excised through the wound so as to make a transverse opening parallel to the sphincter fibres. The wound is then closed by interrupted silk worm gut or silver wire sutures—taking care to draw the circular fibres together above and below the rectal orifice."

"*Sterile Water Anesthesia in the Radical Treatment of Rectal Diseases*" was the subject of a paper by Dr. S. G. Gant, New York. In his opinion the hospital, general anesthesia, and confinement to bed constituted a routine which, as applied to rectal diseases, was both unnecessary and unjustifiable in most instances. For several years he had been seeking a means to overcome these disadvantages. After trying the various agents for producing local anesthesia, he had abandoned them one after another because of toxic effects, hemorrhage, pain, or non-effectiveness. Finally he concluded that the anesthetic effect of these agents was due rather to pressure than to the drugs employed, and was led to try sterile water alone. This gave him the happiest results. He reported 320 cases operated upon by this method, which included practically every variety of rectal disease amenable to operative treatment. The results had been so gratifying that he heartily recommended that the method be given a trial by others.

Papers by Dr. Leon Straus, St. Louis, and Dr. A. Tierlinek, Gand, Belgium, in the absence of the authors, were read by title.

The following officers were elected, after which the Society adjourned to meet in Pittsburgh, May, 1905: *President*, Dr. J. R. Pennington, Chicago; *Vice-President*, Dr. L. H. Adler, Philadelphia; *Secretary-Treasurer*, Dr. A. B. Cooke, Nashville; *Executive Council*, Drs. W. M. Beach, Pittsburg, S. G. Gant, New York, G. B. Evans, Dayton.

Analyses, Selections, Etc.

Recent Advances in Pediatric Therapeutics.

In a paper read before the American Therapeutic Society, New York, N. Y., June 2-4, 1904, Dr. Noble P. Barnes, of Washington, D. C., commented upon the remarkable reduction in *infant mortality*, especially during the last ten years. Much depends upon getting a good start; the predispositions of the parents must be combatted. Children of young parents are stronger and have better health than those who marry late. Belated marriages result in diminished births; increase of cancer is only among nations in which the marriage age has been steadily advancing; and the psychoses so often noticeable depend not so much upon school life, as upon inheritance and the nutritive process of the development period.

The future school medical attendant will exclude those suffering with contagious or other diseases, rendering them unfit for school, and determine the amount and kind of work—mental and physical—each child is able to perform. When students eat, sleep and exercise wisely, their college stay is attended with health improvement. Every scholar is not intended by nature to be a professional man.

The danger from raw milk in summer is conclusively demonstrated, and pasteurization should be universally practiced. Although formalin, in from 1 to 500 to 1 to 10,000, as a food preservative is highly recommended by eminent authorities, who claim that these proportions are tasteless and harmless, the curdling is more flocculent, the milk more digestible, and the immune and antibodies unimpaired, the author discourages this measure as dangerous. Electrical preservation, now under experimentation, may clear this problem later. Pure, clean milk and its adaptability by suitable modification to individual cases is wanted. The outline suggested by the U. S. Department of Agriculture for the improvement of market milk should be enforced by law. The advocates of buttermilk believe it to be a life saving preparation for sick children. A modification of sweet whey is the sheet anchor in digestive disorders.

The exact role of the *Shiga-Flexner bacillus* in *summer diarrhea* is undecided. Flexner and others believe the bacillus of dysentery produces

the primary lesions early, and the subsequent pathological change is the result of a mixed infection; hence the anti-dysentery serum of Flexner should be given before mixed infection and anatomical changes occur. Holt used the serum in eight cases—two of which were moribund. In three no effect was seen, and in the other three improvement was strikingly apparent. Zahorsky thinks polyvalent anti-dysentery serum should be given in all summer diarrheas. Hastings says that no positive conclusions can be drawn from experience with this serum, though its use does no harm. The judicious employment of gelatin and olive oil is of recognized value in ileo-colitis.

As to the *serum treatment of typhoid fever*, Josias reports fifty cases, with a mortality of 4 per cent., while cases treated in the usual manner gave a mortality of 14.2 per cent. The dose injected at the onset should be one cubic centimeter to every thirty kilograms of weight. In one-third of the cases the temperature descended at once, and was followed by convalescence. In young children the injection was sometimes followed by severe abdominal pain. De Rochemont, referring to his use of Jezz's serum, states that in every case the course was modified, though not shortened.

As to *pertussis*, formaldehyde in from one-half to one per cent. solution, sprayed into the pharynx once a day, two per cent. solution of fluoroform in doses of from 100 to 150 grams daily, and calcium sulphide in .03 gram doses every hour or two until the breath smells of hydrogen sulphide, are among the remedies receiving much support. Manipulation of the lower jaw after the method of Nægeli will control the paroxysm in most instances in older children. Mothers and attendants should be instructed in this procedure. Control of the laryngismus relieves the usual vomiting and resulting emaciation, and supportive measures—good food and fresh air—meet the indications. The fresh air treatment is emphasized in the records of the Edinburg Hospital. Of 74 cases treated indoors 51 died, a mortality of 66.9 per cent. Of 76 cases treated out of doors, partly or entirely, 24 died, a mortality of 31.5 per cent.

Dr. Mallory's finding a series of bodies in the skin and superficial lymph spaces of four patients who died in the *eruptive stage of scarlet fever*, is far from proving the etiological factor of this disease. Doehle twelve years ago de-

scribed a peculiar variety of protozoa in the blood of patients suffering from some of the eruptive diseases, among them scarlet fever. His findings were never confirmed. We do know, however, that the streptococcus is present on the tonsils in almost every case; in the blood in 15 per cent. of the cases during life, and in 80 per cent. after death. It has not been found in the blood before the third day. In fulminating cases the organism may not be demonstrable, but when uncomplicated with streptococemia, scarlet fever usually runs a mild course. The streptococcus is generally accountable for the severity of the disease, especially the complications and sequela, and these complications can be prevented by the early use of an efficient serum administered in sufficiently large doses.

In order to test the merits of the serum, Escherich employed it only in severe cases in which toxic symptoms predominated. In doses from 100 to 200 cubic centimeters early injected, the serum acted almost like magic. In from four to twelve hours the temperature fell, the pulse and respiration slowed, and the exanthema faded. The temperature remained normal in favorable cases, and the eruption disappeared on the following day. In less favorable cases there was some slight rise in the temperature of short duration. In later cases with necrotic pharynx, glandular enlargement and other complications, the injection was without value. The mortality was reduced one-half. Escherich believes that antistreptococic serum will soon stand in the same relation to scarlet fever that antidiphtheritic serum does to diphtheria. A polyvalent serum, containing the antibodies of human streptococci is the only one to be depended upon. The serum appears not to destroy, but to reduce the virulence of the organism. Its early use is recommended in scarlet fever, or any other disease where the streptococcus is playing a primary or secondary role. Smith reports use of the serum in a series of small-pox cases with excellent results.

Widowitz reports the use of *urotropin* in 102 cases of scarlet fever without a single case of nephritis. From .05 to .5 gram was given, according to age, during the first three days of the disease, and again at the beginning of the third week for another three days.

Seiffert advises *lumbar puncture in uremia occurring in scarlatinal nephritis*. In several

cases he withdrew from five to thirty cubic centimeters of spinal fluid. Cases with loss of consciousness and stertorous breathing recovered consciousness in thirty minutes after the operation and subsequently recovered entirely.

The therapeutic suggestions and clinical observations of *chorea minor* have also been important. Individual predispositions, born of neurotic stock, are often influenced by the slightest degree of nerve pressure; and an infection or intoxication that would pass unnoticed in well-balanced nervous systems, would in these produce chorea or other nervous phenomena.

The association of chorea and rheumatism can be demonstrated in the majority of cases if kept under observation sufficiently long, though the rheumatic complication of the first attack is frequently overlooked. Micro-organisms of the streptococcal group have been found in both of these disorders, but we have no proof of their constancy or their specific character. It would be well to examine the blood of all these cases and use a serum when indicated.

As we find *chorea complicating pronounced anemia and infectious diseases, not associated with rheumatism*, we are led to believe that many organisms and ptomaines are capable of producing these same muscular spasms. Where there is any indication of rheumatism in these cases, treatment should be begun with sodium salicylate from .2 to .1 gram dissolved in a glass of water and taken two hours after meals.

Smith uses 4 cc. doses of the *fluid extract of ergot* every three or four hours in children of seven years, and continues the treatment for weeks if necessary. In stubborn cases he increases the dose to 6 cc. and adds a moderate dose of strychnia. He regards this as more reliable than the arsenic treatment, but the report of but two cases does not justify the conclusions.

In pulmonary disorders fresh air, sunshine and isolation are most important. As fifty per cent. of the *pneumonias* are due to bad air, more than half of these secondary inflammations should be avoided. Many do well on the cold air treatment, but infants and young children must have their air at 88°F. to prevent irritating cough. The early respiratory disturbances, with dryness and congestion, are benefitted by inhalations of steam carrying eucalyptus, creosote, tincture benzoin compound and aromatics. If these inhalations are given under a tent and

there is a lack of fresh air, oxygen may be administered simultaneously.

These cases must be supported, but not overfed, by a suitable amount of easily digested or predigested food, with an abundance of water. As long as fever is doing no damage and the child is comfortable, it should be let alone. Cold applications can usually be limited to the head. The tepid sponge bath and hot mustard foot bath are excellent measures for equalizing the circulation.

The use of poultices, packs and jackets is dying out with the good old grandmother. Mild stimulating applications of equal parts of the oils of olive, amber and clove, are more pleasant and efficacious.

The *potassium iodide treatment of pneumonia* is lauded by Altshul, who claims not to have had a death in twelve years out of 62 cases. He gives an initial dose of ten or fifteen grains, increasing it by five to ten grains every two or three hours day and night, according to the severity of the case, until defervescence is well established. In this manner he has given from 1,000 to 3,000 grains of the drug daily in a 50 per cent solution in milk. One patient, a child, received over half of a pound of the drug in two days (2,100 grains daily for two days), with no signs of intolerance.

In *cerebro-spinal meningitis*, lumbar puncture, withdrawal of fluid by aspiration, and injection of 3 to 12 cc. of a 1 per cent. solution of lysol, after the method of Seager, omitting the canal washing with normal salt solution, has proved of great virtue in three cases reported by Manger, and is considered by Franco a hopeful measure.

Treatment of Summer Diarrhea.

In the treatment of any form of diarrhea an accurate diagnosis must first be made. For convenience it is customary to classify diarrheas somewhat after this fashion: First, diarrhea of relaxation, or serous diarrhea, due to disordered innervation; second, crapulous or lenteric diarrhea, due to imperfect digestion; third, catarrhal diarrhea, acute or chronic; and fourth, ulcerative diarrhea, due to intestinal ulceration.

This classification is by no means perfect, as shown by the multiplicity of terms applied to the various pathologic states characterized by diarrhea. Thus we have the terms acute inflammatory diarrhea, acute summer diarrhea,

choleraic diarrhea, dysenteric diarrhea, nervous diarrhea, tuberculous diarrhea, etc. In each case the diagnosis is determined by the actual condition prevailing, of which the intestinal laxity is usually but a prominent symptom.

It may be worth while to consider briefly the status of the antiseptic method of treating intestinal disorders, especially those caused by pathologic organisms, and of which diarrhea is the chief symptom. Apart from well-directed efforts to clear the intestine of bacteria, reduce temperature, sustain vitality of the patient, regulate diet, secure proper hygienic conditions, rest and good care, the selection of the proper antiseptic agent demands the exercise of the physician's best judgment.

Whether or not it be possible to attain intestinal asepsis is, of course, a debatable question; but it is a well-established clinical fact that intestinal antiseptics do good and modify the course of enteric diseases of bacterial origin, notably typhoid fever, dysentery and summer diarrhea. However, there is a difference in the degree of efficiency of the various antiseptics—the utility of many being limited by the risk of untoward action from excessive dosage. In those cases of ileo-colitis caused by the bacillus of Shiga many of the serious symptoms are due to a mixed infection, to combat which prompt and vigorous measures are required.

The experiments of Novy and Freer (*Contributions to Medical Research*, page 114) with benzoyl-acetyl-peroxide (acetozone) showed that this substance is extremely germicidal to the organisms found in the alimentary canal. Its administration to rabbits resulted in the "practical sterilization of the contents of the stomach." In several experiments with these animals "the intestinal tract apart from the cecal pouch, was found to be sterile." Neither bouillon tubes nor agar showed growths, though the controls gave abundant cultures. Other experiments showed that enzymes and toxins are also destroyed or rendered inert by acetozone. Further study demonstrated not only the remarkable germicidal power of acetozone, but also the fact that its aqueous solutions may be given internally, and even injected intravenously, without harm. From these data we infer that this substance ranks among the most powerful germicidal agents, while it exerts no harmful effect upon the human organism, and may, therefore, be employed as a therapeutic agent in the treat-

ment of summer diarrhea and other infectious enteric diseases with the best effect. There seems to be abundant evidence to warrant the suggestion that acetozone solution should prove most valuable in colonic flushing, as it is entirely free from the danger that attends the use of large quantities of even weak solution of mercuric chloride, and for that reason may be used fearlessly.

Book Notices.

Doctor's Leisure Hour.—Facts and Fancies of Interest to the Doctor and His Patient. CHARLES WELLS MOULTON, General Editor; Arranged by PORTER DAVIES, M. D. 1904. The Saalfeld Publishing Co., Akron, O. The Doctor's Recreation Series. Vol. I. 352 pages. 8vo. Sold only by subscription. Price: Cloth, \$2.50; Half Morocco, \$4.00.

This is the first of a set of twelve volumes of the Doctor's Recreation Series, to be issued monthly. The whole get up gives the appearance of a standard set of nicely bound novels. So far as we are aware, this is the first time that books of so considerable extent making an appeal to the doctor's "soft side" have been issued by any publisher. Humor and wit are present in abundance; old stories and new—nearly all good ones—keep the reader amused, and furnish light reading after a hard day's work.

Surgery of the Heart and Lungs.—By BENJAMIN MERRILL RICKETTS, Ph. B., M. D., Member Am. Med. Ass'n; Western Surg. and Gyn. Ass'n; Int. Med. Cong., 1887; Ohio State Med. Soc.; Hon. Mem. Med. Soc. State of N. Y., etc. The Grafton Press, New York. 1904. 8vo. 510 pages. Price: Cloth, \$5.00; Half Leather, \$7.00.

This book occupies an unique field in the surgical world. It is the first time that we have seen under one cover complete descriptions of cardiac and pulmonary lesions requiring surgical intervention. Finding that many questions regarding the technique of this special surgery were in doubt, the author made a series of original experiments on dogs, which he gives in full, with the results obtained. The historical compilation of papers and reports scattered through various journals of this and other countries are alike interesting and valuable. Each disease is

discussed in proportion to its importance. The book is splendidly gotten up, has eighty-seven full page illustrations, and undoubtedly will fill a gap that has heretofore been vacant.

Surgery of the Extremities.—Vol. III of A System of Fractural Surgery. By DRS. E. VON BERGMANN, of Berlin; P. VON BRUNS, of Tübingen, and J. VON MIKULICS, of Breslau. Translated and Edited by WM. T. BULL, M. D., Professor of Surgery in the College of Physicians and Surgeons (Columbia University). New York, and JOHN B. SOLLEY, M. D., of New York. Lea Brothers & Co., New York and Philadelphia. 1904. 8vo. 918 pages. 595 Engravings, 21 Plates. Sold by subscription only. Per volume, Cloth, \$6.00; Leather, \$7.00; Half Morocco, \$8.50 net.

The first volume of this System of Surgery dealt with the head, the second with the neck, thorax and spinal column, and the volume now under consideration treats of the extremities. We find that there is no preface, no claims are made for any one feature above another, but on examination we are struck with the completeness of every detail in text, engravings, and plates—both colored and plain. The translators have added whatever was found necessary to make the work representative of American practice, so that the latest and fullest surgical knowledge of the two continents is presented. The other volumes of the system will follow in rapid succession.

Editorial.

Chicago's Weekly Health Reports.

Few interested in vital statistics can fail to be favorably impressed by the model reports that come weekly from the Health Department of Chicago. Not only is the usual weekly statement of mortality given, as is done by other cities, but there is generally some good editorial work done which proves interesting as well as instructive reading. For instance, in the report for the week ending July 16th, there is a practical analysis of the statistics for the past thirty or more years, showing the progressive decrease of death rate among children of not over five years of age. Thus in 1870, the United States census showed a population of 306,605, and there were 4,600 deaths of children under five

years of age, or something over 150 children's deaths in every 10,000 of population. The population of Chicago in 1900 was 1,698,575, but the deaths under five years of age were only 8,285—or less than 49 children's deaths in every 10,000 of population. And such a ratio of decrease has been annually progressive. The annual death rate of children under five years of age in Chicago is over 20 per cent. less than in London, or 25 per cent. less than that in New York.

It is idle to attribute such reduction in Chicago to change of climate, for the Weather Bureau has noted no climatic change from one decade to another. But such lessened death rate impresses the value of sanitary education of the public. "The Chicago public," according to the Commissioner, "is better educated in sanitary matters than that of any other community. Its local improvement clubs, its social settlements, its women's organizations and kindred bodies have given the city more clean premises, alleys and back yards than ever before in its history; practical instruction to mothers in the hygiene of child life, through the visiting nurses and their sisters, the enormous improvement in the milk supply—brought about largely through this instruction—these and many other influences sedulously fostered by the department during the last ten years amply account for Chicago's increasing healthfulness and decreasing death rate." All of this illustrates the truth of Lord Derby's apothegm: "Sanitary instruction is even more important than sanitary legislation."

Medical Society of Virginia.

The thirty-fifth annual session will be called to order at 8 P. M., Tuesday, October 18, 1904, in Masonic Temple, corner of Broad and Foushee streets, Richmond, Va., and will continue through Wednesday, Thursday and Friday. Through the instrumentality of the president, Dr. Joseph A. Gale, of Roanoke, and the zealous corps of earnest workers he has interested, the session promises to be by far the largest ever held, and the addition to the membership greatly exceeds anything in the history of the Society. Already titles of many papers by authors of distinction are in the hands of the secretary, Dr. Landon B. Edwards, Richmond, Va.

Before our next issue, the *Preliminary Announcement* of the session will have been issued.

It will be mailed, by order of the Society, as first-class mail matter, with the nature of the contents marked on the envelope—especially the words, "Proposed New Constitution and By-Laws of the Medical Society of Virginia."

In response to numerous inquiries for an expression of our opinion with reference to the "proposed change of the Constitution," etc., we will give it in the next issue of this journal, and we will cheerfully give space to others for discussion of the subject in each of the two September numbers—hoping that the discussion will be amply full to save the time of the Society when the matter comes up for consideration on the last day of the session.

The Board of Health for the Philippine Islands and City of Manila

Has recently put into operation in the city of Manila a course of instruction for provincial health officers. This course extends over a period of four weeks, is wholly practical, and is intended to remedy deficiencies in sanitary training and induce common methods of executing sanitary work by the various provincial boards of health. The course will be repeated monthly until all presidents of provincial boards of health have enjoyed its advantages. Undoubtedly such a system of training must result in much good, and redound to the credit of the efficient medical department of the U. S. Army, whose fine work for Cuba lives as a monument to the thousands of lives saved from yellow fever and other diseases.

The Public Health and Marine Hospital Service

Will hold examinations in Washington, D. C., October 3, 1904, for those wishing to apply for admission to the grade of assistant surgeon in that department. Candidates must be between twenty-two and thirty years of age, graduates of a reputable medical college, and must furnish testimonials from responsible persons as to their professional and moral character. The examinations are usually put up in the following order: Physical, oral, written and clinical. The tenure of office is permanent.

For further information, or for invitation to appear before the Board of Examiners, address the Surgeon-General, Public Health and Marine Hospital Service, Washington, D. C.

THE Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

Vol. 9, No. 10.
Whole No. 202.

RICHMOND, VA., AUGUST 26, 1904.

\$2.00 a Year.
10 Cents a Copy.

Original Communications.

ADENOIDS AND ENLARGED TONSILS.

By JOSEPH A. WHITE, A. M., M. D., Richmond, Va.,

Professor of Ophthalmology and Associate Professor of Otology and Laryngology in the University College of Medicine, Richmond, Va.; Senior Surgeon to the Richmond Eye, Ear, Throat and Nose Infirmary; Member of the American Ophthalmological Society; of the L., R. and O. Society, the A. M. A., etc., etc.

The subject of adenoids and enlarged tonsils should be of general interest, as every practicing physician has at least some general knowledge of the subject, because it is impossible for him to escape coming in contact with such cases, as they are so common. It is true that great numbers of them are entirely overlooked from lack of familiarity with their symptoms, or from carelessness, because the unfortunate results of neglect are not appreciated.

We, therefore, thought that for once we would be able to present a special subject that would prove sufficiently attractive to awaken general discussion.

Some writers claim that *adenoids* would be found more or less in every child if we took the trouble to look for them, which is as great an exaggeration as to say that we will find enlarged fauceal tonsils in every child's throat. I have examined too many children's throats with an almost complete absence of tonsillar tissue to accept such a statement. Those making it are confounding the more or less prominence often assumed by the pharyngeal tonsil in children between three and ten years of age, especially when they have a slight cold or are suffering from constipation or some stomacheic disturbance. Whilst more common between these years we find it also in younger and older children. Constant repetition of this temporary condition, it is true, will develop adenoids, and frequently does so. In other words, in certain conditions of the system which bring about sluggish circulation, there is a tendency to engorgement and infiltration of the normal lymph tissue in the naso-pharyngeal space, which, by recurring again

and again, produce chronic hypertrophy, sometimes in separate soft masses and sometimes as a firm hyperplastic projection. Repeated attacks of acute pharyngitis tend to the same developments. Acute infectious diseases, such as measles, scarlet fever, etc., bring about the same conditions. Climatic influences, especially sharp, sudden changes, are often productive of adenoid growths, the more so if the subjects have the inherited tendency thereto. That heredity plays an important part in their development is shown by the fact that we often see several children in the same family victims of this same trouble. I have myself often operated on two generations in the same family for tonsillar hypertrophy and adenoids, and in other cases have operated on the children after seeing and treating the sequelæ in the parents. Usually the third tonsil has disappeared before puberty, and often before the fifteenth year, and even in cases where there has been some obstructive hypertrophy, it has equally disappeared; the patient has outgrown the trouble, as is sometimes said. But there are enough cases, in fact, far too many, in which these growths develop so abundantly or in such locality as to necessitate their early removal because of their damage to important structures and organs that experience teaches us will surely follow if they are allowed to remain until they begin to disappear by absorption or atrophy, even if they ever do so. In other words, it is not prudent to wait in all cases for the child to outgrow these growths or for their spontaneous disappearance, as the accompanying complications might thereby become incurable.

Enlarged fauceal tonsils may be placed in the same category to some extent as the enlargements of the pharyngeal tonsil. They are more common in children of a strumous diathesis, but occur in children free of this taint, but usually with an inheritance or some trouble as gout or rheumatism, the uric acid diathesis. Heredity plays its part here as in adenoids. So do the acute infectious diseases of childhood and other

causes given above for the development of lymph tissue. Repeated attacks of local inflammation in the tonsillar tissue tend also to hypertrophy.

We all know what is meant by enlarged tonsils, as they can be readily seen, but it is not clear to every one what is meant by adenoids.

Adenoids or hypertrophied lymphoid tissue in the naso-pharynx is an enlargement of the so-called third or pharyngeal tonsil, located at the pharyngeal vault, practically a growth which interferes with nasal respiration and with the proper ventilation of the ears. They vary in size, consistency and location, sometimes a simple enlargement of the third tonsil, and limited to the vault, sometimes a long, firm growth, filling the vault and projecting down over the post-nasal openings, or a big mass of soft interlacing and overlapping granulations extending down the posterior pharyngeal wall or into the fossæ of Rosenmiller and along the lateral walls of the naso-pharynx. Meyer was the first to call attention to these growths. Their presence is usually an indication of a constitutional condition known as the lymphatic diathesis, but not always.

Admitting these statements, which are generally considered correct, we must look for such symptoms as would result from this condition, the symptoms that would come from nasal obstruction and the symptoms that would come from the so-called "lymphatic diathesis."

If nasal breathing is interfered with there must be more or less difficulty in the passage of the normal air current through the nose. To compensate for this deprivation of air by way of the nose, the mouth must act as a substitute air passage. Mouth breathing is the natural sequence of nasal obstruction, whatever its causes.

As already stated, time does not admit of the discussion of such causes as turbinal hypertrophy, nasal growths, deflection and spurs of the septum, thickening of the submucous tissues over the vomer, etc., and we must limit ourselves to a consideration of adenoids and enlarged tonsils only, among the commonest causes of mouth breathing. The obstruction may be so complete as to necessitate constant mouth breathing, or it may be partial only, so that the mouth is usually closed during the day when the patient is making no exertion. But any decided physical effort, such as fast walking or any other form

of exercise, will result in opening the mouth to get sufficient air, and at night the mouth is invariably open and the breathing more or less labored, because in the recumbent posture these growths seem to become congested and infiltrated. Sometimes the difficulty of breathing causes decided snoring, and in bad cases it may be very stertorous. Irritation of the pharyngeal and laryngeal mucous membranes is often caused by this mouth breathing. Usually these cases have a narrow nostril, the voice is thick and lacks resonance, and in some the enunciation is impaired, especially in pronouncing M and N, like a person with a bad cold in the head. In fact, a cold in the head with discharge from the nose is a common accompaniment in these cases, for the connection of adenoids with rhinitis has long been well established. There is more or less discharge from the post-nasal space into the pharynx with a constant tendency to clear the throat, and they complain sometimes of sore throat. When these secretions are excessive their passage down the oesophagus and into the stomach causes stomachic disturbances sometimes. Occasionally the nose bleeds, and in exceptional cases they may have asthmatic attacks at night. Often the sub-maxillary glands are enlarged. Most of these children have a dull, stupid look, although the facial expression is unreliable, as we have the same from any form of nasal obstruction. They are generally listless and apathetic, and not inclined to any exertion. Apparent difficulty of hearing and inattention to what is said is frequently present, due in most cases to impairment of hearing from interference with the ventilation of the tubes. Sometimes there is more than simple interference with the ventilation, and we have an inflammatory condition extending from the pharynx into the ear and causing earache. Acute suppurative inflammations of the ear, sometimes with mastoid complications, are often attributable to the presence of adenoids, and chronic aural catarrh frequently has its origin in this cause. Some of these cases not only seem to pay little attention to what is said, but also fail to grasp and remember what they hear, a dull mental condition which Guye, of Amsterdam, calls a prosexia, and which he long ago claimed was due to some altered relation of the vascular and lymphatic connections between the brain and naso-pharynx. Violent spasmodic coughing spells, reflex in character, often accom-

pany enlarged tonsils and adenoids, and are only gotten rid of by their removal. These children are much more liable to croup, laryngismus stridulosa, and attacks of bronchitis than those without any trouble in the naso-pharynx. Babies who have this trouble cannot nurse or suck the bottle, and, therefore, are badly nourished until the cause of the trouble is discovered and removed. Older children complain very frequently of headaches, and in exceptional cases we find facial chorea depending upon adenoids and enlarged tonsils, and cured by their removal.

If the growths are low down in the post-nasal space, interfering with the palate, we sometimes find choking on swallowing, and regurgitation through the posterior nares, just as we do in some cases of hypertrophied tonsils even if these latter are absent. But when enlarged tonsils are present, as they usually are, all the symptoms enumerated are aggravated as they still further impede nasal respiration and increase the habit of mouth breathing with its pharyngeal, laryngeal and reflex complications, such as cough, croupous attacks, bronchitis, febrile exacerbation, headache, nervous conditions, etc. Hypertrophied tonsils often cause these same effects even without any adenoids complicating them. Hypertrophied tonsils, moreover, are a source of contagion and infection. Their crypts and open follicles are good lurking places and breeding grounds for pathogenic bacteria, and not only renders these cases liable to infectious processes, but makes the latter more serious, both because of the obstruction in the throat, and because of the liability of absorption by the tonsils of the toxins produced by these processes. Diphtheria, for example, without enlarged tonsils, is easier to control than when they are present.

Both in adenoids and enlarged tonsils we often have febrile disturbances in children that without a knowledge of the presence of one or both of these pathological conditions would be hard to explain. Both these conditions, also, because of the resulting mouth breathing, cause imperfect oxygenation of the blood with impaired lung action and depressed health. It is wonderful sometimes to see the rapid change in the physical condition after their removal, the almost immediate response to the physician's efforts to build up their health, efforts that had previously been fruitless.

The diagnosis of enlarged tonsils is a simple matter, although I have had cases sent to me by physicians to have the tonsils removed that must have lost them on the way, as I could not find them. The diagnosis of adenoids is not always so simple. It requires some experience to determine their presence, and to determine whether it is a case for operation or not. Adenoids that do not obstruct breathing and do not overlap or press on the Eustachian tubes may be let alone, although sometimes it is better to remove them also, as they are a source of pharyngeal irritation, which may be annoying, or may extend to the ear tubes. The best way to decide is to see them, and in children over five or six years of age that are at all tractable, I can with *my palate retractor* and post-nasal mirror determine the kind and extent of the growths. In fact, in all cases old enough, I operate with its use so that I can see what I am doing. But in younger children I use digital examination of the post-nasal space for diagnostic purposes. The finger is passed up behind the soft palate, and with a little practice one soon learns to recognize the growths. A mouth gag is used to prevent the finger from being bitten, and the examination can be made without any anesthetic or with the local use of cocaine, or with general anesthesia from nitrous oxide, or ether, or chloroform. A probe tipped with cotton passed through the anterior nares is a valuable means of diagnosis, but requires experience.

The only way to get rid of enlarged tonsils and adenoids satisfactorily is by operative means, and the earlier it is done the better to prevent the deformity of the upper jaw, with the irregularity of the teeth, and the projecting chest that so often follows procrastination in these cases.

Do tonsils and adenoids that have been removed recur? is a question I am often asked. I say emphatically, "No," if the operation has been thorough. But tonsils only partially ablated continue to give trouble, and may even continue to increase in size, and adenoids if imperfectly removed will continue also to grow. Hence an operation must be thorough, for whilst the parts removed do not return, the parts that are left will increase in size and refill the post-nasal space, and thus give the impression of re-growth.

In regard to prognosis, I would call attention to one fact—viz., that there will be some disap-

pointment in the result of the operation if the upper jaw has already assumed the V-shaped projection, and there is any other nasal obstruction, such as deflected septum, spurs or out-growths from the septum, or turbinal hypertrophies. Moreover, the habit of mouth breathing, if long practiced, must be patiently combated afterwards by strict attention to keeping the mouth shut in the daytime and practicing nasal respiration, and at night closing the mouth with adhesive strips.

200 East Franklin St.

STATE MEDICAL ORGANIZATIONS AND THE AMERICAN MEDICAL ASSOCIATION.

By LANDON B. EDWARDS, M. D., Richmond, Va.

A special effort has been made during the past few years by the American Medical Association to reorganize all regular State Medical Societies on a uniform centralization plan. The plan ostensibly proposes primarily the organization of the doctors of each county into county medical societies. Delegates from these are to form the working part of each State Society, and delegates from each State Society—in the proportion of one delegate for each fraction of 500 members—form the House of Delegates of the American Medical Association. This House of Delegates of the National Association has supreme power to enact laws or make rules for the government of the entire regular profession of the country. The idea is that, in the organization of county societies, if we “take care of the pence, the pounds will take care of themselves.” In other words, the supreme idea is to organize county medical societies everywhere, as being of far more importance than the State or National Associations.

All of this looks well on paper, and it is said to be patterned after the organization of the United States Government. But this is palpably an error, since each State, as well as the National Government, has a balancing power in the form of its Senates as well as Houses of Representatives, or Delegates. Above these, the President of the National Government, as also the Governors of each State, are vested with a veto power to further safeguard legislative enactments of Congress or General Assemblies. So that the *simile* is not well made in comparing

the new organization of the American Medical Association to the Congress of the United States or the Legislatures of States.

We are told in the report of the Committee on Reorganization (1904) that Pennsylvania, Virginia and Georgia are the only three great States operating under the old method—that is, that these State Societies are without the governing power of a House of Delegates—that they do not compel membership in component county societies as a test of membership in the State Societies.

We make no complaint against those States that have blindly followed the lead in adopting the so-called “uniform plan of reorganization.” In some States, the plan may work well; in others it may not. In those States having relatively small but populous counties and towns of size as common centres, and with good roads leading to them, probably the plan will succeed. But in such States as Virginia, with the abolishment of monthly court days, with relatively few county centres, and proverbially bad roads leading to them, and few railroad facilities, and with the large size and arrangement of boundary lines of many of the counties, where doctors are ten or more miles apart and some of the best of them are from twenty to thirty miles from their county centres, or else on the other side of the mountain range from such centres, the plan of compulsory membership of their respective county medical societies as tests of membership in the State Society will not suit. These same doctors, however, once a year make opportunity, and find pleasure and profit in attending their State Society session, and arrange for such trips with the same interest that the city doctor arranges for his midsummer “outing.”

Polk's *Directory*, 1904, estimates that there are 129,008 doctors of all schools in the United States. Better figures of regular practitioners (excluding those of the Medical Departments of the U. S. Army, Navy and Public Health and Marine Hospital Service) are those compiled for the *Journal of the American Medical Association*, June 18, 1904, page 1637—the aggregate of which is 119,521. Of this total only 44,012 are members of the various county and State Societies of the country. So that the percentage of members of all State and county societies represented in the American Medical Association is only about 37 per cent. of the total estimated population of regular doctors in

the United States. Or, if Virginia, Pennsylvania and Georgia are omitted as not requiring membership in component societies, the proportion is reduced to 32.10 per cent. of the estimated medical population of the United States.

It may be of interest, as bearing upon the subject in hand, to tabulate these figures by States, as also those given on page 1644 (same *Journal*) to show the number of estimated regular doctors in each State, the membership of each State Society, and the proportion of members of State and local societies to the estimated number of physicians in such States, etc.:

STATES, etc.	No. of Doctors.	Members of State Societies.	Percentage of Members to number of Doctors.
Alabama	2106	1295	61.49
Delaware	233	134	57.51
Louisiana	1432	819	57.19
Virginia	2020	1096	54.25
North Carolina	1485	800	53.87
Vermont	707	403	52.75
Arizona	181	95	52.48
Washington	789	420	52.34
Massachusetts	4949	2681	52.15
New Jersey	2172	1122	51.65
New Hampshire	701	350	49.72
Texas	4826	2321	47.90
Illinois	8356	3931	47.03
Connecticut	1278	605	46.55
Minnesota	1891	863	45.69
District of Columbia	986	447	45.33
Wisconsin	2391	1185	45.33
West Virginia	1382	600	43.20
Nebraska	1591	658	41.37
Rhode Island	671	274	40.52
Indiana	4816	1947	40.42
Kentucky	3372	1361	40.36
Michigan	4175	1672	40.04
Iowa	3855	1511	38.91
California	3902	1505	38.50
North Dakota	302	115	38.07
Colorado	1367	518	38.04
Mississippi	1593	606	38.03
New Mexico	171	63	37.43
Pennsylvania	9531	3799	37.72
Maryland	1907	715	37.29
Florida	650	236	36.30
Maine	1235	461	35.70
Idaho	216	75	34.72
South Dakota	497	160	32.19
Arkansas	2326	711	30.56
Utah	287	89	30.01
Ohio	81.88	2451	29.91
Tennessee	3428	1004	29.19
Indian Territory	718	168	23.39
Georgia	2780	650	23.38
Missouri	6062	1400	23.09
Kansas	2583	562	21.74
South Carolina	1124	207	18.41
Montana	331	60	18.12
Oklahoma	903	163	18.05
New York	12208	1704	13.13
Oregon	647		
Wyoming	126		
Nevada	74		
Alaska (Polk)	58		

No reports from these States, etc.

With reference to Virginia, instead of 1096 members, as put down in the *Journal of the American Medical Association*, there were in reality 1131 active members, and 19 *resident* honorary members (who have all the privileges of active members) on adjournment of the session last September—thus making a total of 1150—not including *non-resident* honorary members. This changes the Virginia percentage from 54.25, as given, to 56.93. In any event, Virginia stands fourth in the list of 47 States—so far as percentage of membership to the medical population of the State is concerned. And with the addition to its membership by the time of the annual meeting in Richmond during October, it will stand second, if not first in the entire list of States. Yet the Virginia Society is organized altogether on broad democratic principles—without dependence on component county societies, or a “house of delegates” or other red tape measures to harass its growth or impede its usefulness.

It is a curious fact that such questions as are involved in the proposed change do not appeal as strongly to city as to country doctors. City doctors, as a rule, are in favor of any measure “to cut it short.” Cities generally have their local societies; relatively few counties have such organizations in States like Virginia, for reasons already referred to. The city doctor, as a rule, is more interested in the part he is to take in the proceedings of a session. He is generally in the lobby or further away from the hall of meeting until the time comes for him to read his paper, and as soon as the discussion on it is over—off he goes, as he says, to meet an important engagement. Other papers on other subjects do not interest him. Of course, there are exceptions. But the country doctor, as a rule, remains in the hall practically throughout the session to hear all papers, and to participate in the discussion of such of them as he may think he may be able to throw some light upon, or from which he hopes to obtain further information. He is the interested member in all that transpires—whether of scientific interest or of business import. He is not a specialist. He is a general practitioner—oftentimes being compelled to undertake the work of the specialist; and he comes to his State Society to learn all he can, and to do all in his power to upbuild it.

Let us take up the subject under consideration a little more in detail.

In the plan of reorganization the National Association is composed of members of State Societies; and members of State Societies *shall* be members of component county medical societies.

We have already referred to the geographical impracticability in many sections of Virginia of organizing *and maintaining* properly representative county medical societies. The Medical Society of Virginia has all along strongly advocated county organizations; and in recent years special efforts have been put forth to secure such county societies. More especially since the agitation of the subject at the Roanoke meeting last September, have very earnest efforts been made in that direction. And yet, as we go to press with this issue—eleven months since the Roanoke meeting—we have heard of only one or two *new* county or local medical societies throughout the entire State. In the same period, some local societies organized two or more years ago are practically dying out—because of the impracticability of securing quorums for their stated meetings. So that, after all the appeals and energies put forth to organize and to maintain county societies, there are not over 25 local societies in Virginia—including even such societies as the Southwestern Virginia, the Southside, the Seaboard, the Piedmont—composed of doctors of several contiguous counties—in *most of which there are also distinctive county societies*. The estimate also includes the two societies in the city of Richmond, where only one, under the “uniform plan,” can be recognized. In the full estimate of 25 societies (including the district societies) in Virginia, where there are 100 counties, eight or nine are city societies. The membership of these city societies far outnumbers the total membership of all the county societies, including the Virginia membership of the district societies. But the total membership of all local societies in Virginia does not represent materially more than a third of the entire membership of the Medical Society of Virginia.

Thus we are brought to face some serious propositions, so far as relates to Virginia:

1. If membership of a county or local society is made essential for membership in the State Society, at least two-thirds of the present membership of the Medical Society of Virginia must be ruled out of fellowship.

2. If by special legislation or otherwise these

two-thirds are not ruled out, then they have to submit to a House of Delegates in which the cities are largely in the majority, whereas the county membership of the State Society is several times larger than the city membership. So that a House of Delegates as representative of the profession of Virginia, as at present composed, would be the rule of a minority.

3. If the counties persist in not organizing societies, how is it possible for the Medical Society of Virginia to continue its growth and its wonderful powers of influence in legislative matters, etc.? How can it secure new members from the counties in which no organization exists—if the “uniform plan” is adhered to, which plan insists on “*membership in a component county society?*”

4. About 75 of the 100 counties in Virginia have no medical organizations—even in name. And yet the Medical Society of Virginia has members in 98 of these 100 counties. Shall the reputable members of the profession in these 75 counties in Virginia be debarred fellowship in the State Society because, for one reason or another, they will not organize county societies? As members of the Medical Society of Virginia, the doctors of the 98 counties referred to are amenable to the “Principles of Ethics” of the American Medical Association. Outside of the Medical Society of Virginia, doctors not members of the local societies, would be amenable to no professional code whatever.

In the next place, the legislative and business body of a State Society shall be a “House of Delegates” consisting of—(1) one delegate for every 25 members or fraction thereof of a component county society; (2) ten councillors chosen by the State Society; and (3) the President and Secretary of said State Society.

Whoever knows much about the average doctor must know that he wants to have his say in medical legislative matters, about general business affairs, the election of officers, etc. It may be that his representative in the House of Delegates holds views diametrically opposed to his own; and having no way to present his views to the society—such a thing going on year after year—sooner or later results in disaffection, if not indifference to the decision of professional questions. It is better to let each doctor have his say—either by speech or vote—in all such matters. “In the multitude of counsellors there is safety.”

Much has been said about the saving of time at annual sessions if a House of Delegates were established. We look in vain over the history of the Medical Society of Virginia for verification, except where the well established time limit rule on speakers is disregarded. Even fuller programs than that for the Roanoke session have been entirely gone through with—without the reference by title of so many scientific papers to the Publishing Committee.

It is yet something new to have the House of Delegates in States. It is expected that the House of Delegates is to be composed of representative men from each county, and it is said that they are to meet in advance of each session to transact all business, etc., and be ready to participate in the proceedings of a session. Theoretically this is all right, but practically will such a thing continue satisfactorily for several consecutive years?

The best men of the profession are usually the busy men at home. If they are so busy at home, as they claim, that they must know in advance the day and hour for the presentation of their papers and the discussion of the same so as to arrange their travelling plans accordingly, is it probable that, beyond the period of novelty, they will make the sacrifice from their home duties to attend the sessions of the House of Delegates, and then wait over till the day of the scientific proceedings that specially interests them? Or if the House sessions are held only *during the days* of the Society, is there not the danger of "having things cut and dried" by intriguers—ready simply to receive the vote of the delegates, and then call it—"unanimously adopted?" The danger of slipshod decisions, under such circumstances, is very great. If the sessions of the House are held *during the hours* of the Society session, then the Society is deprived of the pleasure and benefit of having these representative men from the various counties present.

Another item worthy of consideration in this connection is the question of expense. Membership in the Medical Society of Virginia costs only two dollars per capita, which gives annually a fine volume of Transactions. Experience proves that if members pay promptly when due, it is ample for every expense—of *Transactions*, salaries, appropriations to committees. The new plan, in detail, is far more expensive. If the responsibility of organizing

local societies is to fall on a few elected officers, the travelling and hotel bills, and the per diems that should be allowed, etc., will necessarily force a raise in the annual expense. Whatever may be the interest a doctor feels in his State Society, it would be wrong to expect him to contribute such costs out of his private purse, while he is also losing his income from daily practice at home. Doctors, as a rule, are a poor set of people. They work hard for their clientele, usually live well up to their difficultly collected incomes, and die poor—leaving dependent families. It may be said in round figures that, in Virginia, there are 200 or 250 doctors in practice to whom the extra expense would be a trifle; but not so with the remaining 1500 or 1600. With this larger class, in many instances, it is a burden even to subscribe to their \$2 a year State medical journal; and it is rare for most of them to be able to add even five or six standard books annually to their libraries. Surgical instruments, beyond the usual pocket cases, are like circulating libraries. It is hard for the "better-to-do" classes of doctors to realize the poverty of other doctors who are dependent solely upon their practices for living. What we say of Virginia doctors applies with equal force to the active practitioners of many other States.

After all, what commensurate good is to be accomplished? The main object of a State Medical Society is to bring together a body of doctors to contribute the results of their experience and observations during the past year to the building up of the science and practice of medicine and surgery, and the various branches thereof. Various business matters continuously arising can be referred, as heretofore, to committees, on whose reports the Society usually acts promptly and satisfactorily. Such divisions of labor do not usually require the committeemen to absent themselves from the sessions of the Society, and they are in closer touch with members of the Society with whom they may wish to consult. The excessive red tape of formalism is avoided. Business is transacted fully as satisfactorily. Doctors in attendance are pleased that they have heard all matters discussed; and the old principle finds its verification—that the body of scientific men who are least governed are best governed.

We have written this article in response to numerous requests for our opinion. We do not oppose the voluntary organization of county

medical societies. On the contrary, we strongly urge such organizations. Many benefits are to be derived from them, if harmoniously organized. But we cannot insist on compulsory membership in a local society as a test of professional recognition in the State Society.

Nor do we oppose the representative feature in the form of the House of Delegates when a good working majority of county societies are so organized—although we fail to see the special benefits of such a plan for a State Society organized as is the Medical Society of Virginia. But we do oppose the idea that 20 or 25 local societies should have supreme control of a State Society having membership in 98 out of the entire 100 counties of the State. When 60 or 65 or more county societies, composed of the reputable doctors of said counties, are organized, then it will be time to act. Until then—until a good working majority of the counties is organized—let well enough alone.

Much more could be said on this subject, but we desist—referring the interested reader to pages 313-343, inclusive, of the *Transactions of the Medical Society of Virginia*, 1903. We wish to add, however, before summarizing what we have written, that if it proves that our views are not acceptable during the session of the Medical Society of Virginia, October 18-21, 1904, at Richmond, our discussion of this matter will cease, and we will bend every energy to the carrying out of the new order of things.

In this *summary* we may allude to one or two facts not dwelt upon in the body of this article:

1. The proposed House of Delegates is not patterned, as claimed, after the U. S. Congress nor the General Assemblies of States, in that the balancing qualities of a Senate and a House of Delegates as separate organizations of government do not exist; nor is a veto power vested in any one.

2. It is impracticable, with the present organization of the Virginia profession, to compel membership in component county medical societies as a test of membership in the State Society.

3. As a matter of fact, the Virginia Society, under its present plan, practically stands second, if not first, in the entire list of States so far as the proportion of its membership to the medical population of the State is concerned. If Alabama is ahead of it, that State has special *State* laws, which practically compel membership of

county societies. It is the only State in the Union that has such laws.

4. With the relative membership of State Societies with anything like the geographical environments of Virginia, and the means of travel to reach a given centre of the State, no State Society has an average better attendance of members on annual sessions than Virginia.

5. Generally speaking, no State Society has annually had a larger number of distinguished visitors from other States and participants in its scientific proceedings than the Virginia Society, as the records will show.

6. Few societies have had better papers read before it, or more masterly discussions.

7. The clamor, for the most part, for the change in the organization of the Virginia Society has come from doctors of some of the relatively few counties or cities that have local societies, of which they are members.

8. If the State Society is to be reorganized on the so-called "uniform plan," with the present membership of local societies, the few city societies would have a much larger majority in the House of Delegates, whereas in reality the country membership of the State Society should entitle them to a large majority—were county societies organized.

9. The time of the society intended for the reading and discussion of papers would not be curtailed by attention to the ordinary run of business matters if the established time limit of speakers is properly ruled. And everybody would be interested in knowing what is going on.

10. The change of plan would materially increase the expense account of the Society, and leave but little in the treasury for special expenses of legislative committees, etc.

11. The present government of the Medical Society of Virginia in no way interferes with its relationship to the American Medical Association. In fact, *this State has an advantage* over other States in that members of local societies who are not members of the State Society can be members of the American Medical Association, if they prefer so to join.

12. No State Society, as a rule, has more ethical members. If a member of a local society is expelled for unprofessional conduct, he stands suspended from the State Society, unless, in due form, he appeals to the State Society for a rehearing of his case. And if he is not a mem-

ber of a local society, but a member of the State Society, charges for unprofessional conduct may be directly referred to the Judiciary Committee of the State Society for its judgment.

13. When State legislative matters are agreed upon with any degree of unanimity, the present organization of the Medical Society of Virginia is competent to secure the legislation—as much so as any other State Society, with all its ramifications of so-called “component local societies.”

14. If there are specialists enough, not interested in the general run of papers and discussions usually presented in open sessions of the society, let them have the privilege of organizing themselves into sections on their special line of work; but we venture the assertion that the vast majority of members would prefer the reading of their papers before the full meetings.

15. If the organization of county medical societies is the supreme idea—if, as claimed by representatives of the American Medical Association, “it would be better to sacrifice the State Societies and the scientific branch of the American Medical Association than to sacrifice the county societies of the country”—then surely each county society should have its representative in the House of Delegates of the American Medical Association; but no such provision has ever been suggested. Members of county societies *who are not members of their State Societies*, may be members of the American Medical Association; but in no way possible are they permitted to have a voice in the House of Delegates of either their State or the National Association.

16. No State in the Union, with anything like the geographical environments and road facilities of Virginia, with all the paraphernalia and red tape and detail measures advised for their State and county societies, has an *active*, earnest, zealous membership in 98 per cent. of counties as Virginia has. Hence all that is claimed for States having county organizations, in the line of procuring legislation, etc., can be secured in Virginia whenever the profession agrees on a legislative measure.

17. With successes so great and so numerous; with scientific proceedings—papers and discussions—fully up to the possibilities of the composition of the society; with progress ever its watchword in all that pertains to the advancement of medicine or surgery or any related branch; with an ethical professional standard

not excelled by any other State; with an enthusiasm of membership equal to that of any other Society—we cannot help thinking that it is far best for the Medical Society of Virginia to *let well enough alone*—certainly until a good majority of the counties are properly organized into component county or local medical societies.

SMALL-POX OCCURRING DURING PREGNANCY.*

By LLEWELLYN ELIOT, A. M., M. D., Washington, D. C.
Medical Inspector, Health Department.

Small-pox is no respecter of age, sex, race or physical condition. It may occur during intra-uterine life, in the early days after birth, or the attack may be delayed until old age. Cases occur, however, where there is an apparent congenital immunity to the disease, but histories of those cases are seldom complete; they usually pass from observation or are forgotten.

The concensus of opinion among medical men and the laity is that small-pox is usually fatal to both mother and child when it occurs in pregnancy; and also that should the child escape the disease, it possesses a congenital immunity against the disease. Although this opinion is strongly rooted, it is not supported by indisputable documentary evidence, for evidence can be produced both pro and con.

When a woman dies after a miscarriage or a delivery, while sick with small-pox, the fatal termination does not occur by reason of the miscarriage or the delivery per se, but because the absorption of the septic material renders her condition dangerous, and she is therefore without power to rally from the shock.

The fœtus derives its nutrition from three sources: The yolk until its entrance into the uterus; then, through the absorption of the juices from the decidua; and, after the second month, through the placenta and the umbilical cord. The blood supply of the fœtus is returned to it only after it has passed through the maternal circulation, and become purified in the same manner as her own. If, however, the

*Read at a meeting of The Medical and Surgical Society of the District of Columbia, April 7, 1904.

mother be suffering from any disease, of either an acute or a chronic character—syphilis, scrofulosis, tuberculosis, scarlatina, measles or variola—it appears to me the fœtus, with the blood of the sick mother circulating through it, should become a victim of the disease of the mother, or be an immune against that disease.

A period of latency may occur, however, at the expiration of which the disease may assert itself in full intensity or cause only a mild attack. It is impossible to make any positive statements concerning the transmissibility of the disease through the blood, the mother's milk, or the urinary secretion.

Infectious diseases, as a rule, are attended with menstrual irregularities. In variola menorrhagia is of frequent occurrence, while metrorrhagia will accompany the disease in fully eighty per cent. of menstruating females, irrespective of the fact that menstruation has just stopped. Roger (*Infectious Diseases*, page 491) refers to the occurrences of bloody discharges in a woman who had passed the menopause; to the occurrence of similar discharges in a child twelve years old, who had not yet begun to menstruate, and further states he has observed the same thing in a child five months old.

These menstrual disorders may be observed in the pre-eruptive period, where the headache, backache and fever are severe, or they may be delayed until the appearance of the eruption, or, in a few cases, until the beginning of convalescence. The earlier their appearance the greater the virulence of disease; at least this has been my experience. The blood does not have the same power to coagulate as in other diseases; the coagula are slow in forming, and when formed are soft and easily disintegrated. The uterus does not respond as readily to oxytocics as in other conditions; and it may be stated as a general fact that the uterus loses its contractile power when delivery or abortion occurs during small-pox, at any stage of the disease, thereby rendering the woman liable to intense shock or to death from hemorrhage, unless the most extreme measures are promptly adopted.

Authors upon medicine and obstetrics are almost all in accord with the view that small-pox causes abortion or premature delivery. Some even go to the extreme point of saying, if the pregnant variolous woman has not been recently vaccinated she almost invariably dies.

Others are more guarded in their beliefs, and do not make such radical statements.

My experience with cases of pregnancy complicated by small-pox has been the most unpleasant of my medical life, for I can recall one case only where little cause for anxiety arose. In every other case falling to my care, the case has been attended with fear for both mother and child. One case terminated fatally about an hour and a half after the delivery of a five months' fœtus—the mother not presenting any eruption of the disease until the miscarriage was beginning, when hemorrhagic spots presented on the face, chest, arms and conjunctiva to rapidly cover the entire body; the baby was likewise marked.

Another nearly lost her life from a sharp attack of puerperal metritis, but finally went on to a tedious convalescence. Her case was of the confluent variety. The child was born dead and free from any visible evidence of the disease.

Another nearly lost her life from hemorrhage, due to the entire flaccidity of the uterus, which allowed the blood to be discharged from the vagina in a stream. This case was of the semi-confluent variety. The child was free from the disease.

I have seen quite a number of women free from small-pox, but who have been exposed to the infection, go to a full term after a successful vaccination and the babies be born without any evidence of the disease.

It seems hardly possible for an unborn child to contract or be infected by small-pox unless the mother herself is suffering from the disease; yet recorded cases prove this to have occurred.

Children have been born of women affected with the disease, and presented no evidence of the disease, while, on the other hand, some of these children have either developed the disease in a few days or have escaped it altogether.

Children have been born of women, who have been exposed to the infection of small-pox during the early and the late months of gestation, and both have escaped the disease.

Children have been born of women who have been exposed to the disease, and have presented evidences of the disease, either as scars or pustules, while the mother has escaped.

Children have been born of women affected with the disease and have presented evidences

of the disease either in the papular, pustular or the desiccative stage.'

Case 1. Female; colored; aged 22; in ninth month of gestation. Was delivered spontaneously on the third night of the febrile stage, of a well-formed child. Eruption appeared a few hours after the delivery. Bleeding was free and increased during the day with abdominal tenderness. Placenta expelled entire at time of birth. On the second day after delivery the bleeding was still very free; irrigations and ergot were heroically used. Recovered after a slow convalescence. The baby was dead and not marked.

Case 2. Female; colored; aged 29; admitted to the small-pox hospital February 10, 1904, on the seventh day of the eruption of semi-confluent small-pox. Last menstrual period June 15, 1903. On February 19th slight indications of labor appeared. February 20th, uneasiness and slight pains all morning, then became more severe. At 1 P. M. the os was well dilated, with the membranes not formed, head presenting, pains severe and frequent but with apparently no effect on the uterus. Under manipulation the bag formed and ruptured at 3 o'clock. At 4 o'clock forceps applied to the sides of the head, the bladder having been emptied, and chloroform administered. Rotation was effected, and the child delivered asphyxiated; revived under dipping in hot water, then in cold water, finally by suspension by the feet. Perineum incompletely torn. The hemorrhage was terrific, the blood flowing from the vagina. The uterus, with absolutely no contraction, admitted the hand as a cuff. Pressure upon the uterus from the outside against the hand on the inside of the uterus was of no avail. Iced water to the amount of five quarts injected without effect, when a pint of strong vinegar was injected directly into the uterus. The effect was marvelous; the blood, previously without coagulation, now coagulated firmly, the uterus contracted strongly, and the hemorrhage ceased. The action of the vinegar on the tissues was to blanch them first, then they assumed an almost blackness. Three sutures were taken in the torn perineum. The woman was profoundly collapsed, pulse imperceptible, breathing shallow; she was apparently dead. Repeated hypodermics of strychnine, gr. 1-30, and strong infusion of coffee by the rectum. At 6:15 P. M.

fluid extract of ergot given, as she had rallied a little. Hot bottles to the body continued. On March 3d, the mother was out of bed and doing well. The baby was without any evidence of the disease, but was vaccinated unsuccessfully on the day after its birth; this was repeated on the eighth day, with a like result. The mother was sent to quarantine, and at the expiration of the sixteen days, the legal period of quarantine, the baby was still free from any evidence of the disease, and remains so at this date.

Case 3. Female; colored; aged 23; in the ninth month of her pregnancy, was vaccinated and admitted to the small-pox hospital, to assist in the care of her child, who was sick with discrete small-pox. She had been exposed to the child for ten days prior to the admission of the child. The child was four years old, and recovered. The mother was discharged to quarantine on April 14th, and was delivered the next day of a healthy looking baby. Neither the mother nor the baby contracted the disease.

Case 4. Female; white; aged 26; pregnant four months, exposed to a case of variola maligna several days before her primary vaccination. When seen on the tenth day after the vaccination, the following observations were recorded: Vaccination is taking, had a chill two days ago with backache and headache, vomited next day, backache and headache continued; face and arms red, temperature 103° ; no eruption except the redness mentioned. Taken to quarantine for further observation. On the next morning the temperature had fallen to $100.2-5^{\circ}$; redness continues, but disappears upon pressure; is much like scarlatina; no papular or vesicular eruption. At 3 o'clock she miscarried; fœtus and membranes intact; the fœtus shows many dark spots. Bleeding from the uterus very free; vomited blood. The eruption is appearing very rapidly as dark blue, shotty spots on the forehead, face, chest, arms, body and limbs. Eyes are purple, lids the same, with large heavy circles below; hands, arms, feet and face becoming purple; spitting blood and bloody froth. Very restless. Hypodermics of ergot and strychnine. She rallied a little, but her tongue and lips became black; a purplish membrane formed over a part of the eyeball. Given whiskey and nitro-glycerine freely. Is rational. The eruption continued to increase in amount as did the purple discolor-

ration of the body until she died, one hour and a half after the miscarriage. The diagnosis made was variola maligna.

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"ARTHRITIS DEFORMANS," WITH REPORT OF CASE.*

By EMMETT F. REESE, M. D., Assamoostick, Va.

"Arthritis deformans" is an acute or chronic disease of the joints, characterized by destructive changes in such structures and by bony outgrowths, causing deformity and restricting the motion of the joint.

Authors differ as to whether this disease is distinct from gout and rheumatism or not. Jonathan Hutchinson, Mitchell Bruce, of England, and Kahler, of Vienna, and others at the present day still claim that the disease is the product of the blending of gout and rheumatism. J. K. Mitchell suggested a nervous origin, and this idea is still held by L. Weber, of America, and others.

There are many but no specific causes mentioned for this dreadful disease. Some writers seem to think that it is necessarily caused by gout or rheumatism, and thus call the disease "rheumatoid arthritis, rheumatic gout, articular rheumatism," etc., but I think this theory erroneous, and the diseases should not be considered together. The neurotrophic theory, in my mind, describes the phenomena better than any other. According to this theory, there must be a lesion of the spinal cord, primary or secondary to peripheral irritation, the result most likely of uterine or traumatic diseases, as evidenced by early atrophy of muscles, the contractures, skin pigmentation and local sweating, and the symmetrical distribution of the joint disease. Females are more liable to the disease than males, especially those with ovarian or uterine disease or those that are sterile. Evidently the nerve irritation, occasioned by uterine, traumatic or similar diseases, so affects the vaso-motor system that it causes an anemia, a depraved nutrition and a consequent starvation of the special centres in the spinal cord;

and the joint dystrophies are secondary to this spinal lesion. A more recent view, however, is that the disease is caused by bacteria, though the specific micro-organism has not been discovered. Most cases occur between the ages of forty and fifty years, but the monarticular form may occur in women at puberty, or even in children.

All the structures composing the joint share in the pathological process, the cartilages being the first involved. There is a proliferation of the cartilage cells which subsequently degenerate, liquify and become absorbed, thus leaving bone ends bare; the edges of the cartilages and the synovial membranes thicken and form outgrowths which may ossify and form osteophytes. There is generally some increase of synovia, especially in the early stages and acute forms; the ligaments are affected similarly, and in the chronic forms may present patches of cartilage. The bones and joint cavities are much distorted, and the articular extremities of the bones waste away and take new relative positions as the parts which impinge on each other are worn away. The joints become larger and larger, and the surrounding muscles undergo great atrophy; adhesions form around the joints, and finally there is complete ankylosis with contractures.

Two clinical varieties are recognized—(1) the multiple arthritis, including "Heberden's nodosities"; (2) the monarthritis or partial form, in which one or two joints only are involved.

The multiple form may be acute or chronic, and the acute form in the beginning resembles a mild form of acute rheumatism, and occurs mostly in young women or in children. There are pain and swelling of many joints at once, the pain being out of all proportion to the swelling; but the temperature is not high and hyperæmia is slight. This condition continues to grow worse, until it passes into the chronic state.

In the chronic form, the disease develops more slowly, and there is a symmetrical involvement of the peripheral joints, the order of frequency being the hands, knees, feet and ankles, wrists, elbows, shoulders, jaws, hips and spine. Pain and enlargement about the joints are the first symptoms noticed; the pain is variable, many cases suffering little or no pain except on pressure or motion of the joint. The surround-

* Read at a meeting of the Southside Virginia Medical Association, held at Emporia, Va., June 7, 1904.

ing muscles become atrophied, thus causing the joints to assume a spindle shape; there is numbness and tingling, and finally pigmentation and glossiness of the skin appear. The joints get stiffer and stiffer, subcutaneous bony nodules form around them, producing great deformities, and finally complete ankylosis and contractures occur. If we attempt to move the joints, we not only cause pain and meet with great resistance, but we may hear and feel a cracking and grating, produced by rubbing the denuded surfaces together. There may or may not be serous effusion in and about the joints, and the tendon reflexes are usually exaggerated. The deformity in the hand and wrist is striking, and the bony outgrowths on the dorsal aspect of the distal phalanges are known as "Heberden's nodosities."

The pulse is unusually rapid, and frequently there is cardiac palpitation. The monarticular form presents the same anatomical and pathological features, but rarely attacks any but the aged. Men seem more affected by this form of the disease, and a history of traumatism is more frequently obtained.

The diagnosis is usually not difficult, if we take into consideration the previous history, the chronic course, the pain out of all proportion to the signs of local inflammation, and the absence of fever, etc.

The prognosis is good as regards life, but the tendency of the disease is to run a very chronic course, and is most rebellious to treatment. But I believe much may be done and a cure often obtained if modern treatment is given at an early stage of the disease, before the destructive changes in the joints and the atrophy of the muscles have advanced too far.

Before saying anything about the treatment of this disease, I will bring to your attention a case that it was my good fortune to carefully study and successfully treat. For you to properly appreciate same, I will first give the history of the case.

August 30, 1900, I was called to see A. W., colored woman, age between forty-five and fifty years; married early, but never had any children; there was no history of gout, rheumatism, syphilis or tuberculosis, but she enjoyed good health until the climacteric, which took place rather early in life. When I saw her, she said she had been confined to her bed most of the time for eight or ten months, with pains in back

and lower extremities, and not having strength enough in legs to walk. She also complained of a weight and aching pains in lower part of abdomen, and upon a careful examination I found the pelvic cavity completely filled with multiple uterine fibroids. At the same time I noticed a distinct prominence in the back, caused by the backward projection of the spinous processes of a few dorsal vertebræ; also a flabby and slightly atrophied state of the muscles of lower extremities. I advised an operation, as the only hope of a cure; but patient refused, and I gave a little palliative treatment and left, telling her I could do no good, and that she would die if these tumors were not removed. I did not hear from her again until about the first of November, when I received a message from her consenting to the operation. As this was my first year in private practice, I had sufficient time to devote to charity cases. I therefore took her to the Virginia Hospital, in Richmond, Va., where she was operated on, Dr. Stuart McGuire very skillfully performing the hysterectomy, removing both ovaries and uterus with fibroids complete, in his clinic, before the students of the University College of Medicine, after some difficulty caused by extensive adhesions to intestines and other adjacent structures.

Although she was in a critical condition, and no one expected her to return home alive, she made a nice recovery from the operation and returned home in three or four weeks. I was called again to see her February 1, 1901, just two months after the operation, and she said that her knees and ankles were drawing and paining her so that she had been unable to get out of bed. She attributed the drawn and flexed condition of her knees to the fact that after she was operated on at the hospital pillows were kept under her knees to lessen tension on the stitches in the abdominal wound, and that she had continued with them under her knees for more than a month after returning home—not having been told **any better**.

Upon examination, I found her knees and ankles enlarged, stiff and painful on attempting to move the joints, muscles greatly atrophied and flabby, and the joints, especially her knees, were a little nodular and spindle shaped. At this time she suffered very little pain except when she attempted to move herself, and then pains in back and knees were agonizing and

shooting in character. The "knee jerk" was exaggerated. The prominence in the dorsal region of spine, before mentioned, was larger and four or five dorsal vertebræ seemed ankylosed. She had no fever, but her pulse was unusually rapid, and she looked anæmic; emunctories in good action and appetite splendid. After excluding rheumatism, and knowing the previous history of the case, I diagnosed her condition "arthritis deformans," and put her on the following treatment, as advised by all authorities—cod liver oil, syrup iodide of iron, and arsenic, good, nourishing food and fresh air; also ordered massage, and joints to be painted with tincture iodine, just short of making skin sore. I continued this treatment about one month, but patient continued to grow worse. I then offered, in addition to this treatment, galvanic electricity twice daily, after having taught a very careful attendant how to operate a small office battery; also had patient bathed twice a week. This treatment did no good, and her condition continued to go from bad to worse. Her knees two months after my diagnosis were greatly distorted, nodular, stiffer, glossy and hard; muscles more atrophied and patient more helpless. Contractures caused flexion to such an extent that her legs formed acute angles with her thighs, and the ham-string tendons were as tense as fiddle strings. The bones of left leg seemed to change their relative positions, the tibia being rotated inward on its axis until its anterior border became the internal border.

After carefully studying the case, I concluded that probably the disease was caused by a starvation of the centres in the cord and a depraved nutrition of the joints themselves, and at once I attempted to apply direct nourishment to these parts by having pure cod liver oil massaged thoroughly into joints and over spine three times a day; at the same time continuing internal treatment and electricity. This seemed to arrest the disease, but as the knee joints were almost completely ankylosed, I did not much expect more than that the patient would be an invalid through life.

What did I do, "rest on my oars" to see if nature would come to my rescue and straighten these joints and supple them up? No; but I decided to try an experiment, and about the middle of April, with only a colored woman to assist me, I administered an anesthetic, and by manual force and manipulation thoroughly

broke up all adhesions in and about the knee and ankle joints, and completely straightened the limbs. I then applied posterior splints extending from hips to ankles, and secured them with a roller bandage to overcome contraction. I allowed the splints to remain one week, and then removed them and ordered massage with cod liver oil, passive movements and electricity, still keeping up internal treatment.

Patient commenced to improve at once, and, but for the atrophied state of muscles, would have been on her feet in a few months. The disease was completely arrested, and, although it was six or eight months before she could get out of bed even for a few minutes and hobble to her chair on crutches, she has been walking for more than two years as well as she ever did, with the single exception of being a little stiff in left knee. Her general health is better than it has been for years, though four or five dorsal vertebræ are still completely ankylosed; but there is no further extension of the disease.

In reporting this case, I do so with the hope that others may try this heroic treatment and report results, and that each of you present today will discuss this subject fully, whether our minds are in accord or not.

I will say, in conclusion, that I had no authority for this operation; and, if any of you worthy gentlemen know of its ever having been done or advised in this disease, I would be glad to hear from you.

A CASE OF ACUTE YELLOW ATROPHY OF LIVER, COMPLICATING APPENDICITIS.*

By LEWIS C. BOSHER, M. D., Richmond, Va.,
Visiting Surgeon, Memorial Hospital.

The following case, recently operated upon by me for chronic appendicitis, terminated fatally; but because of its unique and interesting history, I think it of sufficient importance to report.

The patient, a white female, aged 21 years, resident of North Carolina, came to me with a distinct history of an attack of appendicitis some weeks previous, from which she had recov-

* Read before the Richmond Academy of Medicine and Surgery, July 26, 1904.

ered; but when I examined her in the city at the home of a relative I could make out quite clearly tenderness and pain over the region of the appendix. Her temperature and pulse were normal, and aside from some discomfort incident to a long railroad trip, she was doing quite nicely. The next day she was admitted to the Memorial Hospital, and that night developed a temperature of about 100°; but on the following day she was free of fever, and her temperature remained normal up to the time of the operation (Saturday), the third after I first saw her.

Nothing unusual occurred at the operation, barring the fact that she did not take the anesthetic well. The appendix was found perforated about its middle and near its junction with the cecum, but both perforations were covered with lymph deposits. It was enlarged, inflamed, kinked and bound down by adhesions, but no difficulty was experienced in its removal. She reacted fairly well, but was much disturbed by nausea. Her bowels moved freely from small doses of calomel followed by salts. On Sunday, the day after the operation, she was doing as well as could be expected from an appendix operation, with the exception of some little excitement and restlessness, and, having to leave the city, I placed her in charge of Dr. Meade Mann. On Monday, the restlessness and excitement became more marked, and by night developed into pronounced delirium. Tuesday morning the doctor first noticed the development of jaundice. The nausea, which had not ceased since the operation, became worse; the jaundice became more marked; nourishment was refused, and the delirium grew violent. Involuntary stools and persistent nausea forced him to resort to nasal feeding. Dr. Mann called Dr. H. H. Levy in consultation that day, and the latter pronounced the case one of acute yellow atrophy.

Tuesday night her delirium was so violent as to necessitate her being held in bed by her attendants. Her temperature had not been above 100° at any time since the operation up to Wednesday morning, when it suddenly reached 103° and rapidly increased to 105.8-10° just past mid-day, when she died in convulsions.

After death the wound was opened, and an examination made showed the line of incision and the stump of the appendix free from any appearance of infection. The liver was found to be markedly diminished in size, and distinctly yellow in color. Some enlargement of the

right kidney was also noted. A piece of liver was removed and submitted to Dr. Ennion G. Williams for microscopical examination, and the Doctor later confirmed the diagnosis made by Dr. Levy, of acute atrophy.

Specimens of urine examined on the day of the operation, the following day and the day before her death, were as follows.

Specific gravity..	1022,	1026,	1021.
Reaction	Acid,	Acid,	Acid.
Albumin	Negative,	Trace,	Marked.
Sugar	Negative,	Negative,	Negative.
Bile	Negative,	Negative,	Negative.

Microscopic—Epithelial cells, epithelial cells, granular and hyaline casts, leucine and tyrosin.

The following is the report, made by Dr. E. G. Williams, on the piece of liver tissue removed post-mortem:

Gross Appearance—Irregular in shape, and in volume about one cubic inch. Very soft and flabby in consistency. Quite yellow in color and mottled, with reddish dots.

Microscopical Examination.—The connective tissue is apparently normal in quantity. In about 90 per cent. of the liver cells the protoplasm intact has been replaced by numerous large and small droplets of fat held in by the expanded cell membrane. The nuclei are still visible in most cells. In other cells they are enlarged, fainter and without chromatin. The swollen cells no longer appear arranged in columns; and the lobules are not distinct. The nuclei of the vascular epithelium are still numerous. In a small proportion of the liver cells the protoplasm remains and is very granular. Within some cells are granules of yellow pigment. There are several hemorrhagic foci. The red blood cells appear to have escaped from the capillaries and infiltrated among the degenerated liver cells. These changes correspond with those found in acute yellow atrophy.

A PLEA FOR THE USE OF A STANDARD WHISKEY.

By THOMAS R. EVANS, M. D. Carbondale, W. Va.

Of course the effects of whiskey must vary as its composition varies. The word whiskey is used in the books as if it were a definite liquid, while its composition is most diverse.

Formerly in the United States whiskey was

classed as Rye and Bourbon. To-day there is very little, if any, pure rye whiskey distilled, and while it may have the taste of rye, other grains enter into it. Two-thirds of what is drunk by the public as whiskey is neither rye nor bourbon, and such so-called whiskey is often ignorantly prescribed by the physician. As often used in medicine, whiskey is a proprietary drug, its composition being known only to the rectifier, or to the compounder or blender. This ought not to be the case, as it has given rise to much confusion in the therapeutics of whiskey. So-called French brandy lays under the same indictment. The United States Government has improved on the dispensary, and the pharmacopeia, and its standard ought to be adopted by both of these authorities. Seven years ago it required the distiller who bottles his whiskey in bond to put a revenue stamp upon each bottle, plainly showing the age of the whiskey and plainly showing that it is exactly 100 proof. This whiskey is not usually bottled under four years of age, and as there is a comparatively small demand for this whiskey, it is probable that much of it is over four years old before it is bottled. On account of the fact that so much whiskey is made outside of distilleries, distilleries are often idle, and the tendency is to store whiskey in the bonded warehouses in order to save taxation until it can be sold.

Personally I have not prescribed any other whiskey than bonded whiskey for several years. It requires the addition of more water than does blended whiskey. So-called rectified whiskey should not be drunk by a well man, and to prescribe it for the sick is usually to add illness to sickness.

Druggists should keep, and doctors should prescribe, whiskey that is bottled in bond.

A simple test of "straight," "stamped," or "bonded" whiskey is its color. It is never red, but is amber colored.

"Of course," said Mrs. Extrygood, "you are fond of bright, precocious babies?"

"Oh, yes, certainly," replied Old Batch; "but I draw the line on the supposed smart sayings made up by the parents and loaded off on the poor infants"—Balto. American.

HEBB'S IMPROVED CLAMP FOR EARLE'S METHOD OF OPERATING FOR HEMORRHOIDS.*

By SAM'L. EARLE, JR., M. D., Baltimore, Md.

I wish to call the attention of the Association to an improvement in my clamp for operating for hemorrhoids by Dr. Arthur Hebb, my assistant. It consists in the blades of the clamp being curved to adapt itself to the curve of the anal margin. It also has a hook at the end of



one of the blades for catching up the running suture. It is especially adapted to the complete operation where hemorrhoids are to be removed from the entire anal margin. It is far more satisfactory in these cases than the straight forceps, and is a very good instrument. I find the hook at the end especially convenient. It will not answer, however, for removing single hemorrhoids, where they will have to be excised with the long axis of the rectum. I also show you a pair of curved scissors, devised by Dr. Hebb, the curve of which is especially adapt-



ed to the curve of the forceps, making the incision particularly convenient. I use them altogether in cutting off hemorrhoids above the clamps.

1431 Linden Avenue.

An Atchison husband hovered at death's door so long his wife remarked that she supposed he was having his usual trouble finding the keyhole —Ex.

*Read before the American Proctologic Society at Atlantic City, June 8, 1904.

Proceedings of Societies, Etc.

The Medical Examining Board of Virginia

Met at Murphy's Hotel, Richmond, Va., June 21st, 10 P. M., 1904, for the transaction of business. Dr. R. W. Martin, Lynchburg, President, called the meeting to order. Dr. R. S. Martin, Stuart, Secretary and Treasurer, recorded. On roll-call the following other members were found to be present: Drs. C. W. Rodgers, Staunton; E. T. Brady, Abingdon; Robert C. Randolph, Boyce; H. M. Nash, Norfolk; A. S. Priddy, Bristol; W. B. Robinson, Tappahannock; O. C. Wright, Jarratts; and E. C. Williams, Hot Springs.

Minutes of the last meeting were read and adopted.

The following is the report of the Legislative Committee, which was read by Dr. Priddy, and adopted, subject to the ruling of the President:

The undersigned Committee on Legislation of the Virginia State Board of Medical Examiners respectfully submit this, their report of work done in discharge of the duties devolving on them since the last meeting of the Board.

In compliance with order of the Board at its December meeting, the chairman, Dr. J. E. Warinner, called a meeting of the committee in Richmond on January 14, 1904, to consider the propriety of asking the Legislature to increase the examination fee to twenty-five dollars. Drs. Warinner and Priddy, present to use their discretion in the matter, expressed a willingness to use their influence for the passage of such legislation as the committee might deem expedient, and they did render efficient aid in this manner. Drs. Warinner and Priddy prepared a bill amending the law so as to make the fee twenty-five dollars, and to further require of applicants unknown to the Board evidence of good moral character—the omission of this important requirement being a defect in all former acts. This bill was offered in the Senate by Hon. W. P. Barksdale, of Halifax, and on reference to the Committee on General Laws the fee was fixed by the Committee at fifteen dollars, and in this shape the bill passed the Senate unanimously.

In the House Committee it met with much opposition on the part of some physicians who were members, but it was reported favorably by the committee after having been recommitted.

Drs. Warinner and Priddy made repeated trips to Richmond, and with the aid of the other members of committee by correspondence, made every effort possible to allay the opposition to the measure in the House, but on its final passage by a close vote the House yielded to the objection of some of the physician members and struck out the fifteen dollars fee and inserted ten.

The defeat of this meritorious measure is regretted by your committee, but it is agreeable to report that a sentiment in favor of giving State aid to the Board was expressed by those opposed to the increase in fee, and it is more than likely that the next Legislature will provide ample means for meeting the expenses

of the Board, either increasing the fee or by making an appropriation to supplement the present fees. The opposition offered to support the measure if the bill had provided for additional examinations in remote sections of the State, but your committee did not feel authorized to make this concession.

In this connection the Board might consider the propriety of asking the Legislature to so amend the law that the fees be increased enough to justify the Board holding an examination by a sub-committee from the Board once annually—say, at Bristol and Fredericksburg, to accommodate only those resident in Southwest and Northern Neck Virginia—the representatives of which sections complain that it is a hardship for their men to make a long and expensive trip back to Richmond after having returned to their homes from college. This could be done, as is done in Tennessee and other States, without detriment to the object of the law, and at the same time provide means of enforcing the law.

In the consideration of the foregoing bill, the House Committee discovered what they deemed a defect in the constitutionality of the Harvey act of sufficient importance to cause troublesome litigation, if not vitiate the whole law. The chairman conferred with Dr. Geo. Ben. Johnston, the chairman of Legislative Committee from the Medical Society of Virginia, who deemed it best to re-enact the whole law so as to prevent the possibility of any further fight in the Legislature against the law—the apparent defect in the Harvey act being that it by title re-enacted a section of the Code which had been repealed by act of 1894.

The chairman directed Dr. Priddy to prepare a bill to codify and re-enact the law and laws regulating the practice of medicine and surgery; which he did and submitted to the Sub-Committee on General Laws of the House, to which this matter had been referred. Meeting the approval of this committee, it was reported as a committee bill, and passed the House. However the Senate refused to concur in any legislation in connection with the law unless the House would agree to such an increase in examination fee as would provide necessary means for sustaining the Board. As a result there was no legislation by the last General Assembly—in the opinion of your committee, this being more satisfactory than any legislation maintaining the present inadequate fee.

The chairman of this committee, Dr. J. E. Warinner, being absent from the State for two months, requested Dr. Priddy to take up the matter of correspondence with other State Boards in his opinion eligible for Reciprocity Arrangements with the Virginia Board—viz: Arkansas, Arizona, California, Delaware, District of Columbia, Illinois, Indiana, Michigan, Montana, Nebraska, New Jersey, North Dakota, Tennessee, Texas, North Carolina and Washington.

The Boards of Delaware, Nebraska, Michigan, Indiana and Texas expressed a willingness to grant certificates to licentiates of the Virginia Board without examination on payment of regular fees, and the committee recommends that they be placed on our reciprocity list.

The Tennessee Board desires reciprocity with us, but cannot enter into such an agreement until the law is amended so as to permit it. However, an agreement is effected by which physicians residing within five miles of the Virginia-Tennessee line and having complied with the law of the State in which they reside, may be given a nominal oral examination by the nearest member or members of the Board, in the discretion of the President, and on satisfactory

report to secretary, receive certificate. Your committee recommends the ratification of this agreement by the Board.

The Boards of California, North Carolina, North Dakota and Montana have declined to enter into the arrangement for the present.

The Boards of Washington, Arkansas, Illinois, Arizona and New Jersey did not reply to our letters.

Your committee further recommends that any of the Boards above mentioned be placed on the reciprocity list by the secretary at any time on notice of the acceptance of our proposition.

The committee is of the opinion that in view of the fact that the provision in our law for accepting certificates from other State Boards, is silent on the matter of fees, and leaves it discretionary with the Board, it would be proper and lawful for our Board to make any reasonable charge it might deem proper. Therefore, we recommend that where a certificate is issued other than by reason of the regular written examination, the applicant shall pay a fee equivalent to that charged by the State on whose license or certificate he applies, but that in all such cases a minimum fee of fifteen dollars shall be charged.

The committee recommends that immediately after the ensuing examination the secretary notify all parties to whom temporary certificates have been issued, and who have failed to appear before the Board, that they are considered illegal practitioners, and that the Commonwealth's Attorney of their respective counties and cities have been directed to prosecute them.

A. S. Priddy, *Acting Chairman*; E. C. Williams, W. B. Robinson, *Legislative Committee*.

It was agreed to enter into reciprocity with the States of Delaware, Michigan, Nebraska and Illinois from this date, in accordance with the following resolution: "*Resolved*, That the Medical Examining Board of Virginia will reciprocate with Boards of other States, but deems it necessary for its own protection that every applicant claiming such recognition shall in person present with his petition a diploma from a reputable medical college, together with an attested certificate from a State Medical Examining Board having equal requirements with our Board, and willing and authorized to give similar recognition to those who hold our certificates. Applicants complying with above conditions and paying usual fee shall be granted a certificate."

The Secretary was instructed to write to the Medical Examining Boards of the District of Columbia, Maryland, New Jersey, and South Carolina and see if satisfactory arrangements cannot be made for reciprocity.

Questions on the different sections were then taken up, read and adopted.

Dr. Priddy introduced the following resolution, which, under the by-laws, will be voted on at our next regular meeting: "*Resolved*, That the resolution requiring the unanimous consent

of the whole Board to raise a grade be, and is hereby, repealed; and that in cases of contested grades all papers be referred to the Executive Committee for examination and report."

The order of examinations were as follows:

Wednesday—Obstetrics and Gynecology, Physiology, Anatomy.

Thursday—Surgery, Hygiene and Medical Jurisprudence, Histology, Pathology and Bacteriology.

Friday—Practice, Materia Medica and Therapeutics, Chemistry.

The President appointed Drs. A. S. Priddy, E. T. Brady, C. W. Rodgers and O. C. Wright, Oral Committee, and Drs. E. C. Williams, W. B. Robinson and H. M. Nash Auditing Committee. The Board by request of secretary decided that all certificates should be registered. Board adjourned.

Board met at Murphy's Hotel, June 22d, at 2 P. M., Dr. H. M. Nash, Vice-President, presiding, and Dr. R. S. Martin, Secretary, recording. Present: Drs. W. B. Robinson and E. C. Williams and R. M. Slaughter. Drs. Priddy, Brady, Rodgers and Randolph were in the examination hall.

The Auditing Committee examined the books of the Secretary and Treasurer and made the following report: "The undersigned, a committee appointed to examine the accounts of the Secretary, respectfully report that they have performed that duty, and find the accounts correct from June 3, 1903 to June 3, 1904, to which time the entries are complete."

H. M. Nash, E. C. Williams, W. B. Robinson.

It was agreed that the Oral Committee should make their report to the Secretary. It was further agreed that the Medical Examining Board meet in Richmond, Va., December 13, 14, 15, 16, 1904. Board adjourned.

R. W. MARTIN, *President*.

R. S. MARTIN, *Secretary*.

ALPHABETICALLY ARRANGED LIST OF APPLICANTS FOR LICENSE TO PRACTICE MEDICINE, SURGERY, ETC., WHO PASSED SATISFACTORY EXAMINATIONS BEFORE THE MEDICAL EXAMINING BOARD OF VIRGINIA DURING ITS SESSION JUNE 21-24, 1904, HELD AT RICHMOND, VA.

Atwell, J. R., Wicomico Church, Va., Columbian University, 1898.

Archer, W. M., Jr., Richmond, Va., Med. Col. Va., 1904.

Burks, D. C., Sherwood, Va., Med. Col. Va., 1904.

Brooks, V. A., Portsmouth, Va., Univ. Col. Med., 1904.

Billar, A. C., Forestville, Va., Med. Col. Va., 1904.

- Bagby, B. R., Tappahannock, Va., Columbian University, 1904.
- Briggs, I. K., Richmond, Va., Univ. Col. Med., 1904.
- Benmosche, M., Richmond, Va., Med. Col. Va., 1904.
- Brown, Benjamin, Neabsco, Va., Med. Col. Va., 1889.
- Barksdale, E., Houston, Va., Med. Col. Va., 1904.
- Baker, W. A., Jonesville, Va., Louisville Med. College, 1891.
- Bristow, H. B., Tappahannock, Va., Med. Col. Va., 1903.
- Copeland, A. R., Baltimore, Md., Baltimore University, 1903.
- Chinn, G. E., Towson, Md., Johns Hopkins Med. Col., 1903.
- Croxton, W. E., Newport News, Va., Med. Col. Va., 1904.
- Carr, R. P., Norton, Va., Univ. of Louisville, 1904.
- Costen, I. W., Wallacetown, Va., Col. Phys. and Surg., Baltimore, 1892.
- Daniel, T. H., Charlottesville, Va., Univ. of Va., 1902.
- Dyer, C. E., Austinville, Va., Univ. Col. Med., 1904.
- DeCormis, J. L., Norfolk, Va., Univ. of Md., 1903.
- Dodd, C. S., Broadway, Va., Med. Col. Va., 1904.
- Driver, W. F., Petersburg, Va., Univ. Col. Med., 1904.
- Dulaney, H. P., Stonega, Va., Univ. Tenn., 1900.
- Evans, A. D., Cambria, Va., Univ. Tenn., 1904.
- Ewing, J. S., Jonesville, Va., Louisville Med. Col., 1903.
- Edwards, A. D., North Wilkesboro, N. C., Univ. of Md., 1903.
- Fawcett, T. J., Boydton, Va., Leonard Med. Col., 1904.
- Farley, H. R., Elkhorn, W. Va., Univ. Col. Med., 1904.
- Fulton, A. H., Gibson Station, Va., Hospt. Col. of Med., Ky., 1889.
- Gouldin, J. M., Rexburg, Va., Med. Col. Va., 1904.
- Gilmer, H. D., Island Ford, Va., Univ. Col. Med., 1904.
- Garnett, R. W., Charlottesville, Va., Univ. of Md., 1904.
- Gochnauer, Fred., Upperville, Va., Univ. Col. Med., 1903.
- Hudnall, R. L., Lilian, Va., Barnes Med. Col., 1904.
- Hartsook, C. R., Cleveland, Va., Med. Col. Va., 1904.
- Hurst, Ira, Baltimore, Md., Univ. of Va., 1904.
- Hamilton, E. G., Abingdon, Va., Med. Col. Va., 1904.
- Hurst, J. A., Pennington Gap, Va., Univ. of Louisville, 1892.
- Jones, C. C., Wier, Va., Baltimore Med. Col., 1903.
- Judy, W. J., Circleville, Va., Med. Col. Va., 1904.
- Jarratt, T. E., Jarratts, Va., Univ. Col. Med., 1904.
- Kagey, T. J., New Market, Va., Jefferson Med. Col., 1904.
- Kinsolving, C. J., Jr., Abingdon, Va., Univ. Col. Med., 1904.
- Kirk, J. B., Elkhorn, W. Va., Col. Phys. and Surg., Baltimore, 1886.
- Leak, L. K., East Leake, Va., Univ. Col. Med., 1903.
- Louthan, A. D., Richmond, Va., Med. Col. Va., 1904.
- Lemma, Robert, Lynchburg, Va., Univ. of Va., 1902.
- Leonard, T. B., Richmond, Va., Univ. Col. Med., 1904.
- Lockridge, J. B., Driscoll, W. Va., Univ. of Md., 1885.
- Michaux, C. N., Richmond, Va., Univ. Col. Med., 1903.
- Miller, E. H., Danville, Va., Univ. of Va., 1904.
- Mason, H. N., Charlottesville, Va., Univ. of Va., 1904.
- Martin, E. B., Albin, Va., Univ. Col. Med., 1904.
- Moore, W. T., Vulture, N. C., Univ. of South, 1904.
- McClane, J. S., Staunton, Va., Vanderbilt Univ., 1894.
- Mann, Herbert, Richmond, Va., Medical Col. Va., 1903.
- Nesbit, E. L., Lewisburg, Pa., Hahneman Med. Col., 1904.
- Obenschain, C. P., Red Oak, Va., Univ. Col. Med., 1904.
- Parker, J. H., Dendron, Va., Med. Col. Va., 1904.
- Perkins, J. R., Richmond, Va., Med. Col. Va., 1904.
- Price, S. D., Montvale, Va., Univ. of Va., 1904.
- Preston, R. R., Glade Spring, Va., Med. Col. Va., 1904.
- Powers, E. B., White Post, Va., Univ. of South, 1904.
- Parker, T. B., Newport, N. J., Hahneman Med. Col., 1904.
- Pollard, W. O., Richmond, Va., Med. Col. Va., 1904.
- Quaintance, W. S., Slate Mills, Va., Univ. Col. Med., 1904.
- Robinson, H. M., Woodlawn, Va., Med. Col. Va., 1904.
- Rice, B. A., Montvale, Va., Med. Col. Va., 1904.
- Revercomb, W. M., Petersburg, Va., Med. Col. Va., 1904.
- Robinson, H., Port Norfolk, Va., Med. Chirurgical Col., Philadelphia, 1889.
- Stone, S. M., Hurt, Va., Univ. of South, 1904.
- Sanford, H. B., Richmond, Va., Med. Col. Va., 1904.
- Shapherd, W. A., Richmond, Va., Med. Col. Va., 1904.
- Smith, F. H., Richmond, Va., Univ. Col. Med., 1904.
- Spencer, J. B., Williamsburg, Va., Univ. Col. Med., 1904.
- Selden, S. W., Shyrock, W. Va., Med. Col. Va., 1904.
- Slicer, W. S., Roanoke, Va., Univ. Col. Med., 1904.
- Smith, W. T., Urbanna, Va., Med. Col. Va., 1904.
- Spencer, W. L., Jonesville, Va., Ky. School Med., 1904.
- Stoehr, Karl, Big Stone Gap, Va., Univ. Cincinnati, 1902.
- Verdier, C. E., Norfolk, Va., Hahneman Med. Col., 1904.
- Vaughan, L. O., Dendron, Va., Med. Col. Va., 1904.
- Watts, T. H., Mannering, W. Va., Med. Col. Va., 1904.
- Wright, G. A., Richmond, Va., Univ. Col. Med., 1904.
- Webb, W. C., Burrowsville, Va., Univ. of Md., 1904.
- Williams, J. M., Newville, Va., Univ. Col. Med., 1904.
- Watkins, Thos., Randolph, Va., Med. Col. Va., 1904.
- Wallace, A. McG., Gate City, Va., Louisville Med. Col., 1903.
- Younger, E. T., Winfall, Va., Univ. Col. Med., 1904.

Questions for Examinations.

SECTION ON CHEMISTRY.

Dr. O. C. Wright, Jarratts, Va., Examiner.

First Block.

- (a) What is matter? (b) What are the fundamental properties of matter? (c) How many and what different conditions of matter exist?

Second Block.

- (a) Do gases have weight? if so, prove it. (b) Describe the construction of a barometer. (c) Is the height of the mercury column of a barometer higher at sea level or on mountain?

Third Block.

- (a) Explain the term valence. (b) Mention some univalent, bivalent and trivalent elements. (c) Suppose a certain volume of hydrogen to weigh 20 grs. how much will an equal volume of oxygen weigh, provided pressure and temperature are the same?

Fourth Block.

- (a) What is the difference between analytical and synthetical methods? (b) Define an acid. (c) Distinguish between mono-, di- and tri-basic acids.

Fifth Block.

- (a) Explain the term allotropic modification. (b) Mention some elements capable of existing in allotropic modifications. (c) What use is made of the syllables ous and ic, ite and ate in distinguishing compounds from each other?

Sixth Block.

- (a) What is an alloy? (b) What an amalgam? (c) How may most metals be obtained from their oxides?

Seventh Block.

- (a) State the general properties of alcohol. (b) By what process is methyl alcohol obtained and what are its properties? (c) What is glycerin, and how is it found in nature?

Eighth Block.

- (a) Give the general physical and chemical properties of urine. (b) By what chemical means can hæmoglobin in the urine be recognized? (c) What changes in the color of urine does the introduction of the following drugs into the system produce: Rhubarb, santonin, carbolic acid and large doses salicylic acid?

Answer any six of the above blocks.

Pledge.

SECTION ON ANATOMY.

Dr. C. W. Rodgers, Staunton, Va., Examiner.

Answer only six questions.

- I.—Describe the atlas.
 II.—(1) What is the skin? (2) Name and describe briefly its layers. (3) What are its appendages, and where found?
 III.—Give origin, insertion and action of the following muscles: (1) Teres major; (2) Flexor sublimis digitorum; (3) Pronator radii teres.
 IV.—(1) What muscles flex the thigh? (2) What muscles extend the leg?
 V.—Name subdivisions of artery of lower extremity, and mention branches of each subdivision, beginning with the external iliac.
 VI.—(1) What would be the collateral circulation if the common carotid were ligated? (2) If the superficial femoral were ligated?
 VII.—Describe the musculo-spiral nerve.
 VIII.—Bound the anterior and posterior triangular spaces of the neck, and subdivide each space into triangles.

SECTION ON PRACTICE.

Dr. E. T. Brady, Abingdon, Chairman, Regular; Dr. E. C. Williams, Homeopath, Examiners.

- I.—Name the commonest valvular cardiac abnormalities. Give their usual cause in the aged, and in youthful patients.
 II.—Give symptoms and treatment of pulmonary œdema.
 III.—Symptoms, cause and treatment of biliary calculi.
 IV.—Symptoms and management of acute dysentery (including dietary and hygiene).
 V.—Give differential diagnosis between chronic rheumatism, arthritis deformans, and gout.
 VI.—Cause, symptoms and treatment of scabies.

Answer all questions. Number answers to accord with number of the question. Put your number and the word PRACTICE on outside of your paper after folding. Sign pledge.

SECTION ON SURGERY.

Examiners: Dr. Samuel Lile, Regular, Lynchburg, Va.; Dr. M. R. Allen, Homeopath, Norfolk, Va.

- I.—(a) What is suppuration? Give causes and symptoms. (b) What is phlegmonous inflammation, its causes and treatment?
 II.—(a) Give the technics of aseptic surgery. (b) Name the means of sterilization. (c) Name four methods of controlling hemorrhage.
 III.—(a) What are the three general anæsthetics in common use? and give mode of administration of each. (b) Describe methods of producing local anæsthesia, and the strength of solutions used. (c) What are dermoids?

- IV.—(a) Give signs, symptoms, methods of reduction and treatment of a subcoracoid dislocation of humerus. (Give full description of dressings.) (b) Give diagnosis of thyroid dislocation of femur.

- V.—(a) Give proper treatment for congenital talipes when first discovered. (b) Differentiate arterial, venous and capillary hemorrhage. (c) What is a nevus?

- VI.—(a) What are aneurisms, their causes and varieties? (b) What is a compound, comminuted fracture, and how treated? (c) Describe minutely the proper dressings for Colles' fracture.
 Pledge.

SECTION ON MATERIA MEDICA.

Dr. W. B. Robinson, Tappahannock, Va., Examiner.

Block I.

- (a) Give the source of aloes and state on what part of the intestinal tract it exerts its influence. (b) Mention the preparations of ammonia, and give the physiological action of the ammonium salts. (c) Name three direct emmenagogues and give dose of each.

Block II.

- (a) Describe opium and outline its physiologic effects administered in medium doses. (b) What alkaloid is derived from belladonna? (c) Name three hypnotics and give dose of each.

Block III.

- (a) Mention the incompatibles and the antagonists of digitalis. (b) Name the official chlorides and iodides of mercury and state dose of each. (c) Give the habitat of cinchona and the physiologic effect of its alkaloid.

Block IV.

- (a) Mention the official preparations of colchicum and give dose of each. (b) Describe the effects of a medicinal dose of chloral hydrate. (c) Give the principal alkaloid of nux vomica; mention its incompatibles and antagonists, and state dose of the tincture.

Block V.

- (a) Describe phosphorus and outline its physiologic effects. (b) Give the dose of (a) liquor potassii arsenitis; (b) liquor sodii arsenatis. (c) What are cantharides, where principally obtained, and what is their active principal?
 (Answer only four blocks.)

SECTION ON THERAPEUTICS.

Dr. W. B. Robinson, Tappahannock, Va., Examiner.

Block I.

- (a) What are therapeutic uses of the mineral acids? (b) Mention the principal pathologic conditions for which pilocarpus is used. (c) Mention the forms of heart disease in which digitalis is indicated and those in which it is contraindicated.

Block II.

- (a) Mention the chief therapeutic uses of opium. (b) What are the medical uses of the preparations of ammonia? (c) In what diseases are preparations of arsenic useful?

Block III.

- (a) Describe the therapeutics of asafetida. (b) Name the drugs useful in the treatment of dysentery and explain their action. (c) Give indications for the use of phosphorus.

Block IV.

- (a) Mention the principal therapeutic applications of antipyrin. (b) Name a drug useful as a cardiac and respiratory stimulant. (c) Mention the

principal pathologic conditions for which aconite is used.

Block V.

- (a) Outline indications for internal administration of preparations of iron. (b) What preparation of apomorphia is usually employed? In what dose and for what purpose? (c) Mention two drugs commonly used to increase intestinal peristalsis. (Answer only four blocks.)

SECTION ON OBSTETRICS.

Dr. H. M. Nash, Norfolk, Va., Examiner.

- I.—Describe the differences between the adult male and female pelvis; give the diameters of the living female pelvis at the brim?
 II.—Describe the sutures and fontanelles of fetal cranial vault—referring to their diagnostic value during labor?
 III.—Name presentations of the fetus at term, with positions pertaining to each?
 IV.—Give mechanism of placental expulsion, and management in this stage of labor?
 V.—Describe vaginal and vulvar lacerations resulting from labor, and give the reasons for immediate repair of the same by the obstetrician, and the mode of suturing in both varieties?

QUESTIONS IN GYNECOLOGY.

Dr. Wm. L. Robinson, Danville, Va., Examiner.

- I.—What preparatory and post operative treatment should be instituted to secure a favorable termination in a case of laparotomy?
 II.—Give the diagnostic symptoms of pelvic inflammation in the female, and under what conditions would surgical interference be necessary in such cases?
 III.—Describe the different displacements of the uterus and the best method of correcting and curing retroversion.
 IV.—Which route should be selected, the suprapubic or vaginal, in cystotomy in the female, and give the technique of the operation?

SECTION ON PHYSIOLOGY.

Dr. Robert C. Randolph, Boyce, Va., Examiner.

- I.—(a) Name some of the kinds of cells found in man. (b) What is epithelium? (c) What are its varieties?
 II.—(a) What are the functions of epithelial tissue? (b) What are the vital or physiological characteristics of protoplasm? Name four. (c) What are the varieties of cartilaginous tissue?
 III.—(a) What is insalivation? (b) What glands make saliva? (c) Which is the most important?
 IV.—(a) Describe the gastric juice? (b) What is its action on food? (c) What is the succus-entericus and what are its functions?
 V.—(a) Give the most important branches of the 10th cranial nerve. (b) What is the function of the 13th? (c) What is the function of the 3d?
 VI.—(a) Locate the visual centre. (b) Locate the respiratory centre. (c) What is the function of the cerebellum?

SECTION ON HISTOLOGY, PATHOLOGY AND BACTERIOLOGY.

Dr. R. M. Slaughter, Theological Seminary, Va., Examiner.

- I.—Give histological structure of the intestinal villi.
 II.—Describe (give morphology, biology, and pathogenicity of) the streptococcus pyogenes.
 III.—(a) What is edema? Give causes of (b) the edema of passive hyperemia; (c) of the edema of cachexia; and (d) of malignant edema.

IV.—(a) What is acute endocarditis? Give (b) varieties; (c) etiology; and (d) bacteriology of acute endocarditis.

V.—What are (a) osteoblasts; and (b) osteoclasts? (c) What is a sequestrum? (d) Explain sequestrum formation.

VI.—Give (a) varieties; and (b) histological structure of pure fibromata. (c) What are fibro-myomata?

VII.—(a) Of what variety of cartilage are the intervertebral disks composed? (b) Describe the ameba coli and name pathological conditions in which it is found. (c) What are myelocytes? Where and in what pathological conditions are they found?

Answer six questions. Sign pledge.

SECTION ON HYGIENE.

Dr. A. S. Priddy, Examiner, Bristol, Va.

I.—Give the sources of water, the impurities rendering it undesirable or dangerous for drinking or domestic purposes, and the methods of testing and purifying the same; mention diseases traceable to impure water.

II.—State the precautions necessary in securing cow's milk, and in its preservation as a diet for adult invalids and children.

III.—What is meant by personal, domestic and public hygiene?

IV.—What atmospheric conditions and localities favor sunstroke; and what precautions necessary to avoid it?

SECTION ON MEDICAL JURISPRUDENCE.

I.—What is meant by medical jurisprudence in regard to insanity, murder and infanticide?

II.—State fully the symptoms and post-mortem appearances in cases of poisoning by each—opium, strychnine and arsenic.

III.—What is meant by the term Erichsen's disease or railway spine?

IV.—In a medico-legal sense, what constitutes a dying declaration; and what is necessary to make it evidence in a court of justice, and how should it be taken?

Answer any three in each branch. Erase those not answered, and pin printed list of questions to answers turned in.

SECTION ON THERAPEUTICS.

Homeopathic Questions.

E. C. Williams, M. D., Hot Springs, Va., Examiner.
 Block I.

Differentiate between arsenicum and apis in a case of dropsy. State the principal clinical uses of (1) baryta carbonica; and (2) baptisia. State the indications for the use of kali bichromicum in catarrh and in ulcerations. Prescribe the diet and general treatment for a case of hemorrhoids.

Block II.

Differentiate between calcarea carbonica and podophyllum in infantile diarrhoea. What symptoms would cause you to prescribe pulsatilla in a case of measles? Differentiate between bryonia and nux vomica in digestive troubles. State the principal clinical uses of sanguinaria and rhododendron.

Block III.

Differentiate bryonia from rhus in rheumatic fever. Name two remedies useful in spasmodic croup, and give the indications for each. Describe the headache for which sanguinaria is useful. Give

the principal clinical uses of chelidonium and hydrastis.

Block IV.

Give general treatment and diet for a case of typhoid fever. Mention three remedies commonly used in acute tonsillitis, and give indications for two of them. Differentiate chamomilla from colocynt in a case of infantile colic. Give the symptoms for pulsatilla and gelsemium in dysmenorrhea.

Block V.

Give the indications for the use of phosphorus and antimonium tartaricum in pneumonia. Mention two remedies commonly used in acute gastritis, and give indications for each. When are cold and when hot applications of use in inflammatory conditions? Mention the principal clinical uses of spigelia and lycopodium.

Answer four blocks of questions.

SECTION ON MATERIA MEDICA.

Homeopathic Questions.

E. C. Williams, M. D., Hot Springs, Va., Examiner.

Block I.

(a) What is polychrest? Mention three. (b) De-

scribe the ovarian symptoms of apis, lachesis and belladonna.

Block II.

(a) Give the source, mode of preparation and physiological action of silica. (b) Give the time of aggravation of arsenic, nux vomica, pulsatilla and lycopodium.

Block III.

(a) Give the physiological action of sulphur. (b) Mention three characteristic symptoms of each of the following remedies: mercurius, ipecac, iodine and cinchona.

Block IV.

(a) Give the laryngeal and tracheal symptoms of (1) belladonna; (2) causticum; (3) phosphorus; and (4) spongia. (b) Give the mental and nervous symptoms of (1) aconite; and (2) gelsemium.

Block V.

(a) Mention the organs or tissues affected by (1) liliun tigrinum; (2) veratrum viride; (3) plumbum; and (4) thuja. (b) Give the urinary symptoms of (1) terebinthina; (2) cannabis sativa; (3) lycopodium; and (4) nux vomica.

Answer four blocks of questions.

INSTITUTIONS REPRESENTED BY THE APPLICANTS BEFORE THE MEDICAL EXAMINING BOARD OF VIRGINIA, FROM THE ORGANIZATION OF THE BOARD, JANUARY 1, 1885, TO JUNE 21-24, 1904.		Total Number from each Institution.	Total Number Licensed First Examination.	Total Number Rejected First Examination.	Licensed on Second Examination.	Rejected Second Examination.	Licensed Third Examination.	Rejected Third Examination.	Licensed Fourth Examination.	Rejected Fourth Examination.	Licensed Fifth Examination.	Rejected Fifth Examination.	Incomplete or Withdrew.	Partial examination.
Total number before Board from organization to June 21-24, 1904..		2371	1445	518	164	78	30	25	2	21	1	..	37	281
University College of Medicine, Richmond, Va.....		23	21	1	..	1	..	..	..	..	..	..	..	..
Medical College of Virginia		33	28	2	1	..	..	1	..	..	..	..	..	1
Barnes Medical College.....		1	1	..	..	..	..	1	..	..	..	..	..	..
University of the South		4	3	..	..	..	..	1	..	..	..	..	..	..
Jefferson Medical College		1	1	..	..	..	..	..	..	..	..	..	..	..
Baltimore University		1	..	..	1	..	..	..	..	..	..	..	..	..
Hahneman Medical College, Philadelphia.....		3	3	..	1	..	..	..	..	..	..	..	..	..
Baltimore Medical College		2	1	1	..	..	..	..	..	..	..	..	..	..
University of Virginia		7	6	..	1	..	..	..	..	..	..	..	..	..
Maryland Medical College		5	..	3	..	1	..	1	..	..	..	..	..	..
Leonard Medical College		10	..	6	1	2	..	1	..	..	..	..	..	..
Johns Hopkins Medical College.....		1	1	..	..	..	..	..	..	..	..	..	..	..
University of Maryland		7	2	2	2	..	..	..	..	..	..	..	..	..
Physicians and Surgeons, Boston.....		1	..	..	..	1	..	..	..	..	..	..	..	..
Columbian University.....		2	2	..	..	..	..	..	..	..	..	..	..	..
Illinois Medical College.....		1	..	1	..	..	..	..	..	..	..	..	..	..
University of Louisville, Medical Department.....		2	2	..	..	..	..	..	..	..	..	..	..	..
Kentucky School of Medicine.....		1	1	..	..	..	..	..	..	..	..	..	..	..
Louisville Medical College		3	3	..	..	..	..	..	..	..	..	..	..	..
Hospital College of Medicine, Louisville.....		1	1	..	..	..	..	..	..	..	..	..	..	..
Medico-Chirurgical College of Philadelphia.....		1	1	..	..	..	..	..	..	..	..	..	..	..
College of Physicians and Surgeons, Baltimore		2	2	..	..	..	..	..	..	..	..	..	..	..
Tennessee Medical College.....		1	..	1	..	..	..	..	..	..	..	..	..	..
Vanderbilt's University, Nashville.....		1	..	..	1	..	..	..	..	..	..	..	..	..
University of Cincinnati.....		1	1	..	..	..	..	..	..	..	..	..	..	..
University of Tennessee.....		1	1	..	..	..	..	..	..	..	..	..	..	..
Non-Graduates taking partial examination		74	..	..	..	..	..	..	..	..	..	..	..	74
Non-Graduates taking no examination.....		1	..	..	..	..	..	..	..	..	..	..	..	..
Totals.....		2562	1526	535	172	83	30	29	2	21	1	..	38	355

INSTITUTIONS REPRESENTED BY APPLICANTS
WHO CAME BEFORE THE
MEDICAL EXAMINING BOARD OF VIRGINIA,
SPRING SESSION, AT RICHMOND, VA.,
June 21-24, 1904.

INSTITUTIONS REPRESENTED BY APPLICANTS WHO CAME BEFORE THE MEDICAL EXAMINING BOARD OF VIRGINIA, SPRING SESSION, AT RICHMOND, VA., June 21-24, 1904.	Total Number of Applicants from each College.	Total Number of Applicants Licensed from each College.	Total Number of Applicants Rejected from each College.	Partial Examination.	Incomplete.
University College of Medicine, Richmond, Va.	23	21	2		
Medical College of Virginia	33	29	3		1
Barnes Medical College.....	1	1	0		
University of the South	4	3	1		
Jefferson Medical College	1	1	0		
Baltimore University.....	1	1	0		
Hahneman Medical College.....	3	3	0		
Baltimore Medical College	2	1	1		
University of Virginia	7	7	0		
Maryland Medical College	5	0	5		
Leonard Medical College	10	1	9		
Johns Hopkins Medical College	1	1	0		
University of Maryland	7	5	2		
College of Physicians and Surgeons, Boston.....	1	0	1		
Columbian University	2	2	0		
Illinois Medical College.....	1	0	1		
University of Louisville	2	2	0		
Kentucky School of Medicine.....	1	1	0		
Louisville Medical College	3	3	0		
Hospital College of Medicine, Louisville	1	1	0		
Medico-Chirurgical College of Philadelphia.....	1	1	0		
College of Physicians and Surgeons, Baltimore.....	2	2	0		
Tennessee Medical College	1	0	1		
Vanderbilt's University, Nashville	1	1	0		
University of Tennessee	1	1	0		
University of Cincinnati.....	1	1	0		
Non-graduates taking partial examination	74	..	..	74	
Non-graduates taking no examination.....	1	..	..	1	
Total.....	191	89	26	75	1

Nos. of examina- tion papers.	INSTITUTIONS Whose Graduates were Rejected by the Medical Examining Board of Va., at Regular Spring Meeting, June 21-24, 1904, With Percentage Marks of each.	COLLEGE OF GRADUATION.	Hygiene and Med. Jurisprudence.	Chemistry.	Anatomy.	Physiology.	Histology, Pathol- ogy, Bacteriology.	Obstetrics and Gynecology.	Materia Medica and Therapeutics.	Practice.	Surgery.	Total.	Average Percentage
2	University College of Medicine.....		90	73	90	70	65	72	67½	77	60	664½	73+
33	Maryland Medical College		75	83	81	78	48	64	75	70	60	634	70 "
42	Leonard Medical College		85	79	74	82	68	70½	75	60	40	633½	70 "
43	Leonard Medical College.....		76	65	68	65	65	68	77½	68	75	627½	69 "
50	Leonard Medical College.....		75	60	62	57	45	53	76	72	45	545	60 "
51	Maryland Medical College.....		70	59	57	68	45	47½	55	45	40	486½	54 "
53	Leonard Medical College		90	78	86	81	60	55	78½	68	65	661½	73 "
57	Leonard Medical College.....		86	78	75	76	65	69½	75	68	40	632½	70 "
58	University of Maryland.....		78	79	45	57	55	75½	65	65	55	574½	63 "
62	Medical College of Virginia.....		82	65	53	63	68	86	76	78	92	663	72 "
67	Maryland Medical College		74	47	68	46	35	60	57½	60	45	492½	54 "
69	College of Physicians and Surgeons, Boston, Mass.....		88	75	58	71	65	71½	75	66	92	661½	73 "
71	Leonard Medical College.....		85	75	58	82	55	64½	69	70	70	628½	69 "
74	Maryland Medical College.....		75	62	36	39	50	54½	67½	70	50	504	56
77	Leonard Medical College.....		83	75	76	75	65	72	75	72	60	653	72+
78	Leonard Medical College.....		65	76½	59	59	45	49	67	50	45	515½	57 "
81	University of Maryland.....		85	40	51	47	67	61	76	70	80	577	64 "
85	University of the South.....		75	75	62	76	60	70½	76	80	89	663½	73 "
86	Maryland Medical College.....		85	70	73	70	55	73	77½	78	70	651½	72 "
89	Leonard Medical College.....		80	82	72	78	62	65	75	72	77½	663½	73 "
93	Medical College of Virginia.....		75	73	85	73	70	71	67½	80	65	659½	73 "
111	Illinois Medical College		55	71	58	59	45	53½	55	75	50	521½	57 "
145	University College of Medicine		86	78	54	71	68	82	76	78	60	653	72 "
172	Baltimore Medical College.....		60	48	70	68	80	65	50	70	60	571	63 "
180	Tennessee Medical College		74	32	58	49	55	59½	75	75	65	542½	60 "
184	Medical College of Virginia		84	80	71	60	75	82	73	74	60	659	73+

Book Notices.

Text-Book of Physiology.—By ALBERT P. BRUBAKER, A. M., M. D., Professor of Physiology and Hygiene, Jefferson Medical College; Professor of Physiology, Penn. College of Dental Surgery; Lecturer on Physiology and Hygiene, Drexel Institute of Art, Science and Industry. *With Colored Plates and 354 Illustrations.* Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. 1904. Cloth, \$4.00 net. 8vo. 699 pages.

This physiology follows out the general arrangement of contents as is laid down in the compend on the subject by the same author, and in a great many respects seems to be but a text-book enlargement of the smaller work. Such facts have been selected as will not only elucidate the normal functions of the tissues and organs of the body, but as will be of assistance in understanding their abnormal manifestations when they present themselves in hospital and private work, thus making the book ideally practical. The description of physiologic apparatus and the methods of investigation, other than those having a clinical interest, have been largely excluded from the text. For those who have not had laboratory opportunities a brief account of some essential forms of apparatus and the purposes for which they are intended will be found in an appendix. This work is excellent in every respect, and will no doubt become very popular as a text-book at numerous colleges.

Obstetrics.—Edited by JOSEPH B. DELEE, M. D., Professor of Obstetrics, Northwestern University Medical School. April, 1904. Volume V, of the Practical Medicine Series of Year Books, under the General Editorial Charge of GUSTAVUS P. HEAD, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School, Chicago: The Year Book, Publishers, 40 Dearborn St. Cloth. 12mo. 220 pages.

This little book on Obstetrics is one of ten volumes, published at practically monthly intervals during the year, of the Practical Medicine Series of Year Books, the series selling for \$5.50, payable in advance; while the single volumes are sold for \$1. The publication is so favorably known that it requires little more than this mention as a reminder of its value for reference, etc. This book covers the best litera-

ture in the whole field of obstetrics for one year preceding the date of issue.

Editorial.

Medical Society of Virginia.

The thirty-fifth annual session will be held in Masonic Temple, 101 West Broad street, Richmond, Va., beginning Tuesday night, October 18, 1904. The preliminary announcement has been issued. The Committee on Program, at the request of the Committee of Arrangements, suggests that the discussion, etc., of the proposed reorganization plan be deferred until Friday, October 21st, so as not to interfere with the scientific program, which promises to be very excellent. Authors of papers who have not already done so should forward titles of same to the Secretary, Dr. Landon B. Edwards, Richmond, Va., so as to be listed in the regular circular announcement, to be issued about September 10th. The banquet or reception will be on Friday night, October 21st. A committee of ladies will provide for the entertainment of ladies accompanying doctors, who may accompany them. The indications are that this session will be by far the most important, and have the largest attendance, as well as the largest addition to the membership of the Society of any session ever held. Much of this interest has been developed by the indefatigable labors of the President, Dr. Joseph A. Gale, of Roanoke. In fact, members all over the State have been specially energetic during the past eleven or more months.

The Southside Virginia Medical Association

Will hold their next quarterly meeting at Franklin, Va., on the 13th of September (second Tuesday), 1904. The Association was organized in November, 1903, and its success is already assured. At least two-thirds of the physicians living within the territory comprising it are already members, and before the end of another year practically every doctor in the counties of Prince George, Surry, Sussex, Southampton, Greensville and Brunswick will have joined.

THE Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

Vol. 9, No. 11.
Whole No. 203.

RICHMOND, VA., SEPTEMBER 9, 1904.

\$2.00 a Year.
10 Cents a Copy.

Original Communications.

A Protest Against Indiscriminate Surgical Operations Upon the Female Organs of Generation.*

By ARMISTEAD K. TAYLOR, M. D., Tarboro, N. C.,

Fellow of Medical Society of South Carolina, of Seaboard Medical Society of Virginia and North Carolina, of Georgetown Medical Society; ex-Surgeon A. C. L. and G. & W. Railroads; ex-President City Board of Health, Georgetown, S. C.; Member American Medical Association, etc.

Believing that the pendulum has swung too far, and feeling that the trammels of custom have long enough prevented the younger members of our craft from expressing their observations and experiences frankly, I resolved that I would for the sake of our profession and for the sake of the weaker and fairer sex speak a word of protest against indiscriminate surgical operations upon the female organs of generation.

In the year 1809, a Kentuckian, in the person of Ephraim McDowell, performed the first ovariectomy known to the civilized world. Yet like everything else that has a power for good, it has a power for evil as well. Robert Battey, of Georgia, and his disciples in this country went about the same work; Lawson Tate, of England, and others in the British Isles; many German and French operators, and a host of others whose names I cannot recall made their appearance, with scalpel in hand, upon the field of battle, in the smoke of which they lost sight of man, but poor woman fell victim to those discoveries, and her pelvis was a most fertile field for adventure. Every few weeks or months you would hear of some new condition for which ovariectomy was practiced, and some new method of doing it—each said to be better than the other, but all having for their object the radical removal of everything in sight, and

many things out of sight, but unfortunately not out of reach.

It is not necessary to dwell on the dark side of our past, nor is it my desire to be understood as pointing out their mistakes as faults, for I would not underestimate or undervalue the brilliant achievements of those heroic and faithful workers; I speak of the past that we may take warning for the future, and profit by the experience of those explorers, and that woman-kind may receive the benefits of their mistakes. There is a restlessness existing among us, and here is where the evils arise. There is an earnest effort towards conservatism, when we will operate for disease, and not for symptoms; and operations upon the pelvic organs and the floor that supports them will not be done as a panacea for all the aches and pains of woman, as has hitherto been too recklessly done.

I desire to say in this connection that there is a great deal of senseless praise for surgical operations, as though it were a remarkable achievement to do a complete hysterectomy or double ovariectomy. The question should be—not how much we remove, but how much we can save, and how useful it will be. Van Buren struck the keynote when he said: "It is a popular, I may say a vulgar, error which is quite prevalent in regard to the surgeon, that his highest function is attained in a brilliant operation, but, in truth, a still greater degree of merit is shown in the avoidance of an operation, when this is possible, by means of fuller pathological knowledge." He further says that "a good surgeon can never cease to be also a fairly good physician; a surgeon not a physician is as a bird without wings."

There was a time when we could afford to display a moderate amount of conservatism on account of the danger of infection, but in this day of enlightenment, when the microscope has discovered the "prince of the power of the air," and since the birth of antiseptics, the prevention of wound infection and the blessings of

* Read before the fifty-first meeting of the North Carolina Medical Society, by invitation, at Raleigh, N. C., May, 1904.

anesthetics, rendering the otherwise imperfect technique ideal, it behooves us to practice the utmost conservatism on the organs of generation. It is a question that no conscientious medical man can in honor or courage disregard. It is a question that involves the life, health and happiness of an individual. How many lives have been made miserable, how many homes desolate by the indiscriminate use of the knife in the hands of some 'unscientific or perhaps over-zealous aspirant for surgical honor? Never did Palmer Dudley utter a better truth than when he said before the American Medical Association at its last meeting in New Orleans: "How many thousands of suffering, misguided women have offered up their pelvic organs as a sacrifice for the simple promise from an ambitious aspirant for professional preference that such sacrifice would immune them from all future unpleasant conditions peculiar to their sex, and how bitterly have those poor misguided women regretted in the years that have followed their misplaced confidence so generously bestowed, when the knowledge was forced upon them by sad experience that they had exchanged one condition of suffering for one equally as disagreeable." But such is life in all things experimental, and our profession has never been an exception to the rule.

What are the functions of the ovaries and what the effects of their removal? Beside menstruation and ovulation, sufficient evidence has been offered to show that they secrete a substance which plays an important part in the economy, especially upon the nervous system; just what it is, how elaborated, and its importance is not fully known. It is not within the province of this paper to discuss the great question of the physical, mental and moral effects of removal of the ovaries; and it is only in a brief and superficial way that I wish to invite your attention to this point. The majority take on fat, become more masculine in appearance, as well as in other respects, vaso-motor symptoms are most pronounced, such as hot flashes, pain in the head and pelvis, hot and cold sweats, vertigo and other distressing symptoms, too numerous to mention. The most persistent and profuse leucorrhœa I have ever encountered was a result of the removal of both ovaries; vicarious menstruation does occur, but is rare. The nervous symptoms are most pronounced and distressing, and the mental condition is often

pitiful; the moral effect is largely governed by age, temperament, physical condition and social standing; any woman who has a great deal of force of character and who is fond of home life, who has not passed the child bearing period, will grieve over the loss of her organs. It matters not whether she be married or single, she feels that she is branded for life and is ostracized from society by reason of her own feelings; she is humiliated and shy—she thinks that every one with whom she comes in contact knows it; she becomes nervous and emaciated, hysterical, demented, and, like the evil spirit of which we read, it overcomes her, breaks down her nervous system, and insanity claims her for its victim. The psychic effect following the removal of the ovaries is in the inverse ratio to the age of the woman operated upon.

In 1901 I was consulted by an unmarried lady, 26 years of age, whose family physician had advised the removal of her ovaries on account of dysmenorrhœa and some nervous symptoms—assuring her that the ovaries were responsible for her entire condition. Upon careful examination under chloroform anesthesia, I did not find anything to justify so radical a procedure and so advised her, but as she had every confidence in her family physician and had made up her mind that her ovaries were diseased, my remarks were not consoling, and like Rachael weeping in the wilderness, she refused to be comforted. She was later operated upon by a surgeon in one of our Southern cities, who removed both ovaries. She made an uneventful recovery and returned home in six weeks, but it was only a short while before she became nervous and hysterical, suffered pain and took opiates, gradually became demented, and finally became a raving maniac, and was sent to an institution for treatment, where death soon released her from all suffering and trouble.

There is another type of woman that is of a neurotic temperament that has a natural inclination for high life, the lady of leisure, so to speak, whose figure is her charm, who attends all the fashionable watering places, drinks Mumm's Extra Dry with the boys, whose system is greatly impaired by reason of her dissipation; cut her ovaries out, and I'll promise you that she will go the limit. She is irritable in temper, impulsive, and grows more and more dissatisfied with her surroundings at home; if she be a married woman, there is a feeling of

distrust on the part of both husband and wife; she no longer appeals to her sexual desire, and he loses confidence in his spayed wife, and, as a natural sequence, domestic unhappiness follows. Such a woman is perfectly sane and responsible in every way, but there becomes a total loss of the moral sense which paves the way for all manner of evil doings and the commission of all kinds of crimes. Why is this true—and I know it is true—is it the loss of the moral sense or the knowledge of the abolition? Much is hidden from the eye of every physician; possibly many cases of this kind, due to the secret vice, escape his knowledge. I know of several cases in young women, gifted by nature with high talents and fitted to be a benefit and an ornament to society, that have sunk into such a state of physical and moral degradation as wrings the heart to witness.

I have given this part of the question a most painstaking observation and study for the past seven years, and I am thoroughly convinced that the unsexing of a certain type of young women ruins her morally. There is a type of woman that is so bitterly opposed to becoming mothers that they will intentionally deceive an operator, if possible, in the hope of having those organs destroyed; they hate children worse than the devil hates "holy water," but think more of a poodle dog than some parents think of their children.

I shall now in a sweeping way speak of the conditions for which indiscriminate surgery is practiced, and I want to head the list with the so-called cystic ovary. For every normal ovary you will find twenty cystic; if cystic, remove the cyst and leave the ovary; if dermoid, take out both the cyst and the ovary, and be sure to leave nothing behind. The next one on the list is the so-called enlarged or swollen ovary; it is tender on pressure, and is frequently encountered. Did you ever see a man with an enlarged testicle, swollen and tender? but did you ever hear of one being castrated for such a condition? The next condition is abscess of the ovary; remove diseased tissue and leave as much of the ovary as is consistent with good judgment; every case is a law unto itself, and even in septic cases healthy portions may be spared, particularly in young women. The next condition for which the ovary is held responsible and has to be removed is the so-called reflex condition; you find that condition in nervous hysterical women who

have marked nervous symptoms just before or during the menstrual flow; for every woman who is relieved by a radical procedure, ten are made miserable for life. The next condition for which ovariectomy is practiced is in reducing the size of fibroid growths: I would prefer removing uterine and leave ovaries wherever it is possible; but fibroids of large size gradually encapsulate the ovaries and are so thoroughly blended that isolation and separation are out of the question. No doubt many myomectomies will take the place of hysterectomy. All inflammatory conditions in the pelvis which result in binding down the ovaries and tubes should be released and not removed, and has too often been done in such cases. Lacerations and syphilitic conditions of the cervix should be carefully examined macroscopically and microscopically before contemplating removal of the uterus. I honestly believe that these conditions have frequently been mistaken for cancer of the cervix, and the organs sacrificed as a result of such a diagnosis. I do not believe that any conscientious surgeon with a sound mind would remove the ovaries in a young woman to relieve dysmenorrhœa per se; and it is rarely, if ever, justifiable in those more advanced in life.

Dr. S. Weir Mitchell (*Univ. Med. Mag.*, March, 1897), said: "In no case seen by me had abolition of ovaries and termination of menstruation cured epilepsy; I have never sanctioned such operations where appendages were sound; I have agreed thrice to these operations with such pelvic disease as of itself would justify ovariectomy; in all three after some delay the fits returned, and were in no way permanently aided. I recall as an illustration a case in which there were epileptic attacks of great severity only after the menstrual epoch. The ovaries were apparently sound, but as two physicians and a surgeon were against me, my opinion was not regarded and ovariectomy was performed. The attacks which had been daily were stopped for seven weeks after the operation and the case was hastily spoken of as a great triumph; the patient, however, then became worse, and permanent loss of mind resulted. In all my life I have never met with but four reflex epileptics, and none were from uterine or ovarian or tubal disease."

Dr. Mitchell further said that because an insane woman is usually worse at her periods is no reason why the flow should be stopped by

operation; that the climacteric puts an end to those disorders is an old delusion, and in fact the change of life, so-called, is quite as likely to make them worse as to better them. It has been a custom, so it seems, among a number of operators to remove opposite ovary and tube in certain conditions, even though they appear healthy, claiming that it is liable to become diseased also; I desire to ask you if you remove the right breast, if it is not involved, while operating for cancer of the left? Do you remove the left eye for cancer of the right? Do you remove the left testicle for malignant growth of the right? Why, then, make an exception in the case of the ovaries? When the opposite organ appears healthy, leave it. Any other teaching, to my mind, is not only an error, but a blunder unwarranted, either by analogy or by fact. It is as irrational as it is untrue.

There is such a thing as being ultra conservative as well as too radical, but I know, and every man within the sound of my voice knows, that there has been too much cold blooded surgery practiced upon the female organs of generation. Those who have had ample opportunity and time have been taught by sad experience that they had been too radical; but the tide is beginning to turn, for the trend of gynecologic work to-day is, by those who know, towards conservatism; yet it seems that many of the younger members of our profession are just beginning where the others left off. Symptoms referable to the pelvis do not always mean diseased ovaries or diseased tubes or diseased uterus, but she who so complains is still in danger. Bear in mind that many of the pelvic symptoms are but an expression of constitutional pathological conditions, which call for general medical treatment. He who expects to find the female organs perfectly normal, both as to condition and position, will never find what he seeks; there is nothing without its imperfections, and these organs are no exceptions.

The indiscriminate carving away of the uterus and its appendages is one of the evils of the times. Have you ever stopped to think of the unhappiness and suffering that are brought about by indiscriminate work, or the various minor causes for which it is done? It takes away from married life the woman's brightest and most natural hope and the husband's highest inspiration, and puts the unmarried woman outside the social world.

Genesis, Chapter I: 11. "And God said, Let the earth bring forth grass, the herb yielding seed, and the fruit tree yielding fruit after his kind, whose seed is in itself, upon the earth; and it was so.

12. And the earth brought forth grass, and the herb yielding seed after his kind, and the tree yielding fruit, whose seed was in itself, after his kind; and God saw that it was good.

28. And God blessed them, and God said unto them, Be fruitful and multiply and replenish the earth and subdue it." * * *

Let us, then, for the love of our profession and of humanity, dedicate and devote our time, our talents and our labors to the preservation of the reproductive organs, whenever possible, and not everlastingly be scheming to inaugurate some new device to get rid of them. "Fidelity to nature" should be our motto.

THE NEW ORGANIZATION PLAN FOR MEDICAL SOCIETY OF VIRGINIA.

By E. T. BRADY, M. D., Abingdon, Va.

Not long since I published my views in regard to the proposed change in the Constitution and By-Laws of our State Society. I had not proposed re-entering the controversy. However, the views advanced by Dr. Edwards, in the last issue of the *Semi-Monthly*, are so utterly at variance with any interpretation I can attach to the proposed instrument, that I think it no more than fair that the other view be presented. By way of further preface, let me say, that I cheerfully accord to Dr. Edwards, what I demand for myself, the belief that he has most earnestly and sincerely at heart the welfare of our Society.

As to the effect on membership of the new plan:

1. Every present member, on the roll at the time of its adoption, will be a member as long as he desires and complies with the ordinary provisions of the Society. To require him to join a local society against his will, would be to enforce an "ex-post facto" law, and is absurd on its face. Every member remains a member unless regularly proceeded against, and for cause. Consequently the statement that it would cause a decrease of membership is misleading, unless the Society so specifies by vote.

2. The plea is made that earnest effort has failed to produce more than 25 county and city organizations. There is the milk in the cocoa-nut. That is just why we advocate the new organization. The reason there has not been a greater number of county societies is simply because there has been no especial incentive to form them. Under the new plan, the 98 counties now represented in our Society will have the present membership declared the nucleus of 98 societies, the only necessity being the formal meeting, once annually, to discuss professional and mutual affairs, and elect officers and delegates. There will be the inducement of local scrutiny of *new* members—local inquiry into ethical irregularities—direct representation in the State body—and the possibility of adjusting differences according to immediate environment.

Just here let me emphatically protest against the statement that our present method is representative and less likely to be controlled by the cities. The position is ludicrously untenable. The idea that two to five delegates from each of several cities could override the 25 to 150 delegates representing the counties is a mathematical impossibility. Illustrate by the next meeting of the Society, at Richmond: The attendance will probably be about 300. Now, does any one for an instant doubt that over half of these will be Richmond men? And could not Richmond, acting as a unit, positively override the meeting, even in the face of unanimous protest on the part of the country representatives? Because the cities have been more than courteous to the country districts in the past—and this I gladly grant—it is none the less sure that under the present methods they would be all-powerful, whereas under the new plan they could only vote their proportionate strength, and the country delegates would control the situation, because on account of their small societies (*each, however small, being entitled to a delegate*), the country would have a relatively larger representation.

As to this representation being adequate, why would it not be? With due notice of the local meeting, and of the questions which will be acted upon, is it to be supposed that the delegate elected will not be aware of and support the will of the majority? I can well imagine, under our present *regime*, that one gathering may, in the heat of debate, the enthusiasm of oratory, and the tendency to follow a good leader, carry

out ideas which those at home would overwhelmingly reject; but in the delegated body, obeying local instructions, this could not be.

The "veto power" is a nonentity in professional bodies. There is none now, there will be none, and there should be none. The only policy to pursue would be to reverse unpopular decisions at the next meeting. This is now the only remedy, and would apply equally under the new plan.

The most careful scrutiny of the new plan fails to discover any basis for the declaration that it would add to the expenses of the Society. There is no provision for payment of expenses of an organizer for the county societies. There should be none. Plenty of men will gladly aid in this, if necessary, without cost to the Society. Where is the need? If there are from 3 to 50 men in a county, all that is necessary is for one of them to call a meeting at the most convenient place and time, and there will be immediate response. Court days have *not* been abolished. They have only been reduced from twelve to six annually, and as county societies are not supposed to meet oftener than quarterly, or semi-annually, I fail to appreciate the relevancy of that comment.

Admitting the correctness of Dr. Edwards' figures, which I know he has been at great pains to substantiate, you must admit that there is in our present membership a nucleus for 98 county societies, already qualified. I wish I had the figures to give the number of members of local societies who are not members of the State Society. They are by no means inconsiderable, and we want them all in the Society.

As to each member "having his say" on all matters—will not the formation of co-societies ensure this? Cannot each member speak his views there, and have the majority's decision wielded by their chosen delegate? At present it would certainly be impossible to have 300 or 400 men speak their individual views.

As to time saved, I have missed but one meeting of the Society since joining it in 1888, and I fail to recall a single meeting in which there was not such a rush on the last day as to necessitate the cutting off of discussions. A glance at the transactions of the last ten years will disclose the fact that a large percentage of the papers were "read by title." Now, the profitable part of professional meetings is always the discussions. There we get practical detail, work-

able ideas, and the personal equation. We can read "articles" in the journals. It is the query and reply—give and take, exchange of ideas—which brightens the meetings and lingers in the minds of the participants, and it is this we wish to encourage. It is the lack of this which is the greatest objection to our present plan.

Finally, the time-worn plea of "let well enough alone." Why? Had this policy been adhered to, where would our profession have been? For heaven's sake smother any such tendency as "letting well enough alone." When we can do better, let us do it by all means. We do not want untried policies, but when a proven plan, one proven workable, adaptable, successful and satisfactory in all but three States, why hold aloof, in order to let well enough alone?

To summarize, in answer to the question, what good can it do (this question has been advanced as an argument against reorganization, and can just as fairly be met with the question, what harm can it do?) I would suggest the following benefits:

1. Uniform and weighty action on national legislation.
2. Mature consideration of and deliberate action upon all important questions.
3. A prompt and strong incentive to local organization, with its concomitant benefits.
4. Proper local selection of future members.
5. Elimination of the possibility of local prejudice, in all matters pertaining to the business details.
6. Increased time for both papers and discussions.
7. The increased attendance which such action would promote.
8. The increase in membership, bringing practically *all* into the Society, instead of 59 per cent.
9. The benefit derived from the annually corrected register of every practitioner within the State.
10. The right to voice in the national meetings (now denied us, although numbers are members thereof).
11. The establishment of an interchange of fellowship in the State organization.

These are a few of the more important benefits. I fail to see objectionable features.

It has been claimed that we would be "subject to the American Medical Association." I cannot see wherein our autonomy would be

threatened. Were it threatened we could withdraw as a whole at any time and still retain the admirable plan of organization. It is the *plan* we endorse, and endorse it simply *as a plan*, and not because of any sentiment for or against the American Medical Association.

The claim that present members would have to join a local society or leave the State Society would be a valid and very strong objection, if true. But such a decision could never obtain the sanction of such a body as the Virginia Medical Society, and therefore should not enter the discussion. The law can only apply to future applicants, and as such is both proper and an admirable improvement on present selection of members.

I have endeavored to sincerely present my standpoint, and to do so plainly and unequivocally. In doing this I am absolutely free from any but the kindest feeling for those who differ with me. I feel sure that they want what is best for the profession as a whole, and our Society in particular, and I beg all who read this not to attribute to any expression I may have used aught of prejudice or intentional misrepresentation.

TYPHLITIS—CECITIS—APPENDICITIS.*

By ROBERT J. PRESTON, M. A., M. D., Marion, Va.,
Superintendent Southwestern State Hospital; Ex-President and
Honorary Fellow Medical Society of Virginia, etc.

"Typhlitis," "perityphlitis," "cecitis," or "inflammation of the cecum" are names used a quarter of a century ago to describe the now fashionable malady, *appendicitis*, which of late years has claimed so much attention and skill.

During February, 1881, I published in the *Va. Med. Monthly* a paper (read before the Southwest Virginia Medical Society,† January 14, 1881) on "Typhlitis," which I described as "a disease of rare occurrence or of rare recognition," often overlooked or confounded with other affections, and I gave a brief history of the literature obtainable, and reported eight or nine cases that had occurred in my practice.

*Read by title before Southwest Virginia Medical Society, July 12, 1904, during its session at Big Stone Gap, Va.

†Southwest Virginia Medical Society was also the name of the forerunner or predecessor (which existed for a few years, in the early eighties) of the present efficient organization having the same name.

The symptoms of typhlitis (Flint's *Practice*, 1868) were "circumscribed pain and tenderness over the region of the cecum, with vomiting, diarrhea, and febrile movements. The diarrhea is not uniformly present; circumscribed peritoneal inflammation may accompany it, and then pain and tenderness become severe." Dr. Flint added that it is most liable to be confounded with phlegmonous inflammation resulting from diseased vertebrae, renal calculus, circumscribed peritonitis from perforation, and, in the female, inflammation of the right ovary.

It may be of interest to summarize the histories of some of the cases I reported in 1881: Col. H., a distinguished ex-Confederate, an active business man, indoor life, and of a nervobilious temperament, was taken, October 3, 1875, with pain and tenderness in right iliac region, preceded by chilliness and fever; tongue furred, bowels constipated. For some time he had been unwell, with alternate diarrhea and constipation, and uneasiness in right iliac region. An oval flattened tumor about size of a goose egg—hard and very tender—was discovered by deep pressure in that region. Believing it to be eccitis from impacted feces, a cholagogue cathartic with a mild opiate to quiet pain were administered, and counter irritants applied. A few hours later, a copious high enema of oil and warm soap water was given, and much hardened feces and scybala were brought away. Symptoms, however, continued varying much in severity for two or more weeks, with considerable irritative or hectic fever and loss of flesh. But the tumor gradually lessened, and convalescence seemed pretty well established toward the end of the month.

Having to leave at that time, Dr. H. took charge of the case. He reported that "gradual improvement continued for several days, when a relapse took place, and all the above named symptoms became much aggravated. The symptoms so closely resembled those of typhoid fever as to cause that diagnosis to be made by our physician. Under the above or similar treatment, the patient again improved, but only to have a second relapse in December, which was soon complicated by an abscess which opened near the rectum, and discharged copious dark, offensive matter of decided fecal odor. Fever and emaciation increased rapidly until death, December, 1875. While no post-mortem was allowed, all the signs and symptoms pointed to

perforation of the cecum or vermiform appendix, resulting in a burrowing abscess, which finally opened near the rectum.

During summer of 1875 a distinguished doctor of this section was confined to bed because of a painful tumor about size of small orange in right iliac region—attended at times with acute paroxysms of pain. With the irritative fever, considerable loss of flesh resulted. Copious enemata after the use of cathartics at times brought away much hardened feces, and a hard, chalky, cholesterol-like matter, which evidently came from the impacted mass in cecum, as proven by lessened size of tumor and the more comfortable expression of our doctor patient. This tumor gradually disappeared, patient slowly recovered, and is with us to-day.

During 1879-1880 four other cases—two having second attacks—occurred in my practice, but all gradually recovered under treatment.

In 1881, I had a more serious and obstinate case—continuing over six weeks, confining the patient to bed except for a day or two. Tumor in cecal region was marked, very painful at times, and always tender on pressure. This case was complicated with orchitis and marked tenderness along the course of the spermatic cord—more marked and severe as the pain and tenderness in the tumor is more severe. Can this in any way be due to the pressure of the enlarged and inflamed cecum upon the spermatic cord and vessels? Convalescence set in and the tumor almost entirely disappeared. Nothing further has been heard of the case.

Treatment of all these cases was much like that of first case—cathartics, copious enemata, counter irritants, tonics and solvent remedies. All the cases were in men of bilious, constipated habit. Nitro-muriatic acid was used with apparent benefit in most cases, and hydrated succinate of iron peroxide in one or two. All the cases recovered, except the first.

Flint mentioned a case of typhlitis which resulted in perforation and fecal abscess and fistula, and finally healed.

Jackson, in his "Letters to a Young Physician," described several cases under the name of "Painful tumor near cecum." All recovered and tumor disappeared under the use of cathartics, leeches, opium and blisters.

Such was the general understanding of these cases in 1881. But in the light of medical science of the present day, each of the cases re-

ported was appendicitis, and in the practice of the past few years they would most likely have been subjects for operation.

While the per cent. of deaths in operations for appendicitis by our most conservative surgeons (McBurney and others) is exceedingly small, and while delay in many cases is known to be exceedingly dangerous, yet the prevailing opinion expressed in a discussion on appendicitis during the late June meeting of the American Medical Association at Atlantic City, N. J., was that "the knife is resorted to too quickly in many cases"; that "the tendency to-day is to treat the disease too much surgically and too little medically"; that "we have been living in an age of operations, and have lost sight, in a measure, of less violent methods," etc.

While I coincide to a considerable extent with these expressed opinions, and sympathize with my distinguished friend and legislator, Dr. R. S. Powell, of Brunswick, who says: "While sojourning in Richmond, I am afraid to complain of abdominal pain or bellyache lest some surgical friend should want to cut me open," yet I must confess that were I myself affected with appendicitis—especially of the recurrent or fulminating type—I should want to be in close touch and nearness to some skilful and experienced surgeon.

While it is only in the last few years that the vermiform appendix has attracted such considerable attention, and furnished a field for the remarkable skill and technics of modern surgery in these appendicular operations or extirpations, yet as a matter of medical history all the symptoms and signs of appendicitis were described by Albers, of Bonn, early in the eighteenth century, under the name of *typhlitis*.

Mestivier reported a case of traumatic appendicitis in 1759, due to a pin; and in 1827, Melier gave a most perfect description of the forms of appendicitis—including both the perforative and recurrent varieties. His descriptions of the appendicular pain and the perforations with consecutive complications were nearly as perfect as we know them to-day; and he predicted and foreshadowed the surgical intervention and treatment which has only been brought about within the last few years, and mostly by American surgeons.

This has been a fascinating field for skilful surgery, and the study of appendicular affections has been more exhaustive in the last few

years, and the pathological anatomy and changes more thoroughly known than ever before. Many brilliant and skilful operations for appendicitis have been performed, and many lives have been saved. Doubtless too many operations have been done that were uncalled for. The swinging of the pendulum is now tending backward, and more conservatism is apparent at present. But to an experienced diagnostician and a skilful operator, cases may still be confidently committed. There has been a decided and marked advance in the medical and surgical treatment of these affections in the last few years.

A PLEA FOR THE NEW CONSTITUTION.

By CHARLES R. GRANDY, M. D., Norfolk, Va.

As Dr. Edwards has asked me to answer some of the objections he has raised against the proposed change in the Constitution of the Medical Society of Virginia, I will try to do so in a general way. But as he has repeated his old arguments, I am afraid I also will be forced to repeat some of mine.

To begin with, I will acknowledge that our Society has a large membership, and am glad of the opportunity to add that this large membership is due almost entirely to the unflagging personal zeal of Dr. Edwards. I will also cheerfully acknowledge that I have heard some very excellent papers read before the Society, and have no doubt that many others would be read if the Society decides to remain as it is, as will likewise be the case if we change our Constitution. The only point of difference between Dr. Edwards and me is, that we look upon the Society from different standpoints. He, who we may say has reared the Society, looks upon it with the eyes of a fond parent, who can see no chance for improvement in his offspring. I, looking from a distance, while recognizing its good points, still see great room for improvement. This is why we do not stand shoulder to shoulder, as we both are working for the good of the Society according to our lights.

Ever since I have been a member of our State Society I have been struck with the inadequate provision made for the business of the profession, and my dissatisfaction has grown from seeing important business brought into the scieu-

tific sessions for want of a proper place. On thinking this matter over, I naturally sought a remedy, and my first idea was to have an extra session entirely given up to business. Then it was that I saw the plan, which has since been adopted by all the great States except Virginia, Georgia and Pennsylvania. This plan provides for a House of Delegates to attend to the business, and leaves the general sessions free to discuss scientific problems. I immediately saw how much superior it was to my original idea, as it gives an equal representation in business matters to all members of the Society, those at home as well as those present at the meeting, while in providing for closely allied county societies it would give us a permanent organization instead of one which only makes itself felt three or four days in the year. The new plan will not injure the scientific side of our Society, but will rather improve it, as it will entirely eliminate the business matters, which have so interfered with our recent programs. With the single idea of making our Society more useful to its members, I introduced this plan at the Newport News meeting. It was not suggested to me by any one outside of the State, for I was, and still am, an unknown man beyond my own immediate circle of friends, and I furthermore did not consult with any one outside of the Medical Society of Virginia. Consequently there is no reason for thinking the new Constitution is being forced on us from without, though it is the same that has been adopted and proven very satisfactory in other States.

Last year the plea of the opponents of the new Constitution was that the matter had not been thoroughly enough advertised, but this certainly cannot be said now. At present their arguments seem to be that the change will be of no advantage to us, and furthermore that it is impracticable in Virginia.

As the scientific sessions certainly cannot be hurt by the new plan, our business methods are the only points involved under the first charge. Instead of having a representative business body, Dr. Edwards suggests that all our business be left to committees. But it has been found that our committees are usually chosen from a small body of men, whose names repeatedly appear on the different committees, along with a very small admixture of outsiders. Instead of a representative democracy we thus have an oligarchy, for the committees are not elected as

representatives of the whole membership of the Society, but are appointed, and usually appointed with scant regard for the part of the State from which the members come. If the business of the Society is to be done outside of the general sessions (and this suggestion of Dr. Edwards seems to point that he agrees that it must so be done), I, for one, want the privilege of voting for my representative, as is allowed by the new Constitution, instead of having him appointed for me by the officers of the Society. I maintain that our present system of committees does not satisfactorily attend to the business of the profession, and that the plan of a House of Delegates should remedy both of these faults.

It has been claimed that the new plan will not give the country doctors fair representation, but I cannot find the facts upon which this assertion must be based. According to the new Constitution each society will have one delegate. If a society has 38 men it will be entitled to two delegates; if 63, to three delegates, and so on. There are a hundred counties in the State, but in only eight are there cities of more than 10,000 population. I will give the most liberal estimate of delegates from these last counties.

Henrico (with Richmond)	6 to 8 delegates.
Norfolk (with Norfolk and Portsmouth)	3 to 5 delegates.
Dinwiddie (with Petersburg).	2 delegates.
Roanoke (with Roanoke)	2 delegates.
Warwick (with Newport News)	2 delegates.
Campbell (with Lynchburg)..	2 delegates.
Pittsylvania (with Danville).	3 delegates.
Alexandria (with Alexandria)	1 delegate.

Total from cities	25 delegates.
Against a possible 92 coun- ties with one or more dele- gates from each	92 delegates.

If only forty county societies be organized, and I do not want to see the House of Delegates plan put into operation with fewer than forty county societies, it would give the county a minimum of 32 delegates to a maximum of 25 from the cities. We would more likely have 34 county to 21 city delegates, and this with only forty counties organized, whereas if we follow North Carolina's good example, we will next year have at least 75 county societies, which would

give some seventy delegates from the country against less than twenty-five from the cities. Thus it seems that the opponents of the new plan have taken the wrong side of the question; they had much better turn around and appeal to the cities for help, as the country under the new plan will have the same power in our medical society as it now has in the Legislature, which is proper and just, as the people outside of the cities are in the majority.

The question as to the practicability of the new plan is best answered by showing that it has been successfully put into operation by our neighbor, North Carolina, which most closely resembles Virginia in population and general formation of the country. The Secretary of the North Carolina Society has written me that reorganization there has been an eminent success; that two years ago they had only eight county societies and 300 members, who had paid their dues; that now they have 1085 members and nine-tenths (9-10) of the counties organized. With this example before us, we in Virginia should have no misgivings as to the feasibility of reorganization.

There are two other points which need explanation. No man will lose membership in the Medical Society of Virginia by failing to join his county society, though such a failure will keep him from voting for delegates, just as a failure to register will make him lose his vote for Congressman. In either case it would be his own fault, for which he need blame no one but himself. New members will, however, first have to join their county societies, if there be any, and this will entitle them to membership in the State organization. It is planned to have the Council and House of Delegates meet at hours which will not conflict with the scientific sessions. Thus the Council will meet Tuesday morning, the delegates Tuesday afternoon, and the whole Society first on Tuesday night, as at present. So most of the business will be transacted before the rest of the Society meets, though in all probability we will not be able to do this the first year after reorganization, on account of having a new body with a much larger amount of work than it will have in future years.

It seems that most of the opponents of the new Constitution are such through not understanding it fully. Every member now has copies of the new Constitution. I only ask that

you read them carefully, or if you have the time study them, and bring your copies with you to the meeting, so we can all understand just what is up for discussion. The plan, which, as you all know, was not mine originally, is such a fine one that you cannot help seeing its good points if you read it thoughtfully and without bias. If every one will only do this, I have not the faintest doubt of its passage by an almost unanimous vote.

ANNUAL LICENSE TAXES ON DOCTORS.

By LANDON B. EDWARDS, M. D., Richmond, Va.

Annual License Taxes on Doctors.

For many years Virginia doctors have been quietly submitting to annual license taxes—State, county and city—as if it were patriotism or right so to do. But when we look at the facts surrounding the practice of medicine—so unlike the business of other citizens—it at once becomes apparent that it is *a shame that doctors should be taxed at all* because of the practice of their profession. Of course, we are not referring to any exemption of doctors from such things as poll tax, property taxes, or taxes on stocks, bonds, securities, etc.; but simply and strenuously advocating removal of the outrageous and unjust professional license taxes on practitioners of medicine, surgery, etc.

The medical profession cannot well be compared with any other. The nature of the demands made upon the doctor and his line of duty is different from that of other callings. The preacher, the teacher, the editor of a newspaper or a scientific periodical, professional authors of books or articles, the orator, etc., are all very justly relieved of special license taxes on account of their occupation. The nature of their work exempts them.

Let us deal with this matter according to facts. There is no United States law that imposes a special license tax on any of the professions and on but few occupations. But here in Virginia the Legislature has imposed a specific license tax on doctors—ranging from \$10 to \$25 a year, plus the Commissioner of Revenue fee, 75 cents. Each county also imposes a tax on doctors, varying from \$10 to \$15 a year. And each city that is large enough to be inde-

pendent of the county imposes its tax. Thus here in Richmond, the State law requires an annual State license tax on doctors of \$10 who have practiced in this State for five years or less; if over five years, \$25, increasing his taxes just at a time when the ripened experience has made him a better doctor, and one in more general demand. In addition, the city of Richmond comes along and imposes a tax of from \$10 to \$75 a year—according to supposed collections for the year to come. Thus, the average practitioner in Richmond of more than five years' experience has to pay, State and city, from \$45 to \$60 a year. In short, the average practitioner in Richmond—beside all the other taxes common to all the other citizens—has to pay a special license tax of about two and a half to three per cent. of his professional income. Such a thing is outrageous. The same principles apply to doctors in other cities or counties, although there are differences in the amounts of specific license taxes.

Let us see what the doctor does that calls for this special punishment or fine or tax on his relatively meagre income.

In the first place, the profession is sufficiently jealous of its own reputation to see that none but the worthy and competent enter its ranks, by the establishment, under law, of the State Board of Medical Examiners, and no body of men since the establishment of that Board in 1884 could have served the State more efficiently. By the examinations of this Board, doctors are sent out to the people upon whom they can rely—doctors who are educated by full four years of pupilage and observation of the practice of teachers and by hospital and personal experiences. Thus the State is rid of quacks and ignoramuses, and all of the expenses connected with the conduct of this State Board come out of the medical profession—not one dime being contributed by the State, city or county. *Yet who but the public gets the benefit?*

When the doctor receives his certificate of satisfactory examination, and starts to hang out his sign board, who else compose the bulk of his patrons except the poor of the community—for whom neither State nor city nor county make provision? And as he grows older in practice he still finds that the poor are yet always with him—people who have no more claim upon his charities than upon the interest bearing bonds

of the broker or banker, or the groceries or dry goods of the merchant, or the houses for rent in the hands of land owner or the real estate agent. If the doctor received his usual professional fee from all people, then it would be different. He, too, could then afford to pay special taxes, to be munificent in his gifts, and enjoy the comforts of opulence. But look around, and see how few—how rare it is for a doctor to amass more than a competency from the practice of his profession!

While some recipients of his favors may be grateful, and a certain class of the well to do may say of the doctor, "Noble man," or use some other such expression of him, their pocket-books cannot be reached to contribute to the *doctor's* needs. Even many of these well to do people, when the doctor's bills come to them for medical services rendered themselves or their families, exclaim "too much," and want the well-known and established tariff of fees cut to insignificant sums. And thus it goes—the poor doctor becomes the victim of censure, and allows himself to be continuously imposed upon by State, city, county and individuals.

The study and effort of doctors are to prevent sickness. They are constantly teaching the public how to keep well. Matters of hygiene are being always impressed upon the people by doctors—and the State, city or county get the benefit of such instruction at the expense of the license taxed doctor.

What in return is given by the State, city or county? Whenever a position occurs that requires a doctor, the State or corporation, as a rule, makes his salary as small as possible—so small, indeed, that only a very few instances can the reputable doctor in general practice afford to take it. Town and county hospitals in connection with almshouses are, generally speaking, shabby affairs and miserably equipped for up-to-date practice or surgery. State, city and county contributions to dispensaries are notoriously inadequate, and no compensative provision is made for the services of the poor doctor.

We have not referred to the ordinary hardships of the doctor's life—all for humanity's sake—when he is called to charity patients miles away, and has to travel over muddy roads, etc., or when called up at night to minister to the sufferings of the poor man, or the woman in labor. To many such, beside his professional

time and services, he is often compelled, by the very distresses before his eyes to contribute medicines, and even the necessities of life out of his hard earned and oftentimes as difficulty collected income—even such things as clothing, fuel, food, etc.

When one stops to consider these things and much more that want of space does not allow us to refer to, it stands as a blot upon the statutes of Virginia that an annual license tax of any amount should be charged against the practitioner of medicine—State, city or county. No other class of citizens is called upon for such contributions of time and educated professional services, and yet is annually license taxed for it. In a different field of usefulness the medical profession is as essential to the welfare and daily wants of the State as the judges of courts, or State, city or county officials who are not taxed.

The idea of imposing an annual specific, onerous license tax on doctors in Virginia appears so unjust that we are forced to direct special attention to the matter. It does not seem that the profession has become sufficiently aroused by the wrong done—to which it has so long submitted without loud and earnest protest. The subject needs no argument beyond the plain statement of facts.

A committee of the Medical Society of Virginia—of which Dr. J. B. DeShazo, Ridgeway, is chairman—is actively at work to secure repeal of this iniquitous license tax on doctors. With the united help of the Society, the General Assembly can be strongly enough impressed with the wrong done to repeal the obnoxious law. Although it is over a year before the next session of the Legislature, the intervening time can be well used to instruct the legislators—lose no opportunity to keep the matter before their minds.

We have put ourselves to some trouble to get a statement of the laws of different States of the Union on this subject, which we herewith summarize according to replies received:

Alabama.—No response to inquiries.

Alaska.—No response to inquiries.

Arizona.—Examination by State Board Medical Examiners, \$10. If applicant receives certificate, he pays \$2 for registration. "No further payment is required of the physician, either as an annual license tax or other fee."—Drs. Ancil Martin, Phoenix, and Charles H. Jones, Tempe.

Arkansas.—Ten dollars for examination by State Board Medical Examiners. If certificate is award-

ed, the doctor pays "a small fee for recording same with county clerk." No other license tax required.—Dr. Vernon MacCammon, Arkansas City.

California.—Twenty dollars for examination by State Board Medical Examiners. If certificate is awarded, the doctor pays \$2 to county clerk for registration of certificate or license. "No annual license tax of any kind is imposed upon the medical practitioner."—Dr. Philip King Brown, San Francisco.

Colorado.—Ten dollars for examination by State Board. If certificate is awarded, an additional fee of \$1 is paid clerk of county in which doctor locates for recording same. "No other fee or annual license tax is required of the doctor by either State or county."—Drs. S. D. Van Meter, Denver, and Will H. Swan, Colorado Springs.

Connecticut.—Ten dollars for examination by State Board. If certificate is awarded, \$2. License is paid State Board of Health for registration. "Beyond this, there is no license tax whatever on doctors in this State."—Drs. T. D. Crothers, Hartford, and J. Murray Johnson, Bridgeport.

Delaware.—Ten dollars for examination by State Board Examiners. If certificate is awarded, annual license fee of ten dollars is paid clerk of place of residence for practicing medicine in the State.—Dr. J. A. Ellegood, Wilmington.

District of Columbia.—Ten dollars for examination by Board of Medical Supervisors. If certificate is awarded, fifty cents is paid clerk of Supreme Court of District of Columbia for recording same. Beyond this, a doctor "is not required to pay any tax except such as is common to all persons—whether physician or not."—Drs. Wm. P. Carr and Wm. C. Woodward, Washington.

Florida.—Ten dollars for examination by State Board Medical Examiners. Annual license taxes, \$10 to State, and \$5 to city or county. "Our committee will see (at next Legislature) if we cannot do away with these State and city license taxes."—Dr. F. D. Fernandez, Jacksonville.

Georgia.—Ten dollars for examination by State Board Medical Examiners. If certificate is awarded, a registration fee of 50 cents is paid clerk of Superior Court or county in which party proposes to practice. A State license tax of \$10 is annually charged, but no city nor county license tax.—Dr. W. W. Owens, Savannah.

Idaho.—Twenty-five dollars for examination by State Board Medical Examiners. If certificate is awarded, no other license tax or fee is required—State, city or county.—Drs. F. L. Hinkley, Lewiston, and L. C. Bowers, Boise.

Illinois.—Ten dollars for examination by State Board Medical Examiners. If certificate is awarded, an additional fee of \$5 for certificate or license to practice anywhere in State. A registration fee of 25 cents is also paid clerk of court of county in which doctor locates. No other license tax or fee is required of the doctor—State, city or county.—Drs. Frank Billings, Chicago, and James A. Egar, Springfield.

Indiana.—No response to inquiries.

Indian Territory.—Territory is divided into four judicial districts—each presided over by a U. S. judge, who appoints Medical Examining Board for his district. Medical graduates simply file their diplomas and pay \$1 for registration of same. Undergraduates pay \$10 to district board for examination. If certificate is awarded, "an occupation tax" of \$5 is levied, but "in most towns the principle is so obnoxious there is no such tax." Country practi-

- tioners pay no license tax of any kind.—Drs. R. H. Alvis, Ardmore, and LeRoy Long, South McAlister.
- Iowa.*—Ten dollars for examination by State Medical Examining Board. If certificate is awarded, a registration fee of \$1 is paid county clerk. If applicant is admitted "on reciprocity plan" with another State Board, he pays \$50. "Itinerants" have to pay annually \$250 to State Treasurer. But beyond Board of Examiners' fees, as above, regular doctors do not have to pay any other license tax or fee.—Drs. C. W. Fowler, Des Moines, and J. W. Dixon, Burlington.
- Kansas.*—No response to inquiries.
- Kentucky.*—Ten dollars for examination by State Board Medical Examiners. If certificate is awarded, fifty cents registration fee to clerk of county in which doctor resides. In Louisville, annual tax of \$10. Late Legislature "permits cities of first class to specifically tax doctors and professional men—basing taxation on professional income—being, as it were, a tax for privilege of practicing within city." "This will be vigorously fought by the legal profession before the City Council of Louisville."—Drs. Curran Pope, Louisville, and W. S. Forwood, Henderson.
- Louisiana.*—Ten dollars for examination by State Medical Examining Board. If certificate is awarded, annual State and city or parish license taxes are on basis of annual collections—the lowest being on gross annual receipts of less than \$750—license tax both State and city or parish, \$5, and intermediate sums up to \$50 on \$5,000 receipts.—Dr. Edmond Souchon. But "everybody seems to consider the demand so unjust that the law is not enforced except in a few instances."—Dr. J. R. Fridge, Baton Rouge.
- Maine.*—Ten dollars for examination by State Medical Examining Board. If certificate is awarded, \$2 additional for registration of same. If applicant is admitted on reciprocity plan with other States, \$35 fee is required. No other license taxes—State, county or city.—Drs. Fred. L. Dixon, Lewiston, and C. R. Burr, Portland.
- Maryland.*—Fifteen dollars for examination by State Medical Examining Board. If certificate is granted, Circuit Court clerk gets a fee of 50 cents for registering same. No specific license tax on doctors—State, city or county.—Dr. Guy L. Hunner, Baltimore.
- Massachusetts.*—Twenty dollars for examination by State Medical Examining Board. If certificate is awarded, no other fee or license tax is required—State, city or county.—Dr. E. B. Harvey, Boston.
- Michigan.*—Fee for registration of those who applied before March, 1900, \$1; for registration of graduates of Michigan colleges, \$10; for registration of graduates of all other colleges, \$25; for registration of certificates, etc., under reciprocity plan with other States, \$35. No annual license taxes on doctors—State, city or county.—Dr. B. D. Harrison, Sault Ste. Marie.
- Minnesota.*—Ten dollars for examination by State Board Medical Examiners. If certificate is awarded, nominal fee to clerk of court where doctor locates. "No license taxes whatever" on doctors.—Drs. S. H. Boyer, Duluth, and R. O. Beard, Minneapolis.
- Missouri.*—Fifteen dollars for examination by State Board Medical Examiners. If certificate is awarded, registration fee of \$1 to recorder of county in which doctor locates. No other license on doctors—State, city or county.—Dr. N. P. Wood, Independence.
- Montana.*—Fifteen dollars for examination by State Board Medical Examiners. No State license tax. But the county license taxes the doctor \$5 each quarter or \$20 annually, and the city also requires \$2.50 license tax quarterly or \$10 annually.—Dr. Donald Campbell, Butte.
- Nebraska.*—Ten dollars for examination by State Board of Health. If certificate is granted, registration fee to county clerk same "as allowed Registrar of Deeds." If applicant is admitted on reciprocity plan with other States, \$25 fee. "For taking testimony, each of (four) secretaries is entitled to such fees as are provided for notaries public." No State, city or county license tax.—Drs. F. P. Dorsey, Hartington, and Geo. H. Brash, Beatrice.
- New Hampshire.*—Ten dollars for examination by State Medical Examining Board. No license taxes on doctors—State, city or county.—Dr. Emdon Fritz, Manchester.
- New Jersey.*—Twenty-five dollars for examination by State Medical Examining Board. If certificate is awarded, a registration fee of \$1 is paid clerk of county in which doctor locates. If applicant is admitted on reciprocity plan with other States, fee is \$50. No annual license taxes on doctors—State, city or county.—Dr. Altamount L. Gordon, Burlington.
- New Mexico.*—Twenty-five dollars for examination by State Medical Examining Board. If certificate is awarded, no license tax on doctors—State, city or county.—Drs. C. W. Gerber, Las Cruces, and Wm. P. Mills, Las Vegas.
- New York.*—Twenty-five dollars for examination by State Medical Examining Board. If certificate is awarded, no license tax—State, city or county.—Dr. George Tucker Harrison, New York.
- Nevada.*—Twenty-five dollars for registration of diploma, etc., with State Medical Examining Board. If satisfactory, no license tax—State, city or county.—Drs. Chas. T. Abbott, Reno, and P. J. Mangan, Winnemucca.
- North Carolina.*—Ten dollars for examination by State Medical Examining Board. If certificate is awarded, a uniform annual license State tax of \$5 is charged. But no additional county or municipal tax is allowed.—Drs. K. P. Battle, Raleigh, and E. F. Strickland, Bethania.
- North Dakota.*—No response to inquiries.
- Ohio.*—Twenty-five dollars for examination by State Board Medical Examiners and Registration. If certificate is granted, no license taxes whatever—State, city or county.—Drs. A. B. Walker, Canton, and Frank Winders, Columbus.
- Oklahoma.*—Five dollars for examination by Territorial Board Medical Examiners. If certificate is awarded, no license tax on doctors—State, city or county.—Drs. E. C. Barker, Guthrie, and M. H. Levi, Elk City.
- Oregon.*—No response to inquiries.
- Pennsylvania.*—Twenty-five dollars for examination by State Medical Examining Board. If certificate is awarded, no license tax—State, city or county.—Drs. J. H. Musser, Philadelphia, and Thos. S. Blair, Harrisburg.
- Rhode Island.*—Ten dollars for examination by State Board Medical Examiners. If certificate is awarded, \$2 additional. Registration fee with city or county clerk, 50 cents. No license tax—State, city or county.—Drs. A. I. Anderson, Newport, and Gardner T. Swarts, Providence.

South Carolina.—Ten dollars for examination by State Board Medical Examiners. If certificate is granted, fee of county clerk is 25 cents for registering same. No State or county license tax, but annual city license taxes are required in different municipalities—varying from \$10 to \$75 on amounts collected.—Dr. W. Wilkinson Jерvey, Greenville.

South Dakota.—Twenty dollars for examination by State Medical Examining Board. If certificate is granted, no license tax—State, city or county.—Dr. Frank P. Smith, Canton.

Tennessee.—State Board Medical Examiners passes on satisfactory examination of diploma of applicant. Registration fee of \$2 in county in which doctor locates. No specific license taxes—State, county or city.—Dr. J. H. Kincaid, Knoxville.

Texas.—Fifteen dollars for examination by State Board Medical Examiners. If certificate is granted, no license taxes—State, city or county.—Dr. Thos. D. Wooten, Austin.

Utah.—Fifteen dollars for examination by State Board Medical Examiners. If certificate is awarded, no license tax—State, city or county.—Drs. A. S. Condon, Ogden, and Wm. F. Beer, Salt Lake City.

Vermont.—Applicant for license pays his respective District Board of Examiners \$5. If certificate is granted, no license tax required—State, city or county.—Dr. S. V. Hammond, Rutland.

Virginia.—Ten dollars for examination by State Board Medical Examiners. If certificate is awarded, doctor pays annual State license tax of \$10 for first five years; then it is raised to \$25 in cities and \$15 in counties; annual city licenses varying from \$10 to \$75, according to collections. Annual county license, \$10.

Washington.—Ten dollars for examination by State Board Medical Examiners. If certificate is granted, registration fee of \$1 to clerk of county in which doctor locates. No license tax—State, city or county.—Drs. Wilbur N. Hunt, Bellingham, and Chas. B. Ford, Seattle.

West Virginia.—Beyond fee for examination by State Board Medical Examiners, if certificate is awarded, no license tax—State, city or county—is required.—Dr. Chas. M. Scott, Bluefield.

Wisconsin.—Twenty dollars for examination by State Board Medical Examiners. If certificate is awarded, no license tax on doctors—State, city or county.—Dr. L. F. Bennett, Beloit.

Wyoming.—Verification of diploma from a recognized four years' graded course college before State Board Medical Examiners entitles applicant to license without charge. If graduate of any other college, or a non-graduate, he has to pay State Board of Examiners \$25 for examination. If certificate is awarded, no license tax on doctors—State, city or county.—Drs. W. A. Burgess, Cheyenne, and H. S. Finney, Rawlins.

Summary.—Forty-nine States and Territories written to. No reply from six—Alabama, Alaska, Indiana, Kansas, North Dakota and Oregon. Replies from 43.

All States, etc., require examination of graduates of recognized colleges and non-graduates except Indian Territory, Nevada and Wyoming. Michigan exempts graduates of colleges of that State, but requires examination of graduates of all other colleges.

All State Medical Examining Boards require

fee for examination—varying in different States from \$5 to \$30. In States acting under reciprocity plan with other States, applicant has to pay much larger fees than those required for ordinary examinations.

After attention to the above, the doctor has to pay *no license tax*—State, city or county—in 34, as follows: Arizona, Arkansas, California, Colorado, Connecticut, District of Columbia, Idaho, Illinois, Iowa, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Hampshire, New Jersey, New Mexico, New York, Nevada, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Dakota, Tennessee, Texas, Utah, Vermont, Washington, West Virginia, Wisconsin, Wyoming.

State license taxes only are required in three—Delaware, Georgia and North Carolina.

City license taxes only (but no State or county) are required in two—Indian Territory and Kentucky.

Both State and city license taxes (but no county tax) are required in one—Florida.

State, city or county licenses are required in three—Louisiana, Montana and Virginia.

Enterocolitis and Cholera Infantum.—

Cleanse the intestinal tract with calomel and a saline or castor oil. Prescribe easily digested and non-irritating diet. Irrigate the rectum and colon at intervals with normal salt solution or a mild antiseptic, using a soft rubber catheter or colon tube. To relieve muscular rigidity and excruciating pain use Antiphlogistine as hot as can be borne to the entire abdominal walls, and cover with absorbent cotton and a compress. If the patient is not too far gone the effect will be astonishing. The little sufferer, who has been tossing in agony, with drawn features, will in most cases quickly become quiet; the drawn look will leave the face and restful slumber will often supervene and start him upon the road to recovery. The explanation in part is that the heat and moisture, combined with Antiphlogistine's well-known hygroscopic properties, directly soothe inflamed parts, reflexly contract visceral blood vessels and relieve their engorgement. Tension of muscular and nervous systems is further relieved by the action of Antiphlogistine through the solar plexus—thus emphasizing its local effects upon the inflamed intestines.

INDICATIONS FOR BLADDER DRAINAGE BY BY THE PERINEAL ROUTE.*

By OLIVER C. SMITH, M. D., Hartford, Conn.

It has occurred to me that in the discussions on prostatic surgery to which I have listened sufficient importance has not been given the operation of *external urethrotomy* and drainage of the urinary bladder by the perineal route. I am satisfied that the operation is worthy of a wider field than it now occupies.

The operation of external urethrotomy has been performed at Hartford for several years, and is not a novel procedure to any of the active surgeons. During the past five years we have resorted to it more and more frequently—not only for the cure of deep and dense urethral strictures, but for the immediate relief, and in many instances the radical cure of the following conditions: (1) Chronic contraction of the vesical neck; (2) chronic purulent cystitis, not amenable to irrigation through the urethra; (3) dense and impassable strictures located in the region of the bulb, especially those due to traumatic origin; (4) in cases of ruptured urethra, whether by external violence or injury from instrumentation; (5) enlarged prostate, whether due to chronic hypertrophy, abscess, cancer or acute infection.

In many of these cases the patients were of advanced age, the urethra had been riddled and punctured in several places, extravasation of urine had infiltrated the peri-urethral and perirectal tissues, and in some cases the inguinal canals and the suprapubic region. This urinary infiltration had gone on in some instances to extensive suppuration, burrowing of pus, to sloughing of the perineum and scrotum, and sometimes of one or both testicles.

It has been a matter of surprise and gratification to us that so many of these cases—decrepid, aged and sometimes dissipated as they were—have rallied and improved after thorough perineal drainage of the bladder; and especially is this true in cases of enlarged prostates which have existed for a long time, where the bladders have become purulent and have been neglected, where there exists general sepsis from the bladder, urethral and renal pelvic suppuration, which come to us for relief.

It is in this class of cases where an operation

requiring a general anesthetic or accompanied by much hemorrhage or shock is quite likely to prove fatal, that rapid perineal bladder drainage under cocaine anesthesia, either by spinal injection or by local infiltration, will immediately relieve the alarming symptoms, will provide as thorough drainage as a complete prostatectomy, and will tide the patient over the danger period, and at least place him in a condition later for a radical operation, and sometimes leave the urethra so thoroughly patulous that further operative procedures are unneeded for.

In this connection, I will refer to two elderly patients suffering from complete prostatic obstruction, upon whom it was considered unsafe to attempt prostatectomy, and whose bladders were drained by perineal section. It was found after the removal of the drainage tube that a No. 20 American sound, and even a soft rubber catheter of similar size could be easily introduced, and this satisfactory condition continues to the present time. Upon one, the operation was performed a year ago, and upon the other, who is the father of a distinguished member of this Society, the operation was performed last February. In the mean time, both patients have gained flesh and strength, and their bladders are entirely amenable to self-catheterization and care.

I should probably not have had the temerity to present this subject to you, but for the reason that in discussing the matter with some of the most prominent urologists in this country, I have found that many were not of this opinion, and that some form of attack upon the prostate in such a condition was considered the proper procedure—many advising the Bottini operation; some the modification proposed by Dr. Charles Chetwood, of New York; others a suprapubic cystotomy with upper drainage; and still others a combined suprapubic and perineal incision with double drainage. Certainly none of these procedures is so quick, so simple, so safe and devoid of shock and hemorrhage as the operation which I propose. In upwards of fifty perineal sections for bladder drainage which my associate, Dr. Geo. N. Bell, and I have performed during the past five years, seventeen of which have been accompanied by perineal prostatectomy, there have occurred but four deaths; and many of these patients were the most uninviting that one can imagine for any surgical operation.

* Read during session of American Urological Society, at Atlantic City, N. J., June, 1904.

On quite a number of these cases the operation has been performed without a guide. In these cases we have not resorted to Cock's operation, but have dissected down to the urethra carefully, through a median perineal incision, and made patient efforts to gain entrance to the bladder through the urethra. In two or three instances we have been obliged to carry the groove director through the tissues into the bladder, with the left index finger in the rectum as a guide and protection, without being certain that we were following the urethra. We have never been obliged to resort to retrograde catheterization. Where this has been done no harm has resulted, and we have not found it the extremely difficult operation that the text-books would lead one to anticipate.

When we expect to have difficulty in entering the bladder, the patient is kept in the dorsal position, the urethra cocaineized, and patient efforts are made with filiforms and conical bougies before a general anesthetic is given. As this work frequently consumes more time than the operation proper, it very much reduces the length of general anesthesia.

When we have gained access to the bladder through the perineal route, in addition to the immediate drainage, which is at once secured, we can examine the intra-vesical neck and the walls of the bladder some distance beyond with the index finger. It also gives us an opportunity in the immediate future for the use of the cystoscope, which hitherto it may not have been possible to introduce.

If the neck of the bladder is found so contracted that the index finger cannot enter, dilatation or divulsion must be practiced instrumentally. The common custom of introducing an ordinary two-bladed forcep for the purpose of stretching the neck is rather crude. It is better to use a Kollmann's four-bladed curved, deep urethral dilator protected by a thin rubber cover. By using this instrument the extent of dilatation is indicated at the distal end, and the bladder neck is stretched more evenly and with less danger of laceration.

Chronic irritation produced by diseased urine or ulceration from other causes, cicatricial contraction, hypertrophy of the tissues—any or all of these conditions may give rise to intractable symptoms, which will remain unrelieved despite any treatment, until the vesical neck is divulsed and the bladder thoroughly drained.

For the past year we have drained these cases with the double tube, as suggested by Dr. Young, of Baltimore; one large and one small tube; the larger having a diameter of one cm., and the smaller a soft catheter size fifteen to twenty French scale. These tubes are sewed together at three or four points, and carried into the bladder, and held by a silk suture passing through the larger tube and tied by a bow knot into the silk worm gut suture across the upper angle of the wound. We find this better than sewing the tube into the skin or strapping to the thighs. It cannot slip in or out, while the knot can be untied and the tube removed instantly when desired.

The double tube provides a means of perfect irrigation. If there is considerable oozing and clots constantly forming, a continuous slow irrigation with saline solution (from 105° to 120° F.) for several hours is most desirable. If there is marked purulent cystitis a continuous irrigation for several hours, with extremely weak nitrate of silver solution (one to fifty thousand) is advantageous.

It is unusual for us to have any serious complications follow this operation. Hæmorrhage may occur, but in the series of cases above referred to the author has had only one pronounced hæmorrhage in a well marked case of arterio-sclerosis. Infection may follow, but the tissues of the perineum afford a vigorous resistance to its invasion. There has been but one serious infection occurring in our cases.* Vesical spasm may occur, but with thorough stretching of the vesical neck, and the continuous or frequent irrigation, this will be a rare occurrence. It is true that this will at times be occasioned by the mere presence of the tube. In such instances, the use of opium and belladonna suppositories, or the replacing of the tube with the single and smaller one, may overcome this painful complication. A severe chill followed by high temperature, rarely ever occurs, and this is a marked advantage over any procedure which does not afford immediate drainage, as an internal urethrotomy or a Bottini prosta-tectomy.

We usually follow an operation by a warm saline rectal enema, which is made stimulating if the patient's condition demands it. If there is much vomiting so that water cannot be taken by the stomach, saline enemata are continued at intervals of four to six hours. It is needless

to say that water is given freely throughout the after treatment, and that urotropin or some equivalent is given during the continuance of the purulent urine. We do not find that any ill effects follow its long continued and moderate use. The condition of the urine, and the patient's general condition determines the time for the removal of the drainage tube.

In our early work we were inclined to allow the drainage tube to remain longer than we do now.

With many of these feeble, elderly patients the long continued recumbent position invites hypostatic pulmonary congestion, and it is to be avoided. It is quite possible, however, to get these patients up even before the removal of the tube where it is found necessary to keep this in longer than the usual time.

With painstaking, cleanly and aseptic care of these patients, with frequent irrigation, daily examination of the urine, and with careful attention to their secretions and their diet, we shall be rewarded by having them do as well as the majority of younger patients with less serious maladies.

I believe that it is fair to say that no branch of our surgical work during the past five years has been more satisfactory and more encouraging, and it is certainly a humane and a life-saving operation.

44 High Street.

Vitality of Germs of Diphtheria for a Long Time.

A health officer in Mecosta county reports to the Secretary of the Michigan State Board of Health that twenty years ago Mrs. T. lost a daughter by death from diphtheria, and then some of the girl's clothing was put away in a chest and nailed up. The chest was not disturbed until this spring, when the mother, seventy-five years of age, opened it and looked over the clothing, soon after which she was taken sick with diphtheria and died, June 17, 1904. The health officer believes she contracted the disease from the clothing, infected twenty years ago.

RETAINED AND ADHERENT PLACENTA— TECHNIC OF MANAGEMENT.

By GEO. P. EDWARDS, M. D., SILVA, N. C.

Normally, after the completion of the second stage of labor, the uterus contracts down firmly, and at intervals of a few minutes expulsive labor pains occur. These contractions of the uterus, after the birth of the child so lessen the size of the uterus and of the placental site that the placenta is gradually detached and expelled. This process usually requires from five minutes to half an hour, or even longer. Sometimes one or two contractions separate it completely, and, folded on itself in fusiform shape, it emerges from the vulvar orifice. At other times the central portion is loosened first, blood clots form between the placenta and the uterine wall, and as the uterus contracts the placenta is gradually separated and expelled with its amniotic surface external.

But not infrequently we have marked variations from this normal process, and considerable trouble is sometimes experienced in securing the complete removal of the placenta and membranes. In cases of uterine inertia which now-a-days is so common, the completion of the second stage of labor often leaves the uterus so exhausted that it is unable to expel the placenta. If the inertia is only relative an hour or two of complete rest and quiet will often so recuperate the uterus that the placenta will be expelled in a normal manner.

To secure this rest the patient should be made as comfortable as possible. Noisy talking, laughing and scurrying about should be forbidden and conditions favorable to sleep insisted upon. During this period of rest the cautious physician will keep his hand resting lightly over the fundus of the uterus because of the tendency to hemorrhage in these cases. This will also enable him to judge of the condition of the uterine muscle, and to know when to employ methods to aid in the expulsion of the placenta should it become necessary. I am convinced that in these cases of uterine inertia it is far better to allow the patient to rest for a time than to use force in the expulsion of the placenta at once after the child is born. After 15 or 20 minutes' rest as a rule we will notice the fundus of the uterus rise about an inch toward the umbilicus. This indicates that the placenta has separated from the uterine wall, and is ready for expression.

But if after from two to three hours there is still no activity of the uterine muscle, and it does not rise as described, and we are convinced that we have to deal with a case of absolute uterine inertia, then the Crede method of expelling the placenta should be employed. This consists of pressure brought to bear upon both the anterior and posterior surfaces of the fundus, and also pressure downward and backward in the line of the birth canal. It may be carried out with either one or both hands. If one hand only is used the ulnar edge should be pressed deeply down behind the fundus of the uterus. Now, with the thumb on the anterior surface of the uterus, and the first finger above, a squeezing movement with the thumb opposing the flat of the hand and fingers should be exerted, together with a downward pressure. Or the fingers of both hands may be pressed down behind the uterus and the thumbs oppose them on its anterior surface.

This method will usually succeed in separating a placenta which has a *normal* connection with the uterus, and it may even be sufficient in cases of slight adhesions. Pressure on the lateral surfaces of the uterus should never be employed because of the danger of producing hemorrhage.

A rectum loaded with fecal matter or a bladder full of urine will sometimes cause retention of the placenta. These cavities emptied, what was thought to be an adherent placenta will often be expelled in a normal way. No doubt many cases of so-called adherent placenta are in reality only retained placenta, or one in which the normal process of detachment is slow. A true adherent placenta is firmly attached to the uterine wall by connective tissue bands of adhesion.

The chief causative factors in this condition are syphilis and chronic endometritis. A pregnant woman who has suffered from puerperal sepsis during her last confinement is very likely to have an adherent placenta. Fortunately a true adherent placenta is not a very common thing; and the tendency to regard as adherent every placenta which is not expelled in the usual length of time is to be deplored.

Before deciding on a diagnosis of adherent placenta and subjecting the patient to the risk of infection from a hand in the uterus every other proper method of removing the placenta should be employed. The cardinal rule never

to introduce hands or instruments into the vagina or uterus after labor, if possible to avoid doing so, should always be borne in mind. The death rate from puerperal sepsis is so large that a good obstetrician will never incur any unnecessary risk of infection. The temptation to employ traction upon the cord should also be firmly resisted. Post-partum hemorrhage from this cause is most alarming, and is often fatal. It not only may cause profuse hemorrhage, but the placenta may be torn in pieces and only a portion of it brought away, the balance remaining as a focus of infection. I recently had a case of this kind to treat. A midwife had attended the patient during labor, and pulling on the cord had torn away about half of the placenta, leaving the rest, saying that everything was all right. About one week later I was called, and found the woman in a most serious condition of puerperal sepsis. Her life hung in the balance for days, but energetic treatment finally prevailed, and she lived. Under no circumstances should forcible traction on the cord be employed. Many a woman has lost her life from this cause. Such a procedure employed in case of uterine inertia or adherent placenta is almost sure to result in profuse hemorrhage. It may even cause complete inversion of the uterus with resultant shock, hemorrhage and death, or a terrible infection.

If the persistent and careful employment of the various methods described for the removal of the placenta are of no avail after two or three hours, and we are convinced that the placenta is firmly adherent, *then* we should prepare to remove it by internal manipulation. Sometimes a placenta which is partly separated off and partly adherent will prevent thorough contraction of the uterine muscles, and thus be the cause of severe hemorrhage. In case this should occur immediate extraction should be done, for when the uterus is empty uniform closure of the blood vessels may take place and the hemorrhage checked.

The preparation necessary for the removal of an adherent placenta consist of:

1. Thorough sterilization of the external genitalia. This may be accomplished by scrubbing the parts thoroughly with some good soap, a *freshly laundried cloth*, and warm water. The tincture of green soap or one of the various soaps which contain bichloride of mercury or formalin may be used. Or if none of these be at

hand, the ordinary yellow laundry soap found in all households may be employed. It contains an abundance of alkali, and is a fairly good disinfectant. A new cake is preferable. Beware of a piece of soap which has been used in common by the whole family. As a rule it is literally covered with microbes. If such soap, however, is all that can be obtained, as is often the case in country practice, it may be prepared for use by shaving off the surface all around with a clean knife. Just as financial success depends on saving the littles, so success in the practice of obstetrics depends very largely on attention to the little details of the work. This preliminary scrubbing of the parts should cover the vulva, perineum, thighs and mons veneris. Special thoroughness should be given to the vulva and the creases of the region. After rinsing off the soap with clear water, then the parts should be thoroughly washed with a 1-1000 solution of bichlorid of mercury, using care to prevent the solution from entering the vagina. Now, a pad of cloth wrung out of the same solution should be placed to cover the mons, vulva and perineum. A freshly laundered sheet should be wrapped about the legs and cover the lower part of the abdomen.

If a trained nurse is at hand she may attend to all this preparation of the patient; otherwise the physician would do well to look after it himself, and not incur the liability of being held responsible for the results of mistakes made by unskilled hands.

If all this preparation has been made previous to labor, as it always should be, then only an extra sponging with the bichlorid solution and the use of the pad as described will usually be sufficient. An oil cloth and a suitable pad should, of course have been placed under the patient previous to labor.

2. The preparation of the physician himself is a matter of prime importance. In view of the probability of there being considerable blood spattered about while removing the placenta, it is advisable for the physician to wear a gown or large apron—one made of rubber cloth is best. This also serves as an additional preventive of infection—that great enemy to all surgical work—and the removal of the placenta must be regarded as a surgical procedure. Disinfection of the hands and arms should be carried out the same as for major surgical operations. Various methods of hand disinfection are advo-

cated by different authors; but in all the aim is to render the hands and arms as nearly aseptic as possible.

The preliminary scrubbing with brush, soap and warm water should be especially thorough, and attention to the finger nails should be very careful indeed. The nails should be trimmed closely with a sharp knife, and every particle of dirt removed from under them. The arms should be scrubbed well above the elbow.

3. Look out for dirty tin wash basins! Glazed earthenware bowls are far better, and if these have been in common use, we should insist on their being thoroughly scrubbed and scalded before we use them. When there are no earthen wash bowls in the house, as is often the case, ordinary large glazed table bowls will answer the purpose. We should have three of them, if possible—one as wash bowl and afterwards for plain boiled water; one for the bichlorid solution, and another long one for such instruments as may be needed, such as scissors, needle holder, needles, curettes, douche tubes, etc. After the hands, fingers and arms have been thoroughly scrubbed they should be rinsed with plain boiled water, and then with alcohol, after which immersion and thorough washing in a 1-1000 bichlorid of mercury solution for five or ten minutes should be employed. A solution of creolin, lysol or some other good disinfectant may be substituted for the bichlorid solution if prepared; but for thoroughness in surface disinfection and convenience in carrying, the bichlorid of mercury or the cyanid of mercury is hard to beat.

4. If the hands and arms are wiped to dry them after disinfection, it should only be on a sterile towel, and inasmuch as such a thing is not usually at hand in country practice, and often no place to prepare one, we may proceed without drying the hands. Many times some helpful attendant will offer a towel or rag of some kind—it may be the universal family affair. In the interests of the patient, however, such kindly offer should be courteously declined.

5. Now everything ready, chloroform or ether should be given to cause slight secondary anesthesia; the pad is removed from the vulva, the cord taken in the left hand and drawn out enough to take up the slack, the right hand is carefully inserted, following up the cord as a guide. If any difficulty is experienced because of the so-called hour glass contractions of the

uterus, persistent but gentle pressure will usually overcome it. With the hand well in the uterus, the edge of the placenta is sought, and by careful manipulation with the fingers between the placenta and the uterine wall the placenta is gradually separated. Rough, tearing movements should be avoided. Using the first and second fingers, scissors fashion, is very efficient. Bands of adhesion should be gently broken up, keeping as close to the uterine wall as possible. Should much hemorrhage occur, pressure on the fundus with the left hand, together with pressure with the right hand inside will usually control it.

When the placenta is loosened over its whole surface, which should be accomplished as rapidly as possible consistent with safety, it may be withdrawn from the uterus and forced out of the vagina; but the hand should return, and, carefully exploring the lacental site, remove all particles of debris, leaving a smooth, firm surface. Now a dose of ergot, and manipulation with the left hand over the fundus will usually be sufficient to prevent severe hemorrhage. Some authors recommend a uterine douche of normal salt solution or some other mild antiseptic solution to follow the removal of the placenta; but if the work thus far has been done with rigid surgical cleanliness and every particle of the placenta and membranes, with all blood clots removed, I see no necessity for such a procedure. But if for any reason we have cause to suspect that infective material may have reached the uterine cavity, or if some particles of the placenta remain in the uterus, then the uterine douche employed with rigid aseptic care would serve a good purpose. Plain hot water which has been boiled, hot normal salt solution, or a solution of boracic acid in water which has been boiled, are the best for this post-partum uterine douche.

NASAL OBSTRUCTION: REFLEX DISTURBANCES REFERABLE THERETO.*

By O. B. DOUGLAS, M. D., Concord, N. H.,

Consulting Surgeon to Manhattan Eye and Ear Hospital N. Y.;
Late Professor in New York Post Graduate Medical School
and Hospital; Late President Medical Society of the
County of New York; Fellow of the New York
Academy of Medicine, etc.

Nasal obstruction leads a longer train of sufferings than any other ill that flesh is heir to.

* Paper presented to the New Hampshire Medical Society, at Concord, N. H., May 20, 1904.

Most of its baneful effects are reflex—that is, it produces trouble elsewhere than at the seat of the lesion. Because so-called catarrh is rarely the immediate cause of death, we have a habit of ignoring it in practice, calling it incurable (as we were taught in the schools, and as some still believe); we relegate it to quacks, who make fortunes in dispensing their “blood cures” for what is no more a disease than is bleeding from a wound or tears from the eyes when we peel onions.

The effects of nasal obstruction—catarrh so-called—are more universally prevalent than any *disease* which afflicts the human family. It is more persistent in its course from bad to worse, involves more vital parts, affects remotely more important organs, and is more destructive to the achievements of life than the most dreaded disease. It absorbs vital force when it does not destroy, and blights where it may not consume.

By continuity of tissue the nose is related to the maxillary, ethmoidal, sphenoidal, and frontal sinuses; through the cribriform plate of the ethmoid to the brain and meninges; by the lachrymal canals to the eyes; by the Eustachian tubes to the ears; by the pharynx to the base of the tongue, the larynx, trachea and lungs; by the œsophagus to the stomach; by the fauces to the mouth.

The nose is as the key to an arch, the centre, connecting all these organs, collecting and distributing their impressions, thus becoming the seat of reflex disturbances from each. Obstructions in the nose cause a retention of its secretions—which are normally very abundant—till they become acid in reaction, acrid and irritating, and this irritation and inflammation extend to all parts accessory. While this may not be considered strictly reflex, it results from nasal obstruction, and seems pertinent to our subject.

Diseases that most frequently attack these organs, causing obstructions and catarrh, are exanthematous, diphtheritic, tuberculous, syphilitic, carcinomatous, erysipelatous, and inflammations resulting from irritants inhaled or ingested, traumatism, and foreign bodies. But trauma is by far the most frequent cause of nasal obstruction, probably more frequent than all other causes combined.

The immediate local effects of nasal obstruction, with which we are all familiar, are hyperæmia, hyperæsthesia, hypersecretion, more or

less obstruction to respiration, an increased flow—often micro-purulent—from the nose anteriorly and into the throat, coughing, sneezing, pain at the bridge of the nose, nasal voice, etc., anosmia, closure of lachrymal duct and overflowing tears, mouth breathing, asthma, hay fever and hoarseness. Inflammation extends from the nose to accessory sinuses, to adjacent organs and tissues, causing empyema of sinuses and attendant pain through the superior maxillary and supra-orbital regions, through the eyes, ears, temples and lateral portions of the occiput. Pharyngitis, uvulitis, tonsillitis, laryngitis, bronchitis, and gastritis are likely to result from a continued obstruction of the nose and its effects. Nine-tenths of all deafness from middle ear disease comes from nasal obstruction, which induces Eustachian stricture and its train of effects. Many eye troubles are cured by operations that reduce nasal obstruction.

Of the universality and dire effects of this condition we note: They prevail from Maine to California, throughout all climates, at all seasons, among all people, through all classes, at all ages, in every generation. The persistency of chronic catarrh, which is the effect of nasal obstruction, is proverbial. By many of our profession, as well as by the laity, it is reputed incurable. It has baffled the sages who tried to cure it without removing the cause; it mocked at assailants, defied the schools, laughed at pathies, and held its sway. "Faith cures" have failed as signally as their execrations.

Contusions from falls in early life, from balls and bats and various accidents that befall this protruding feature, are quite sufficient to displace the septal cartilage and bring it in contact with some portion of the outer wall of the nose. Four-fifths of all septa in dried skulls are distorted. We may add, a large percentage of the remaining portion, if we count deflections of the cartilaginous septa seen during life. Every persistent contact of surfaces—that are not normally in contact in the nose—produce catarrh and more or less reflex trouble. Even little points of contact, apparently insignificant, are found to cause much local and reflex irritation. A recent writer has emphasized the importance of removing obstructions where they exist in the nose in pulmonary tuberculosis. Free breathing through the normal channel of the nose cannot be of slight importance to consumptives.

Dr. Jacobi stated, during a discussion of reflex causes of disease, at the New York Academy of Medicine not long since, that "he had seen at least a dozen cases of chorea which had no other cause than chronic naso-pharyngeal catarrh, deviation of the septum, ozena, hypertrophy of the tonsils," etc. And Dr. Baruch, on the same occasion, said: "The first positive case which removed my skepticism on the reflex influence of nasal peripheral irritation is a cure of true epilepsy," and he related the history of the case and its cure by removing the cause in the nose.

If evidence were wanting of the baneful effects of nasal obstruction volumes might be written and opinions of recognized authority be multiplied to almost any extent.

In reply to Dr. Cogswell: "How dangerous are the operations on the nasal cavities?"

The operations upon the nose should never be classed with slight or unimportant operations. The nose is so related to vital parts that great care must be taken in operating. I never had a patient die as a direct or indirect result of these operations, but I have known quite serious illness to follow. Nervous patients often suffer more from fear before than from effects of the operation.

We not infrequently find a purulent condition of the nasal cavities. Empyema of the maxillary, ethmoid and frontal sinuses result from nasal obstruction, necessitating the operations for relief. If the nasal cavities are not kept clean after operations, there is a liability of infection and its results. After treatment is of immense importance in nasal surgery. We have no right to operate unless the patient can subsequently be cared for by a skilled attendant. Granulation tissue grows rapidly in the nose, and may cause trouble if not attended to early. Cleanliness is the preventive.

20 Pleasant Street.

Correspondence.

Foreign Influx to the American Profession.

Mr. Editor: It is noticeable that the profession of medicine is being overridden with foreigners. Germans have been coming into

America in large numbers for many years; and the German doctor, as usually met with, has been of no advantage to American medicine. On the contrary, the profession has been overcrowded by uneducated men from Germany, until complaint has reached the source from which they came. Their home land was informed that their men were, as a rule, poorly educated, and not up to the standard of the American profession. The answer came back that most generally "the failures" were transported, and that the educated German doctor could do better at his home, and did not need to go abroad.

Be this true or untrue, a fair estimate can be placed upon the importation, and it can be truthfully stated that the average German doctor, as we find him and can measure his fitness, is no advantage to our American medical profession. The Germans at home have recently declared against the emigration of German doctors—especially the class who go to other countries in that they have brought the German medical profession into disrepute in foreign countries. It is still insisted that only "the failures" emigrate, and that there is room at home for the educated German doctor.

The Jews and Italians are a recent immigration of like rare geniuses. At the present time one Hebrew doctor in Pittsburgh has ten of these people studying the English language in order that they may be licensed and turned loose to practice medicine. When questioned, the doctor explained that these doctors were to practice among our people—meaning, of course, the Jews.

It is evident that American medicine is very capable of taking care of all people who locate in the United States, and that it is well for these foreigners to learn the English language, American customs, habits and laws. It would work no disadvantage not to permit foreigners to practice medicine until they have attained citizenship.

American schools of medicine are furnishing enough physicians, and even more than required—such as they are. Medical schools are turning out each year more illiterate and unprepared students, with the statement that the State Boards of Medical Examiners will make the final examinations and cast out the unfit.

The future will no doubt prove that the admission to medical schools must have higher standards, and that State Boards are useless, and

even more than useless *unless* they insist upon better preliminary education and the better carrying out of the laws of various States regulating the practice of medicine in their States. Indeed, some of these State Boards are injurious to the profession—especially those appointed by State officials as "State Boards of Medical Examiners."

WILLIAM F. BARCLAY, M. D.

Pittsburg, Pa., September 1, 1904.

Editorial.

The American Medical Society for the Study of Alcohol and Other Narcotics

Was organized June 8, 1904, by the union of the American Association for the Study of Inebriety and the Medical Temperance Association. Both of these societies are composed of physicians interested in the study and treatment of inebriety and the physiological nature and action of alcohol and narcotics in health and disease. The first society was organized in 1870, and has published five volumes of transactions and twenty-seven yearly volumes of the Quarterly Journal of Inebriety, the organ of its association. The second society began in 1891, and has issued three volumes of transactions, and for seven years published a Quarterly Bulletin containing the papers read at its meetings. The special object of the union of the two societies is to create greater interest among physicians to study one of the greatest evils of modern times. Its plan of work is to encourage and promote more exact scientific studies of the nature and effects of alcohol in health and disease, particularly of its etiological, physiological and therapeutic relations. Second, to secure more accurate investigations of the diseases associated or following from the use of alcohol and narcotics. Third, to correct the present empirical treatment of these diseases by secret drugs and so-called specifics, and to secure legislation prohibiting the sale of nostrums claiming to be absolute cures containing dangerous poisons. Fourth, to encourage special legislation for the care, control and medical treatment of spirit and drug takers. The alcoholic problem and the diseases which centre and spring from it are becom-

ing more prominent, and its medical and hygienic importance have assumed such proportions that physicians everywhere are called on for advice and counsel. Public sentiment is turning to medical men for authoritative facts and conclusions to enable them to realize the causes, means of prevention and cure of this evil. This new society comes to meet this want by enlisting medical men as members and stimulating new studies and researches from a broader and more scientific point of view. As a medical and hygienic topic the alcoholic problem has an intense personal interest, not only to every physician, but to the public generally in every town and city in the country. This interest demands concentrated efforts through the medium of a society to clear away the present confusion, educate public sentiment, and make medical men the final authority in the consideration of the remedial measures for cure and prevention. For this purpose a most urgent appeal is made to all physicians to assist in making this society the medium and authority for the scientific study of the subject. The secretary, Dr. T. D. Crothers, of Hartford, Conn., will be pleased to give any further information.

Medical Society of Virginia.

The announcement of the 35th annual session of the Medical Society of Virginia, to be held at Richmond, October 18-20, will be issued in a few days. From many standpoints, this session promises to be the best of all. The addition to membership will be the largest of any year; the attendance will be likewise; and in scientific interest the program will show the practical caste of papers and the general eminence of authors. Among the distinguished Honorary Fellows and Invited Guests who promise to be in attendance with papers are Drs. Joseph Price and J. H. Musser, of Philadelphia; W. B. DeGarmo, of New York; Geo. F. Keiper, of LaFayette, Ind.; G. Brown Miller and A. R. Shands, Washington, D. C. There will be surgical clinics at the Virginia and Memorial Hospitals on Wednesday and Thursday, and Dr. John H. Musser, of Philadelphia, has promised to hold the medical clinic at Virginia Hospital on Friday, October 21. Most of the session of Friday will be devoted to business matters, and that night the session will conclude with a banquet by the profession of Richmond. A committee of ladies will look after the pleasures of ladies who may accompany doctors on this occasion.

In this issue we are giving space to discussion of the proposed new plan of organization of the Society. The authors of the two papers in this issue are able exponents of the affirmative side of the question, and are zealous members of the Society. The journal discussion of this matter will be closed in our second September number. Our object in having these matters discussed in this journal is to save the time of the session of the Society when they are brought up for action during the session.

Central State Hospital, Petersburg, Va.

The authorities in charge of this State Hospital for the Colored Insane seem determined to let no other State outdo them—as progressive as the most progressive, and as humane as the most humane. The use of *tents* for consumptives, and the adoption of the colony system for the quiet class of patients have proved entirely satisfactory—about a hundred patients being thus cared for. A two-story building is under construction to accommodate about 70 patients, and will be devoted to the care and treatment of all acute cases of insanity among colored females. Here will be concentrated much of the best talent and best nurses, so as to give new patients every possible chance to recover. A separate building is also being constructed for nurses and attendants. Both buildings will conform to the latest and most approved ideas. A recreation hall and an industrial shop will also be shortly built. Other State hospitals for the insane might well pattern after the progressive spirit that controls the management of this Central (Va.) State Hospital at Petersburg.

Doctor's Location for Sale or Exchange.

Dr. A. M. Walkup, Glen Wilton, Botetourt county, Va., on account of failing health, wishes to sell or exchange his home and practice for city real estate. His home consists of half an acre of land with necessary buildings for a family. Beside a good country practice, the purchaser will fall heir to practice at mines and furnaces near by. No other physician located there. It is a good opening for a young man.

Dr. William Osler,

One of the foremost physicians of America, and head of Johns Hopkins Hospital, Baltimore, has accepted an appointment as Regius Professor of Medicine at Oxford University, England, and will shortly leave for his new

home. Dr. Osler ranks as the leading diagnostician in America, and his departure will be as distinct a loss to this country as to the hospital.

The Tri-State Medical Society of Alabama, Georgia and Tennessee

Will hold its 16th annual session at Chattanooga, Tenn., October 12-14, 1904—Dr. F. B. Sloan, Cowan, Tenn., President; Dr. Raymond Wallace, Loveman Building, Chattanooga, Tenn., Secretary. The Read House will be headquarters. Drs. Wm. J. Mayo, Rochester, Minn., and A. J. Ochsner, Chicago, Ill., will deliver addresses. Usual railroad rates will be in effect. Address requests for places on the program, or other information, to the secretary.

The Mississippi Valley Medical Association

Will hold its 30th annual session at Cincinnati, Ohio, October 11-13, 1904—Dr. Hugh T. Patrick, Chicago, President; Drs. Henry Enos Tuley, Louisville, Ky., Secretary, and S. C. Stanton, Masonic Temple, Chicago, Assistant Secretary. Dr. Wm. J. Mayo, Rochester, Minn., will deliver annual address in *Surgery*, and Dr. C. Travis Demen, Hot Springs, Ark., the address in *Medicine*. Headquarters and meeting places at Grand Hotel. Requests for places on program or other information should be made of either of the secretaries.

The American International Congress on Tuberculosis

Will be held under the auspices of the Universal Exposition at St. Louis, October 3-5, 1904—Dr. E. J. Barrick, Toronto, Canada, President, and Mr. Samuel Bell Thomas, 32 Nassau street, New York, N. Y., Secretary, to whom inquiries may be addressed.

The Hygeia Hospital and Sanatorium.

The success of this institution, located at 101-103 west Grace street, and conducted by Dr. J. Allison Hodges for his private patients, compelled its closing for two months in order to allow builders to add a number of rooms for the accommodation of patrons; but it will reopen with unsurpassed appointments, about September 15. This institution is intended for the care and treatment of non-contagious medical cases only—acute and chronic.

St. Luke's Hospital, Richmond, Va.

This entirely modern private surgical hospital, 1000-1002 west Grace street, under charge of Dr. Stuart McGuire, with competent assistants, trained nurses, etc., has been closed since early in August to permit of thorough renovation, including the addition of up-to-date equipments, etc.; but it will reopen for patients on September 15.

Obituary Record.

Dr. Oscar Wiley,

Born at Fincastle, Va., 1830, died at his home at Salem, Va., August 25, 1904, aged 74 years. His widow and three sons survive. He received his academic education from Emory and Henry College, Va., and began the study of medicine at the medical school then conducted by Dr. Joseph P. Mettner, and afterwards known as the Medical Department of Randolph-Macon College, from which he received the degree of M. D., 1851. A year later he also graduated at the Jefferson Medical College, Philadelphia. He soon took a prominent position in the medical profession of Virginia. At the Roanoke session, 1889, of the Medical Society of Virginia, he was elected president, and afterwards an Honorary Fellow. He was a man to be relied on, and his death will long be felt by those who had for years learned to depend on him for professional services in his section of the State.

Dr. William A. Pryor,

Grandson of a late eminent Presbyterian divine of Petersburg, Va., and son of the late General Roger A. Pryor, afterwards one of the United States Supreme Court Justices, died at St. Vincent's Hospital, New York, after a lingering illness—probably pernicious anæmia. Dr. Pryor rapidly gained eminence in the profession of New York city, which was steadily advancing until the fatal disease begun its attack. He was professor in the Polyclinic School of New York, a liberal contributor to journal literature, a gifted author, and a popular doctor.

THE Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

Vol. 9, No. 12.
Whole No. 204.

RICHMOND, VA., SEPTEMBER 23, 1904.

\$2.00 a Year.
10 Cents a Copy.

Original Communications.

TREATMENT OF TYPHOID FEVER.*

By WM. S. GORDON, M. D., Richmond, Va.,

Professor of Practice of Medicine and Clinical Medicine, University College of Medicine.

Mild and atypical forms of this disease need little medication. Severe cases prove fatal at times, despite every accepted method of treatment. All cases require rest in bed, fresh air, careful dieting, regulation of the secretions, sleep and good nursing. In general terms, a strict application of hygienic rules, and the usual means for preventing the spread of the infection are plainly indicated. Bearing in mind that no specific remedy for typhoid fever exists, we must place the patient in the best possible position to render nature's resources effective.

At the outset, the confidence of the patient should be secured, and his apprehensions allayed. He should be told that he has a disease which must run its course, but which will be materially modified by his quiet acceptance of the inevitable, and an unquestioning willingness to co-operate with the physician and nurse. The sooner the patient gives up, becomes passive, dismisses his fears, doubts, worries and efforts to keep pace with his disease and his attendants, the sooner will he recover.

The nurse is supposed to be doing her part well. She has placed the patient in the uppermost and quietest room of the house, has provided a convenient bed, secured good ventilation, robed her charge in a single garment, and attended to everything else incumbent upon her as an assistant to the medical attendant. If she has omitted anything right, or committed anything wrong, the doctor should adopt appropriate measures.

If the patient's secretions are torpid and the

* Read before the Richmond Academy of Medicine and Surgery, July 26, 1904.

tongue coated, a cholagogue will be beneficial. Calomel, ipecac and rhubarb make a good combination, and often remove a number of unsuspected gastro-intestinal irritants which have been adding to the fever. At the same time a simple diuretic and diaphoretic mixture will be useful. Neutral mixture, sweet spirit of nitre, and solution of ammonium acetate are reliable. If there be headache, ammonium bromide can be added. These drugs possess the additional advantage of counter-acting, partly or wholly, the unpleasant effects of quinine when it is deemed advisable to employ this remedy for diagnostic or other purposes.

The treatment so far recommended is applicable to various febrile conditions in the first stages. When the typhoid condition is established, my experience has taught me to withdraw quinine. Large doses of this drug will frequently reduce fever of any kind; but its continued use in a fever which it does not abort and which it may aggravate by causing gastric or nervous derangement is not advisable. The fewer drugs resorted to, the better for the patient. For the fever, some form of hydrotherapy will usually be sufficient. In the early stages the coal tar products are serviceable, provided the heart be not too weak, and other measures fail. For excessively high temperature the cold pack, or tubbing, is my own preference. Fever should be reduced by measures based upon the physiological action of drugs adapted to the pathological conditions of the case, or to external measures, which either take the place of medicinal agents or render their use unnecessary. The judgment of the physician must decide this point according to the idiosyncrasies of the patient, the action of the drugs, and other circumstances, to which no inflexible rule can be applied.

The diet is a matter of paramount importance. Realizing that the stomach is probably as dry as the tongue and impaired in motor activity, we must put into it a sufficient amount

of the most assimilable food, given at regular intervals. Ordinarily, half a pint of liquid nourishment every three or four hours will be sufficient; while smaller quantities at shorter intervals are used when indicated. The food should be varied, and all the proximate principles represented.

When constipation exists, laxative articles of food, such as strained oatmeal gruel, animal broths, buttermilk and fruit juices come in well; while with diarrhea, preparations of sweet milk with rice and arrow-root, for example, are indicated. When such a diet disagrees, or the digestive organs cannot handle it, the artificial and predigested foods serve a good purpose. When the tongue is dry and coated, dilute hydrochloric acid administered with the feedings is a valuable addition, and I have often seen it act promptly and well. Constipation and impaction of the lower bowel are to be prevented. The bowels should be emptied once daily, preferably by enematas, but if this means is inefficient a mild saline, such as sodium phosphate, oil, or broken doses of calomel are practically harmless.

Diarrhea, when excessive, can usually be held in check with bismuth, chalk mixture, dilute sulphuric acid, opium and other agents.

My own rule is to give intestinal antiseptics when indicated by fermentation, tympanites, or other conditions. Salol, guaiacol carbonate, turpentine, chlorine water, thymol and other drugs will be found useful.

Tympanites should be controlled. The remedies above mentioned can be employed. I am an unshaken believer in the efficacy of turpentine internally and externally. It works well in many ways, and is valuable when used in rectal injections. I once saw dangerous and painful tympanites relieved promptly with charcoal when other measures had failed. Emulsion of asafetida by the rectum often gives relief, as does the passage of the high rectal tube. It should be borne in mind that tympanites may frequently be prevented or relieved by careful attention to the diet.

Sleep is as necessary for the typhoid patient as food. Some form of hydrotherapy usually suffices, but there are cases in which hypnotics are necessary. The bromides, sulphonal, trional, paraldehyde, chloral, hyoscine and opium are the main drugs upon which reliance can be placed. They should be used with discrimination and with as perfect an adaptation as possi-

ble to the condition present. Many a patient has been subjected to feeding and recording of temperature during the night who would have been far better off if allowed or made to sleep. In marked stupor, with danger to the respiratory centre, caffeine will do good.

The pulse and the cardiac sounds give the indications for stimulants. Aromatic spirit of ammonia has its place. Alcoholics may be indispensable, and are especially useful with the feedings. The great value of strychnin is known, and digitalis may be required. Caffein, camphor, ether, adrenalin, and saline infusions may be required in profound asthenia from any cause.

Infection of the lungs, kidneys, gall tract and other structures ought to be looked for and treated according to accepted rules, modified or not, as the case may be, by the general therapeutic indications. Phlebitis calls for prolonged rest.

Hemorrhage from the intestines requires absolute rest of body and mind, withdrawal of food for some hours, if possible, and an opiate. Cold to the abdomen, ergot and astringents can be tried. Opium and acetate of lead are, in my opinion, the best drugs to use.

Perforation calls for surgical consultation or action, as does repeated shock from hemorrhage due to the erosion of a good-sized vessel. In these instances circumstances must necessarily govern the procedures.

Convalescence requires close watching. Relapses will occur in a certain number of cases under any plan of treatment. As long as the tongue is coated, the intestines tender, or the pulse frequent, it is unsafe to let the patient up, or allow solid food.

So-called recrudescences, which are sometimes late infections of the kidneys, bladder, liver or other organs require special attention and treatment directed to the exact cause. By so doing I believe that many morbid conditions recognized some time after the patient is supposed to be well, could be nipped in the bud. The urinary tract, for instance, suffers oftener than we think. Cases regarded as mild may be followed by serious local disorders set up insidiously during the attack. It behooves us, therefore, in all cases to examine all of the organs systematically and thoroughly during the whole course of the disease, and the patient should not be pronounced well until we know, so far as it can be

known, that all of the organs have been restored to their normal condition.

In certain cases a little elevation of temperature persists after the limit for relapses, while no cause can be assigned. Such patients will frequently improve by getting them up, feeding them more generously, and removing them from their surroundings. Tonics also do good under these circumstances. Anæmia should receive attention. Post-typhoid insanity will, as a rule, yield to the above measures.

There are certain mistakes which I think ought to be guarded against—for instance, friendly but damaging visits; too much or too frequently repeated feedings; feeding too often at night; too much temperature recording; too little water; disregard of antiseptics in the mouth, nose and pharynx; failure to examine the urine at intervals, and to see that the patient sleeps sufficiently. The successful treatment of typhoid fever depends largely upon attention to details with a background of attention to broad principles.

6 East Grace Street.

TREATMENT OF MALARIA.

By ROBERT M. STERRETT, M. D., New York, N. Y.,

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The cause of malaria is now known to be the parasite, *plasmodium malariae*. There is no doubt that this parasite is conveyed to the blood of the patient by a certain species of mosquito; it is equally certain that it may be conveyed to the patient's circulation through drinking water.

If patients who suffer annually from malarial poisoning could get away from the regions where the poison abounds, they would, no doubt, soon be free from the effects of this pestilence. But, the very people who suffer most in this regard are those who cannot leave—poor, or fairly well-to-do people who must stay at home and attend to making a living in the section of the country where they happen to have their lots cast. These require the services of the doctor, or, at least, some means of treatment for the recurring "chills and fever."

The usual thing is quinine. "You have a

touch of malaria, John; I'll have to give you some 'qu'neen' (or 'quinyne,' according to whether the interview takes place in the East or West), and break the thing up." And "John" takes the little prescription as if it were a document replete with profound and freshly-garnered knowledge, goes to the drug store and gets the five-grain capsules, which he straightway begins to take "according to directions."

Some patients don't even send for the doctor; they know just what he will say. We had a family physician once that always gave quinine whenever any of us were "off our feed," but not down sick in bed.

After a time the cinchona salts cease to act in proportion to their dosage; the patient becomes chronically anemic, the blood count being much below the normal, and there is no doubt that the plasmodium reproduces itself in the blood, even after the time for mosquitoes has past—the recurrence of the paroxysms continuing into the winter after mosquitoes are no more.

There are some other agents besides the cinchona alkaloids, which have a decidedly beneficial effect upon the patient poisoned with malaria. And, too, there is a quinine salt that, to my mind, is superior in many ways to the usually prescribed sulphate. It is the *arsenate*. This salt has the double advantage of the cinchona effect as well as that of arsenic—a well known, reliable antiperiodic.

It has been stated that one grain of the *arsenate* is about equal to fifteen of the *sulphate* of quinine. Just how near correct this is, I am not prepared to say, but that it is not far from being correct, I feel confident from experience.

My plan has been to give small doses of the *arsenate*, gr. 1-6th every hour until the effect of the drug is felt—the ringing in the ears—and then every two to four hours to keep the blood just saturated with the remedy until the plasmodia are all entirely killed.

The importance of clearing out the intestinal canal at the start is not to be overestimated. A few small doses of calomel and podophyllin followed by a brisk saline, open up the secretions and cleans out the alimentary tract—at least removes in a great measure the mass of toxic material from the colon—that large sewer of the body.

One of the "new thought" "healers" advocates fasting and cleansing the system through

colonic flushings—two very good bits of therapeutic philosophy. The “clean out, clean up and keep clean” aphorism of the *Alkaloidal Clinic* is only a terse, plain English way of putting it.

After the bowels have been acted upon thoroughly, the toxins still remaining therein may be in great measure antidoted by means of liberal doses of *sulpho-carbolate of soda* or *lime*; the latter especially where there is much emaciation, as the lime salt replaces waste.

After the regular paroxysms are broken up, other remedies may be added, for special conditions, to the arsenate of quinine.

If there is great enlargement of the spleen. *berberine*, gr. 1-67th to gr. 1-6th, does splendidly; it allows of the omission, too, of the quinine salts during the remission, if, for any reason, that is desirable. In place of the quinine, the *arsenate of strychnine*, gr. 1-134 to gr. 1-30, three times daily may, with obvious advantage, be added to the berberine.

Another one of the newer active principles is *cornin*, from dogwood, and it is of considerable use in chronic malaria. When there is much disturbance of the liver, with jaundice, *chionanthin* and *euonymin*, in doses of gr. 1-6 to gr 1 of each, has given me excellent results.

Finally, as a reconstructive tonic, I have found nothing equal to a combination of *nuclein* with the arsenates of quinine, iron and strychnine.

The small doses of the arsenates seem to be entirely efficacious and at the same time keep gaining on the newborn plasmodia, destroying them finally, without the disadvantages and unpleasant effects of the usual large, periodic doses of the sulphate of quinine.

521 West 123d St.

PAIN—ITS IMPORTANCE IN HEALTH AND DISEASE.

By RAMON D. GARCIN, M. D., Richmond, Va.

Of all sensations, pain is the most to be dreaded by the human subject. It is a sensation that cannot be defined. Like electricity and the wind that blows, it can be felt, but not seen, and when applied to the human system, it hurts, and is an unwelcome visitor.

It is no new thing in the world, but has formed a part of the suffering of the human race since the beginning of time. It has never been confined to particular localities, nor to one race of people, but has visited all people, in all lands. We judge that because God caused a deep sleep to come over Adam, in order that he might make woman from one of his ribs, it must have been a painful operation. In Job's time, we learn that it afflicted him: “But his flesh upon him shall have pain, and his soul within him shall mourn.”

All through the ages, we hear of pain, suffering, affliction and distress. In the moral world, these terms are synonymous, and are the effect of broken laws. In the physical world, pain concerns us most and means to the body an injury from without, or a disarrangement of the machinery within.

Pain resides in the nervous system, so that when this sensation is felt, we know that some nerve or nerves bring us a message that there is trouble somewhere along the line. It may originate from various causes, such as irritation or excitement of the nerves, inflammations, external interferences, and general debility. In the last named condition, it may be present in a very severe degree, because the nerves being hungry, call for food.

Pain differs in character according to location of lesion. Because of this, we can often differentiate between inflammations of serous and synovial membranes, and mucous membranes. The former produce acute, while the latter dull pain.

Pain or inflammation of the lungs differs from that of the intestines. Those of us who have heard the cries of a patient in the throes of cramp colic can appreciate this difference. The abdominal cavity not having the bony protection as does the thoracic cavity, it is easy to understand why nature has provided this cavity with numerous plexuses and nerve terminals, so that in case of an attack from without or within, pain cries loud for help.

Acute, dull, tearing, gnawing and stabbing are degrees applied to pain, while radiating, intermittent, remittent and continued signify their mode of action. This action is exhibited in the various neuralgias, according to cause of trouble. Pain is not always found in the location of the existing lesion. For example, disease of liver or diaphragm causes pain in the

right shoulder; hip-joint disease, sensation at knee; and stomach irritation produces headache.

Although pain is regarded merely a symptom, there are times when it becomes an important element of disease, and must be relieved or exhaustion and death may result. Among the conditions in which it plays an important role are neuralgia, gastralgia, colic, stitch of pleurisy, and tenesmus. Those of us who have witnessed the sufferings of patients who were victims of these painful conditions can fully appreciate the importance of this statement.

In the midst of so much pain we are apt to harden our hearts and close our eyes to the deep anxiety of our patients for immediate relief; but let us remember that "all the world's akin," and an important work for us in life is to help lift the burden from the oppressed.

Pain is not a monster that it should be dreaded, for it is of real value in health, as well as in disease. It may be considered the great protector of the human system, causing us to avoid danger. On account of feeling, we are able to distinguish between different degrees of heat and cold. When cold is intense, feeling is exaggerated, and pain results, and we seek protection from impending danger. Were it not for pain we would freeze without warning. The writer, when a boy, was especially fond of hanging around molasses mills. Upon one occasion, while barefooted, he stepped upon a red hot coal of fire. You can imagine the result. Had there been no pain, danger would have been imminent. It is this sensitiveness to externals that protects the system from disease. While pain warns all mankind from injury and disease, its significance in disease is of most importance to the physician. It may be said that it is one of the most prominent symptoms in disease, and one that is most often mentioned in the description of cases. Indeed, there are very few cases in which it does not figure.

When pain is not felt, it is usually because the disease is mild, or has passed the stage of sensation. But for it, many persons would continue in disease. Write down for a month the symptoms which caused your patients to send for you, and I think you will find pain far in the lead.

So important is this symptom to us, that our first question often is, "Have you pain?" It may be laid down, as a rule, that in all inflammations there is pain. Pressure upon nerves by

tumors, of whatever nature, also produces pain. Obstruction to the excretory avenues of the body, as a rule, produces very great suffering. Obstruction of the bowels is an example.

Mention has been made of the fact that pain is of value in health. In disease, it is of equal value. It strives with disease as long as the great electrical force, the nervous system, is interfered with. In disease without pain, we may look with suspicion upon such condition, for it means that the case is either extremely bad, or only a slight disorder. In some conditions a cessation of pain means death to the parts. As an example, in appendicitis, a patient may be suddenly transformed from a state of agony to peaceful sleep, and unless something is done quickly, death ensues.

Pain is a subjective symptom of varying importance, according to its mode of onset, intensity, and length of continuation. When it is acute, it means acute inflammations, and becomes more intense upon pressure. It is also continuous until subsidence of inflammation. Acute, radiating, and intermittent pains mean neuralgia due to pressure or inflammation of nerve or nerves. Nowhere do we have a better example of this than in neuralgia of the fifth nerve. Stabbing pain will best describe the suffering of kidney colic, as patients tell us it feels like a knife cutting. Intestinal, kidney and hepatic colic produce pain paroxysmal in character, while that of a boring or gnawing nature indicates spinal or bone disease. The best example of this is found in osteitis.

Pain is of diagnostic value in determining the seat of a lesion. It is found at the source of the trouble, or as far from it as nerves can carry it. If it is found at the point of distribution of a nerve, follow the nerve to some other point for the trouble. When we consider that irritation of a nerve trunk may cause pain over its entire peripheral distribution, we can realize the importance of a knowledge of the nervous system. The central nervous system is the motor power, and the nerves the electric wires that sustain life, and keep in running order all the organs of the system. Wound a nerve and pain results; kill it, and the part depending upon it suspends action. Sensation about certain cutaneous areas indicates visceral or joint lesion. To ascertain cutaneous sensitiveness, deep pressure is not necessary—only the slightest touch causing pain. As an example of reflected pain may be

mentioned sensations about knee-joint from hip disease, mammary pains, from uterine lesions, tenderness with pain between scapulae, from stomach trouble. Constipation and dyspepsia produce pain in left side about the last rib, and pain and tenderness at junction of neck with shoulders indicate neurasthenia.

As people differ in constitution, temperament and intelligence, so do they differ in susceptibility and amount of pain felt. One person may realize great suffering from a cause which in another person might scarcely be felt. It is a common observation that women in labor behave very differently. Some cry out from the beginning of dilatation until the completion of labor, while others remain quiet throughout the trouble. There may be even national differences with regard to suffering, as it is said that before the introduction of chloroform it was observed that Irishmen suffered more from a surgical operation than either Englishmen or Scotchmen. Negroes are probably more sensitive to pain than the white race. Being a symptom of value, it is necessary that we should study the characteristics and susceptibilities of our patients. A person of a nervous temperament will complain more of pain than one not so susceptible. We must make allowances for and distinguish between nervous patients and those opposite in nature. A study of the relation of mind and pain will aid in determining disease.

With slight pain, a patient may have his attention drawn in another direction, but if it be severe, as in hepatic colic, his mind cannot be diverted from the knowledge of its existence. It is true that a lesion may exist without our being cognizant of the fact, in which case we are oblivious to pain. When once we have knowledge of it, sensations begin. For example, the writer, in using a screwdriver drew a blister in the palm of his hand. No pain was experienced until the raw surface of the wound was seen.

Physicians are expected to accept the statement of patients regarding pain, and yet a discrimination has to be made as to the manner of the statement. Some patients exaggerate their sufferings, and we may give a more heroic treatment than is necessary for their relief. Pain, if severe and continued, is followed by depression of vital forces, and is accompanied with rapid respiration, perspiration, tense pulse, followed at times by cold extremities, and, at times, dilated pupils. These signs, with changed

facial expression, make a chain of evidence which cannot be feigned.

2618 East Broad St.

PRESENT STATUS OF THE FLEXIBLE RECTAL TUBE.*

By SAMUEL T. EARLE, JR., M. D., Baltimore, Md.

As specialists we should have definite and concise ideas on all things that pertain to our special branch so as to be regarded as authority on all such matters. The members of our Association generally have definitely accepted the existence and function of Houston's rectal valves, and have dilated upon their pathological conditions. It seems to me, however, that we have not reflected upon what effect they must have on the use of the flexible rectal tube, and so we have gone with the rank and file of the profession, not stopping to ask or examine the effect of one upon the other. Notwithstanding all of our boasted knowledge with regard to these valves, I venture to assert it is the universal practice with the rectal specialists, as well as the general practitioner, when ordering or giving a high enema, to use the long rectal flexible tube.

It occurred to me that if the physiological function of these valves is to shelve and ease down the fecal matter, and if in a pathological condition they could become so thickened as to form an obstruction to the passage of the fecal matter, that they must interfere materially with the passage of the rectal tube beyond them. I, therefore, instituted a series of experiments with the soft rubber tubes to ascertain the true state of affairs. In a number of instances I introduced the rectal tube, then carried in over it Tuttle's protoscope, and upon turning on the electric light, I have found as I had expected, the rectal tube coiled upon itself in the lower portion of the rectum between the first valve and the anal margin. I have not yet found a single exception to this condition, although occasionally it may pass them; this I would regard more as an accident than an intended result. After having satisfied myself with regard to this

* Read before the American Proctologic Society, at Atlantic City, June 8, 1904.

condition, I requested several members of our Association to try the same experiment, and to report the results of their findings at this meeting, which I hope they will do at the conclusion of this paper. I would like for the Association to take a definite and firm stand upon this question, so that the general profession may be correctly informed of the erroneousness of the practice that is so universal among them. If the results are as I have stated, and which I am ready to demonstrate to those who have not examined for themselves, then should we make haste to let the profession know the true condition of affairs.

But why should we depend upon such uncertain means, and one attended with so much difficulty in its use, when we have always one that is so much easier and always certain to accomplish the purpose? I refer to the application of the physical law of gravity to accomplish our end. With a patient placed in the knee-chest position, with the head and shoulders lowered (if the patient is too weak, then in Sim's position, with the hips elevated on a pillow), the high enema can be given with the most positive results by using the short rectal nozzle. Even in cases of impaction the water so introduced can be made to distend the bowel, and get beyond the point of obstruction by sufficiently elevating the bag containing the water. By using a large quantity of water it can be made to run even round as far as the ascending colon, so that in every conceivable condition calling for the high enema, you have by this means the most certain, simple and in every way the best means for accomplishing the desired end. There is still another desirable object obtained by this method both in the use of high and nutrient enemata, and that is, the water is not allowed to accumulate in and distend the lower portion of the rectum, and thus bring on the expulsive efforts before the desired quantity has been introduced. In the case of nutrient enemata it will make them much more effectual both by making them more easily retained, and by spreading them over a much larger surface for absorption.

1431 Linden Avenue.

DISEASES OF THE EYE, EAR, NOSE AND THROAT—CASE NOTES.*

By JOHN DUNN, M. D., Richmond, Va.

CASE 1. *Acute mastoiditis, which early puncture of the drum did not prevent, and where opening of the mastoid was not followed by immediate cessation of the fever.*

Mr. L., aged 36, was taken with right-sided earache June 18th; was first seen the following day, when the drum, moderately inflamed and somewhat bulging in the region of Shrapnell's membrane, was incised—sero-mucous discharge. At this time there was pain over the whole left side of the head. Region of the mastoid fossa very sensitive. Local treatment in no way lessened the pain in the region of the ear; the sensitiveness over the mastoid increased. On June 22d mastoid was opened and found full of pus, of which there was none in the antrum. The patient's temperature, which was $99\frac{1}{2}^{\circ}$ F. at the time of the operation remained between this and $100\frac{2}{3}^{\circ}$ until June 30th, when it became and remained practically normal until healing was fully accomplished. The patient was in a poor state of physical health when the ear trouble began, and was highly nervous.

This case has two points of considerable interest. It is generally taught that early puncture of the drum prevents the spreading of the inflammatory process to the mastoid, and the argument is largely based upon the fact that where early incision of the drum has been made mastoiditis rarely follows. In Richmond inflammation of the middle ear occurs very frequently; mastoiditis rarely, and this although in only a very small proportion of the cases of otitis media is the drum artificially opened. For many reasons incision of the drum should be made, but not primarily, to prevent mastoid inflammation. There are cases in which mastoid involvement occurs no matter how early or how fully the drum may have been incised. For example, on May 12, 1904, Mary H., aged 6, who for some days had had a head cold, began to complain of her left ear, whose tympanic membrane had, a day or two previously, been found normal. Examination showed a reddened drum membrane, which was opened. The discharge from the ear was profuse, and carefully removed at frequent intervals, and yet the

A man may be a blot or a blessing, but a blank he cannot be.—Chalmers.

*In this series no effort is made to report cases in full. Only one, or, at most, two special points are dwelt upon.

next morning mastoid inflammation was present. Further, from time to time we meet with cases of so-called primary acute mastoiditis, where the visible evidences of middle ear inflammation are scarcely, if at all, to be demonstrated; cases where there is no demonstratable exudate into the middle ear during any stage of the mastoid trouble. In these cases, for some reason, the middle ear mucous membrane has proven more resistant to the morbid influences than the membrane lining the mastoid cells, and the inflammation is accordingly more severe in one location than in the other—what these reasons may be it is out of place here to consider. Why any inflammation should be regional and not general is one of the mysteries of the human economy, mysteries through whose veil we see very imperfectly. I am more and more inclined to look upon most of the cases of acute mastoiditis not as secondary to inflammation of the middle ear, but as manifestations of a process which affects both middle ear and mastoid alike, even though the path to the mastoid be through the mucous membrane of the middle ear. The wave of inflammation, if I may so picture it, passes through the middle ear spaces to the mastoid just as—to complete the illustration—the water in a freshet flows over the road and through the culverts to the meadow. No one says the middle ear inflammation is, in a causative sense, secondary to inflammation of the mucous membrane of the Eustachian tube, and yet most inflammations of the middle ear are or seem to be secondary, in point of time at least, to inflammatory disturbances of the post-nasal space. If, then, inflammation of the middle ear be secondary to inflammation of the post-nasal space, how does the inflammation process reach from one space to the other? Either by direct continuity of the lymphatics of the mucous membranes, by way of the Eustachian tubes, or through the blood. If through the former, why may not the mastoid inflammation be in one sense as primary as that of the middle ear? Inflammation of the middle ear may have its origin in still another way—a way conceivably independent of the post-nasal space. That process which we denominate taking cold manifests itself not always in the same manner—it is a patch of eczema with one person, cystitis with another, rhinitis with another, rheumatism with another, and so on. Is there any reason for not believing that otitis media—

and if otitis media, then mastoiditis—may not be the result of a cold without the intervention or disturbances in the post-nasal space?

Incision of the tympanic membrane is an important aid, at the proper time, in the treatment of middle ear inflammation. It may at times prevent mastoid trouble, but it does not always do so.

The second interesting point in the above case is the fact that although the drum and mastoid were opened, the fever did not subside for a week. It cannot be said that the mastoid operation was only incompletely done because following it there was never a drop of pus from the wound, which healed kindly. It is not unlikely that the fever was caused in part by the patient's condition, and in part by disturbance in the middle ear attic, from which there continued a purulent discharge for ten days after the operation. I think this all the more likely inasmuch as there was at times more pain about the ear than either the weak resisting power of the patient or the wound would account for, and, by the further fact, that so long as the discharge from the ear was free the pain was slight. The anatomy of the attic explains this. In acute cases of middle ear mastoid inflammation, where the mastoid operation is done early, we may expect some little fever for several days, and this need give us no concern, provided the other symptoms are in keeping.

CASES II AND III.

CASE 2. *Subperiosteal abscess over the mastoid fossa, where the bone was not involved and the antrum contained no pus.*

CASE 3. *Subperiosteal abscess over the mastoid fossa, where the bone of the fossa had been softened and absorbed, and where the antrum was full of pus.*

The temporal bone in the earlier years of life furnishes many interesting possibilities for varying the findings in the mastoid operation. The changes in the anatomy of the mastoid region as the infant passes into and through childhood explain why this is so.

CASE 2. Master P., aged 8, came to see me in June, 1904, with the following history: About three weeks previously he had been taken ill, and for four days was unconscious, with a high fever. The diagnosis of typhoid fever, with meningitis, had been made and treatment ordered. On the fourth day a discharge suddenly appeared from the left external auditory canal,

and the patient as suddenly became to all appearances perfectly well, save for the discharge from the ear, which continued. The fever disappeared. A swelling appeared behind the ear. The patient, however, suffered no inconvenience, and played in and out of doors as though nothing were the matter. Under treatment the discharge from the ear ceased. The swelling, however, increased in size—fever inconsiderable, yet of diagnostic value, generally half a degree, rarely more. Incision was made over the mastoid and a large amount of pus was found over the mastoid fossa. The bone appeared healthy, and yet it was curetted away into the antrum, which was found empty. The wound healed in a few days.



Right Temporal Bone of a Child About Six Years of Age.

L. L.—Mastoid fossa, showing minute foramina for vessels.

O. O.—Inferior limit of middle fossa.

A. A.—Anterior limit of sigmoid sinus.

X.—Photograph shows well the hiatus in the as yet incomplete bony external auditory canal.

CASE 3. John, aged 3, seen also in June, 1904. History as follows: La grippe, pneumonia, rhinitis, double otitis media, left sided inflammation of the parotid with involvement, and later, suppuration of the glands of left side of neck. Both drums burst. It was about three months after this that patient came to me for treatment. Both ears were discharging pus. There was swelling over left mastoid region. Patient seemed to suffer no inconvenience from this. Incision revealed a large abscess communicating directly with the antrum, through destruction of the bone of the mastoid fossa.

That in young children the tissues over the

mastoid fossa should in cases of mastoiditis become inflamed and be the seat of an abscess is not to be wondered at when we consider what numerous and direct channels of communication with the mastoid antrum the blood vessels of the fossa furnish. As the child gets older the antrum recedes further and further from the surface, cellular or solid bone gets interposed, and the direct communication is shut off. In Case 2 the infectious material passed, by the blood vessels, from the antrum to the tissues overlying the fossa and formed an abscess, which increased in size, although through rupture of the drum the inflammatory process in the antrum and middle ear had subsided. In this case we had to do with a simple empyema of the mastoid antrum—the bone not being involved.

In Case 3 the child being younger and less healthy, the infectious material not only attacked the tissues overlying the fossa, but also the soft bone separating the fossa from the antrum, with the result that it was further softened and destroyed. Macewen thinks that the subperiosteal mastoid abscesses of childhood are due to escape of the secretions from the middle ear, through the mastoid suture to the surface. This may sometimes happen, especially in very young children. It is probable, however, that the vascular channels of the fossa are more frequently the route chosen by the infectious material in the formation of these not uncommon post-nasal swellings.

GASTRIC ULCER IN CHILDREN.*

By ELBRIDGE G. CUTLER, M. D., Boston, Mass.

Gastric ulcer in children under fourteen, though extremely rare, has been observed and reported 26 times—24 of these cases with autopsy. While, doubtless, some cases have escaped observation, or have not been reported, these are all that I have found in the literature. I will add three cases from the records of the Massachusetts General Hospital.

From the appearance of the ulcer and the history of the case, a division into acute and chronic ulcer is permissible. The situation of

*Original abstract of paper read before the American Gastro-Enterological Association at the seventh annual meeting, at Atlantic City, N. J., June 6 and 7, 1904.

the ulcer at post-mortem in the acute cases was near the cardia in five, near the pylorus in six, and midway between in two cases, and generally disturbed in two cases. In the chronic cases it was near the cardia in two, near the pylorus in three, midway between in four, and in one the location was not given. There seems, then, from these cases, to be a greater frequency at the pylorus in the acute, and in the middle portion of the stomach in the chronic cases, which is absolutely the reverse of what is usually taught. Certain anatomical differences of the gastric mucous membrane in the child from those in the adult, which are recorded by Werber¹ and Klein,² may very well have a bearing on the infrequency of peptic ulcer in the child. Furthermore, the assertion of Leo,³ that the gastric juice secreted by the child has a less amount of hydrochloric acid than in the adult, may have a strong influence on its infrequency.

Sex.—The female appears to be more susceptible to the disease than the male, for of the 29 cases 18 were females, 5 males, and in 6 the sex was not stated. Of the acute cases 13 were females, 2 males, 3 not stated. Of the chronic cases 5 were females, 3 males, 3 not stated.

Age.—Six of the cases occurred soon after birth, from 30 hours old to 15 days. Eight cases were less than seven years of age, and nine between 8 and 13 years.

The *symptoms* vary with age. Infants are simply restless and have hæmetemesis or mælena. There was evidence of pain in one case. Older children have dyspepsia sometimes or abdominal pain, which precede the more characteristic disturbance, but here as in some of the young cases, there were no symptoms in two, and one simply felt badly before the final issue. Pain in the epigastrium after food was present in five cases; in one it was extremely severe. It usually began soon after a meal, sometimes persisted during the whole period of digestion or until vomiting occurred. Exacerbations occurred from time to time, probably an indication of the extension of the ulcer. A violent attack preceded the occurrence of hæmetemesis or perforation not infrequently. The pain was located usually in one spot in the epigastrium; sometimes it was in the back, sometimes it was

spoken of generally as pain in the belly. A tender spot was frequently found below the end of the xiphoid cartilage and pressure here was said to excite nausea and vomiting in some instances. General tenderness of the epigastrium was spoken of, and once general abdominal tenderness. Vomiting was mentioned in 16 cases, and was usually not immediately after food. It was preceded by nausea, sometimes by increased secretion of saliva as well. In some cases the vomitus was acid, sometimes markedly so, but I found no record of an abnormal quantity of HCl. Hæmetemesis was observed in 11 cases, 6 acute, 5 chronic. It occurred shortly after a meal. It was more frequently bright blood. The appetite was not affected much; indeed, in several instances food was reported to have been taken eagerly. In the chronic cases the ulceration exerted an inhibitory influence on the growth and nutrition, one case being especially marked in this respect. Dilatation of the stomach from pyloric stenosis was spoken of in one instance. Perforation occurred in several cases. Eructations, fulness, distention, burning and nausea are mentioned the same as in adult cases, though less frequently.

Treatment.—The patient at any age should be kept quiet in bed for at least three weeks, and perhaps longer, according to the symptoms. Where there is tenderness, hot fomentations or poultices are advised during its continuance.

Diet.—Infants at the breast may be nursed a short time every hour if the milk agrees with them. A small amount of milk only should be allowed at each nursing. With bottle fed children, milk modified according to the modern methods and diluted with barley or Vichy water may be allowed with proper precautions. It may be peptonized before being taken. With older children, milk should be the chief article of diet, but soups, broths, meat extracts, raw or cooked meat juice, meat jellies, and egg white may be alternated with it. As improvement advances the diet should be cautiously increased. Doubtless nutrient enemata would have to be given at times.

Medicines.—For pain, opium in some form is the safest in the child, and should be given usually by the mouth in doses sufficient to meet the indication. The administration of bismuth I believe to be advisable, as in the adult. Small or single hemorrhages take care of themselves; when profuse or repeated, surgical consultation

¹Werber *Vechnungen des naturf. Ges.* 3 u. Freiburg. Bd. III, Heft. 3 u 4, p. 137.

²Stricker *Gewebelehre Magen.*

³Magenaussprelung im Saugleingen. *Zeitschrift für praktische aertze, Frankfurt au Main, 1896, V, s. 447.*

is obligatory. Meanwhile exhibition of suprarenal gland or saline infusions may be tried. A bland form of iron should be taken as soon as permissible, and later arsenic or cod liver oil can perhaps be added. The diet must be regulated for several months after apparent cure.

214 *Beacon Street.*

RECENT IMPRESSIONS OF THE MEDICAL SOCIETY OF VIRGINIA.

By HERBERT OLD, M. D., Norfolk, Va.

Every member of the Medical Society of Virginia is, or he should be, intensely interested in the proposed reorganization of the Society, which is to be voted on at the meeting in Richmond on the morning of Friday, October 21st. The new constitution and by-laws are very lucid and complete, and to the closing remarks of the committee (page 11 of the pamphlet) I can advance nothing as regards the many advantages of the proposed change. I have never seen a copy of the constitution and by-laws under which the Society is at present working, but as I have attended five of the six annual meetings since becoming a member of the Society, I have been forced to form an opinion not entirely favorable to the way in which the Society is conducted.

The writer was elected a member at the meeting of 1898, held at Virginia Beach. At this meeting all interest in anything scientific was superseded by what would be the report of the judiciary committee, and the criticism pro and con that followed the report lasted throughout the meeting. It is to be noted that although it was known beforehand that this committee would have some important cases to decide, two members of the same were absent, and, finally, a new committee had to be appointed to decide the most important case. The minutes of previous sessions were omitted for lack of time. Twelve papers were read by title. Several papers had to be read after the election of officers, for which only a few members remained. Some electioneering for officers occurred. I was not present at the meeting of 1899, held in Richmond, and I have never received a copy of the Transactions of this session. But Dr. Grandy

introduced a draft of the present State Board of Health law to obtain the approval and support of the Society, and this most important business could get no place on the programme until late Wednesday evening, after everything else had been finished. The Society gave its approval, but was unable to give any assistance in obtaining the passage of the law.

At the meeting of 1900 at Charlottesville, minutes of previous sessions were omitted. Much electioneering for officers occurred. Papers of visiting men were taken out of their regular order on the programme and given precedence over those of active members. The following papers, and quite long discussions of the same, consumed the Wednesday evening session: Pure Food Law, Pure Drugs, Special License Tax, and To Enforce Medical Laws. In fact, only one paper concerning a medical subject was read during the evening. Dr. Ray offered an important resolution, which was carried, to the effect that the fees for expert testimony be placed in the hands of the legislative committee. That committee has never reported on the same to my knowledge. There were some visiting men who read papers, and copies of the same were not forwarded to the secretary for the Transactions.

The meeting of 1901, at Lynchburg.—Minutes of previous sessions were omitted. Some electioneering for officers occurred. According to the report of the chairman of the Executive Committee, it is hard to get the committee together; consequently he had to do all the work himself. The chairman of the Membership Committee was not present at the first day's session; however, many names were voted on and passed. There was quite a discussion on a resolution offered to the effect that negroes be barred from membership in the Society. The Wednesday night session and all of the Thursday morning session (only one paper being read) was taken up with the discussion on the special license tax, and the majoriey of members present seemed to be sufficiently bored. It might be of interest to note that, although \$300 was appropriated to this committee, up to the present time they have accomplished nothing. This is not the fault of the chairman of the committee, who is a hard and enthusiastic worker, but is due to the fact that he has never received the active support of his committee nor of the Society, and even the \$300 was not available when

called for. Six papers had to be heard after the election of officers had taken place.

The meeting of 1902, at Newport News.—This meeting was largely a political one, the fight for offices commencing on the first day. Minutes of previous sessions were dispensed with. The reorganization of the Medical Society came up for the first time in the form of a paper. It was very notable at this meeting the large number of visiting surgeons and gynecologists—in fact, it could well have been called the meeting of the Surgical Society of Virginia.

The meeting of 1903, at Roanoke.—This meeting promised to be most interesting and instructive, judging by the large number of papers on the programme (35 or 40). The two visiting leaders of the subject for general discussion were not present, and their papers have not been forwarded to the Secretary. The afternoon and night of the second day were given up to desultory discussion of the proposed plan of reorganization and peanut politics. Not more than twelve papers were read during the whole session. There was much electioneering for officers.

I have been especially impressed with the number of visiting men present at our meetings; these men scarcely ever enter into the discussion of any of the papers read by the active members, and a good many of them seem to be present merely for the sake of advertising their colleges or themselves. They often read extracts from papers that have already been published or that they intend to publish at some future time, and sometimes we are honored with one of their lectures. They rarely remain throughout the session; indeed, their time is so valuable that their papers are taken out of the regular order of the programme and allowed to precede those of the active members. No one is more pleased than the writer in hearing papers by famous men, but they ought to respect the Society sufficiently to prepare a paper and send it afterwards to the Secretary to be printed in the Transactions.

From the foregoing I think it must be apparent to all that the present organization is incapable of attending to important business matters. To a large extent, from lack of time, there is hardly any discussion on the papers unless it should be one on "When and when not to operate in appendicitis," or one on the "Antiseptic Treatment of Typhoid." There is a feeling

among the younger members that they only receive encouragement for the payment of their dues and for their vote. I would classify the Society, first, as a political body; second, as an advertising medium to many; third, as a social body; and last, as a scientific body. By taking all business matters and the election of officers from the general meetings, we will to a large extent eradicate the factional spirit that now prevails in the Society, and there will be ample time for the reading of sixty papers, with discussion on the same.

The writer has given his impressions of some of the methods that he thinks can be easily remedied; not in a spirit of antagonism to any person or persons, for he has always received the most courteous treatment from all with whom he has come in contact at the meetings. He has no axe to grind, but is actuated by the desire to see this organization a power throughout the State, and an effective opponent to all illegal and unethical practitioners.

PROPOSED REORGANIZATION OF MEDICAL SOCIETY OF VIRGINIA.

By RICHARD T. STYLL, M. D., Newport News, Va.

In spite of the verdict at Appomattox, I am a State's rights Democrat. I accept the wisdom and truth of the dictum of the Sage of Monticello, the father of constitutional liberty, when he declared that the best governed people are the least governed people. I do not desire any right or privilege that I am not willing to grant to every other individual in this great nation; and I shall not, if I can help it, delegate any right I may have to any one else—it matters not how superior that other may be to me—especially the right to speak for myself in all matters in which I may be concerned. I believe in the doctrine of the greatest good for the greatest number, and I favor the sovereignty of the masses in the medical profession as elsewhere.

I am uncompromisingly opposed to the centralization of power in a bureau and the establishment of an aristocracy within the ranks of our most democratic profession. I am opposed to the abdication of our sovereignty and the surrender of our inherent and cherished rights. I

believe that the humblest member of this Society should have an equal share with the most favored in its legislation and the election of its officers, who administer its affairs; and because the less favored are the greatest number, I call upon every member of the Medical Society of Virginia to be true to himself and the traditions of his State, and destroy before it is born the monster, which is but the establishment of an aristocracy of the most favored, who wish to rule over you and guide and direct you to their own purposes and ends by the means of a bureau, from whose decision there can be no appeal. This suggests more of the infallibility of a certain power which seeks to govern the world than is acceptable to me.

Some may sneeringly remark I am uttering political platitudes and indulging in ideals. Every Democrat will tell you that the platitudes are truisms and the ideals are the foundation upon which the greatest people of modern times have developed into the strongest nation. No man nor people can become fully developed, healthy and strong unless there is the greatest freedom for the exercise of every limb and function. Every unit must have the maximum of freedom and the minimum of restriction.

It was in the borders of this freedom loving old Commonwealth that the right of men to think for and govern themselves first found successful expression, and God grant that Virginians may never be found so recreant to the priceless trust confided to them by their fathers as to willingly delegate it to any party under whatever utilitarian plea it may be asked. Remember Alladin and the new lamp. Fellow Virginians, let us hold on to the old.

As for me, I shall not for one moment listen to the siren's song, which calls upon me to surrender the smallest of the privileges which are my inheritance—no matter how seductive may be its strains—no matter how severe may be its proscriptive punishment. I have already been the first to feel the sting of proscription, and I can testify to the certainty of its falling upon any who may have the temerity to oppose the will of those who seek to fasten their yoke upon us.

The people who come, asking us to destroy at a single blow that grandest of American Medical Societies, which we have so successfully builded after thirty-five years of pains and toil, have failed to give us a single reason for doing so except the one that the American Medical

Association wishes it. Now, what is the magnificent new law that the American Medical Association offers us in return for the dear old one which has always responded to our demands, and has endowed us with all the privileges that Virginia doctors enjoy? It offers us nothing we do not already possess, except representation in the House of Delegates of the American Medical Association. Let us stop and consider this proposition. For representation in the House of Delegates of the American Medical we are brazenly requested to surrender all our personal rights and interests in our beloved profession, and blandly told that we must wear their button as a reminder that we have been fools, and that we have willingly accepted the position of professional serfdom. The only rights the proposed law leaves us is the right to obey, and the privilege to wear the badge of servitude. Oh, wondrous grace! I do not believe we would be allowed to live, if we were not useful as servants. *Ich* has been exalted as the highest virtue—for the masses.

In the Council, with its power of censorship, and from whose judgment there can be no appeal, we will have a bureau more powerful than any which has ever emanated from the brain of man, save that gigantic and merciless machine given to the world by that unequalled organizer and controller of men, Loyola, the matchless founder of the Society of Jesus.

Through this agency the door of hope will be forever closed against the poor man without family influence in our profession. The world will never again hear of such matchless triumphs over adverse conditions as were shown by Marion Sims. What chance would he have had in his contest with the leaders of the New York profession if they had had such a machine to crush him as this one we are asked to establish for our government. Poor man, what chance will you have for a professorship in a medical college, if a son of one of your distinguished and all-powerful councillors should fancy the same? It will make no difference how much merit you may have nor how little he. Nobody would dare to recommend you, and even if they did you would never be considered in face of the recommendation of the august Board of Councillors. Do not fail to remember they would even have the power to turn you and your endorers out of the profession, and there would be no appeal.

Doctors of Virginia, who have no other re-

liance than your own individual merit and the right to fight for your position in your profession, go to Richmond and vote against this effort to destroy your Society and rob you of your heritage.

liable to make mistakes sometimes, still they are a body of gentlemen the world over, so considered, I believe, and as present organized our State is getting along very well.

The word "Censor" is objectionable, except at the start—at the entrance door. There's where the trouble is if trouble there be from afterclaps. In diagnosing the difficulties of lack of knowledge and want of ethical bearing along the medical lines, what more natural than to seek the cause at the entrance doors of the colleges—the training schools, and, of course, the exits likewise from the same? Medicine claims no more honor than any other honorable profession, but it does claim to live on high-toned principles, which must come after the fashion of the painted grapes—i. e., naturally, if possible (I mean, should come by early "bending of the twig the way it should go," and that is but the natural way).

REORGANIZATION OF THE MEDICAL SOCIETY OF VIRGINIA.

By WM. S. STOKLEY, M. D., Cheriton, Va.

There was once an amateur artist who painted a bunch of grapes, and being doubtful of his success, put the painting where it could be seen by the public; and, himself unobserved, kept an eye on it to remark the comments. An expert at the business came along and attempted to pick off one to eat, but it was a painting only, and did not materialize for eating purposes. The amateur observing this, said: "I intended to have submitted it to you as an adept, but now I am satisfied that it is good, yet you cannot eat it."

Who is not satisfied with the pretty painting of the proposed reorganization of the Virginia State Medical Society, and is not convinced that it is good? Yet, who among the members can say with any certainty that it can be utilized for working purposes (hygienically) at this particular time?

It appears complete in every detail, but it is only "a picture" as hard to materialize in working capacity as were the grapes to eat. And it must have "retouches." Here is threatening trouble. Who can tell if these latter may not be as fatal to it as are often the retouches of the natural lip and cheek of the real beauty?

The complete organization of the medical fraternity of the United States is a consummation devoutly to be wished, but the task is one of such gigantic proportions that it staggers all energy in that direction. There are so many incongruous elements confronting and demanding recognition under the laws of this free country.

The regular profession of our State is not cramped or handicapped in any way that I know of more than usual. The course is clear, the regular channel-way is and has been safe for a number of years, because it has been made on honor, and guarded, to be sure, by finite beings,

It is not to be denied that such an organization as the Medical Society of Virginia is now discussing, if it worked harmoniously, would give the profession strong political power, but that same power might bring strife and bickering among its members for political purposes, thus creating a *pot-pourri* of politics and medicine. Every member must stand or fall under the estimate of the people as a doctor. No friendship or kinship or political power can weigh a feather in the sick chamber against the best doctor—in the opinion of the people.

The sick want the most fortunate doctor—one with the best results in practice—no matter how humble he may be, if he only has success on his side. That a majority of the members, or whatever proportion the constitution requires in this instance, of the Society should rule in the matter of reorganization is proper, and as it should be—not a majority or any proportion of those who happen to be present at the session, if not complete. For, there are often the very best reasons why country physicians (especially) cannot always attend promptly, and I venture to say that no members have the good of the Society more at heart. They are not "the guns," to be sure, but are they not after the manner of "the men behind the guns?" They have to work and work hard, with no luxurious surroundings. They hear the "chirp of the cricket on the clay hearth" and minister to the occupants with the same politeness, gentleness and kindness that they would in a palatial resi-

dence. (These members would, under the proposed new constitution, likely be at disadvantage.)

They must meet nature as did the artist the grapes, "unadorned," and when they paint—and, when they "doctor" their fellow beings it must be after the plan of the Madam (Nature), to be successful. It is well to remember she will not bear too many "retouches." While the picture (plan) is good to look at, and very much to be desired, the many difficulties it would encounter in a working capacity render it impracticable as explained at length by Dr. Edwards in a recent issue of the *Virginia Medical Semi-Monthly*.

I do not wish to be understood in this matter as opposing unreasonably and obstinately any alteration in the constitution governing our body which is for the best, but simply submit this as my humble opinion, with due deference to the members of the opposite. Let us only do what is best for the Society as a whole.

Dr. Edwards has by statistics and tabulated statements, together with a chain of reasoning made the matter plain, doubtless, to a majority of the members, that the Society had best remain as it is—on the old *regime*, at least for the present, unless so many (the required number) desire the reorganization: if so, let us have it, and then "the grapes will not be *sour*" at any rate to any member.

PROPOSED REORGANIZATION PLAN OF MEDICAL SOCIETY OF VIRGINIA REVIEWED.

By LANDON B. EDWARDS, M. D., Richmond, Va.

In August 26th number of this journal, the writer stated some reasons for opposing the proposed plan of reorganization of the Medical Society of Virginia. Responses were invited for the September numbers, with the understanding that the journal discussion of the matter would then be closed. In the first September number, Drs. Chas. R. Grandy and E. T. Brady gave their reasons in favor of reorganization, as does Dr. Herbert Old in the current number. Several communications favorable to the views of the writer, go so much over the grounds covered

in the article of August 26th issue, that upon consultation with the contributors, their papers have been withdrawn. Dr. R. T. Styll, however, so forcibly presents views of his own in opposition to reorganization, as does also Dr. Wm. S. Stoakley, that their papers also appear in this number.

Let us summarize the salient points in the articles of the three able and earnest advocates referred to of the proposed reorganization plan:

1. Every member of the Medical Society of Virginia will remain a member after the reorganization.

2. Those who are not members of county societies at that time will not be compelled to join them.

3. But those who do not organize themselves into county societies, or who do not unite with existing Societies will be debarred all voice or rights in the business management of the State Society.

4. New members of the State Society must first become members of their local organizations. In short, membership in the local Society entitles the party to membership in the State Society.

5. Members of the State Society, where no county Society exists are to *declare* themselves the nucleus of their respective County Societies.

6. These local Societies must meet at least once annually to discuss professional and mutual affairs, and *elect officers and delegates*.

7. These delegates—in the proportion of one for every 20 or less members of the local Societies—will form the House of Delegates of the State Society.

8. The House of Delegates is to meet in advance of the sessions of the State Society, transact *all* business, and be prepared to report results to the State Society in session.

9. There is no veto power vested in any one, nor has any member of the State Society the right to appeal from any of the rulings of the House of Delegates.

10. Thus the scientific proceedings of the Society would not be interfered with by business matters, and the programmes would be gone through with.

11. Different committees of the State Committees of the State Society at present are generally chosen from a small body of men whose names repeatedly appear in the *Transactions*, along with a very small admixture of outsiders.

12. Counties would have a larger membership in the House of Delegates than the cities.

13. Dr. Old's complaint is that the scientific programmes are not gone through with, that papers are taken out of their regular order; that visitors are given precedence; that some manuscripts presented the Society are not forwarded the Secretary for publication in the *Transactions*, etc. Such complaints are presumably used as arguments in favor of component County Societies and a House of Delegates!

While a good deal of detail is given in the papers of Drs. Grandy, Brady and Old, if other material points occur in them in favor of the "uniform plan" we have not recognized them.

The first three points may be grouped for present consideration.

In round figures, with the addition at the session October 18-21, the actual membership of the Medical Society of Virginia will be over 1,250. This places the Virginia Society, proportionately to the estimated total of regular practitioners in the State (2020), in the very first position of all the State Societies in the Union—even ahead of Alabama, the only State that has legislative enactments specially favorable to the organization of county societies. Keep in mind that *this membership of the Virginia Society has not been secured through membership of local societies, but is voluntary on the part of each doctor.* Incidentally it may be remarked that the membership of the Virginia Society represents *ninety-nine* of the total one hundred counties of the State. *No other State Society has any such record.*

Of the entire membership of 1250 or over, not materially more than 400 are members of distinctive county and city societies. If the proposed plan of reorganization were adopted, considerably over 800 members of the State Society—*over two-thirds*—would not have even a voice in the business affairs of the State Society—for none but members of local societies can vote for members of the House of Delegates. Is that fair? *Is it right?* Are not the over two-thirds members of the State Society, who are not members of local societies, as much concerned in its welfare as the 400 members of local societies? If the over 800—presumably as honest and honorable as the 400—find out that they are debarred from any say in the business affairs of the State Society, what harmony would be apt to exist in the profession of Virginia? The forcible attempt at such a measure is opposed to every idea of equity.

As to the fourth point, *if reorganization is effected on the proposed basis*, new members of the State Society join by virtue of their membership in component local societies. Would the State Society get a more ethical body than now belong? In counties where only four or five doctors reside, an influential quack or irregular is more apt to secure membership in such county society than in the State Society. Any one observant of such matters is time and again confronted by the fact, where there are only a few doctors in a community, that it is hard to find a doctor in that community, who will *openly* oppose the admission of such an irregular. Under the plan of application for

membership in the State Society, however, the applicant must be vouched for by some member who knows him. And if suspicion is aroused as to the proper character of the applicant, further inquiry is made. During the past twelve months, for instance, a number of applicants who forwarded their initiation fees have been rejected and their initiation fees returned because they were not properly vouched for. Of course, such rejections are made only after satisfactory inquiry, and without open involvement of the local doctors. The Medical Society of Virginia wants none but *worthy* doctors as members.

As to the fifth point—that the present membership of the State Society *declare* themselves the nuclei of the 99 county societies—that appears a little too presumptuous. A number of counties represented in the State Society by one or two members have many more worthy regular practitioners in them. In such counties, the declaration reminds one of the text, “The temple of the Lord are we.” In some such counties, it would be to declare the member of the Society who forms “the nucleus” of his county society, the president, the secretary and the *delegate-elect*. Would such be a representative society of that county? *Legally*, the so-called *delegate-elect* might assume the prerogatives of a member of the House of Delegates of the State Society; but in reality, his claim as a representative would be but as “high sounding brass.”

The sixth point requires at least an annual meeting of each local society to “discuss professional and material affairs, and *elect officers and delegates.*” This might be all right if truly representative societies were organized, and if representative doctors of certain counties will do so, but will they? In the writer’s first article attention was called to the relatively few county centres in Virginia, the proverbially bad roads leading to them, the limited railroad facilities, and the large size of many counties where doctors are ten or more miles apart, and some of the best of them from 20 to 25 miles from their county centres, etc. In such counties, even the requirement of active membership as tests of membership of their State Society will not suit. Is it probable, under such circumstances, that properly representative men would be elected as *Delegates*?

As to points seven and eight: If all counties organize and send delegates to the House of

Delegates, there would be an attendance of about 130 or 140 doctors. These added to the number of doctors of the place of session of the State Society and a few others from neighboring towns and counties, would make a very respectable enrolled attendance upon an annual session. But if the House of Delegates is to be composed of representative men, will they, for a longer time than the novelty period, be willing to leave their homes and practices materially in advance of annual sessions of the State Society in order to give careful, deliberate attention to the business matters that ever and anon arise? He knows very little of human nature if one supposes that as many as an ample quorum will continue, year after year, to make such personal sacrifices without compensation. Or if the House of Delegates meets during the hours of the State Society, then these representative men will time and again be out of the hall when their presence in scientific sessions is most desirable. Look over the records of the various State Societies that adopt this plan—both this year and last year—for verification of this statement. The House of Delegates has to attend to *all* business matters—not to single items, as committees have to do, and which can be attended to during the recesses of the sessions.

As to the ninth point, the fact that a veto power is vested in no one, and that no member of the Society can appeal to the general session from any of the rulings of the House of Delegates—made in the heat of debate, the enthusiasm of oratory, or the tendency to follow a good leader in that house—is certainly an objectionable feature.

As to the tenth point, it is surprising that those who complain that the programmes of scientific papers of the Virginia Society are not usually completed do not recognize that the same fact applies with equal force to State Societies that have component county societies and Houses of Delegates. To each paper read and discussed, an average of fully 25 to 30 minutes must be allowed—especially if *discussion* of paper is the important thing. Including the symposium on Serum Therapy, in the programme of the approaching session of the Virginia Society, the titles of 40 papers are announced, and this does not refer to six or eight more—the titles of which have come in too late for announcement on the programme. Allotting 26 minutes to each paper and its discussion,

full seventeen hours will be required, yet not more than a total of 15 hours has been allowed the scientific sessions. This is about as much time as other State Societies allow for scientific proceedings. Surely some papers will have to go unread except by title, simply because the members of the Society will not stay through a Saturday's session to hear them.

As to the composition of committees, etc., of the State Society—the eleventh point—the fault plainly lies as much with the complainants as with the Society. Complainants on this score have full rights to make their nominations—as much so as a House of Delegates.

As to the twelfth point, *if the counties organize* so-called component local societies and send delegates, the counties would have a majority in the House. But as it now is, for instance, at Roanoke the total attendance was about 260, of whom full 150 were from the country or small villages. So that the present attendance of county doctors on annual meetings form a good majority. The argument, therefore, that cities outnumber the counties in attendance is a *mistake*.

As to the thirteenth point, we fail to appreciate the relationship of the facts stated to the question at issue. A House of Delegates could not possibly make more stringent regulations as to the items referred to by Dr. Old than already exist as resolutions of the Society. These are ample except as some over-zealous member moves to alter the order of the programme, and carries his point. As to Pure Food Laws, Pure Drugs, Specific License Tax on Doctors, How to Enforce Medical Laws, etc., is a House of Delegates more competent to discuss such questions than the Society itself? Are not doctors at large as much interested in such matters as a House of Delegates could be?

The Roanoke session, 1903, was a scientific disappointment. But was such attributable to other causes than the persistence of those who advocated reorganization, and *preferred* the agitation of this business matter to the hearing of scientific papers and their discussion? It is sincerely to be hoped that never again will so much time be wasted from the scientific proceedings.

Complaint is made that distinguished invited visitors are allowed time for the presentation and discussion of scientific papers—men for the most part who have more than national renown,

and whose able contributions materially help to maintain the high standing of the Virginia Society among the State Societies of the country. And yet no complaint is made against that *visitor* at the Roanoke session who occupied an *hour and thirty-five minutes consecutively* in advocating a reorganization of the Society—although only twenty minutes is the time limit of any speech or paper.

A full year has passed since the 1903 session, when the question of county organizations was fully ventilated. During this period specially earnest efforts have been made to get county doctors to form themselves into local societies; and yet *only one county society* (Bedford) *has been organized during the entire year*. It is noticeable, in this connection, that not one of the doctors at Roanoke who came from counties where no local societies existed, and yet earnestly advocated the organization of county medical societies, has even in the period of the year, effected any kind of organization in their respective counties. Their counties yet remain without county societies. Such a fact does not speak well for the earnestness of their zeal in debate.

When the doctors of a goodly majority of the counties of the State *voluntarily* organize themselves into truly representative societies of their respective counties, it will be time enough to further discuss this question of reorganization of the State Society—especially when there is nothing in the present organization that affects its relationship to the American Medical Association. But as representatives of a liberal profession, in which individuality of sentiment is one of its recognized rights, we are opposed to ostracizing over two-thirds of the present State Society from any voice in the control of professional or business matters.

How many of the representative medical States of the country have made progress in the matter of organization of component county societies? New York—perhaps the chief representative medical State, with its numerous colleges, hundreds of hospitals and eminent teachers and authors—with a total of 12,208 regular doctors, has a percentage of only 13.13 of members of the State and component societies combined. Illinois—the home of the American Medical Association, with its magnificent and expensive outfits for the publication of its *Journal*, which has an *annual* income of probably

over \$200,000, out of which to pay well living salaries and travelling expenses of “organizers” to all parts of the country—even this great State of Illinois has a percentage of only 47.03 of members of State and component societies as compared to the 8,356 regular doctors in it. District of Columbia, Indiana, Kentucky, Michigan, California, Ohio, Tennessee, etc.—each known as medical educational centres and having eminent teachers in them—all, with their organized component county medical societies and House of Delegates, fall below Illinois in their percentages. In face of these facts stands Virginia—the *leader of all State Societies* as to percentage of members to medical population, and as to the interest of its members in their organization; with a State Society which, in its successes, amazes the profession of the country, which has been built up by the *individual* interest of its members in it under its present organization of equal rights to each and every one! Why, then, in this day of its surpassing successes, should any friend of the society advocate the introduction of a plan that probably would result in its injury and falling off of interest of numbers in it? We repeat and earnestly urge: *Let well enough alone* when that “well enough” is *already the best in the country*.

MALE NEURASTHENIA.

By EPHRAIM CUTTER, M. D., LL. D., New York, N. Y.

In the *Virginia Medical Monthly* for February, 1890, the writer presented a communication, entitled “*Male Neurasthenia—New Cause and Treatment—A Preliminary Report.*”

After fourteen years it is not hasty to give the regular report, which is that the grounds taken have been sustained; that colloid catarrh of the urinary tract is one great cause of male neurasthenia; that the light protoplasmic cloud occupying sometimes the lower half of the vial of urine in said catarrh; that it must be verified by the microscope with a one inch and a one-fourth inch objectives; that the cloud is made up of gluey, viscid matter, with no extra amount of mucous corpuscles or epithelia—moulded in shapes like Indian clubs, varying in color from white to bronze, then if you look further, you

will find skeins of colloid curled in fanciful shapes, sometimes separating into single threads and sometimes filling the field so full of the Hogarth's lines of beauty that you cannot help expressing your surprise, perhaps to the discomfort of your anxious patient. Besides this, the discharge is sometimes diffused through the urine in a light, fleecy, unorganized cloud, which is somewhat difficult to recognize unless one is familiar with protoplasmic studies and impossible to recognize with the one-quarter inch and higher objectives; it needs the one inch.

In enumerating these three forms, sometimes found together, we speak first of protoplasmic; second, filamentous; and third, Indian club—that the diagnosis must be based on seven successive specimens of seven days. Why? (a) If you happen on spermatozoa the day of their normal discharge, it is unwise to call the case one of spermatorrhœa. If you get them on all seven days it would be correct. (b) The protoplasmic colloid must be found in the majority of the seven days' specimens; the larger the majority the worse the case. (c) Sometimes the colloid alternates with albuminuria, renal cast and fatty epithelia, which make out the diagnosis of fatty degeneration of the kidneys, especially when backed by free subdermal oil in blood and fat in leucocytes, under the microscope.

Importance of Male Neurasthenia Based on Catarrh of the Urinary Tract and Spermatic Ducts.—The idea has grown in fourteen years, that it is of great importance because of its frequency, and its being found with other diseases. While some patients live for years in pain, sickness and distress, others have died from it alone apparently, and some with organic lesions enough to satisfy the most severe critics. For example: One male neurasthenic went insane and died. The pathologist of the asylum sent a list of some nineteen causes of death found at autopsy—among them, pleurisy, pneumonitis, pericarditis, mitral insufficiency, hardened liver, kidneys showing some signs of fatty degeneration, but not marked; atheroma of the aorta and iliac arteries. Male neurasthenia did not cause all these lesions, as autopsies of other neurasthenics show no such complications.

Still there is some light thrown on the occasional alteration of albuminuria, renal casts, and fatty epithelia by finding atheroma, which is fatty degenerative deposit of cholesterin (a fat

acid body normal in bile) in the arteries. But said pathologist's report of another autopsy of an alienation case, who had had colloid neurasthenia, under my care with the alternating albumin, renal casts, and fatty epithelia, did not report atheroma, nor fatty kidneys; so the kinship is not settled.

Urinary Colloid Catarrh in the Insane.—The morning urine of 100 male lunatics, one specimen from each, was examined by the writer in 1890. In 80 the colloid catarrh was found, in the other 20 it was replaced by albumin, renal casts or fatty epithelia. Of course, the writer could not tell whether this 20 per cent. was alternative or not, as he was not accorded a further privilege of examination. He wishes for this chance now, for this shows that colloid neurasthenia has something to do with insanity.

Causation.—Catarrh is due to a partial paralysis of glands and organs. As an *illustration*, a healthy man eats a hearty dinner, and during its digestion he is hit over the solar plexus. If he does not die immediately, he will sprawl on the ground more or less unconscious. Out of his mouth will copiously pour the gastric secretions and contents that come from sources partially paralyzed by the blow. So let the glands of the respiratory tract be partially paralyzed, and they will pour forth their secretions diluted and abnormal, because there is not nerve force enough to normally organize them. The source of this paralysis can be traced to the gases of fermenting food in the alimentary canal, long continued and in excess; so also the catarrhs of urinary and alimentary tracts. When the digestive functions have become normal by feeding foods that will not ferment, then the catarrhs will generally cease, as the local and systemic paralysis of parts near and remote ceased simply because the carbonic acid and other gases were not produced, and because the food assimilated conferred nerve force enough to run the body normally. The leaks of vital force are thus stopped and the system properly nourished, for nature is all the time trying to cure physical and spiritual ills. Let this fermenting process go on unchecked by proper feeding, then the organic lesions are liable to multiply, the more so when old age comes on and the circulations are retarded and impeded by impaired vigor (dynamis), as exemplified in the asylum case referred to above.

May we not suggest what follows? Is not in-

sanity in some cases a mental paralysis? If there was such a thing as intellectual catarrh, as evidenced by distorted, awry, bizarre, cracked thoughts, devoluted from normal (sane) cerebration to abnormal (insane) cerebration (just as the catarrh under consideration differs from the normal secretions of the urinary and spermatric tracts), then it would seem as if there were ground for this distinction. But be this as it may, experience has taught the writer that the removal of said catarrh has been followed by a restoration to health, as well as the removal of the insignia of the occasional fatty degeneration referred to. In this connection it may be said that atheroma has been probably removed by the like treatment. Of course, no one can tell surely as to aortic atheroma, save in autopsies, and we would record our indebtedness to the above pathologist for the light he has shed on atheroma, a disease of nutrition.

If the presentation here made is sustained, so long as 80 per cent. of insane men showed this catarrh, would it not be worth while for the pathologist of insane asylums to look this up and see if it is verified; and, if so, then to treat the said insane so as to secure normal urine and blood, and especially to see if the paralysis of the brain might not be relieved as the other local paralyzes (catarrhs) are relieved.

The catarrhs under consideration go with locomotor ataxia, as I have observed in my experience. Arresting the catarrh has relieved such cases.

Treatment is not here considered.

Flat-Iron Building.

Correspondence.

Early Use of the Hypodermic Syringe.

Mr. Editor,—In the *Virginia Medical Semi-Monthly* of June 10, 1904, Dr. George Barksdale, of Richmond, Va., gives a history of the introduction of the hypodermic syringe into medical practice; when and where it was used, etc.

Previous to 1860 I had read in *Braithwaite's Retrospect* one or more articles from Dr. Alex. Wood, of Edinburg, in which he defined the objects and uses of the hypodermic syringe as modified at his suggestion; the Phoenix instrument being the one from which he copied.

In 1860 the instrument was in use in New

York city, and in the fall of that year I procured an instrument of the Goodyear Rubber Co., New York city, and commenced the use of it in the fall and winter of that year. The first case in which I used it was a case of lumbago, and the patient was Peyton G. Neale, of Grayson county, Va., afterwards famous in the Virginia Legislature of 1881 as one of the "big four." In this case I was satisfied with the result, as the patient recovered in a short time. I used the instrument frequently during the winter of 1860 and 1861, but the stud canula or needle was so large that its introduction was attended with a good deal of pain, which deterred me from its use in many cases, especially with nervous patients.

When I left home at the outbreak of the war, as I was not then connected with the medical staff of the Confederate army, I left my syringe at home and did not see it again until I returned home at the close of the war. During my field and hospital service in the army I frequently had cause to regret that I did not have my syringe, but I had forgotten where I had left it, and consequently could not tell any one at home where they could find it, that it might be forwarded to me.

During my service in the army of Tennessee, after I went to hospital duty, I heard of the hypodermic syringe being used in a case of tetanus, with no decidedly favorable result, but by whom I do not now recall, but it was late in the year 1863, or in the early part of 1864, and I think by Surgeon Wyble, of the post at Forsyth, Ga., to which I was assigned for duty.

After my return home at the close of the war I hunted up my syringe and commenced using it. At this time I do not think there was another hypodermic syringe in Southwest Virginia, nor in the State as for that. The physicians of my county knew that I was using this instrument at this time, for I had used it on some of their patients. A year or two after the close of the war the physicians in the adjoining counties commenced supplying themselves with this useful little instrument, and claimed wonderful cures from its use. As soon as I could after the war I supplied myself with a more modern instrument, and had a good, substantial knowledge of its indications, uses and limitations. I now have a part of the old rubber instrument purchased of the Goodyear Co., before the war.

W. H. BRAMLITT, M. D.

Pulaski City, Va.

Analyses, Selections, Etc.

Endermol, a New Vehicle for Ointments.

In a paper by Virgil Coblentz, Ph. D., Ph. M., F. C. S., New York (*Medical News*, Sept. 3, 1904), it is stated that endermol, a combination of stearic acid amide and paraffin hydrocarbons, forms an almost white mass of about the consistency of lard, inodorous, of neutral reaction and fusing at 78° to 80°C. The iodine absorption number is 16.98, while that of lard averages about 62—a point in favor of the former as a vehicle for iodine.

When exposed to air and sunlight under adverse conditions, samples retained their color, consistency and blandness. When applied to the skin by inunction, it forms a smooth, soft, unctuous mass, which is readily absorbed. This may be demonstrated comparatively by applying a little of petrolatum, lanolin and endermol in separate portions by inunction to the skin and noting the time required for absorption. Furthermore, applications of endermol ointments of iodine (without potassium iodide), and also of aconite were followed by the excretion of iodine in the urine after about five hours in the former, and the characteristic dryness of the throat in the latter.

Rancidity in fats is due to hydrolysis or splitting up of the esters of the fatty acids, with liberation of the free acids. To the presence of these the irritating properties of rancid fats are due. In endermol we have a stable fatty acid derivative, which is not decomposed under any conditions through the action of light, air, moisture, or such chemicals as are usually employed in ointments.

To demonstrate the adaptability of endermol as a vehicle for ointments, mechanically as well as chemically, ointments with such substances as the yellow and red mercuric oxide, yellow and red iodide of mercury, zinc oxide, lead subacetate and carbonate, ichthyol, tar, vegetable extracts and mercury were prepared. All of these yielded smooth, uniform ointments, which showed no change whatever upon exposure.

The use of petrolatum, as is well known, is restricted to that of a dressing, and this to a limited extent owing to its immiscibility with water, certain chemicals and galenicals.

Lanolin, an excellent vehicle, is objectionable because of its stickiness and toughness; and

when combined with animal fats (as in lanolin creme), such ointments become rancid and offensive.

While lard or other animal fats may originally have been anhydrous and benzoinated, yet rancidity ensues sooner or later, particularly when aqueous fluids have been incorporated. Aside from the irritant action, chemical reaction of the liberated fatty acids upon the medicinal agent follows.

Again, lard substitutes consisting of mixtures of suet or tallow or cotton seed oil, stearin with cotton seed, sesame or coconut oils, are not only open to the same objections, but also the possible presence of alum, alkalis or water, which render them still less desirable.

Because of its blandness, pliability and freedom from stickiness, endermol is especially adapted as a lubricant for massage treatment, always leaving the skin soft and pliable.

To sum up, the advantages of endermol as an ointment vehicle are: (1) Absolute freedom from any tendency toward rancidity, although as much as 15 per cent. of water may be incorporated; (2) ready penetrability and absorption; (3) pliability, smoothness and freedom from stickiness; (4) freedom from irritating properties.

Glyco-Thymoline in Mucous Diseases.—Dr. W. R. D. Blackwood, Philadelphia, says (in *Med. Summary*) that treatment of catarrhs is often disappointing—especially *post-nasal catarrh*. To establish an alterative condition is the important thing. Nothing has been of greater service to him in several hundred severe and long standing cases than glyco-thymoline, locally and internally. In fact, he regards this preparation as a standard and routine remedy for such cases. It is just alkaline enough, and it acts locally with just the right amount of fluid secretion; it is just astringent enough without drying the parts, and is just the right thing for reparative work. While many agents are employed for this condition, if he were limited to one agent alone, he would adopt glyco-thymoline. For years, he used boric acid, salt, glycerin, etc., with fairly good results; but he has since used glyco-thymoline, as it takes the place fully of the agents just named. He uses it in about half strength with the Birmingham douche, three or four times daily. In bad cases, he also uses it internally, with mercuric bichlo-

ride—adopting the compound syrup of stillingia as the menstrum. If syphilis is suspected, he always uses such a prescription. In gastritis, chronic enteritis, vaginitis, gonorrhoea, etc., he prescribes glyco-thymoline freely. As a local application to foul ulcers, and especially hemorrhoids, it acts well. In nasty, chronic leg ulcers, it does wonders. It is fine in bronchitis, spasmodic croup, venereal disorders, it promptly stops a balanitis. It cannot do any harm in any usual dose.

Tea and Coffee and Cocoa Compared.—

The Coca Leaf notes that both tea and coffee are excitants, producing sleeplessness through increasing the action of the heart. The resulting reaction in sensitive people approaches a toxemia comparable to that from the abuse of alcohol or opium. The symptoms of caffeism are feelings of apprehension, with a vague nervousness, tremulousness, vertigo and various digestive disturbances, which may prove more than temporary annoyance, and may lead to persistent functional disorder of the nervous system. Dr. Haig pointed out that these beverages are carriers of xanthin products, which load the tissues with uric acid and occasion various disorders. But *cocoa*, while possessing all the advantages of an exhilarating stimulant that may be employed as a daily beverage, has no ill effect. Mariani, of Paris, prepares a fluid extract of cocoa which represents all of its qualities. A teaspoonful in a cup of hot water—with sugar and cream if desired—forms a pleasant drink, not unlike a good breakfast tea in flavor. This is a stimulant to digestion, and aids the system in the performance of its functions. As a tonic stimulant, Vin Mariani may be taken either before or after meals, to promote assimilation and impart a sense of well-being. Coca does not excite to an excess of nervous effort, but has a marked influence upon muscular tissue by converting certain stored-up elements into usefulness. Thus it is a true reconstructive tonic, which tends to maintain the balance of the system in its wear and tear.

He who receives a good turn should never forget it; he who does one should never remember it.—Charron.

Book Notices.

International Clinics. Edited by A. O. J. KELLY, A. M., M. D., Philadelphia, *With the Collaboration of Twelve Doctors in Various Medical Centres of the World. Volume II. Fourteenth Series.* 1904. Philadelphia: J. B. Lippincott Co. 1904. Cloth. 8vo. Pp. 314.

This volume is in keeping with the practical excellences of predecessors. It opens with nine chapters by as many able authors on "Diseases of Warm Climates," four on "Treatment" of diseases, three on different subjects in "Medicine," five on "Surgery," one on "Bronchopneumonia in Children," and one on "*Nasal Obstructions.*" An unusually large number of plates and figures are used throughout the text. It would be hard to say which of the articles is best—each is so thorough and practical. This *quarterly* keeps the doctor well informed as to discoveries or advances in the various fields of practice, etc.

System of Surgery. By PROF. E. VON BERGMANN, M. D., Berlin; PROF. P. VON BRUNS, M. D., Tubingen, and PROF. J. VON MIKULICZ, M. D., Breslau. *Vol. IV. Surgery of Alimentary Tract. Translated and Edited by WILLIAM T. BULL, M. D., Professor of Surgery, College of Physicians and Surgeons, Columbia University, New York; EDWARD MILTON FOOTE, M. D., Instructor in Surgery, same College; CARLETON P. FLINT, M. D., Instructor in Minor Surgery, same College; and WALTON MARTIN, M. D., Instructor in Surgery, same College.* Lea Brothers & Co., New York and Philadelphia. 1904. Large 8vo. 757 pages. Per Volume, *net*, cloth, \$6; leather, \$7; half Morocco, \$8.50.

This is not simply a translation of a great standard work, but throughout are found the master hands of the American translators and editors. This volume is illustrated by 345 engravings and 16 plates—each of special practical value in making the text even clearer than it would be without them. The work, while encyclopedic, possesses the great value of being clinically practical. This fourth volume covers the immensely important subject of surgical diseases, etc., of the whole alimentary canal, including hernia. The special features wherein American surgery differs from that practiced in Europe are fully brought out, and the richness in engravings and plates of the American as

compared with the German editor, give the American volumes an advantage over the original work. The practical surgeon cannot well do without this latest and best of works on surgery.

Normal Histology. By EDWARD K. DUNHAM, Ph. B., M. D., Professor of General Pathology, Bacteriology and Hygiene in University and Bellevue Hospital Medical College, New York. *Third Edition, Revised and Enlarged. Illustrated with 260 Engravings.* Lea Brothers & Co., New York and Philadelphia. 1904. Cloth. 8vo. Pp. 334. \$2.75 net.

The demand for this as a text book is shown by the call for a third edition in less than four years—which has given the author the opportunity, of which he has availed himself—of bringing the work thoroughly up to date, either as a student's text book or practitioner's reference book. The work is a clear and concise exposition of the important fundamental subject—a knowledge of which is essential to the student—invaluable in the every-day work of the doctor.

Text Book of Alkaloidal Therapeutics. By W. F. WAUGH, M. D., and W. C. ABBOTT, M. D., with Collaboration of E. M. EPSTEIN, M. D. Chicago: The Clinie Publishing Co. 1904. Cloth. 8vo. Pp. 405. Price, \$2.50.

On the title page we find a very good description of this book—"a condensed resume of all available literature on the subject of the *active principles*, added to the personal experience of the authors." It forms a most valuable addendum to any systematic work on materia medica and therapeutics. Especially to the country doctor, who has to carry medicines with him, a full line of the alkaloids and active principles of drugs in convenient packages, is a desideratum. This book tells how to use them—in short, it is a full work on alkaloidal materia medica and therapeutics.

The Doctor's Recreation Series. CHARLES WELLS MOULTON, General Editor. *Vol. II.* 1904. The Saalfield Publishing Co., Chicago, Akron, O., New York. 8vo. Pp. 342. Gilt top, Cloth, \$2.50; half Morocco, \$4.

This *Series* will serve a helpful purpose to many a doctor. Each volume consists "of short stories concerning the doctor's life." To quote

from the *Preface*, "Many of them are old favorites. Many of them are by well-known and standard authors. All relate some episode in the doctor's life in a manner both striking and original." To attempt a glance over the pages, the doctor finds himself absorbed in interest over the story being told, so that he *reads* the good old stories which instruct him and better qualify him for his daily work. It is a fine book—not indispensable, but exceedingly useful for recreation reading.

Practical Medicine Series of Year Books. Under General Editorial Charge of GUSTAVUS P. HEAD, M. D., Professor of Laryngology and Rhinology, Chicago Post Graduate Medical School. *Vol. VI. General Medicine.* Edited by FRANK BILLINGS, M. S., M. D., Dean Rush Medical College, and J. H. SALISBURY, Professor of Medicine, Chicago Clinical School. May, 1904. Chicago: Year Book, Publishers. Cloth. 12mo. \$1.

Annual subscription of series of ten volumes a year, \$5.50, payable in advance. Each volume, if separately bought, costs about \$1 to \$1.25. The *Series* represents the advances of each preceding year in the department, compiled by well selected authors. The present volume, added to a standard, up-to-date book on practice of medicine, gives a complete work on that subject. Whoever can, should subscribe to the *Series*.

Editorial.

Further Study of Richmond's Water Supply.

Few municipal problems are deserving of greater attention than the question of public water supply. The quality of the water furnished the citizens of Richmond has long been a real reproach to our city. Although both chemical and bacteriological examinations have shown that the water is not bad from a sanitary standpoint, yet regularly, for long periods during the summer months and for shorter periods at other times of the year, the water of Richmond is so muddy as to be most objectionable, not only for drinking purposes, but also for bathing and washing, and utterly unsuited for many manufacturing purposes. Until recently no steps have been taken by the city to remedy this condition of affairs.

Five years ago, Dr. Mallett, of the University of Virginia, and Dr. E. C. Levy, of this city, were engaged to carry on an investigation for the purpose of recommending proper methods for the clarification of Richmond's water supply. As a result of their studies the storage basins now under construction were recommended as the first essential, to be followed by coagulating basins, and, ultimately, when funds should become available, by mechanical filters. These gentlemen and Mr. C. E. Bolling, Superintendent of Water Works, unanimously agreed upon the details of the project, of which storage constitutes the first step.

Since the date of the investigation, above referred to, the science of water purification has taken immense strides, and the profession of the expert in this subject is one of recognized importance. In June of this year Dr. Levy was again employed to conduct further studies for three months for the purpose of working out the details of operation of the basins and also to investigate the sanitary quality of the water in a systematic manner. While these recent studies have resulted in obtaining much information which will be indispensable, still, as set forth in Dr. Levy's report to the Water Committee, this work should be continued, as, among other things, it is imperative that observations should be made covering all seasonal variations in the character of the water and the methods of treatment under different conditions. There should be a properly equipped laboratory situated directly on the river, where, by means of experimental tanks, etc., this further investigation can be conducted on a scale which will make the deductions applicable to our actual plant when it is completed. The Water Committee unanimously recommend to the City Council the adoption of Dr. Levy's suggestions and the appropriation of a sufficient sum to carry on the work for one year. Besides the problems connected directly with clarification, it would be of immense advantage to Richmond to employ an expert, skilled in both chemistry and bacteriology, whose services would always be at the disposal of the Water Department in the numerous, and often unanticipated, contingencies which are certain to arise. We heartily endorse the attitude of the Water Committee in adopting Dr. Levy's suggestions, and earnestly trust that the Council may take prompt and favorable action.

The Medical Society of Virginia

Will hold its thirty-fifth annual session at Richmond, October 18-21, 1904. The program of the session was issued at the usual time—five weeks in advance. Yet since its publication and distribution a number of doctors have indicated their desire to read papers, and sent in titles for the same. All such papers, under established rulings, must be relegated to the end of the printed program. We are glad to see the interest of members in securing new members from all parts of the State. There are already in hand more applications for membership than have ever been presented even during any entire session, and yet nearly four weeks remain in which others are to be secured. The program is very promising as to good papers, which ought to provoke profitable discussions. Every indication is that this thirty-fifth annual session will be the largest and best ever held.

The Wise County, Va., Medical Society

Will hold a regular meeting at Wise, Va., September 28th, when Dr. T. M. Cherry, of Glamorgan, will read a paper on "Secret Nostriums"; Dr. J. M. Hill, of Wise, one on "The Relation of the Dentist to the Physician," and Dr. H. M. Miles, of Wise, one on "Life Insurance Examinations." Dr. M. L. Stallard is president, and Dr. T. M. Cherry, secretary.

Obituary Record.

Dr. Alexander Trent Clark

Died at his home, South Boston, Va., September 10, 1904. He was born in Charles City county, Va., April 14, 1843. After his academic education at Lynchburg, Va., Military College (extinct since the Confederate war), and at William and Mary College, Va., he served in the Confederate army. After the war he took up the study of medicine, and graduated from the Medical College of Virginia in 1869. In 1871 he joined the Medical Society of Virginia, attended and took active part in several of the sessions, and served for some years as a member of the Medical Examining Board of Virginia. He was sick for about two years, which finally proved fatal. He was a man beloved by all who knew him, and a most capable practitioner.

THE Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

Vol. 9, No. 13.
Whole No. 205.

RICHMOND, VA., OCTOBER 7, 1904.

\$2.00 a Year.
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Original Communications.

GONORRHEAL INFECTION OF SYNOVIAL MEMBRANES.*

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Gonorrheal arthritis was first recognized in 1871 by Swediner and Salle. Since then the identity of the causative agent has been amply demonstrated. In 1896 I was fortunate enough to grow the gonococcus artificially from two infected joints. I believe this was the first successful cultivation of the gonococcus from gonorrheal arthritis. Since that time I have had several other cases from which the gonococcus was cultivated, and numerous other observers have been successful in cultivating the organism from the joints. Before the successful cultivation of the gonococcus it was thought that the toxins circulating in the blood caused the joint affection, and not the specific organisms. The report of these cases appeared in the Johns Hopkins Bulletin in June, 1897.

Gonorrheal arthritis occurs in about two per cent. of all cases of gonorrhea. It is said to occur less frequently in cases that have such complications as epididymitis, bubo, etc. The time of appearance of the arthritis may be as early as the fifth day from the beginning of the urethral discharge. Fournier says it is more frequent about the second week and rarely during the second or third month. The infection does not occur until the gonococci have reached the deep urethra. The seat of the disease is variable; Fournier tabulated one hundred and twenty joint cases; in these the knee was involved in two-thirds, the ankle in one-fourth, and the remaining one-twelfth were scattered.

Very little has been written on the lesions that occur in the joints in the disease. In the

Gram's method, and will not grow upon ordi- cases I have seen, practically the same picture appeared in all of them. The synovial membrane is infiltrated, thickened and covered with soft, red, velvety granulations that bleed profusely if injured. The fluid is always blood stained, and varies from sero-fibrinous to purulent, and contains fibrinous flakes. The amount of fluid may be small or great. On section, under the microscope, granulation tissue is seen; also considerable fibrin and many leukocytes. Erosion of the cartilages has been noted in this condition, but this has not occurred in any of the cases I have seen. The erosion usually takes place in very severe cases, and late in the disease. It may be caused by some secondary invader, as the ordinary pyogenic cocci. I believe the organism is present in every case, although they may be few in number and cover-slips fail to demonstrate them. Cultures upon suitable media will often give the organism in pure culture.

The briefness of this paper prevents an elaborate discussion of the biological characteristics of the gonococcus.

The important *diagnostic differences* between the ordinary pyogenic organisms will be mentioned—*first*, the standing peculiarities—namely, decolorization by "Gram's method"; *second*, the cultural differences; the gonococcus grows best on some media containing human blood, and does not grow on ordinary media. The diagnosis of the presence of the organism hinges on these two points.

An easy method of cultivation is to take a melted agar tube, pour contents into a sterile Petri dish, cool and allow a little blood from a spurting vessel with a clean wound to flow over its surface. This media is then inoculated. It is important to have a control to make sure that the blood used is sterile. At the end of thirty-six hours in the thermostat small, grayish-white, translucent colonies will be seen; the organisms from these colonies decolorize by

*Read before the Medical and Surgical Society of the District of Columbia, April 6, 1904.

nary media. This, or a similar method, was used in the reported cases.

There are three principal varieties affecting the synovial membranes. The *first form* is the *hydro-arthritis*, which usually attacks the knee, ankle or elbow. It comes on insidiously, but the effusion, which is often considerable, may take place rapidly. Pain is moderate, increased by moving the joint; but the discomfort may be so slight as to be ignored. The skin is not reddened, and usually the constitutional disturbance is very slight. This affection remains indolent, usually lasting for months.

The *second form* is more like ordinary rheumatism, with fever, considerable pain, especially during movement of the joint. The skin is red and has a boggy feel. Some authorities claim that the fever subsides in a few days, with a continuance of the local symptoms. This has not occurred in the cases under my observation, as they had an almost continuous fever and no abatement of the joint symptoms. In a moderate number of cases one joint is involved, but frequently a number of joints are affected, as in rheumatism. A prominent characteristic of all joint affections of this character is the slow resolution that takes place unless some operative procedure is instituted.

A *third form* is described with vague pains in the joints, no swelling, and undisturbed function. This variety is very rebellious to treatment. It gradually subsides, but is liable to exacerbations if the urethral discharge is increased from any cause. The synovial sheaths of the tendons are affected either alone or with the joint involved. There is tumefaction along the course of the tendon, redness of the skin, severe pain on pressure, and partial or entire absence of movement of the muscles belonging to the tendon involved. The bursæ are also affected, especially those of the heel, between the tendo-Achillis and the os calcis, and the other beneath the inferior tuberosity of the same bone. This explains the pain in the heel so often complained of in these patients. A very interesting case of gonorrheal bursitis of the knee will be reported later in this paper.

When arthritis has once complicated a gonorrhea, the chances are that every succeeding urethral inflammation will be attended by a fresh attack. Women with gonorrhea are supposed to have more or less immunity from affection of the joints; but of the six cases reported, four were females. The diagnosis is usually made

from the history of the case; or if gonorrhea is denied, by the examination of the urethra or by aspiration and examination of the fluid from the joint. One symptom which is quite characteristic in differentiating it from ordinary rheumatism is that as long as the joint is at rest the patient is fairly comfortable.

All authorities seem to agree that the usual treatment for acute or chronic rheumatism or gouty maladies does not benefit the patient with gonorrheal arthritis. Neither salicylates nor iodide of potassium seem to exert any special beneficial effect. The rational treatment is hygienic, and the sooner the urethral discharge is controlled, the more quickly will the rheumatic symptoms disappear, although, as we all know, the latter may outlast the former many months. In fact, some cases never recover from the effects of gonorrheal arthritis. Rest is important, the joint being immobilized and hot or preferably cold applications applied over the affected joint. Almost every possible ointment and application has been recommended for this condition, as is the case in every condition in which remedies have very little effect. Considerable relief is given at times by the use of the Paquelin cautery used gently over the surface of the joint to cause reddening, but not blistering, of the skin.

In the later stages when the joint is swollen and threatens to become chronic, I believe no treatment can be compared to the operative. In fact, I believe it would be best to open up and wash out the joint at once after diagnosis. The operation was performed in the cases reported in the following manner: The patient is anesthetized and an Esmarch bandage applied above the joint to prevent absorption of bichloride of mercury. The joint is then opened under strict aseptic precautions, gloves being worn by the operator and assistants. The joint is thoroughly irrigated with hot one one-thousandth bichloride solution—several quarts being used—followed by hot salt solution. The wound is then closed with subcutaneous silver wire sutures, a silver foil dressing applied, and the joint immobilized with plaster. In some of the cases the temperature dropped to normal and remained there. As soon as the wound is healed gentle passive motion is begun. All the cases operated upon were of a very severe form—great thickening, swelling and considerable deformity being present. The following is a report of the cases:

CASE 1. B. B., female, age twenty-one years, domestic; admitted December 5, 1896. Previous history: Has always enjoyed good health. Present illness: Patient acknowledges exposure within the last month, and has had vaginal discharge for three weeks. Six days before entrance to the hospital she noticed pain and swelling in the left knee; pain more marked at night, and increased by motion.

Examination: Patient is rather poorly nourished, and has a blowing murmur over apex of heart transmitted to axilla. Joint is quite tense, painful on palpation and motion; patella floats, and there is marked thickening and induration of the parietal tissues which are boggy and distinctly fluctuant over the joint. A purulent discharge was observed to be present in the vagina and urethra. Examination of cover-slips was negative for typical gonococcus-like organisms. On December 5th knee aspirated and blood-stained fluid obtained. This showed under the microscope a great many polymorphonuclear leukocytes and a few large diplococci, which were not contained in the pus cells. Cultures made on agar, gelatine, bouillon and potato were negative after forty-eight hours in the thermostat. Cultures made at the same time on albumin-urine agar, in twenty-four hours showed no perceptible growth, but at the end of forty-eight hours in the thermostat about a dozen colonies, a little larger than the ordinary streptococcus colonies, elevated above the surface of the media, presenting an opaque white color, but still translucent, were seen. Cover-slips were made and showed the typical morphological appearance of the gonococcus.

Method.—The ordinary media mentioned previously were inoculated from the colonies with negative results. The organism was carried through three generations on the albumin-urine agar media, but an attempt at a fourth generation was unsuccessful. On December 17th the knee joint was opened after an Esmarch bandage had been applied, irrigated with one thousandth bichloride of mercury solution, followed by salt solution. The wound was approximated with subcutaneous silver wire sutures and a silver foil dressing was applied. The wound healed *per primum*.

Cultures taken at the time of the operation gave the same characteristics as those mentioned before, but could only be carried through two generations. The patient made a good recovery following the operation.

CASE 2 A. D., female; twenty years old; admitted August 25, 1895, with no history of rheumatism. Has had vaginal discharge for two weeks (patient acknowledged exposure several days before discharge was noticed). Three days before entrance, left knee became painful and swollen, pain being more marked at night; fever was present, the highest temperature recorded being 103°F. Examination: Large, well-nourished woman; left knee slightly flexed, warmer than the adjacent parts, fluctuation on the inner side of the patella; movement of the afflicted joint caused great pain. Periarticular tissues were indurated and boggy, and a purulent discharge from vagina and urethra was noted, that contained diplococci, that were typical of gonococci, and gave their staining peculiarities. The operation was done on the fifth day of the disease in the same manner as described in the previous case. The periarticular tissues were indurated and hemorrhagic, the joint contained 25 c.c. of blood-stained fluid, in which floated small pieces of fibrinous material. The synovial membranes gave the usual appearance. This case made an excellent recovery; three weeks after the operation walking around the ward.

CASE 3. A. F., male; 39 years old; admitted May 20, 1896; denied any venereal history (very questionable). Patient felt without any premonitory symptoms great pain in the left ankle joint, at the same time noticed that there was considerable swelling and redness over the joint. Examination: Patient a well-nourished man, temperature 100°, had a fluctuating swelling extending from the juncture of the middle and lower third tibia, following the sheaths of the extensor muscles to a point three inches below the ankle joint. On May 21st operation; incision along the affected tendon sheaths and irrigation as in the other cases. The internal portion of the sheaths were covered with hemorrhagic-fibrinous material and granulative tissue of the same appearance as those described in the knee joint. The gonococci were grown from this case also.

CASE 4. Male, white; 28 years old; had gonorrhoea for three weeks. Three days before entrance to the hospital noticed swelling and great pain in the joint, especially on motion. Temperature varied from 101.3° to 103°. Operation as described previously. Patient made a good recovery with very slight stiffening of the knee. Culture taken on agar and blood as described in the first part of the paper, gave the typical growth, with cultural and staining peculiarities.

CASE 5. Female, colored; 21 years old, and well-nourished. *Present illness:* For past week has had considerable pain over the patella. A swelling the size of a silver dollar, freely movable and painful to the touch was noted over the patella. No history of injury could be elicited and gonorrhoeal infection was suspected, although this was denied by the patient. On examination the vaginal secretions were found to be purulent and filled with gonococci. An operation was advised, but absolutely refused. Local measures were instituted with no effect. The swelling progressed until the circumference of the knee was 25 inches. An operation was still refused, but patient consented to aspiration. All this time she was running an irregular temperature, the knee being so sensitive that an examination could not be made. Aspiration was unsuccessful, as no fluid could flow through the needle. Finally an operation was consented to. At this time I had no idea that the knee joint was not involved; but on examination after etherization the patella could be distinctly felt, deep down in the fluid, its relation to the joint not being disturbed, showing undoubtedly that the fluid was extra-articular. Free incisions were made on the outer aspect of the joint; at least a quart of blood-stained fibrino-purulent fluid escaped. The appearance of the synovial membrane was identical with those described previously. The hemorrhage from the synovial membrane was so great that packing had to be resorted to and counter-incisions were made on the opposite side for drainage. The patient made an uninterrupted recovery, and has perfect use of her limbs. Cultures were not taken from this fluid, but cover-slips showed gonococci in the pus cells as numerous as in an acute gonorrhoeal urethritis. Dr. Macatee assisted me with this case.

CASE 6. Female; white; 38 years old; entered Garfield Hospital August 15, 1903; patient a well-nourished woman. Contracted gonorrhoea from her husband two months previously. Two weeks before entrance to hospital she began to have pain and swelling in knee; has had a continuous temperature. Examination: Patient's knee swollen, very painful, flexed almost to a right angle. Considerable effusion in the joint, tissues feel indurated and brawny. Vaginal discharge showed numerous gonococci. Operated

upon August 20th, as described in the other cases. The appearance of the synovial membrane and the fluid obtained was identical with those previously described. Cultures taken on wood and agar Petri dishes showed at the end of forty-eight hours small, white, translucent colonies; this organism failed to grow on ordinary media and decolorized by Gram's. This case had a rather tedious convalescence. Her temperature stayed down to normal for about four days after operation; it then rose 100.5°, and ran irregularly for two weeks, during which time she complained of pains in arms and neck, but no involvement of the joints could be made out; the pain seemed to be in the muscles. Eventually she had a good result, although her fear of pain delayed this somewhat.

I would urge an early operation in these cases; the earlier it is done the better prognosis for an ultimate recovery. There are a few cases that have no periarticular thickening, simply effusion, and very little pain, that seem to do well if the limb is immobilized.

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VENEREAL DISEASES AS A SOCIAL MENACE.*

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The fact that it is necessary to consider and discuss such a question is evidence that there is something radically wrong in the basic principles of training in the young of the present day. I am not prepared to say that these times are more evil than the days of old, but the advance of medical science and accuracy of observation have made us recognize and appreciate many things which in the years preceding were occult and hidden. That a most serious problem confronts us every medical man is aware. It involves the far-reaching principle of recognition of the weakness of human nature, and consequent license or no license to attempt to restrict the ill results of venereal desire, and summons to testify the stern facts evolved in those places where license and inspection have been faithfully tried, and yet the problem remains unsolved.

The true test of greatness, "that he is greater who rules himself than he who takes a city," is, alas! comparatively rare in its practical illus-

tration, and fails when the animal appetites and passions assert themselves. All the various collateral conditions tend to make easy the opposition to wrong doing. The pandering to low tastes by the various popular plays put upon the boards, the questionable tone of much of the modern literature read by the young, the inclination to listen to and relate anecdotes not clean, or having a double entendre—all place the mind in a receptive condition for inclinations and acts upon which results the contraction of diseased conditions which menace the social fabric.

It is a startling fact that 70 per cent. of all cases of sterility are due to a pre-existent gonorrhoea in the male. The pure and unsuspecting girl, who trusts her happiness in life to the man who has won her love, has a right to expect that he shall be as pure and moral as she is. Yet how common the experience to see the girl's health wrecked soon after marriage! It is the universal experience of gynæcologists that pus tubes, with all their attendant ills, are most frequently traceable to gonorrhœal infection; that it probably is the most frequent cause of that dangerous condition, ectopic pregnancy; and if the woman escapes with her life, she is doomed to subsequent sterility—the loss of the highest and most ennobling function of womanhood, child-bearing.

On the other hand, it is hard to understand how any man, knowing that he has been the subject of venereal disease, can be willing to take the risk of being the cause of such serious conditions as I have described. Every dictate of manhood, of exalted honor and integrity demands that he should know, beyond the peradventure of a doubt, that he has been completely cured before he presumes to enter into that holy estate. Is it not passing strange, to go back a step farther, that men should be willing, for the gratification of an animal appetite, to run the risk of the loss of the power of procreation in themselves and inflict such disastrous results on the woman they are sworn to love and cherish? It would be bad enough if the evil was confined to the single men; but the community is full of moral lepers, who disregard their solemn marriage vows and deliberately perjure themselves by their infidelity to noble and trusting wives, often bringing to them venereal disease contracted by some unfaithful act. There can be no penalty too severe for such as these. The impairment of physical strength and functional integrity, no doubt, finds its legitimate fruit in

* Read before the Richmond Academy of Medicine and Surgery, September 13, 1904.

shortened days to the offender, but he entails a weakened constitution and increased predisposition to disease, especially nervous, upon his offspring, and shortened days full of suffering comes upon these innocents. A serious result of all this is an enfeebled race. Let me cite one or two illustrative cases:

CASE I. A young married woman came to me with acute gonorrhœa; she had been married only a few months, and was also pregnant. The husband gave the history of infection six months before marriage. She was cured, so far as could be determined. Went to full term, and after a protracted and difficult labor was delivered of a feeble child. She had no health after this, but two years afterwards had an ectopic pregnancy, for which she was operated on and died a few days afterwards.

CASE II. A young man was married, and one week afterwards his wife was taken seriously ill. After having been sick for six weeks, and having spent a month in a New York hospital, she was brought to Richmond. She complained of pain in lower abdomen, had irregular temperature, frequently recurring chills; and not improving upon the treatment of the physician called to attend her, she was placed in my hands. Examination revealed a dirty vaginal discharge, and discharge from the cervix, and an enlarged pus tube on the right side. The uterus was curetted, and the scrapings under the microscope showed abundant gonococci. Under appropriate treatment she gradually recovered—the tube having reduced by discharging through the uterus. She has to face in the future the danger of ectopic pregnancy or confirmed sterility. The husband, when questioned, gave the history of a gonorrhœa eighteen months before marriage, the discharge so slight that he doubted if he had contracted the disease.

CASE III. I was called to see a young married woman threatened with an abortion, which I was unable to prevent. She had aborted once before at the same period. She had an uneventful recovery, and soon conceived for the third time. She was carefully watched, and I succeeded in carrying her on to the end of the sixth month. Premature labor came on, and she was delivered of a fœtus which breathed a few times and died. It had most typical and pronounced congenital syphilis. The placenta was adherent and most extensively diseased. I now learned for the first time that during her

first pregnancy she had lost most of her hair; this was the only symptom in her clinical history that I could elicit. She became pregnant the fourth time, and was immediately put upon an anti-syphilitic treatment, and it was continued during most of the term of pregnancy. She was delivered at full term of a robust, healthy female child, now an attractive girl nearly full grown. The father denied all history of venereal trouble, but subsequent events proved that the truth was not in him.

Such is the picture of a few cases, and gives food for the most serious reflection. A recent writer says: "Modern science has taught us that in view of its extreme prevalence, its conservation of virulence, after apparent cure, and its tendency to invade the uterus and adnexial organs, with results often dangerous to life and destructive of the reproductive capacity of the woman, gonorrhœa overshadows syphilis in importance as a social peril." (Morrow.) The welfare of the family underlies the welfare of society, not only so far as the perpetuation of the race is concerned, but the individuals of that race should be of such unblemished physical condition and consequent rude health as to measure up to the standard of true moral and physical manhood and womanhood.

In syphilitic infection the fœtus is the most immediate sufferer. Frequently recurring abortions, or still births, an enfeebled child, of delicate physique and shortened life form the usual history. In gonorrhœal infection the immediate contamination of the innocent woman, the sacrifice of her life, or a lifelong invalidism, are the results, as also the frequent production of sterility or emasculation by the loss of all of her pelvic organs. The serious side to her is the disappointment of motherhood, which she looks upon as her highest mission in life, and craves forever with an indescribable longing.

The heredity of infection—we do not know how far it extends—the sins of the fathers are truly visited to the third and fourth generations, and is therefore an active source of race degeneration. Gonorrhœa is prohibitive of healthy parentage; for it produces abortion and causes blindness if the fœtus comes to term. Nor is this all; it undoubtedly is a menace in the family—infection spreading through use of the same towel, lack of cleanliness of the hands, contamination from immoral servants, etc. All

of these are serious problems, and the solution is most difficult from whatever standpoint we look at them.

We are confronted often with the responsibility of deciding if marriage is safe, and the imperative duty of protecting an innocent woman if possible. Even here we are handicapped by the honor of professional confidence, and deprived thereby of remedy if unable to induce the man to a postponement of sufficient duration to be certain of an absolute cure. Even this certainty of cure is a factor of doubt, because of the long continued activity of the infective germ in the case of gonorrhœa. The man urges that he has not infected any woman since he considered himself cured. But women of easy virtue possess an immunity to a certain extent as the result of the life they lead, and this does not hold true in the case of pure women. Even supposing the woman escapes scathless, the personal factor to the man is to be considered. The fact that there is a strong probability that he is sterile, thus defeating the cherished desire of the woman and the paramount reason for marriage, defrauding her of motherhood; the injury to his health by post-urethral, prostatic or chronic vesical disease, secondary involvement of the kidneys and an early death, are to be considered—calamities more dire even than follow the infection with syphilis, which I believe is more amenable to cure. But even here the nervous lesions of the tertiary form are not to be overlooked, manifested by various degenerative changes, gunmata in the brain, etc.

But unfortunately we do not have to deal with these troubles only in the unmarried. Marital infidelity is unfortunately too common, and the innocent wife acquires infection from a husband infected by some paramour. Would that I could command language strong enough to denounce it as it deserves, the cowardly conduct of these perjured wretches—false as they are to the most solemn oath taken at the marriage altar in the sight of God and man, and to the highest dictates of honor and fidelity to the pure woman who has trusted him with her honor and happiness.

In conclusion, the difficulty of remedy by prevention is explained by the fact that the whole matter has its origin in original sin, the outcome of which is man's lust and the consequent gratification of unbridled passion. Naught can help but an unrelaxed vigilance in the matter of self-control, purity of thought and

action—all sustained and strengthened by the grace of God.

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A PLAN FOR THE PREVENTION OF VENEREAL DISEASE.*

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We have heard in the able paper just presented this Academy of the social menace venereal disease offers to the body politic, and none of us have brain so fertile as to exaggerate or overestimate in the ramifications of this insidious foe the danger to the family life and to the American people as a nation. This curse, with others, has in the past overthrown the mightiest dynasties and wrought woes innumerable to mankind, and to-day threatens the very fountain head of the vitality of our race.

Fraenkel has correctly styled tuberculosis, alcohol and venereal disease the three apocalyptic riders who continually bring death and ruin to the country. The third is, in large part, the child of the second, and though paramount in importance to both of the former, does not receive the same consideration or popular attention. This being so, if we by our efforts can in a measure erect a barrier in its path that shall serve to check its onslaught and limit its course, we may call no sacrifice of time or energy lost that has accomplished such results.

The principles of our profession demand that we make the attempt. Shall we be false to our calling or dismayed at the Herculean task presented? Rather let us brace sinew, and with all vigor marshal our forces in the attempt to save the people from themselves. For it is the prerogative and at the same time the mission of the medical profession to educate and direct public opinion in all sanitary matters.

Where else can be found the hand that shall lift the veil from this abomination and in its true light let it stand revealed before the world? To do this it is necessary, first of all, to make it a subject that can be freely discussed. The press, clergy, educators and the public look at it askance and with few exceptions maintain an unbroken silence. The reason is not difficult

*Read before the Richmond Academy of Medicine and Surgery, September 13, 1904.

to fathom. The shameful nature of the disease, the result of an immoral relation voluntarily entered into, exciting in the hearts and minds of many no feeling of sympathy for the transgressor, but rather the virtuous thought that it is a merited and divine chastisement for the sin of unchastity. I believe it is with venereal disease, in many cases, as with the birth of an illegitimate child; as Goldsmith says, the first child may be the result of innocence, the second always of vice. The victim with his first case of venereal disease deserves our sympathy, and when the second occurs must not be left to his fate, however well deserved it may be. Were he to be the only sufferer, such a procedure might be condoned, but for the sake of the innocent, who are endangered thereby, we must exert ourselves in his behalf.

Not only is there indifference on the part of society, but an active effort to repress and cover up all allusions to this lifelong partner. Prophylaxis is of more far-reaching effect than cure, and, knowing the cause, we can the more intelligently combat its development and limit its spread. Here we view a condition, prostitution, that has existed from time immemorial, and that will flourish in all its pristine vigor until the last mortal has passed beyond the reign of appetite. The only relief from this accessory lies in the correction of the conditions of which it is the outgrowth. Woman is more sinned against than sinning; her dependence on man, the different standard of morality imposed by our social code; and when by seduction, fraud or force she has lost that most precious of her possessions, her sisters stretch out no helping hand to bring her back to the path of rectitude and honor. As Morrow too truly says: "Between the virtuous and immoral woman there is a great gulf bridged by social convention which permits men to pass and re-pass at will, but for the woman there is no return."

Legal regulation can never be a success, regulation is defective, and compulsory notification and enforced isolation of those with the acute manifestations of venereal disease are not practicable.

The moralists, and their leading exponents, the clergy, have indeed an abundance of material for sermons and many illustrations to adorn their tale, but the very class we wish to reach are not usually included in the audience, and will not listen to such discourses from those who only view this condition from afar, or build

up their structures on evidence which is but heresy. True, the most promising class, so far as results may be expected, can be thus reached while their minds are in a formative stage and before their quest for strange gods has commenced. But even under the best auspices, with the materialistic tendencies on every side helping to shape their thought, many are impressed with the puritanical spirit in which the subject is usually presented, and their idea of freedom of thought and of personal liberty, rightly or wrongly, revolts against an ofttime dogmatic assertion. Could these laborers look upon the real state of affairs, and through our spectacles, and see that the innocent wife and children are the real sufferers, possibly their discourses would be more tinctured with the milk of human kindness and their efforts correspondingly rewarded.

This has been termed an age of skepticism, not only of religious belief, but in all fields of thought; and for this reason to obtain results along this line from a moralist's point of view is extremely doubtful.

One other way is by legislation, but of what good are laws unless they be enforced, and how can they be enforced unless there be a penalty? To have right laws there must be a popular demand, a realization of the necessity for them, and this can only come after the masses have been enlightened as to the existence of the evil, and the fact that it is an evil, with the dangers it presents to the individual, the community, the State and the nation, and the necessity for repressive measures to accomplish the desired end.

I am daily impressed with the fact that we as physicians do not appreciate the urgency of the danger. In my dispensary clinic I have seen scores of negroes in all stages of syphilis—mouths filled with mucous patches, throats choked with ulcers, and many of these are women in service as washerwomen, house girls, nurses, and one applied for examination hoping to be employed as a wet nurse. I mention this menace in order to bring out a remedy, and that is the penalization of the transmission of such disease by this class. The existence of such a law would work good results by forcing on the attention of the public a source of contagion which presents to some of us every day, and by the laity is seldom thought of.

Griffin has shown the necessity for a close supervision of city sanitation, urinals, public drinking fountains and venders on the street.

One suggestion I would emphasize. We have all seen the great number of vendors on our streets at certain seasons of the year selling to all comers toys and appliances to be blown by the mouth. These men are veritable carriers of infection, and should have their license countersigned by the Board of Health before they are allowed to dispense or sell any goods where the mouth is used as a means of displaying them. Fruit vendors caught expectorating on their fruit should be fined at least equally with the transgressor who expectorates on the floor of a car.

To my mind the plan that offers the brightest promise, that is absolutely sure of some results, increasing in extent as the years roll on, lies within the grasp of the medical profession, can be utilized by no one else and contains the greatest potentiality for good. There may be a difference of opinion as to the moral aspects of the social evil and the propriety of restrictive measures in so far as it constitutes an offence against morality, but there can be no strenuous opposition to a sanitary movement which has for its sole object the repression of disease. It is only along this line that we can hope for any real success. Associate but do not sacrifice the cause to the effect; and along the line of cold, calculating, seemingly heartless science we can demonstrate the truth of our argument.

An editorial in one of our medical weeklies strikes the keynote when it says: "One of the most perverse and disturbing elements in the education of both sexes lies in the secrecy in rebus naturalibus. The more innocent a husband may find his newly wedded wife, the prouder her parents will be of the fact. No doubt a proper feeling of decency should at all times prevail, but to enforce that feeling artificially by keeping the young woman in ignorance of what she is required to know is equivalent to sacrificing the interests of the family on the altar of prudery and sophistry. By all means keep that chapter in the moral education of our children back until the proper time arrives, but let us be sure of forestalling the demon of voluptuousness and depravity, which is only too prone to seize upon the young victim unawares. Let them know the real and whole truth, let proper light into their mind properly, and there will be prevented harmful experimenting on their own account. Let us be honest; most of our young men and women have acquired their knowledge of sexual phenomena

in the slippery path of vice, and the reason why sexual matters appear to them in a seductive light is the veil which we draw over them, and which they, in their natural curiosity, are morbidly trying to lift. That veil is the curse of our moral education, is at best transparent, and it is being badly torn. Nature is never unclean, and the recognition of her functions is salutary. Let growing youth know the truth, for lies are the root of all evil."

The instruction required varies with the different periods of life. It is well within the bounds of truth when I state that it is an exception to find a boy in this city who has reached the age of sixteen years without being brought in contact directly or heard discussions from older boys on the subject of sexual appetite and disease. Youth is prone to hero worship, and these heroes can be found on every side. Who of us have played on the city streets, attended our public or private schools, or lived the life of a city boy that has not heard the recital from the lips of a Lothario on his adventures in forbidden fields, of his many attacks of the familiar visitor, the clap, of how slight a thing it is, no worse than a bad cold, and that no one can consider himself a man until he has had an attack of this disease? The small boy is impressed indelibly, and, unless the unexpected happens, stands a good show of falling an early victim to swell the vast number of sexual degenerates. With so many factors to awaken the dormant instinct, with perverted ideas of nature's workings, and with the original tendency to throw off restraint, can we wonder at the legion of victims who walk our streets, not only sufferers themselves, but a constant menace to the whole community? Would the people rest supinely did they know the true nature of the evil, had they the faintest conception of its widespread ravage, did they appreciate even in a measure the menace it presents to the innocent as well as to the guilty, and were it borne in upon them that no reason exists why they and theirs should enjoy special immunity from this plague that walketh by day and groweth fat at night?

To the young man the existence of these diseases, their nature, mode of contraction and spread, the immediate danger to the individual, and the more remote as to his happiness should be plainly told. Combat the error that unchastity is necessary to the fullest development of physical and mental functions. Statistics prove

that 16 to 20 years in the female and 18 to 20 in the male present the greatest morbidity; 12 per cent of infections in men occur before the 19th year; 70 per cent. between the ages of 20 and 25. The larger proportion of infection is traced to young rather than old prostitutes, and these combined are but a fraction of the great number of clandestines.

To the heads of families a word of warning may be salutary. Let them know the dangers, and that they exist on every side and impress on them the fact that a man who has led an unclean life is a prolific cause of pelvic inflammation and the diseases peculiar to women. Let the mother instill into the mind of her daughter the fact that one of the greatest enemies to her honor and a most wily foe is the drinking of alcoholic liquors in the company of young men. In large cities, out of 100 married men, ten enter wedlock with chronic (infectious) gonorrhoea, and ten more acquire acute gonorrhoea during married life. Can we justly impute to such a number of our fellows the degree of baseness to believe that they would knowingly impart to their wives and children the most loathsome of diseases, the common heritage of the prostitute, with the attendant train of symptoms so graphically described by the first speaker of the evening? I firmly believe that the vast majority of such infections are due to ignorance rather than culpability. Each one of us has seen cases where manhood is so small and honor so removed that a man, the possessor of venereal disease, will carry to consummation an engagement of marriage knowing full well the amount of misery it will entail. With these monsters arguments are of no avail, and, by the shackles of the medical secret, we are debarred from using force. Indirectly, though, the result could be accomplished were it customary for an inquiry to be made into his physical fitness for the married state. I believe the father should demand on the part of the young man an interview with his regular physician and obtain a statement as to this fact, and, in the event that the young man has no regular medical attendant, he should submit to an examination at the hands of the girl's regular practitioner.

The plan, then, that to my mind offers the most reasonable hope of success is a campaign of education of the profession, medical students, clergy, theological students, teachers, and young men in high schools and colleges—in fact, every male over fourteen years of age. These can be

reached through the various organizations, Y. M. C. A.'s, societies, church, fraternal, etc. The young women can be reached by the same means and by those specially qualified for this particular work. This instruction should be presented with tact, discretion and good sense; and should include a clear idea of the hygiene of the sexual organs, their diseases, with sources, consequences to health, mode of communication, local and constitutional effects, results to the individual and the offspring, the dangers of irregular sexual commerce, practically all who follow this occupation being at some time diseased, the younger and more attractive being the more dangerous, and that these diseases may follow a single exposure. Correct the false impression that sexual indulgence is essential to health and chastity incompatible with full vigor. To be of any permanent value, the effort must be continuous; a spasmodic attempt will do infinitely more harm than good.

If the Academy thinks the subject one of sufficient importance, and, in the interest of preventive medicine is willing to devote the time and energy necessary for a successful outcome, I would recommend the formation of a permanent committee, who may associate with themselves such professional and lay assistants as may be qualified by their training and knowledge for work along this line. These shall consider and perfect the details of the scheme until each member is thoroughly imbued with the same general idea as to the scope and character of the movement; and when such a time is reached, shall present the subject to the public in such a manner as by them may be deemed the best, endeavoring to overcome prudishness and secretiveness, break down prejudice, unmask hypocrisy, and overthrow the dark reign of ignorance by letting in the light of truth.

We cannot hope that such education will reform humanity. We can hope that good will be accomplished along the lines laid down. The time seems opportune, and it rests with us whether or not we seize it ere it pass.

One has well said that it is what a man is, and not the occasion, that makes him a hero or a coward. The occasion simply unveils him.

RADIUM AND ITS PHYSIOLOGICAL ACTIONS.*

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In X-ray treatment, dermatologists are agreed that great care must be exercised as to idiosyncrasy of the patient, kind of tube, vacuum, strength of current, length of application, frequency, and so forth. It has been asserted that radium compounds of a definite strength may be used, and obviate many of these unknown factors. Piffard¹ sounds a timely warning, and most reasonably calls attention to the differences which exist between the actual radio-activity of *naked* radium and *efficient* radio-activity of a protected compound. "Radium affects the photographic film and also the electroscope and electrometer, but it is by no means certain that the radiations that are most active photographically are the ones that most strongly ionize the air in the electrical apparatus, and it is still less certain as to which is the most efficient in its action on the human tissues."

Danyez² demonstrated that the effect is more intense in young than adult animals. He applies this fact to explain the selective action of the rays on neoplasms, while they traverse skin and muscle without appreciable action on them.

The envelope of thin aluminum, according to Lieber, gives greater efficiency than those of glass, mica or quartz. Morton suggests cellulose containers.

It is assumed, of course, that any physician

*During a meeting of the North Carolina Medical Society in Raleigh, Dr. Charles Baskerville gave a lecture on "*Radium and its Applications to Medicine.*" It was illustrated by numerous experiments, showing the most modern conceptions of this scientific marvel. Prof. Baskerville had not written any formal address, but spoke from briefly headed notes. He has been too busy to write out his lecture, but has kindly forwarded us excerpt from a chapter of a book by him on "*Radium and Its Applications in Medicine.*" These quotations bear directly upon the medicinal applications of radium and are most suitable for our journal. Physicians desiring accurate knowledge would do well to secure a copy of the work referred to above. The apparatus used in the technique of radium was shown to the large audience. Preparations of radium compounds of the highest activity, which have come from Curie's laboratory in Paris, were exhibited by Dr. Baskerville through the courtesy of the American Museum of Natural History in New York, where Dr. Baskerville carried out some extensive investigations on the action of radium on gems and minerals during the summer of 1903.

¹*Medical Record*, June 18, 1904.

²Action du Radium sur les differents tissus. *Se-maine Medicale*, Paris, 24, No. 1, 1904.

inaugurating experiments on human subjects will have, or has determined, the strength of the preparation before applying it. Even with that knowledge, little is known to-day of the dosage. As adverted to, the pathogenic action—i. e., the destructive effects, evidences itself in temporary hyperæmia or extensive necrosis followed by a long enduring ulcer. The difficulty in judging this is due to the fact that oftentimes weeks intervene before ulceration becomes apparent. Robert Abbe³ learned as the result of plunging a tube into a mammary tumor, that the inactive encapsulation of radium when put into healthy muscular tissue and the peritoneum of animals, is no criterion for its action on morbid tissue when buried within the tissues. Upon superficial healthy tissue, radium compounds⁴ bring about necrosis by over-excitation; upon morbid cells these introduce retrograde changes, and a substitutive fibro-hyperplasia.

Williams⁴ says under no circumstances should the beta and gamma rays be used together for deep-seated diseases, because the beta rays would cause serious injury before the gamma rays had time to produce a beneficial effect.

Danyez found that radium destroys the skin of guinea pigs and rabbits, but subcutaneous and muscular tissue do not seem so sensitive as skin. The nervous tissue is also sensitive to its action. A sealed glass tube with salts of radium placed against the skin over the spine is followed by death in young animals. Danyez⁵ and Bohn have shown that various larvæ and embryos are profoundly modified in their growth—many being killed when subjected to the radiations; others developing into monstrosities because of unequal stimulation. Bohn⁶ further found that radium exercised an especially intense action on tissues or cells in proliferation: non-fertilized eggs may undergo more or less pathenogenetic development and give rise to atypical formation. It has been found, too, that in animals whose skin was burned by the rays, the hair, in some cases, appeared to be forced into rapid growth. It seems that various effects are obtainable, depending on the tissue or cell exposed, as well as on the quantity and quality of the rays.

Darier⁷ is reported as having used radium

³*Loc. cit.*

⁴*Loc. cit.*

⁵*Compt. Rend.*, 136, 461.

⁶*Compt. Rend.*, 136, 1016 and 1085.

⁷*Consular Report*, Guenther, Frankfort, Germany, March 11, 1904.

successfully as a pain killer and as a curative agent in nervous spasms and paralysis.

Touching the action of X-rays on bacteria, Bear⁸ experimented with bacillus coli communis, bacillus typhosus, staphylococcus, streptococcus, Klebs-Löffler bacillus, etc., using an exposure of one hour at a distance of ten inches, and found no effect—whatever the make of the tube or the method of excitement adopted.

Aschkinass⁹ and Caspari¹⁰ first showed that the alpha rays of radium interfere with the development of bacteria. Pfeiffer and Friedberger proved its bactericidal action on saprophytic as well as pathogenic microbes. Dixon and Wigham¹¹, continuing their experiments on the action of radium bromide on plants, found in the case of certain bacilli—for example, bacillus pyocyaneus, typhosus, prodigiosus, and anthracis in agar culture medium—that the beta radiation exercised a marked inhibitory action on their growth. A four-day exposure at a distance of 4.5 m.m. of 5 m.g. of radium bromide does not appear sufficient to kill the bacteria, but arrests their growth, and to maintain a patch on an agar plate, inoculated with any of these organisms, sterile. A broth tube, however, inoculated with these in most cases developed the organisms, showing that while the growth is inhibited in the path, all the organisms were not killed. Henry Crookes¹² has shown that various bacterial cultures after exposure to the action 10 mgms. of radium bromide about 3 cms. distance were killed. Experiments in our laboratory by Dr. Manning with radium chloride of 7,000 activity indicated an actual stimulation of their growth.

Soddy is reported as having suggested the inhalation of thorium emanations for tuberculosis. Tracy, by a photographic method, reports the radio-activity of the breath after such inhalations. Saake¹³ refers to the radio-active substances of the air reported by Elster and Geitel as being from 3 to 5 times in the mountains as at the level of the sea. "The difference in the tension between the positive air and the negative earth—the potential—also increases

with the altitude. Experiments indicate that these electric and radio-active factors have some share in the benefits of the mountain climate, and they might be artificially increased." The writer repeats such statements with trepidation, for all have been either misunderstood or unwarranted conclusions drawn by the zealous news gatherers with unfortunate consequent delusions on the part of the ill. One instance is reported¹⁴ where at least "one shrewd speculator in human misery proposes soon to start a sort of radium consumption farm, where he will advertise to do wonders for affected lungs by means of radio-active air—and handsome fees."

Frequent suggestions have been made to prepare salves, ointments, etc., with chemically inert preparations of radio-active substances.

Morton¹⁵ has inaugurated a novel method of treatment—namely, the introduction of light within the human tissues themselves, using the X-ray and radium compounds merely as exciters of the fluorescent substances already within the fluids of the human body or by injecting fluorescing substances.

It is too soon to draw any conclusions from what has been done. To be sure it is unwise to make any final statements other than to say that we know this much—namely, that the radium rays possess the power of dilating the vessels, an electric action, an influence upon the cells of quickly growing tissue and bactericidal properties—three factors that give bright promise of its therapeutic use when we shall have learned more about this wonderful substance.

DISEASES OF THE EYE, EAR, NOSE AND THROAT—CASE NOTES.*

NO. II.

By JOHN DUNN, M. A. M. D., Richmond, Va.

CASE 4. *La Grippe*—Right-sided Empyema of the Frontal Sinus—Duration, Three Months—Point of Interest—Cause of Severe Pain which was present at the end of this period.

CASE 5. *Acute Inflammation of Right Frontal Sinus*—Intense Pain—Cause of same.

Cases of empyema of the frontal sinus occur

⁸"Effect of Röntgen Rays on Certain Bacteria." *Jour. of Advanced Therapeutics of New York*, June, 1903.

⁹*Arch. f. d. ges. Physiol.* Bonn, 86, 603.

¹⁰*Ally. med. Ccntr. Ztg.* Berlin, 72, 590 (1903).

¹¹"Action of Radium on Bacteria." *Nature*.

¹²"Bactericidal Properties of the Emanations of Radium." *Chem. News*, 87, 308.

¹³"Ein bisher unbekanntes Faktor des Hohenklimas." *Munchenermed. Wochenschrift*, 51, 1, 1904.

¹⁴"The Sense and the Nonsense About Radium." Cleveland Moffett, *Success*, April, 1904.

¹⁵*New York Medical Journal*, Feb. 13 and 20, 1904.

*In this series no effort is made to report cases in full. Only one, or, at most, two special points are dwelt upon.

which, both in the acute and the chronic stages, are the cause of intense suffering. We see other cases where the pain may be severe in the acute stages and absent in the chronic. The above two cases, which will be reported in brief, serve to illustrate one of the causes of this severe pain, and to suggest a reason why at times in empyema of the accessory sinuses this symptom is absent or little well marked.

CASE 4. Mr. B., aged 80, had la grippe in the fall of 1902, with inflammation of the right frontal sinus. During the attack severe kidney symptoms developed and operative measures were not attempted. Internal medication and nasal douches were used. January, 1903, I saw the patient for the first time. His debility was extreme. In *both* sides of his nose foul smelling pus in large quantities was present. It could be seen coming from under the middle turbinates. The right eyebrow and lid were slightly swollen, and the whole right frontal region was very sensitive on pressure. Mr. B. suffered almost constant and great pain in his head. His family physician, on account of the condition of the kidneys, was opposed to any operative work requiring a general anæsthetic. The right middle turbinate, which was normal in appearance, was removed and the right frontal sinus syringed through the nose. The injected fluid returned through both nostrils—showing a communication between the frontal sinuses. The injections, however, in no measure relieved the pain, which grew worse until the patient became semi-comatose. A few drops of chloroform were administered and the frontal sinus rapidly opened. Although this required probably not a minute, the patient's condition became so bad that nothing more than puncture of the thickened membrane lining the sinus could be done. This gave some relief, and the patient improved for several days. The pain, however, returned and no amount of washing through the external wound gave any relief.

An anæsthetic was again given, the external bone opening was enlarged, and the sinus wall as well curetted as the patient's condition would permit. Following this Mr. B. rapidly improved, and to-day—eighteen months later—is enjoying excellent health. The sinus became gradually obliterated. After-treatment consisted in syringing the sinus with a solution of boric acid and in keeping the external opening patent.

In cases where there is reason to believe the

work of curetting the sinus wall has been incompletely done and to expect that prolonged syringing of the wound through the external opening may be necessary, it is well to remove some of the skin about the opening so as to prevent its too rapid closing.

CASE 5. Mr. L., aged 30, began to have, without cause, so far as he could tell, a severe pain in the right frontal region. This pain was worse toward the middle of the day, growing less as the day advanced. A rise of temperature accompanied the increase of pain. The symptoms had lasted about two weeks when I first saw the patient. Examination of the nose revealed no abnormal condition. At this time Mr. L. found that in walking the mere act of putting his foot to the ground materially increased the severity of the pain. The middle turbinate was removed and the sinus washed out. The fluid returned perfectly clear. A purgative and repeated doses of tincture of iron were ordered. No relief followed, and the next day the frontal sinus was opened. It was found to be empty, and nothing was visible to account for the pain save an apparently not much inflamed membrane. The membrane was, however, stripped from the walls, and in one place a collection of pus about the size of a garden pea was found *between the mucous membrane and the bone*. The sinus healed without any further formation of pus.

When we bear in mind that the mucous membrane lining the sinus serves also as a periosteum, we can see that the inflammations affecting its periosteal surfaces are those causing greatest pain. In Case 5 we had an inflammation in the frontal sinus which caused no demonstrable increase of secretion from its mucous membrane—we had, however, an abscess between the mucous membrane and the bone. Hence the great pain.

In Case 4 not only had the inflammatory process caused great thickening of the mucous membrane and reached the bone anteriorly, as shown by the swelling over the brow and eyelid, but there is reason to believe that the dura mater overlying the frontal sinus was inflamed. In this case no relief save a very short one was obtained until all the thickened mucous membrane had been removed. That the discharge through the naso-frontal ducts was unobstructed was not sufficient to prevent pain.

In certain cases, then, of frontal sinusitis, where severe pain is the prominent symptom,

although the naso-frontal duct is patent, the pain is due to extension of the inflammatory process beyond the periosteal layers, either in the form of a sub-periosteal abscess (Case 5) or as an osteitis (Case 4). In the acute cases the pain is probably always due to swelling of the periosteal layers.

CASE 6. *Double Grippal Empyema of the Frontal Sinuses of Four Months' Duration, with Numerous Polypi in and in the Region of the Middle Turbinates; Cured without Resort to the External Opening of the Sinuses.*

This case is reported, not in defense of the treatment followed, but to show what non-operative work in this instance accomplished.

Mr. C., aged 40, in 1901 had la grippe, accompanied by "severe headaches." Four months later I had the opportunity to examine his nose. The upper anterior portions were blocked with enlarged middle turbinates and numerous polypi from about which poured a copious purulent discharge having the odor of a rotten egg. The sensations in the frontal region were those of heaviness and discomfort; *there was no acute, severe pain.* The septum was straight, the nasal cavities sufficiently roomy to allow easy intra-nasal instrumental work. Mr. C. being a man of large business interests, was unwilling to submit to any operation which would keep him from his work, especially as I could not promise him that one operation would beyond question cure him permanently.

Both middle turbinates were removed, as were the polypi, when it was found that the frontal sinuses could be easily washed out through the naso-frontal ducts. At first this washing was done once daily, and then every other day, and, later, according to indications. For a considerable length of time little progress was made in lessening the amount of discharge or its odor, and any omission of treatment for a week or so was sure to be followed by the appearance of fresh polypi about the mouths of the ducts. Whenever Mr. C. took cold there was marked increase in the amount of the purulent secretion.

At the end of eighteen months nothing could be washed from the sinuses except a thick, clear, jelly-like mucoid substance, which usually came away as a ball. When the patient would take cold there would form in its place a whitish, milky fluid.

After this time Mr. C.'s visits became infrequent, and generally the fluid came away per-

fectly clear. For nearly a year now no discharge whatever has come from the sinuses, and Mr. C., who has instructions to let me see him whenever he has any trouble of any kind with his forehead, has not been to my office for several months. I, however, see him constantly, and he tells me that, so far as he can judge, his nose is as well as it ever was.

A saturated solution of boric acid was used to wash out the sinuses. This was forced from a Moffat's dental syringe through a silver canula inserted into the nasal frontal duct. The only other fluid used was pure olive oil. Whether this latter had any curative effect I am unable to say. It is certain, however, that progress toward healing was apparently much more rapid after its use was begun.

The case is a valuable and instructive one. Had I been asked if I believed that a case with such symptoms could be cured without operative intervention applied directly to the mucous membrane of the sinuses, I should have said I thought it most unlikely. Had there been much pain connected with the empyema at the time I first saw Mr. C., I should unhesitatingly have said no. For while in the early stages of frontal sinusitis the pain, as a rule, is severe, many of these cases get well without operation, with or without the formation of pus. Yet where the severe pain persists beyond the acute stages it means the involvement of the periosteal layers of the mucous membrane, and often of the bone beyond, and here operative measures are clearly indicated (*Vid.*, Cases 4 and 5). In this case both sinuses seemed to get well equally fast. There was a natural communication between the two sinuses so that both could be washed out through either duct. This opening between the sinuses was present also in Case 4.

The lesson from this fact is that purulent discharge from both naso-frontal ducts does not necessarily mean a double sinusitis. While a double frontal sinusitis may exist, as in Case 6, the discharge from either duct may represent only the overflow from an empyema of the opposite sinus, as in Case 4.

CASE 7. *Empyema of the Right Frontal and Maxillary Sinuses—Opening of Maxillary Antrum in the Inferior Meatus and the Frontal Sinus Externally—Erysipelas—Crede's Ointment.*

Mr. H., aged 72, was seen in July, 1904. For some months there had been a constant excessive discharge of a foul smelling, sweetish tasting

fluid from the right side of the nose. Of late a severe pain had appeared over and behind the right eye; this pain was greatly increased whenever he stooped over. In this case, owing to a deviation of the septum, the region of the right middle turbinate could not be seen. The amount of the discharge was so profuse that it seemed likely the maxillary antrum was involved as well as the frontal sinus. The frontal plate of the orbit was sensitive on pressure. The inner wall of the right maxillary antrum was opened beneath the inferior turbinate and the sinus washed out. It was found to be full of foul smelling pus. This in no way relieved the pain about the eye. The right frontal sinus was opened three or four days later, and its mucous membrane curetted away. The discharge from the frontal sinus ceased at once. It was found necessary to continue the syringing of the maxillary antrum.

One week after the operation on the frontal sinus, after washing out the maxillary antrum, Mr. H. was told to blow his nose. He did so, and there came through the external frontal wound a large plug of foul smelling muco-pus. Up to this time the fluid from the frontal sinus when washed had always come away perfectly clear, and I feel sure that this plug of muco-pus had been washed from the maxillary antrum into the lower opening of the naso-frontal duct and driven thence by the air, when Mr. H. blew his nose, through this duct into the frontal sinus and out through the external wound. Since the operation Mr. C.'s health had been excellent.

But the day following the above occurrence he had a slight chill and there appeared some evidence of redness about the lips of the sinus wound. The maxillary antrum was not washed. The next day the redness had extended an inch or more from the wound over the forehead, and Mr. H.'s fever went to $103\frac{1}{2}^{\circ}\text{F}$. Erysipelas had set in. Vigorous use of Crede's ointment was at once begun. By the following afternoon the temperature had dropped to 100°F ., and although the erysipelas spread over the entire face—eyelids, nose, cheeks and auricles included—and extended over the greater part, if not all, of the scalp and down the neck sufficiently to cause much swelling of the post-cervical glands, the temperature never again went beyond 100°F . On the eighth day the inflammation ceased. The frontal wound healed and the noteworthy point is that from the day the

erysipelas appeared the discharge from the sinuses stopped and did not reappear.

I am not inclined, however, to attribute this fact to the appearance of the erysipelas. It is not unlikely that the original trouble was a frontal sinusitis, which developed into empyema. Some of the discharge entered from time to time the maxillary antrum through the proximity of the lower end of the frontal duct and the opening into the antrum. The operation removed the seat of the trouble in the frontal sinus. It may be that the piece of stringy muco-pus which was blown through the frontal sinus represented the last of the pus in the antrum. It was this which infected the skin and caused the erysipelas.

How resistant the mucous membrane is to pus lying against or running over its surface is seen in the nose in every case of chronic empyema of the antrum of Highmore. The mucous membrane lining this latter cavity seems to be no exception, and all operators must have noted cases of chronic empyema of the frontal sinus accompanied by a discharge of pus from the maxillary antrum, in which curettement of the frontal mucous membrane was required to effect a cure, while simply washing out the antrum of Highmore a few times caused all discharge from it to cease. That this is so is a valuable point to bear in mind.

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TREATMENT OF PROSTATIC HYPERTROPHY.*

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In discussing the treatment of chronic prostatic enlargement, the palliative as well as the radical measures used for relief should receive our attention. A prostatic patient should be instructed to avoid any and everything (as exposure to cold or draughts, getting the feet wet, improper or insufficient clothing, etc.) that would tend to provoke prostatic congestion. Every source of irritation should be removed from this organ. All excesses, whether "physical, mental, sexual or alcoholic," will be dam-

* Read before the Richmond Academy of Medicine and Surgery, July 12, 1904.

aging to the enlarged prostate, and, therefore, should be avoided. Moderate exercise in the fresh air will be of benefit, and should be advised.

The diet should be light and of a digestible character, with a minimum quantity of meat—vegetables, cereals and milk being preferable. Acid fruits, strawberries, asparagus, tomatoes and grape-fruit act injuriously to the diseased organ and had better be omitted. Champagne and malt liquors should be avoided, whiskey and gin being permitted when alcoholic stimulants are essential or necessary to health.

By administering proper laxatives as necessary, constipation should be combatted, and by giving water freely to drink, the urine should be rendered bland and unirritating. No drugs have any beneficial effect in reducing the prostatic enlargement itself, though the use of antiseptic medicines, such as, urotropin, helmitol, salol, etc., will be found valuable adjuvants in prostatic hypertrophy as well as in all surgical diseases of the genito-urinary tract.

Acute retention of urine caused by hypertrophy of the prostate should be relieved by the introduction of an aseptic coude catheter, flexible soft rubber catheter, silver catheter with proper length and prostatic curve, or, as a last resort, by suprapubic aspiration. A tunnelled catheter passed over a filiform bougie can be used when a stricture complicates the hypertrophy. The often overlooked "retention with overflow," causing the patient to feel that he is successfully emptying his bladder, should always be looked for and receive our careful attention. To avoid acute congestion of the urinary surfaces and frequently shock, chill, fever, etc., that often follow complete bladder evacuation, this viscus should not be completely emptied in a first catheterization.

The initiation of "catheter life" in a patient suffering from hypertrophy of the prostate would, as a rule, better be delayed until the question of a radical cure has been submitted to your patient and is either refused or not advised by reasons of conditions precluding a radical operation. Should, however, the catheter become necessary, its use should be regulated by the amount of residual urine and by the amount of urinary disturbance the patient suffers. The residual urine being less than two ounces, no catheterization, as a rule, will be required. The residual urine reaching from two to four ounces will give rise to nocturnal symp-

toms, and, therefore, should be removed at bedtime with an aseptic catheter. When the residual urine becomes increased to from four to six ounces, the use of the catheter morning and night will be required to afford the patient relief. Later, the number of catheterizations will have to be increased to four or more times daily to control the symptoms, according to the amount of residual urine and the amount of discomfort experienced. An intelligent patient can be taught to properly sterilize his catheter and to introduce it systematically and with gentleness and skill.

The importance of cleansing the catheter both on the inside and outside as a regular practice before each introduction, as well as the necessity of keeping it in a carbolic acid or other antiseptic solution until needed again, cannot be too emphatically impressed upon our prostatics. To avoid infection during catheter life, urotropin or some other genito-urinary antiseptic should be regularly administered. To escape cystitis, patients using the catheter regularly should have their bladders irrigated frequently with hot solutions of boric acid.

Cystitis complicating prostatic hypertrophy is best treated by irrigation of the bladder with large quantities of a weak solution of nitrate of silver, protargol or permanganate of potassium. Obstinate cases of cystitis failing to be relieved by irrigations will require bladder drainage. In addition to regular catheterization and regular flushing out of the bladder, sometimes considerable relief follows the introduction of large sounds, which serve the purpose of dilating the prostatic urethra.

In advising our patients as to the best operative measures to be considered for the relief of prostatic hypertrophy, the following should be named: A palliative suprapubic or perineal cystotomy for drainage, the Bottini operation, and a suprapubic or perineal prostatectomy. The palliative operation of suprapubic cystotomy allows of free inspection of the bladder cavity (from which a calculus may be removed if found), and also permits thorough drainage. When a catheter cannot be used, or where there is a persistent cystitis not relieved by irrigation, or when a patient refuses a radical operation or one is not safe, vesical drainage can be established with often marked relief to the sufferer. It can be performed under cocaine anesthesia, and may be undertaken as a preliminary step to the performance of a more radical operation

later, as I have repeatedly done with entirely satisfactory results. Following suprapubic drainage in prostatic hypertrophy, I have seen voluntary urination restored.

Iliac ligation, castration, vasectomy, angio-neurectomy and similar measures for the relief of prostatic hypertrophy have not proved satisfactory, and are generally condemned. Temporary relief may be observed as following these operations, but hardly radical cures.

The Bottini operation consists in burning a groove in the enlarged prostate with a galvano-cautery introduced through the urethra. Chetwood's operation is a modification of Bottini's. He first performs a perineal cystotomy and cauterizes the obstructing lobe with the galvano-cautery introduced through the opening in the perineum. Chetwood claims thorough drainage as an advantage in his operation over the Bottini method, and also that prostatectomy may either substitute or supplement this operation, provided that the enlarged gland be found not suited for cauterization. The Bottini operation is especially adapted to the small, hard, fibrous prostates, and where there is a decided bar at the neck of the bladder. This operation is also to be advised should the patient's condition be such as to expose him to shock or post-operative pulmonary complications from a prostatectomy. The Bottini also has the advantage of being readily performed under local anesthesia, and on patients too far advanced in years for a safe prostatectomy. In certain well selected cases and in skilled hands, the cautery method is followed by excellent and permanently good results.

In my opinion, the Bottini is an unscientific, inaccurate and often dangerous procedure, inasmuch as one must necessarily work in the dark, must have imperfect drainage, and, unless in the hands of one who has had considerable experience with the operation, the most unsatisfactory and alarming results are apt to follow. Deaths from suppression of urine, sepsis, hemorrhage and pulmonary emboli have been reported by a number of surgeons as following the Bottini method. Again, it often becomes necessary to repeat the operation in order to obtain permanent results.

Cystoscopy, to determine the nature of the local conditions, is of especial value before the performance of either a Bottini or a prostatectomy, being really essential for the performance of an intelligent cautery operation. It is claim-

ed that in at least a third of the cases of prostatic hypertrophy the tumor cannot be made out with the finger in the rectum; and in such cases the cystoscope will add its value to the diagnosis by revealing the general appearance of the gland, the presence of a median lobe, a trabecular condition of the bladder or a complicating condition of vesical calculus. The cystoscope, however, should not be used indiscriminately, it being like all urethral instrumentation, dangerous in advanced pyelitis and pyelo-nephritis.

The now generally recognized surgical treatment in prostatic hypertrophy, and the one from which we may expect satisfactory and permanent results, is prostatectomy. No one method for performing prostatectomy can be selected to apply to all cases. In preparing a patient for the operation, the condition of the lungs, heart, arteries and kidneys should be carefully looked into. The age of the patient need not be considered, provided his general condition be such as to justify a major operation. Quite a number of deaths following prostatectomy have been traced to the anesthetic rather than to the operation. To do away with the danger arising from a general anesthetic, spinal anesthesia after the method of Morton has been employed by a number of operators. Some have performed suprapubic prostatectomy under nitrous oxide gas anesthesia.

After having thoroughly examined the patient and satisfactorily outlined the enlarged prostate by rectal examination and by the cystoscope, the most important question to be settled is the selection of the best route for enucleation of the gland. In the greater number of cases, the perineal route unquestionably offers the largest number of advantages. The prostate is easily reached, it is directly under the eye of the operator and the exposure offers a better opportunity for satisfactory enucleation. The opening in the bladder is at the most dependent part, and gives the shortest and best drainage, and, therefore, there is less danger of sepsis. There is, too, a shorter confinement to bed, and, therefore, prompter convalescence.

With a median, semilunar, or inverted Y incision, the operation of perineal prostatectomy may be performed after the technique suggested by Albarran, Murphy, Young or Nicoll. Young has attempted by his method to preserve the ejaculatory ducts, and, therefore, to ward off sterility. Enucleation of the prostate is greatly favored by making use of some device like

Parker Sym's rubber inflatable balloon, Young's prostatic tractor, or Murphy's hooks to draw down the gland into easy reach.

The suprapubic method of prostatectomy may be performed by the method of Fuller or Freyer. It is claimed that the suprapubic method is open to many objections—viz., that the shock is greater, that the drainage is uphill and against the force of gravity, that the floor of the bladder is extensively lacerated, that hernia sometimes results, and that the mortality is greater. Notwithstanding these criticisms of suprapubic prostatectomy, some of which are of value and others not, it has a well defined place, and in properly selected cases excellent results follow the operation. In cases of a very large middle lobe, or when the whole gland projects prominently into the bladder, the gland is very quickly and satisfactorily enucleated by the suprapubic route. Calculi complicating prostatic hypertrophy can also be readily removed in this operation. By button-holing the urethra, as advised by Fuller, perfect drainage can be established and satisfactory irrigation of the bladder carried out.

In two of my recent cases prompt convalescence and entire relief followed enucleation by the suprapubic method. Both patients were over sixty years of age. In the last case, the patient had not passed urine without the use of a catheter for over five years. He sought admission to the Memorial Hospital because of his difficulty in the introduction of the catheter by reason of false passages made in the urethra from previous catheterizations. I made a cystoscopic examination and found a markedly enlarged, intravesical, prostatic projection consisting of three lobes, and a trabeculated condition of the bladder. Only a few minutes were consumed in enucleating the gland after performing the suprapubic cystotomy. The patient made an excellent and uneventful recovery. He was in my office only a few days ago, and stated that he felt like a new man. He claimed that he passed the night without disturbance, and urinated at intervals of three or four hours during the day. He has been able to return to his work on the farm, and is now performing a full day's work as formerly.

The dangers likely to occur during or after a prostatectomy are from hemorrhage, injury to or rupture of the rectum, sepsis, uremia, shock, postoperative pulmonary complications, and the anesthetic. The danger of sepsis and uremia

may be greatly minimized by providing for free drainage, flushing the kidneys by administering water freely, and using saline infusions as necessary. Hemorrhage is not likely to occur if proper care is given to ligation of bleeding vessels and if proper use is made of gauze packing. When the operation is performed hurriedly, or if the gland be of large size, or if adhesions be present, tear or injury to the rectum may occur. A tear occurring, it should at once be sutured from the perineal side.

Since local anesthesia has been substituted for general anesthesia, especially in patients advanced in years, the mortality of prostatectomy has been markedly decreased.

According to Watson, the largest share of danger from sepsis belongs to the Bottini operation, and the greatest risk from shock and pulmonary complications is met with in suprapubic prostatectomy.

From statistics of operations performed by prominent men by the three methods now generally recognized in the treatment of prostatic hypertrophy, recently collected by the same surgeon, the Bottini gave a mortality of 4.5 per cent.; perineal, total removed, 2.9 per cent.; suprapubic, 8.6 per cent.

I do not think that any one method should be selected by the surgeon to meet all cases of prostatic hypertrophy, but that great care and judgment should be used in the selection of the case. Cases not suited to prostatectomy or the Bottini may be given great relief and prolongation of life by the performance of a palliative operation for drainage.

717 East Franklin Street.

ACETOZONE IN THE TREATMENT OF TYPHOID FEVER.

By W. W. WILKINSON, M. D., La Crosse, Va.

Typhoid fever is due to the implantation and proliferation of the typhoid bacilli in the abdominal lymphatics, especially Peyer's patches. Increasing in number, they penetrate deeper into the glands, and are soon found in almost every part of the system, even in the bone marrow. But their effect upon the patient is produced chiefly by those at work upon the abdominal lymphatics. They sink down in the glands

below the mucous surface, and it is at once seen that to attack them it would be necessary to saturate the system of the patient with a germicide in order to reach them. Owing to their great resisting power this is impossible. Failing in this, we next look for something that will destroy those that infect the alimentary canal, thus aiming to prevent their getting further foothold in other glands not already infected, and to reduce their number in the infected glands.

After studying their resisting power, we find that 0.02 of one per cent. carbolic acid and 0.01 of one per cent. of corrosive sublimate are without effect upon them. Owing to the poisonous nature of these substances we cannot use them sufficiently strong to be of much effect. Salol has been largely used theoretically because it is supposed to decompose in the intestines and form carbolic acid. Practitioners here differ very widely as to its results, and many after using it because of its supposed action fail to obtain satisfactory results. And the medical profession continues in search of a remedy that will keep the alimentary canal in an aseptic condition during typhoid fever.

At present with my limited experience with it, acetozone seems to come nearest accomplishing the object. It is best administered in quantities of 30 grains dissolved in one-half gallon of water, and one to two quarts given in twenty-four hours. Thus prepared, it should be allowed to stand two hours before using. In warm weather it should be kept in a refrigerator or on ice, and three or four ounces may be decanted and given about every three hours. A little lemon juice may be added to the decanted portion before giving to make it more pleasant to take, or a little lemonade may be given afterwards to destroy the taste, which is a little objectionable to some patients. Under its use the patient will seldom, if ever, suffer with tympanites; the diarrhea is checked, fever is reduced, and the course of the disease shortened.

If employed early in the disease before the bacilli get too deeply implanted in the glands. I believe from experience that the disease can be cut short, and in cases well advanced its use will keep the bowels aseptic and prevent the glands not already infected from becoming more so, thus mitigating the disease.

I usually commence by giving my patient calomel, and as soon as it has had effect I commence the acetozone and continue its use until

the patient has been free of fever for several days. Under its influence, the catarrhal congestion of the mucous membrane of the bowels is reduced, and constipation is the rule instead of diarrhea. To obtain the best results, small doses of magnesia sulphate or Rochelle salts should be given to keep the bowels mildly open. The patient's temperature seldom gets high, and I find that it is more readily controlled by cold, usually requiring only a moderately cold sponge.

I have almost entirely laid aside the cold tar antipyretics, believing that continued doses of them in the hyperpyretic condition of the blood greatly impairs the oxygen carrying power of that fluid. What effect they have on the corpuscular element I am unable to say, but it seems that long repeated doses have a very bad and dangerous effect upon that tissue.

Analyses, Selections, Etc.

Treatment of Respiratory Diseases.—Dr. Arthur B. Smith, Springfield, Ohio, remarks that new formulas for affections of the air passages are being constantly introduced. Some are of undoubted benefit in some cases, but usually the results are unsatisfactory. Gastric complication prevents the use of many because they cause nausea and vomiting. Others are objectionable because they act as heart depressants. Heroin, however, in the vast majority of cases is tolerated by even the most sensitive stomach; but if disturbance should occur, it is easily obviated by decreasing the dosage, and then gradually increasing it. In cases of enfeebled heart, heroin can be prescribed without danger of depressing effects. As compared with codeine, its sedative action on the respiration is much more powerful. While the fatal dose of heroin is about one hundred times the efficacious dose, the fatal dose of codeine is only about ten times the efficacious dose. In other words, heroin is about ten times safer than codeine. Heroin appears to exert a specific action on the respiratory centres without disturbing any other organs or centres, and there is no danger in acquiring any habit from its use.

Glyco-heroin (Smith) is a solution of heroin in glycerine, combined with expectorants—each

teaspoonful containing one-sixteenth grain of heroin by accurate dosage. It is of agreeable flavor, therefore easy to administer to children, for whom the dose can be easily reduced with any liquid. While it has many advantages of other preparations, it has none of their disagreeable features.

Dr. Smith cites a number of cases illustrative of the good results with this remedy. I. S. B., aged 16. Unusually severe bronchitis, with cough, pain, mucous rales, fever, etc. Teaspoonful every two or three hours, for a few days, made patient practically well and able to return to school. Case II, aged 31, acute bronchitis, with painful cough, difficult expectoration—especially when in reclining posture. Teaspoonful glyco-heroin (Smith) every three hours gave speedy relief and effected cure in a few days. In Case III, aged 60, with chronic bronchitis, patient had coughed and expectorated for years, a thick, purulent, offensive matter. Gradually he had lost 20 pounds of weight, was constipated, had night sweats, insomnia, etc.—in short, he was on the verge of nervous prostration. Bromides, a tonic and glyco-heroin (Smith) were used. When the latter had been gradually increased to tolerance, the results were remarkable. In three weeks, she was eating almost everything she wished, sleeping well, and cough and night sweats were stopped. She is now in perfect health—needing only an occasional laxative. Case IV, aged 26, a severe bronchitis accompanied influenza. After failure of other remedies, teaspoonful doses of glyco-heroin (Smith) every three hours gave decided relief, and permanently stopped the cough. Case V, aged 6, had capillary bronchitis, cough, difficult expectoration, etc. After a few doses of 15 drops every three hours of glyco-heroin (Smith), speedy restoration to health resulted. In Case VI, child, aged 5 years, with whooping-cough, ten drops of glyco-heroin every two hours resulted in good. Of course, fresh air, hygienic treatment, etc., were adjuvants. Convalescence in a few days was uneventful.

Incubation Period of Typhoid Fever.

According to *Med. Press and Circular*, September 21, 1904, Mr. Dufloq Voisin, Paris, reports the case of a nurse, wishing to end her life, swallowed two tablespoonfuls of broth-culture of Eberth's bacilli, but without untoward effects at the time. On the third day,

however, she had headache, but no fever. By the sixth day she was obliged to take her bed with malaise and weakness in the lower limbs. Temperature next evening was 38.6°C. Next day she had epistaxis, several rose-spots and fever of 40.2°C. On tenth day Widal's reaction was present. The attack ran the ordinary course of typhoid fever of great severity—requiring not less than 176 cold baths. The incident shows not only that Eberth's bacillus is the specific causative organism of typhoid fever, but shows that the incubative period of the disease may be as short as two days—Dr. Voisin attributing the short period in this case to the large number of bacilli ingested. We know, however, that sometimes the bacilli as ordinarily taken into the system require as long as three weeks to produce their effects—the usual period being about ten days or a fortnight.

Book Notices.

Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition. By PROF. DR. CARL VON NOORDEN. Authorized American Edition. Translated under the Direction of BOARDMAN REED, M. D., Philadelphia. Part V—Concerning the Effects of Saline Waters (Kissingen, Hamburg) on Metabolism. New York: E. B. Treat & Co. 1904. Cloth. 12mo. Pages 92.

This little book gives the results of the study of two eminent German clinicians—Prof. Carl von Noorden and Dr. Carl Dapper—concerning the influence of the sodium chloride waters on digestion in conditions of disturbed gastric secretion as well as in gout, diabetes, and other diseases of nutrition. Among other things, these investigations completely refuted some of the notions long promulgated at the European Spas to the effect that the alkaline and saline waters are incompatible with certain articles of diet, such as the fats, fruits, etc.

Compend of Medical Latin. By W. T. ST. CLAIR, A. M., Professor of Latin in Male High School of Louisville, Ky. Second Edition, Revised. Philadelphia: P. Blakiston's Son & Co. 1904. Cloth. 12mo. 131 pages. Price, \$1.

This compend will be found especially useful

to doctors who have never studied the Latin language, and also as a vocabulary to those who have become rusty and find their medical Latin a minus quantity. The book is interesting, and will almost unwittingly bring to mind memories of the lecture room of years ago.

Medical Diagnosis: Special Diagnosis of Internal Medicine. By DR. WILHELM V. LEUBE, Professor of Medicine, and Physician in Chief to Julius Hospital at Wurzburg. *Authorized Translation from Sixth German Edition. Edited with Annotations* by JULIUS L. SALINGER, M. D., Late Assistant Professor of Clinical Medicine in Jefferson Medical College, and Physician to Philadelphia Hospital. *With 5 Colored Plates and 74 Illustrations in the Text.* New York and London: D. Appleton & Co. 1904. Cloth. 8vo. Pp. 1058. Cloth, \$5; half leather, \$5.50. Sold only by subscription.

This book describes diseases and the various points of differential diagnosis in a plain, practical style. Numerous annotations by the translator bring it quite thoroughly up to date. The diseases described include all those usually treated of in works on practice of medicine, and the points of differentiation are given in a manner that is clear and impressive. It is a book adapted especially to the needs of the practitioner.

Treatise on Obstetrics. By EDWARD P. DAVIS, A. M., M. D., Professor of Obstetrics, Jefferson Medical College; also in Philadelphia Polyclinic, etc. *Second Edition. Illustrated with 274 Engravings and 39 Plates in Colors and Monochrome.* Lea Brothers & Co., Philadelphia and New York. 1904. Large 8vo. Pp. 809. Cloth, \$5 net; leather, \$6.

This book, "for students and practitioners," is the book needed by the doctor in general practice who has to attend obstetric cases along with routine medical work. Of course every principle and the essential details of aseptic preparation of doctor, nurses, patients and surroundings are taught. What to do in cases of dystocia—how to recognize them and how to deal with them—receive full consideration. The book also deals with the management of the infant up through the period of dentition. The illustrations are all good; and the index is a great help to the owner of the book when he wishes hurriedly to refer to a definite point. But the best way to do is to adopt this book for systematic reading, and after a few months, read it over again, so as to keep the lessons fresh in memory; for no doctor can tell when he may be

called to a case that will put him at "his wits' ends" to decide exactly what is best to do in such a case. This treatise very well covers the entire field of obstetrics, and details what to do for the young infant to keep it in health and to restore it to health when afflicted with the disorders of infancy.

How to Cook for the Sick and Convalescent. By HELENA V. SACHSE. *Second Edition, Revised and Enlarged.* Philadelphia: J. B. Lippincott Co. 1904. Cloth. Large 12mo. Pp. 297.

This book—"arranged for the physician, trained nurse and home use"—is one that should be in every home. In this day, when doctors rely so much upon the trained nurse for the preparation of diet, of course she should have it. The physician when a trained nurse is not obtainable should have it in order that he may give detailed directions. In fact, every home should have this book, for it contains such details as to selection of food and how to prepare it for the sick that we do not know of its practical equal. After a classification of recipes for ready reference, it tells the different ways of preparation of meat, milk, drinks, toasts, soups, gruels and mushes, griddle cakes, eggs, etc., etc. Of course it has a chapter on peptonized foods, etc. A well arranged index of 17 pages is added.

Manual of Electro-Static Modes of Application, Therapeutics, Radiography and Radiotherapy. *Third Edition.* By WILLIAM BENHAM SNOW, M. D., Professor of Electro-Therapeutics and Radiotherapy, New York School of Physical Therapeutics, etc. New York: A. L. Chatterton & Co. 1904. 8vo. Pp. 302. Cloth. \$3.

The rapid exhaustion of the second edition led to the publication of this third edition before any material advances had been made. Some alterations in definition and expression have been introduced so as to more thoroughly revise the work. This *Manual*, however, systematically covers the practical parts of the subjects in hand, and it is useful to the student as well as specialist in electro-therapeutics, radiography, etc. It contains more than a hundred illustrations, including ten full page half tones, showing the various methods of posturing and treating diseased conditions. Details of skiagraphy are also given, so that the student following the instructions will have little difficulty

in mastering the subject—so far as the subject is at present understood.

Text-Book of Physiology. By ISAAC OTT, A. M., M. D., Professor of Physiology in the Medico-Chirurgical College of Philadelphia. *With 137 Illustrations.* Royal 8vo. 563 pages. Extra Cloth. Price, \$3.00 net. F. A. Davis Company, Publishers, Philadelphia.

This is a student's book—an elementary work, containing the chief facts of physiology necessary to the doctor in the practice of his profession. While admirably suited to the class room, the general run of practitioners will find in this volume the facts essential for them to remember in their daily rounds. Originality is not intended, and little is brought out by the author that has not heretofore been published. But he shows remarkable ability in collating and condensing the writings of others so as to bring out a work that must for years be considered a standard text-book of physiology. The illustrations are well selected and the index is good.

Diseases of the Stomach and Intestines. By BOARDMAN REED, M. D., Professor of Diseases of the Gastro-Intestinal Tract, Hygiene and Climatology, Department of Medicine of Temple College, Philadelphia, etc. *Illustrated.* New York: E. B. Treat & Co. 1904. Cloth. Large 8vo. Pp. 1021. Price, \$5 net; one-half Morocco, \$6 net.

This book, consisting of 82 "Lectures to general practitioners on the diseases of the stomach and intestines, as well as the allied and resultant conditions, with modern methods of diagnosis and treatment," is a valuable addition to medical literature. It is systematically divided into parts—I, treating of anatomic, physiologic, chemic and diagnostic data; II, of methods of examination; III, of methods of treatment; and IV, is titled, "the gastro-intestinal clinic," in which the diagnosis and treatment of all the known diseases of the tract—medical and surgical—are separately considered. One is impressed by the plain, simple manner of descriptions, and the thoroughly practical manner adopted by the author in dealing with his subject matter. It would be difficult to find points for criticism, since so much of the teachings are the result of over twenty years of personal experience and observation—the effort being all the time to bring

out simpler methods for examination than were formerly adopted, and less severe means of treatment than that heretofore advocated. It is an excellent, practical book for the general practitioner, and at a price that makes it available by any who seeks to keep up with advances in gastric and intestinal medicine.

Progressive Medicine.

This quarterly digest of advances, discoveries and improvements in the medical and surgical sciences, for September, 1904, is as rich as usual with advances, etc., relating to the subjects considered, such as tuberculosis, diseases of the pleura, lungs, blood vessels, pericardium, heart, dermatology, syphilis, diseases of nervous system, obstetrics, surgery, etc. Messrs. Lea Brothers & Co., Philadelphia and New York, are publishers. Price, \$6 a year.

Editorial.

Medical Society of Virginia.

The 35th annual session will begin in Masonic Temple, Richmond, Va., Tuesday, 8 P. M., October 18th, and conclude with a banquet on Friday night, October 21st. Never before in its history has the profession of Virginia been so thoroughly aroused to the importance of the Society. Ninety-nine of the hundred counties of the State are at this writing represented in the membership of the Society, and the membership—with the addition of the new members whose applications are already in hand—as compared with the total medical population of the State, is larger than that of any State Medical Society in the United States. This represents the distinctive individual membership—not dependent in any material degree on the help of so-called component societies. Indeed, as one looks over the record of new members, the cities and counties in which local societies exist have, for the most part, been those localities from which the relatively fewer number of new members have come. We would be glad if this remark would awaken enthusiasm and cause a little more work in the few days remaining be-

fore the session on the part of members of local societies.

As the session of the Society is to be held during the same week as the "Richmond Horse Show," which always attracts an unusual number of visitors from all parts of Virginia and from other States to the city, we repeat the suggestion given in the official announcement of the session, that doctors—*especially if ladies accompany them*—should engage their lodging places in advance. Beside the hotels named in the announcement, the Committee of Arrangements have secured the addresses of a number of reliable boarding houses convenient to the hall of meeting. Information regarding them can be obtained at any hour during the session by inquiry of the Bureau of Information in Masonic Temple, or by addressing the secretary of the Society.

In this connection, we may add, that a committee of ladies will provide for the pleasures of visiting ladies while the doctors are participating in the Society proceedings.

While the scientific program is very full and inviting, it is a matter of regret that a number of Fellows and guests sent in the titles of papers too late for inclusion in the official announcement. Hence, under a long established resolution of the Society, such papers are relegated to the last day of the session—after the published program is completed. But such fact will not prevent these mostly prominent authors from participation in the discussion of papers, etc.

In view of the great injury to the scientific proceedings at Roanoke last year by the time consumed in the discussion of a proposed plan of reorganization of the Society, the Business Committee of the Society, as also the Local Committee of Arrangements, had practically unanimously arranged for the going through with the scientific program first and then take up as much time as might be desired in the further consideration of the "proposed reorganization plan." But since the issue of the official program, as some members of the Society who favor the proposed reorganization plan have expressed objection to such an arrangement, the local Committee of Arrangements as well as the Business Committee unanimously withdraw all suggestions on the subject; and during Tuesday night's session, October 18th, the Business Committee will request the Society itself to appoint its own time for the consideration of the matter. As the banquet is arranged for Friday night, it

is hoped that visiting doctors generally will remain over to partake of such expression of hospitalities on the part of the local profession.

It seems unfortunate for the general practitioner that the clinics arranged for Wednesday and Thursday are to be so entirely surgical. As a number of distinguished physicians have promised attendance—among them Honorary Fellow, Dr. John H. Musser, of Philadelphia—we had hoped that a suitable clinic hour for medicine might have been secured.

The second August and both September numbers of this journal were largely devoted to discussions of the proposed reorganization plan. We adopted this method in order that much of the time of the Society might be saved. Copies of these issues were mailed to each of the relatively few members of the Society who are not subscribers, as also, of course, to subscribers generally. We are confident that subscribers out of Virginia will pardon us for taking up so much space in so many issues with matters that are of little interest to them.

Medical Unions and Reorganizations.

Southern Medicine and Gaillard's Medical Journal (Consolidated), in commenting upon the discussions in the *Semi-Monthly* on this subject, "heartily concurs with Dr. Edwards in all that he has said"; and adds: "Rumblings are being heard in many quarters in opposition to the so-called *compulsory* reorganization plans proposed by the American Medical Association. It is a question to which the profession should give weighty consideration. The House of Delegates, to which is left the transaction of all business of the association, it is said, are to meet in advance of each session, and get through with the business—politics?—before the association convenes."

The *Louisville Journal of Medicine and Surgery*, referring to the "House of Delegates," suggests that the delegates from the county societies to the State Societies should be politicians, and no doubt the members of the House of Delegates sent up from the different State Societies are the shrewdest politicians in their membership.

"We must look facts squarely in the eye. Give a machine control, and it is all the time planning to strengthen itself. For instance, look at the labor organizations of this country. Have they benefited the body politic?"

"Consult the signs of the times. While there is yet peace, prepare for war. Those who love liberty and independence must stand ready to fight for them when need be. *Encourage individual enterprise everywhere.* That is the true American idea. We have seen the evils of trusts and unions—imported from Europe, where the conditions are utterly different. *Compulsion* is their sole method of doing business. Letting others think for us is to be steadfastly combatted in every department of life."

Exhibitors During Session of Medical Society of Virginia.

In the hall adjoining the hall of session of the Medical Society of Virginia, in Masonic Temple, Richmond, a number of manufacturing chemists, etc., will have representatives of their houses. Drinking water will be supplied by Ewell's Spa Co., of Ruckersville, Greene county, Va., which is specially recommended in cases of indigestion. Among other exhibitors will be W. D. Allison & Co., Indianapolis, Ind; The Churchill Chemical Co., Denver Chemical Manufacturing Co., Fairchild Bros. & Foster, E. Fongera & Co., all of New York city; Globe Manufacturing Co., Battle Creek, Mich.; Richard Gwathmey & Co., Richmond; Horlick's Food Co., Racine, Wis.; Keasbey & Mattison, Ambler, Pa.; Mellin's Food Co., Boston, Mass.; New York Pharmacal Association, Yonkers, N. Y.; Charles H. Phillips Chemical Co., New York city; Powers & Anderson, Richmond; The Tilden Co., New Lebanon, N. Y. Probably still others will be represented.

The Augusta County (Va.) Medical Society

Was organized at Staunton, September 21, 1904, with a membership of 31—of whom 18 were present. Dr. Benj. Blackford declined the honor of president, as his time was too entirely taken up as superintendent of the Western (Va.) State Hospital. Dr. J. S. DeJarnette, Staunton, was then elected *President*; Drs. M. P. Jones, Churchville, A. C. Cox, Waynesboro, and Whitmore, Mt. Sidney, *Vice-Presidents*; Dr. J. W. Freed, Hermitage, *Secretary*, and Dr. T. M. Parkins, *Treasurer*; Censors for one, two and three years, respectively, Drs. J. B. Tuttle, Spottswood; J. B. Catlett and Benj. Blackford. Drs. M. J. Payne and F. M. Hanger, Staunton, and R. S. Griffith,

Basic City, were appointed to read papers at next meeting—second Wednesday in November.

This is the second county society in Virginia organized since the session of Medical Society of Virginia, September, 1903. We regret not knowing of this organization in time for mention in our last issue.

Alkalometry Versus Galenicals.

Every practitioner has recognized the want of reliability of the galenical preparations as dispensed by the pharmacist. It seems impracticable to obtain such preparations of the due degree of potency from different druggists, or from the same druggist at different times. The leaves or flowers or roots, etc., of the same medicinal plants vary in the amount of active principles, as found in the prescription store—whether due to the inferiority of different samples, or the time of gathering and mode of preparation for the market, or the length of time they have remained in bulk or on the shelves of stores. It needs no further proof than that of experience that most of these galenical preparations, as found even in the best of drug stores, are unreliable—sometimes too strong, but most frequently too weak. The physician scarcely knows the proper dose of such preparations, coming from different reliable druggists—however honest they may be.

Such, however, is not the case with the *alkaloids*. So much morphine and no more is derived from the poppy; so much strychnia, from strychnos nux vomica, etc. Of course, we are not referring to dishonest manufacturers of the alkaloids who introduce substitutes; but such a class of dishonest manufacturing chemists are very few in this day. It does not pay them to be dishonest in the putting out of alkaloids—their faults would soon find them out.

The time is at hand when the practitioner has learned these facts, and no one more than he should rejoice that the alkaloids have been extracted and prepared for use from such a large number of medicinal plants, etc. While the Alkaloidal Chemical Co., of Chicago, is entitled to the credit of its persistence in bringing alkaloidal preparations to the front, no one claims for that company the credit of introducing most of them.

The alkaloidal method makes it easy to prescribe the smallest possible quantity of the best

obtainable means to produce a desired therapeutic result. These alkaloidal preparations also enable the physician who has to dispense his own drugs to carry about with him as large a variety of the active principles of different drugs as he is apt to need in his routine practice.

With reference to such preparations the country doctor, as a rule, is ahead of the city doctor, who still sends his old galenical prescriptions to the pharmacist. Hence the frequent difference in the reports as to the value of different drugs, as prescribed galenically or alkaloidally. Economy of space, convenience of administration and equable reliability of preparations are all in favor of alkalometry. It is surpassing strange that so many of the standard text books on materia medica and therapeutics have not dealt with this subject as they should have done. We hope for improved standard text books for our students and practitioners.

The Article on Pain—Its Importance, Etc.,

Which appeared in the September 23d number, p. 268, was attributed to Dr. Garcin, when it should have been to *Dr. Wyatt S. Beazley*, of Richmond, Va. The article was sent by Dr. Garcin, President of the Church Hill Medical Society, before which the paper was read. Dr. Garcin calls attention to the error, which we greatly regret. Dr. Beazley failed to sign his name to the manuscript.

Archives of the Roentgen Ray

Is an international monthly review of the practice of physical therapeutics, Messrs. J. Hall Edwards and Clarence A. Wright, of London, and Dr. Henry G. Piffard, of New York, being in editorial charge. The American publishers are the Rebman Co., 10 W. 23d street, New York. Annual subscription, \$4. This journal was formerly issued as the "Archives of Skiagraphy." Each issue is of royal quarto size, and contains about thirty pages of text, and illustrated with excellent full page plates in addition to text showing skiagraphs of various diseases or lesions. To the specialist, this journal is a great help.

The Three Medical Schools of Virginia

Are now running in full blast, and from present indications will make a considerable gain

over last year in the number of students matriculated. Each of these institutions is doing good work—theoretical and clinical—and there is every reason to be satisfied with the showing made.

Railroad Fares to Session of Medical Society of Virginia.

In the official announcement of session in Richmond, Va., October 18-21, it is stated that no special rates have been solicited on account of the session, as better rates have been allowed on account of the Richmond Horse Show for the same week. Ask for such special rates of ticket agents. We make this statement in response to inquiries that have frequently come in since the program was issued.

Medical Journals Made One.

Southern Medicine and Gaillard's Medical Journal have been consolidated, and, beginning with the October issue, 1904, it will appear under the editorship of Dr. W. E. Fitch, of Savannah, Ga., heretofore the editor of *Southern Medicine*.

Prof. Charles Baskerville,

Recently of the University of North Carolina, has just been appointed to the chair of Chemistry in the College of the City of New York. Prof. Baskerville is the discoverer of the two new inorganic elements, *carolinium* and *berzelium*.

Dr. Benj. B. Warriner, Crewe, Va.,

Who has been serving for some years as assistant surgeon in United States Army in the Philippine Islands, and who has been at home on furlough since August is about to return to duty in Manila.

Dr. R. B. Teusler, Richmond, Va.,

Who has been medical missionary for some years in Tokio, Japan, is at home on a visit. He will return to Japan about December.

Dr. John Dunn, Richmond, Va.,

Has gone on a trip of some six weeks or more to Europe.

THE Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

Vol. 9, No. 14.
Whole No. 206.

RICHMOND, VA., OCTOBER 21, 1904.

\$2.00 a Year.
10 Cents a Copy.

Original Communications.

PRESIDENT'S ADDRESS.*

By JOSEPH A. GALE, M. D., Roanoke, Va.,
President Medical Society of Virginia, etc.

We have many times had the pleasure of assembling in this historic city. The invitation to do so has been perennial. For more than twelve months past the hand of welcome has again been extended, beckoning us "on to Richmond"! Let me congratulate you, Fellows, upon having once more assembled in this beautiful city, the Saratoga of the South, toward which, since my brief residence here in the troublous times of war, I have never once set my face or turned my feet without feelings of commingled pride and satisfaction.

RETROSPECTION.

Before commencing my address, being a veteran of that cause which was so dear to every true Southron's heart, and being full-fraught with reminiscent feeling, will I not be pardoned for allowing my thoughts to revert for a few moments to the early sixties, when the popular cry north of Mason and Dixon's line was, "On to Richmond"! when this metropolis, then the capital not only of the "Old Dominion," but of the new-born nation, the Confederate States of America, was the citadel of "grim-visaged" war and the principal theatre of our civil strife; when everybody hereabout wore the gray, and the measured tread of soldiery keeping step to the sound of fife and drum, the clatter of sabres of mounted men, the heavy rolling of artillery, and even "the roar of the hoarse-voiced cannon, the red-mouthed orators of war," and the clangor of resounding arms, were familiar sounds upon these streets—sounds that would be in strangely solemn and awful contrast with the peaceful scenes and money-getting hustle of today.

*Delivered 8:30 P. M., October 18, 1904, before Thirty-Fifth Annual Session of Medical Society of Virginia, held at Richmond, Va.

The numerous factories and warehouses that were then occupied as arsenals and hospitals have either been replaced by new and more modern structures and embellishments, or are filled with attractive stocks of merchandise and the pleasing hum of industry, emanating from forge and factory and business mart.

Even far-famed Chimborazo Hospital, the largest, completest and best-equipped institution of the kind in all our beloved Southland, has long since given place to a beautiful park, which, with its attractive driveways, fine ornamental shrubbery and other splendid appointments, now enriches and adorns the landscape; and, where, instead of the sighs and groans of the sick and wounded, are to be heard the mellow notes of beautiful song-birds.

Dwelling upon these scenes, a participant in them recalls things which, while not exciting the slightest feeling of disloyalty to the powers that be, or the faintest wish to re-enact them, nevertheless, so stir the heart as to make it yearn for its old loves that cannot be suppressed.

"Long, long be our hearts with such memories filled
Like the vases in which roses have once been distilled—
You may break, you may shatter the vase if you will,
But the scent of the roses will hang round it still "

In addition to their lavish hospitality, of which I am proud to acknowledge that I was a frequent and favored recipient, the part that the Richmond women bore in the glory of those days must never be forgotten—a glory fully equalling that of the bravest and most patriotic of our soldiers. The loyalty, devotion and self-sacrifice of these brave-hearted women, who sent their husbands and sons, and not infrequently both, to the front, while they kept the lonely vigil in their absence, during the deepening anxieties of the fateful years that rolled on, represent a heroism unequalled by that which had "the solace of companionship in the weary march of the inspiration of excitement in the tumult of battle."

In the Medical Department, in which it fell to my lot to serve for a time, I recall with great

pleasure the manly, dignified and stately form of the Medical Director of Chimborazo Hospital, who, I am very glad to be able to state, is still upon the stage of action, and is, perhaps, present in this hall to-night. And if he is, I trust he will pardon this personal allusion, which is prompted by none other than feelings of the most profound reverence and veneration.

"There are recollections as pleasant as they are sacred and eternal:

There are words and faces and places that never lose their hold upon the heart."

The few remaining participants in that eventful period that are with us here upon this occasion may be easily recognized by their hoary locks, which serve to remind us that they, too, will very soon join the innumerable caravan in its ceaseless march to that mysterious realm from which no traveller ever returns, when it will be incumbent upon their progeny to keep alive and perpetuate the sacred memories of the past.

From this glimpse at by-gone days, upon which it were exceedingly pleasant longer to dwell, let us now turn our thoughts to matters pertaining to the present—to the issues of today—and especially to some of the things that relate more directly to the interests and needs of this Association.

THE REORGANIZATION

of this body is a matter which has been claiming the attention of members for the past several years. It was first formally presented to the Society at Newport News in 1902, when it was referred to an able committee, which, after most careful consideration, reported in its favor at our meeting in Roanoke last year, recommending substantially the plan of reorganization proposed by the American Medical Association, and presenting along with it, with their unanimous approval, a constitution and by-laws drawn in accordance therewith. As revised and amended by the committee, these were published in the Transactions for 1903, and, I assume, have been read by all Fellows here present. I need not, therefore, go into the minuter details of the proposed plan of reorganization, which is now, or should be, the thought uppermost in the minds of us all—the all-absorbing question for our consideration—affecting as it does the public weal from a medical standpoint, as well as the members of our Society and the profession at large. The plan has steadily commended itself to me.

The Medical Society of Virginia, as at pres-

ent organized, has been, and is still, a great power for good. The untiring efforts and unselfish labors of its founders, and of many of its former and some of its present officers and their active and zealous co-laborers, are not to be impugned or lightly esteemed. Their influence and power have been both exerted and felt. But that the Society has not yet accomplished all that we desire, and that there still remain very many things to be done for the advancement of the interests of the profession in this State, none will deny. But what has been accomplished under great difficulties in the past is worthy of the very highest commendation; however, if the signs of the times indicate changes in methods of procedure in order to accomplish desired results, let us not be too slow to adopt them lest we have them at last thrust upon us whether we will or no.

I both admire and commend the conservative attitude which this Society has maintained regarding the proposed changes in our fundamental law, for it is not well nor seemly to fly off at a tangent in search of something that is new, because it is new; but the time has now arrived when we can act upon them without in the smallest degree violating any principle of a safe and sound conservatism, and thus ascertain what is the sense of the Society.

We are living in an age of wonderful progress and advancement. The great strides that have been made in surgery and in the diagnosis and treatment of disease within the past few decades are facts patent to all. We can enumerate the many highly important, most helpful and far-reaching changes, in these respects, that have taken place even since the organization of the Medical Society of Virginia, some thirty years ago. And still we are "advancing with timid steps towards loftier regions that cannot yet be seen."

The present stage of advancement has not been reached by clinging to old ideals and formulas, no matter how greatly, and even confidently they may have been relied upon by the most learned and eminently successful practitioners and surgeons of the past, but is the result, rather, of a yielding to the laws of progressive science, or of the acquiescence in, and adoption of, those methods which have proven to be the best by the experience of others—evolved, as is the beautiful and brilliant flower from the closed and dull-hued bud. Not without great labor and persistent effort have these important results been attained—observation, comparison,

selection; the acceptance of the good, the rejection of the bad; the survival of the fittest.

It is my belief that nearly all of the deepest and strongest thinkers in the ranks of our profession to-day, men of towering ability, who have given a great deal of thought to the subject, are not only agreed as to the supreme importance of uniform, organized and harmonious effort—concert of action, oneness of purpose, etc., on the part of the profession—but that their thoughts have already crystallized around the very plan that is now claiming our attention—the Constitution and By-Laws of the American Medical Association—a system modelled after, and closely following the forms adopted for the organization of the legislative and executive branches of our General Government, the House of Delegates and Council, in some measure at least, taking the place of the two branches of the United States Congress.

The concurrent opinions and views of a majority of the talented and leading men of any profession, business or calling, relative to the interest of the class to which they belong, are entitled to the highest respect, and should not be lightly considered under any circumstances. But for the present, let us consider what are some of the

OBJECTS AND BENEFITS

of reorganization. Article II. of the Constitution of the American Medical Association states the objects and principles of that organization as follows:

“To federate into one compact organization the medical profession of the United States for the purpose of fostering the growth and diffusion of medical knowledge, of promoting friendly intercourse among American physicians, of safe-guarding the material interests of the medical profession, of elevating the standard of medical education, of securing the enactment and enforcement of medical laws, of enlightening and directing public opinion in regard to the broad problems of State medicine, and of presenting to the world the practical accomplishments of scientific medicine.”

These things can only be accomplished through organization, and, when realized, how many very unpleasant things would be eliminated from the physician's life!

One of the grandest works of the a medical society is the education of its members in those things that pertain to their professional duties and obligations. Mere theory in medicine is rapidly becoming a thing of the past. Medicine

while not an exact science is a progressive one. Theories alone will not satisfy the investigating mind. The constant reading of books, journals and other pertinent and appropriate literature is extremely necessary in order to keep one in touch with the advances of the work of the profession; but reading alone is not sufficient. Personal contact with the most enlightened and progressive members of the profession in his locality—most if not all, of whom belong to our local societies—is a means of education and progress that no doctor in this day and time can afford to despise or neglect.

FRIENDLY INTERCOURSE.

If no other object were sought to be attained by the thorough organization of the medical profession than to secure the friendly intercourse of all its members, the accomplishment of that alone would be ample compensation for all the time, money, labor and enthusiasm ever expended in that behalf. There are few things that affect our profession more seriously and injuriously than the petty jealousies that sometimes exist. Foolish prejudices, founded upon imaginary insults, and supposed, or greatly magnified wrongs, easily grow into deadly animosities. But life is too short to be “nursing animosities or registering wrongs.” The more frequent coming together of the interested parties, in cases of this kind, would often bring about better understandings, whereby all their differences would be healed, and the annoyances that beset them fade away and vanish.

POLITICAL INFLUENCE AND POWER.

Political influence and power are worthy the earnest consideration of all organized bodies that desire to exert any special influence. Physicians have never been united; hence they have never been in a position to make their influence felt and respected. As individuals, they perhaps wield a greater influence than the members of any other profession or calling. No other class of men gets so close to the people—all the people—as do the doctors, and their opinions and advice are much sought after, so that their influence is not only very widespread, but very great. But what is now most needed is the combined influence of all physicians—“to federate into one compact organization the medical profession of the United States,” as the plan of reorganization states it. Can you imagine a stronger force, or a more effective power? In one way or another almost every individual—certainly every family in the United States—is either directly or indirectly under the influence

of some physician. What could not the profession accomplish if closely united and in thorough accord? Not only the politicians, but all legislative bodies, from the least to the greatest, will respect us when they find that we are united—organized and powerful—for the protection of our professional interests.

We need organization and agreement among ourselves, as well to secure the enforcement as the enactment of proper medical laws.

COUNTY ORGANIZATION.

Every county in Virginia is represented in the present membership of the State Society. A large majority of these counties, however, have no local medical organization, but in each of them there is a nucleus for the formation of a county or component society, and nearly all of them are in position to organize and maintain such societies. Ninety-eight of the one hundred counties in Virginia have three or more licensed physicians in each. In every one of these counties, by proper effort, a healthy, active society can be organized, which will advance not only the interests of its members, but will prove of vast importance to the State and national organizations. Only six of these counties contain so small a number as three physicians each; but there can be no objection to the formation of component societies in sparsely settled counties with even so small a membership as three physicians, they being all the doctors in the county and all being willing to come together under the auspices of the State Society.

These small societies would have some advantage over a few of the older and larger societies in point of representation in the House of Delegates, as each society, no matter how small, when it complies with all legal requirements, will be entitled to at least one representative, as is provided in Chapter IV., Sec. 2, of the proposed By-Laws; whereas, very few of the large societies would be entitled to a larger representation; but I am very sure that this slight advantage, which is clearly in harmony with both the letter and spirit of the law, will be most cheerfully acquiesced in by the older and stronger organizations, as it is intended to give the advantage to the sparsely-settled counties in order to encourage members of the profession in them to form societies and maintain their organizations. This would give the rural membership a majority over the city membership in the House of Delegates of the State Society, just as the counties now have a majority over the cities in the House of Delegates in the State

Legislature, and justly so, because the rural membership in this body exceeds the city membership.

A PLEA FOR UNITY.

Let unity be our watch-word. We need unity—unity of purpose, unity of thought and unity of action—in every quarter. In unity there is strength, growth, power for the accomplishment of good. Let it be our constant aim to bring into the fold every reputable doctor in every county and city in the State. If it is urged that the reputations of some of them do not commend them to us, let it be remembered how very important it is that all personal differences and estrangements among brethren should be reconciled. It is possible that we have not seen all sides of the lives and characters of those we stand ready to condemn; there may be much good in them that we have not yet recognized.

The narration of a bit of personal experience will I trust be pardonable in this connection. In my own city we have had a local society for a good many years; but the profession has not always been united. In fact there have been two factions very antagonistic towards each other. To the stronger faction belonged the members of the local society who were disposed to regard themselves as the more ethical members of the profession; and some of those on the other side did not readily gain admission to membership when they sought it; but, under the influence of some kindly star, a change took place, and a different spirit now prevails. For some time past every doctor who has sought admission has been promptly received into the society. And, now that we have come together, we find that those who have been held back are just as ethical as any of the rest of us. I sometimes actually wonder, when I consider my personal relation to this whole matter, if it was not my fault, rather than some of those that I used to blame most, that we did not always stand closer together.

By a strong and united effort we can have with us every reputable non-commercial doctor in the Commonwealth, and make Virginia the banner State of the Union, as far as reorganization is concerned. The Old Dominion has long been proudly and justly denominated "the Mother of States and of Statesmen." With equal truth and justice, let it be said that her sons, who are the disciples of Aesculapius, occupy the front rank in the onward march of their profession.

There is little doubt but that we can secure all of the local help necessary to effect county organizations, but if not, let us send out organizers and vigorously prosecute the work. Reorganization should not lose us a single member; on the contrary, it should enable us to hold all that we now have and help us to continue to add others to the fold till we shall have gathered in all the rest. I have yet to learn of a State Society that has lost a single member by reason of reorganization; on the contrary, I am reliably informed that "no old member in any State has been lost from a State Society on this account." Still, fears seem to be entertained by some that the adoption of the proposed Constitution and By-Laws will exclude from fellowship some of the old members who do not happen to live in the counties that already maintain local societies. This would indeed be a serious objection to the plan, if such fears were well-founded; but from what has already been said regarding the practicability of organizing small societies in sparsely-settled counties, it is evident that no physician in the State, who really desires to retain his membership in the Society need lose it on this account. In case the few physicians in any sparsely-settled county cannot for any reason get together and form a local society of their own by application, they can easily secure admission to membership in a neighboring county society and thus retain their membership in the State Society.

But, it is suggested, there are members of the State Society who do not care to belong to any local society whatever, and who still desire to retain their membership in the State organization.

In a case of that sort, I confess my inability to suggest a plan whereby a self-alienated brother can be accommodated, so long as he prefers to stand aloof from the local members of his profession.

But if the new Constitution is adopted it will not affect the present membership until our next annual meeting, or until 1906, or such other future time as the Society by resolution may determine, giving ample time and opportunity for the organization of societies within the reach of every physician in every county in the State, so that none need be dropped from the roll.

In passing from the consideration of this most important question, let me draw your attention to the very significant fact that nearly

all the State Medical Societies in this broad land have already acted upon and adopted the plan of reorganization now before us, and to the still more significant fact that no State organization has rejected it. It is true that north of us the great State of Pennsylvania has not yet fallen into line, and that in the other direction the Empire State of the South—Georgia—has not adopted the plan; but Alabama, Missouri and Texas, the Carolinas and all the other Southern States have accepted it, and stand shoulder to shoulder with New York, Massachusetts, Illinois and all the other great and influential States and centres of organized power and influence in its support. The signification of these facts should appeal to us very strongly, while the non-action of Pennsylvania, Georgia and Virginia should be interpreted, I think, as indicating their conservative attitude towards, rather than opposition to, the proposed plan. Considered as an opposing element, the few States that have not yet adopted it would be regarded as in a ridiculously small and hopeless minority; but I predict that ere long they will each be united with all the other States in this great effort to harmonize and unify the profession.

It is said that there are but three classes of men—"the retrograde, the stationary and the progressive." To which of these do we belong? In other words, do we mean to go backward, stand still, or advance? A great historian, one of the world's keenest observers of men and things, has said: "All that is human must retrograde if it do not advance."

THE EDUCATION

of the profession, especially in matters pertaining to their professional duties, being the leading object and thought underlying the work of all medical societies, it has occurred to me that one of the very best things that we can do along that line will be to place in the hands of every licensed physician in the State whose address is obtainable a copy of the Transactions of this Society. The information that this little annual contains would be a veritable revelation to many of them and would tend to excite in them a deep interest in the objects and aims of our organization—an interest that has not heretofore been enlisted.

The distribution will cost something, to be sure, but the money thus expended will be, as we may reasonably hope, as seed sown in good ground or as bread cast upon the waters that

will return, perhaps, not until after many days, but that will surely return in due season in the form of a fruitful and abundant harvest.

To accomplish the desired end—the greatest good to the greatest number—this distribution of the Transactions should not be made for a single year only, but it should be done annually—made a fixed rule, or part of the Society's polity.

AMENDMENTS TO BY-LAWS.

As our By-Laws now stand, members become suspended for the non-payment of their dues when they are four years in arrears. Under this provision a large number of members have from time to time been dropped from the roll, thus sapping our strength and circumscribing our influence without in any way advancing the interest or promoting the welfare of the Society or of the profession. I am constrained, therefore, to recommend that our By-Laws be so amended as to annul that provision and reinstate all suspended members, restoring them without prejudice to their former membership and standing in the Society.

The suspension of members for the non-payment of dues does not increase our revenue or tend to promote that friendly feeling and cordial relation that it is so important should always prevail among members of our profession. It is not reasonable to expect that ejected or suspended members will feel as friendly towards the organization as they otherwise would.

ADVERTISING.

If advertising is so immense a factor of success as it is admitted to be by the great business world, as represented by all other professions and callings, why do not doctors resort to it? Is it to gratify a weak sentiment that they refuse to depart from an old custom?

It is largely because they look upon their work as private with their patients, as concerning others more than themselves, and for that reason not to be used to advance their personal ends and ambitions. When they report a case, giving in detail the successful results of their efforts in the use of certain remedies and methods of treatment, it is not for self-glorification, but for the benefit of other doctors and their patients. Nor is this done through the channel of the public press, but almost invariably through books and medical journals and through papers read before their medical societies.

Some one has truly said that hundreds of physicians and surgeons are constantly doing things that are really great that the public never

hears of, and probably never will, because it is not in accordance with the fitness of things.

There is no surer evidence of charlatanry and quackery than newspaper advertising by members of the medical profession. For this reason every reputable physician who has made a misstep in this direction has sooner or later abandoned it, which is not to his credit. Pope has wisely said: "A man should never be ashamed to own that he has been in the wrong, which is but saying, in other words, that he is wiser to-day than he was yesterday."

LEGISLATION.

The physicians of the State are doing and have ever done all that is in their power for the amelioration of disease; and not one in a thousand of them fails to contribute every year a very considerable sum, when the money value of his services, according to the usual charges of the profession is considered, towards the public benefit. But we need help along this line, and should appeal to the Legislature for assistance.

In addition to insane persons and paupers, for both of which classes the State has very properly made provision, there are two other classes of unfortunates that appeal with great force to the sympathy and aid of a generous public—viz., those afflicted with tuberculosis and all confirmed inebriates and drug-fiends who are lost to self-control.

Of all the diseases that afflict the human family, consumption is the most insidious, the most dangerous and the most surely fatal. It is everywhere present; from its ravages none are exempt; to it, all are exposed.

Sanatoriums for the care of tuberculous patients should be established and maintained at the public expense in order to keep down the disease and prevent its spread, as well as for aiding the weak and helpless in their wellnigh hopeless affliction. In addition to the Legislative Committee, and in aid and extenuation of its efforts, I would earnestly urge this Society to resolve itself into a Committee of the Whole for the purpose of trying to arouse the popular mind to the conviction and realization that consumption is both an infectious and preventable disease, and endeavor to create a strong sentiment in favor of State sanatoriums as the best and most practicable of all preventive measures.

Every member of this Society has personal knowledge of individuals who are so addicted to drink and drug habits that they are utterly beyond the power of self-control—shattered

wrecks, that have become burdens to their families and often a distressing and menacing presence in the communities in which they live.

The Act of Assembly, approved March 25, 1903, and entitled "An act to provide for the commitment to private hospitals or sanitariums of inebriates, opium eaters or persons addicted to other drug habits and lost to self-control," was a step in the right direction, but only a step, as it does not go far enough to reach the great majority of cases. Only the friends of the rich and well-to-do classes can be cared for under this law.

There ought to be State asylums for the confinement, treatment, cure and restoration to their families of all such persons.

Such institutions would not only be of incalculable value to the unfortunate sufferers themselves, but would afford immeasurable relief to their families and friends, and tend most powerfully to prevent others from becoming similarly affected, thus greatly improving the general moral tone of the people.

Every practicing physician knows how difficult it is to successfully handle this class of patients for want of power to confine and restrain them for a sufficient length of time. Without due restraint it is impossible to successfully treat a patient of this character; and such restraint, to be effective, must be upheld, and, if need be, enforced, by the strong arm of the law.

The State derives an annual revenue of nearly half a million dollars from the sale of intoxicating liquors, and it can easily afford to spend a sufficient sum to establish and maintain institutions for the care and cure of the victims of drink and kindred unfortunates, even though it require an increased levy to do it.

I am of the opinion that if a suitable bill were drafted and presented to the Legislature, and its passage properly urged upon it by the medical profession, that it would be favorably received and acted upon, to the very great mental, moral and physical improvement of our people.

Our efforts to secure the repeal of the law requiring the payment of a license tax by physicians should not be abated, but redoubled if necessary, and kept up till the desired end is attained. Surely the General Assembly, if properly informed on this subject, will not continue to impose so unjust a levy and great a hardship upon the profession—a method of raising revenue that has long since been rele-

gated to the past by nearly all the States in the Union.

INSURANCE.

I now desire to present a thought relative to the adoption by this Society of a plan of life insurance for the mutual benefit of all Fellows who may think sufficiently well of the proposition to unite in inaugurating and furthering the movement.

Without attempting to elaborate a plan, leaving that to a committee to be selected and appointed for the purpose, if it should be deemed of sufficient importance and desirable, I wish simply to add that, from the consideration I have given the matter, I am fully satisfied that it is entirely feasible and may be easily accomplished.

I can see no reason why it would not be with a physicians' mutual aid society, just as it is with the commissioned officers of the United States Army, who have a mutual aid insurance society that, I am reliably informed, is working most admirably.

Let it be borne in mind that membership in this insurance society, should one be organized, will not be compulsory or in any wise affect any of the other rights or privilege of Fellows, but will be entirely voluntary. Opportunity will be given to all who may think favorably of the plan to accept its benefits without compromising or curtailing any other privilege or benefit afforded by reason of membership in the Medical Society of Virginia. I would also have it open to every member of the Society, regardless of his age or physical condition, and the fees for all to be uniform.

While this suggestion is not strictly medical in its bearing, it is designed, and I believe it can be made, to contribute largely to the general good of the membership of this Society. I therefore earnestly commend it to the careful consideration of all Fellows.

ADVISORY.

If I may be permitted a word of counsel to the younger men of the profession, I would take this occasion to admonish them not to think more about their fees than the service they may be called upon to render. Think first how you can most surely and speedily relieve the patient, and afterwards give attention to the matter of fees. The successful treatment and relief of the humblest and most improvident patients may be of incalculable value to you, serving as a stepping-stone to some distinguishing success.

FINALE.

Such unkempt thoughts as I have been able to present for your consideration have been composed, or rather suggested, culled and developed during the past year in the brief intervals of days without leisure; but each has been inspired by an abiding desire to promote our mutual advancement.

Before closing let me again thank you for the very high honor which you conferred upon me in making me your presiding officer. To have enjoyed the confidence and esteem of so distinguished a body of my professional brethren will ever be cherished by me as one of my fondest memories.

I trust that this, our thirty-fifth annual session, will mark such an era of good-will and unselfish devotion to the best interests of the profession as will gladden the hearts of all Fellows and strengthen the bonds of professional and fraternal relation, not only in this Commonwealth, but throughout our whole country, bringing into closer communion the East and the West, the North and the South, until we shall become one grand, harmonious, progressive and ever-advancing organization.

THE ATTITUDE OF PHYSICIAN AND PATIENT TO THE SCIENCE AND ART OF MEDICINE.*

By WILLIAM S. GORDON, M. D., Richmond, Va.,

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When one considers the number of subjects discussed in the annual addresses delivered by my predecessors; when one recalls the depressing assertion of the wise man that "there is nothing new under the sun," and when one reflects upon the difficulty of finding a new topic in which the physician and his patient would both be interested, one is tempted to exclaim that the words of the playwright—*exceunt omnes*—would be a fitting appendix to the first sentence of this address. Moreover, there would be the consoling thought that whatever might have been the nature of the essay (pardon the pun), the appendix could never assume anything of an abnormal or inflammatory character. Usually employed to mark the ending of a

tragedy or comedy, its healthy function would be in this instance to promote peace and satisfaction.

The members of our Society, however, who from year to year are honored in being chosen to speak to the public and profession, must be regarded as torch-bearers receiving light from those whose torches have burned brightly, and placing, as each one hopes, a still larger flame in the hands of their successors. As the torch is passed onward we desire that the flame be larger, and brighter, and purer—larger, that more and more may see; brighter, that they may see more clearly; purer, that what is seen, may edify, uplift and last.

In no age of the world's history has knowledge been so rapidly and widely diffused as in the present. To the modern printing-press, which appears endowed with almost human intelligence, messages are flashed over wires or through the atmosphere, and with amazing speed the printed words are conveyed to millions of eager and devouring readers. Writers, lecturers and other disseminators of knowledge are springing up apace. Novels are multiplied like microbes. Books on art, music and general literature are wellnigh beyond computation. Theories and facts are chasing each other to a bewildering extent. Scientific wonders are born to-day, and to-morrow the world is petting and admiring the nurslings. The ears of the people are pricked up for the next thing; their eyes are wide open and strained for novelties, and what was said by Demosthenes of the Athenians could appropriately be applied to the existing generation. The masses wish to know, and many of their number think that they do know, all that is to be known in special departments of knowledge. Curiosity is at red-heat. The smatterers will argue for hours with the erudites. The search for truth is untiring. The great army of critics is well equipped for its assaults upon the promulgators of error and of truth, while the quack and the charlatan, the imitators, impostors and parasites, the plagiarists and the pretenders, the sycophants and the gesticulators, the Don Quixotes and the Bombastes Furiosos, and the high priests and priestesses of sciences matured in a day are blowing the commercial horn and causing the faith of the enlightened and the orthodox to tremble at its very foundation.

In view of the foregoing facts a number of pertinent questions are suggested, the answers

*Annual Address to the Public and Profession delivered October 18 1904, before the Thirty-Fifth Annual Session of Medical Society of Virginia.

to which would require as many evenings of discussion. What is medical science and art? What are its limitations? What will be its ultimate development? What is the present attitude of the profession and public to this branch of science? It is with the last question in particular that I wish to deal.

Medicine is not, and probably never will be, an exact science, although every year marks its progress and its approach to exactness. It is based upon the structure and functions of the body, the manifestations of disease, and the application of certain remedial measures, medicinal or otherwise, to morbid conditions. It is concerned with the operation of law, and necessarily there is only one set of laws with which every true physician is supposed to be acquainted. As a consequence, there is, and can be, only one science and art of medicine. The imperfect human mind may not comprehend these laws; and be the physician ever so learned and conscientious, he will frequently fail to accomplish what he desires. A master mechanic builds an engine or repairs one that is damaged; and, since he is dealing with certainties, he can, as a rule, be justly held responsible for a failure to accomplish the work entrusted to him. The data upon which his conclusions are founded are, for the most part, obtainable. He can peer into the intricacies of his machine. The completeness of his work depends upon a definite amount and a careful application of knowledge. Errors or defects are to be traced to some one's ignorance or negligence.

Not so, however, with medical science and art. The human body is not a machine which can be resolved during life into its component parts, nor is the physician a mechanic guided by mathematical rules. Many of the conditions prerequisite to a doctor's success are wanting or out of reach. The idiosyncrasies of patients upset his calculations. Unavoidable—sometimes avoidable—variations in the purity and strength of medicinal agents are encountered. The overlapping or commingling of symptoms is confusing. These and other drawbacks to definite knowledge and methods are sources of that deferred hope which maketh the heart sick. Above all, disease conquers in the long run, and death results. Yet, withal, I once heard a man remark that he had promised to remunerate his physicians for all the cures in his family, but to withhold the fee when a death occurred. The first fourteen verses of the thirty-eighth chapter of Ecclesiasticus are highly complimentary to

medical art and its exponents, but it is difficult to understand the attitude of the writer when the fifteenth verse reads, "He that sinneth before his Maker, let him fall into the hands of the physician." The ancient law code of Khammurabi also plainly shows that in meting out a cruel punishment to the surgeon, who was supposed to have killed or mutilated his patient, the ancients were ignorant to a great extent of scientific laws, and therefore devoid of the spirit of consideration and justice which expanded knowledge engenders.

In the profession of medicine there are two classes of workers—those engaged in the discovery and those engaged in the practical application of scientific truth. The former class plod in the stillness and isolation of their libraries and laboratories. Many of their theories burst and sputter like air-bubbles; many of their utterances travel no farther than their own lips; many of their publications are consigned to waste-basket. Unknown, for the most part, except in scientific circles, burning up their bodies and brains as they consume the midnight oil; often deprived of the comforts if not the necessities of life; sleepless while those for whom they spend their energies are asleep; but withal, hopeful, earnest, patient, calm and undaunted, they continue at their tasks and count themselves rewarded in the discovery of even one important truth. These men of profound learning and thought realize the immensity of the fields to be explored, the danger of propagating error, the gradual development of knowledge, the impossibility of attaining perfection at one bound, and the agony of an argument with ignorance, prejudice and superstition. "Let one great truth be discovered," they exclaim, "and be cast upon the world. It may not travel far at first. It may appear to die. Some cannot understand it; others will antagonize it; a few will endeavor to suppress it, but live it must and will, since truth is immortal." Like the butterfly struggling from its humble dormitory, strengthened in its wings by the effort, and endowed with new and higher powers for activity and usefulness, so truth lies until resurrected from its obscurity to assume its exalted place in the intellectual world. If virtue be its own reward, as the poet has so happily written, is not also the discovery of truth its own reward? What matters it, then, to the honest man of science whether he be poor or rich, unrecognized or famous? It is all to him that he has given out something which is imperishable or even a por-

tion of what is to be a finished contribution to the great text-book of established truth.

The other class of workers is concerned chiefly with the practical application of medical knowledge to the cure or alleviation of disease. By day and night they are prescribing or operating. Between times they are answering telephone calls, writing letters, making explanations and discharging hundreds of incidental duties. Between these times they are supposed to be acquainting themselves with current medical literature, and between these times they are presumed to nourish their bodies with food and recuperate them with sleep. Occasionally they are found at church or turn up at the horse show, and once in a great while one of the younger members may be observed dancing the Virginia reel or leading a german.

Such, in part, is medical science and art, and such, it is safe to assert, the characteristics of its disciples. The science is imperfect, but ancient, honorable, life-giving, pain-alleviating, disease-preventing and humane in the broadest sense of the word. It is governed by law, and those who expound and apply the laws are devoted and self-sacrificing men and women. Their aims are unselfish, their motives good, their ideals noble, and their worth to the community indisputable. Indeed, the jesters have called them necessary evils. Like their science, they are imperfect and make no claim to infallibility, being frequently credited with what they do not do, and not credited with what they do accomplish.

In this age the large majority of those who invoke the resources of medical art are intelligent, reasonable and appreciative. As readers and thinkers, they believe in the benefactions of science and in the physician's ability to cure or mitigate many of the diseases with which the human body is affected. By these the doctor is honored and assisted in his work, and by them hospitals and laboratories are endowed. Noble-minded and generous-hearted persons are establishing life-saving stations far and wide, and without their moral support the advancement of medical science would be seriously hindered. They repose implicit trust in their attendant, believe that in medical matters he knows best, and are willing to forgive and forget when he makes a mistake or falls short of his undertakings. Like the physician, however, the patient has his faults, and frequently does wrong when he intends to do right. Medicine, the doctor and the patient are open to criticism,

but all are progressive and earnestly striving for the coveted goal.

Omitting any mention of the so-called members of the profession who, like certain members of all other vocations, are inexcusably ignorant, or wilfully dishonest, and passing by those of the human race who are deliberately opposed to all that science wishes to teach them or do for them, I wish to venture a few remarks upon the attitude of numbers in the profession and numbers out of it who are unintentionally impeding the march of science, obstructing the work of the physician and jeopardizing the welfare of the patient.

Is it possible that any medical man could plead guilty to this charge? When the brilliant and lamented Oliver Wendell Holmes asserted that if all the drugs in the world were cast into the sea, it would be much the better for the people and much the worse for the fishes, he said a very humorous thing, the meaning of which truly intelligent readers would not distort. Proceeding, however, from one whose sayings are so widely read and whose influence is so extensive, has not the remark been productive of unjustifiable and practically applied skepticism on the subject of medicine? Wit and humor, irony and sarcasm are keen-edged tools cutting both sharply; while ridicule, cartoons and parody, in the use of which the American people are quite proficient, can destroy or impair what is good and valuable as effectually as a bolt of lightning.

It is not an uncommon thing to hear physicians advising young men not to study medicine; and while it is true that at the present time the heeding of this advice might redound to the welfare of both public and profession, it is equally true that unmeasured advice of this kind may have the effect of bringing medicine into disrepute and of deterring from the study of it young men peculiarly qualified for its duties and capable of attaining to its highest usefulness and honor. Let us not be the means of suppressing, with thoughtless comments or ill-timed counsel, "hands that the rod of empire might have swayed, or waked to ecstasy the living lyre."

It has been predicted by one of the seers that the time is not far distant when practical medicine will be represented only by surgeons and trained nurses. It is barely possible that this is the prophetic utterance of a surgeon; but even physicians have been known to exclaim that the longer they practiced their art the less they believed in drugs. The experienced and

wise doctor has learned to rely upon a few drugs carefully studied and judiciously administered, and to depend largely upon the healing powers of Nature for the cure of disease; but does not the man of science stultify himself, expose his ignorance, or exploit his laziness, who expresses a disbelief in the physiological action of drugs, and avows his belief in a large number of preparations of which he knows comparatively nothing, and the use of which entitles him to a just sentence from the judgment-seat of science? It gives me pleasure to inform my hearers that the last-mentioned species of doctors is extinct.

Not only on the therapeutic side of medicine, however, do we find skepticism displayed; for there are excellent medical men who incur a serious responsibility by refusing to accept the plainest teachings of pathology, bacteriology and other kindred sciences. The human mind is sprinkled with errors, and a number of the best minds may be unanimous in letting out the same piece of error; but when a large majority of the ablest and most logical intellects in the scientific world are agreed upon what they believe to be incontrovertible facts, it becomes our manifest duty to disprove their teachings, or else to accept them and put them into practical operation. Let this be done, and we shall not hear a man who is supposedly proficient in one branch of medicine belittle the attainments or repudiate the teachings of another who is equally proficient in his own special line of research or practice. Surely if the physician doubts, or acts as if he doubted, the reality of what the well-informed non-professional credits him with believing, we could not wonder if the public should make remarks derogatory of our vocation.

The aptitude of the physician to organization, ethics and germane subjects is of paramount importance. The question of a reorganization of the profession of the State is to engage the serious consideration of our Society at this session. It is not within my province to enter into the merits of the proposed changes, but it may not be amiss to state that our influence and efficiency as practitioners depend largely upon measures which we concert as an organized body. Unless the organization be the best possible, and unless the individual members abide by the regulations, decisions and recommendations of the Society, we cannot hope for the success which loyalty and harmony always produce. Much that we could have done in the past remains undone for want of that unanimity which organization necessarily implies. It is well to

observe the rule, "Be not the first by whom the new is tried, nor yet the last to lay the old aside." If what is right and expedient and feasible be presented to us, let us adopt it and make another step forward; but let us "prove all things" and "hold fast to that which is good." Others have sounded a warning note with regard to the threatened decadence of our code of ethics, and have eloquently and ably pleaded for the maintenance and observance of such enactments as will promote the purity and honor of our calling. Let those voices not die out, or be smothered in the ambiguous phrases of larger organizations after whom we are supposed to pattern. The only true success of an organization, as well as of the individuals who compose it, is character.

Even more important, however, than the medical man's opinion of his science and art is the attitude of the vast reading and thinking public. Ignorance of technical knowledge on the part of the laity is, in a great measure, taken for granted and cannot be held discreditable; but when the ignorant ridicule, caricature or minify technical knowledge, they not only retard its progress, but also suffer a retro-active injury. In none of the professions is a little learning so dangerous as in medicine, and physicians are aware that a portion of their work consists in the effort to undo the consequences springing from the assertions, the advice, or the meddling interference of the well-meaning, but uneducated and misinformed would-be practitioners of medicine. He who attempts to do anything for which he is unfitted assumes more than ordinary responsibility; but he who, stepping out of a sphere of activity for which he is prepared, leads his fellow-men into irremediable or fatal error must be regarded as an involuntary criminal.

I was once walking on a pleasant afternoon along the banks of the Mississippi river. The Arkansas plantation had been inundated, but the overflow was subsiding and the treacherous stream had fallen within its banks. Noticing a canoe tied at the water's edge, the idea seized me to row across to the opposite shore. I went up the stream some distance, close to the banks, and then headed boldly for the State of Mississippi. After pulling steadily awhile with my head tucked down, as a great many people's heads are, I looked up and found myself rapidly leaving both States and well on the way to New Orleans. By dint of hard pulling, the Arkansas side was reached, but how far below the starting

point it is needless to state. Physical strength and the river current had been miscalculated. Ignorance of the exact nature of the problem to be solved, and sheer inability to solve it, had those conditions been known, were the means of teaching me a lesson which has never been forgotten. This little story may be useful to some who administer remedies without being possessed of the extended knowledge which impresses the danger of drugs as well as of disease.

The distortions of scientific teaching, as they appear in newspapers, periodicals and general current literature would be ludicrous if they were not so pernicious. The non-professional publications are accomplishing much good by the dissemination of practical truths, but it behooves the publishers to exercise much thought and discrimination in the laudable desire to instruct and benefit their readers. Scientific men are frequently mortified, humiliated and discouraged in having their assertions disbelieved or their recommendations for the public weal disregarded by those whose only excuse is ignorance, superstition, prejudice, obstinacy, or moral cowardice: and there is hardly a physician in this audience who has not witnessed the direful consequences of a failure on the part of others to believe in what he says, what he has done, or what he wishes to do. The writer has seen thirty-five or forty persons prostrated at one time with typhoid infection in consequence of a stubborn refusal on the part of a man weighted with heavy responsibilities to heed the counsel of a sanitarian. So long as the doctor does not gather manna in the morning, he must adopt business methods: but his highest duty is to teach people how to keep out of his hands. Typhoid fever, for instance, is a preventable disease. Its very existence, as one has said, is somebody's fault. Sanitary science has demonstrated how it can be stamped out. We continue, however, to take money, build temples, lay out parks, provide free concerts, establish libraries, and do many other things which are useful and ornamental, while we condemn the plainest axioms of science, and allow the unseen but destructive army of microbes to play havoc in our homes. If half of the money wasted on aesthetics and non-essentials were appropriated to the prevention of disease, what an addition there would be to the physical, mental and moral excellence of the people! When the opinions of the medical men in the army and navy are better understood and respected, the lives of our sol-

diers and sailors will not so often be sacrificed; when State and municipal officials act upon the suggestions offered by boards of health, the community will be less "afraid for the pestilence that walketh in darkness, and for the destruction that wasteth at noon-day"; and when the preposterous and mercenary guarantees of the quacks fail to find a lodgment in the columns of our journals, the wealth as well as the health of the people will be markedly enhanced. In this connection it is encouraging to note an opportune editorial on volunteer doctors in a late issue of our morning paper and an exposure in one of our most popular monthlies of some of the methods by which gullible and unsuspecting sick persons are seeking to restore their health. American liberty is sweet, and what the educated physician prescribes is frequently better; but blessed be those who have read the articles referred to and been awakened to even a twilight conception of their credulity and danger.

It is hardly necessary to refer to the existence of societies organized to prevent vaccination, experiments upon animals and other procedures which medical science has instituted for the relief of human suffering and the saving of life. The publications of these societies may be inspired by humane motives, and a portion of what has been written may be true; but no unbiased mind can fail to have its pity or its risibles excited by the amount of ignorance and fanaticism which the opposers of medical progress display. I leave it to this audience to determine who is the more cruel—he who sacrifices a guinea pig for the discovery of an antitoxin, or he who allows a human life to be sacrificed instead of the guinea pig?

I wish to tap lightly on the shoulder of my friend who mocks at medical ethics, not realizing that it is founded upon the delicate problems and intricacies of practice, upon common sense and the Golden Rule: nor is it possible for me to refrain from making a gentle thrust at certain persons, beginning with that well-meaning and kind-hearted fellow who greets you with "Hello, Doc"! so loudly that the community is startled, and ending with savants like Moliere, who said to Henry the Fourteenth, and therefore to the world, that he sent for his physician, talked with him, received prescription, refused to take the medicine, and recovered. I would like to remind a great many worthy members of society of the ways in which they are unconsciously doing harm to a profession that is en-

deavoring to do them good; but much must be left unsaid which might appropriately be mentioned.

The relation of the public to hospitals and medical education is intimate, and its special importance at this time cannot be overestimated. The gratuitous services which every community expects the profession to render in the hospital wards or in private rooms are attended with incidental expenses which medical men are unable to meet and which they, in turn, have a right to expect the community will defray. In the populous and wealthy centres of this country bequests and endowments for the relief of indigent and deserving cases are large and numerous. Much is being done in our own neighborhood, but much remains undone that must be done if practitioners of medicine and its allied sciences are to satisfy the increasing demands made upon them.

The medical student in this age walks for four years on a rugged incline. State Examining Boards, which used to confront him only after his graduation, are now co-operating with legislatures and national organizations in the endeavor to fix the standards for his admission to the schools. If these requirements become general, the number of students and colleges will be lessened, but not proportionately so the expense of preparing the embryo doctors for their life-work. The cost of maintaining laboratories for research and investigation is high, while the progress of science will make it higher. Men and women making discoveries that bear directly upon the betterment of mankind have little time to devote to business matters. Tuition fees should not be intended to be sufficient to furnish their workshops and afford them a competent support while they are teaching and experimenting. Professors cannot equip colleges and free wards in hospitals and equip themselves at the same time. If scientific men deny themselves for the sake of the public, then they ought to be materially assisted by the public. Munificent endowments are being made for the training of the young in academic branches, for the comparatively unapplied sciences, for art, for physical culture and for aesthetics. Be it not ours to withhold what, as individuals, we can afford from those who are ready to devote their time and talents to the eradication of disease and the happiness of human life. Think of what Harvey and Pasteur and Lister and Simpson and Roux and Virchow and Sims and O'Dwyer and Kitisato and hundreds of others

have done and are doing. Think of how much more they might have done had the world realized who they were and what they were doing. Strive more earnestly, ye people, for the moral and spiritual elevation of mankind, but build up the physical temple, repair its defects, vanquish its foes and adorn it with the beauty and grace which science is able and willing to confer. The aim of the Spartans was noble, but how much nobler our methods! Let us realize more and more the connection between disease and mental and moral degeneracy, and let us take the road to which the steady finger is pointing.

The incubus of annual State and city license taxation now resting upon the profession should be lifted by the unanimous and vigorous action of this Society. Nearly all of the States and cities of the Union, recognizing the incalculable amount of money saved to the public treasury by the gratuitous practice of physicians and surgeons, have deemed it unjust to impose a tax upon medical men for the mere privilege of endeavoring to make a support. The principle is inherently wrong and applies to other callings than the medical. Ministers, teachers and editors, for instance, are exempt. Why not the doctor? The pecuniary burden is not the main source of complaint, but the failure of the lawmakers to act in accordance with the dictates of justice and from a true sense of appreciation of the benefits conferred by the profession. Furthermore, the fees, or absence of fees, allowed by statute for commissions of lunacy, expert testimony and other public services are such as to degrade our vocation and tempt the physician to either shirk or half-way discharge his duty. No favors are requested; but the attitude of both public and profession to this question must undergo a radical change before the estimate placed by the laity upon medicine shall be correct and before the advantages of our science and art shall be commensurate with its development and opportunities.

In one sense the physician has finished with the patient whose health he has been the means of restoring; but if he does nothing else, his mission to the individual or the community has not been fulfilled. The restored patient, no longer needing the personal ministrations of his attendant, cannot live without incurring certain obligations to medical science and to physicians as a body. The value, the power, and the benefactions of medicine cannot be fully realized without the respect, the support and the hearty

and intelligent co-operation of the public; and if the doctor wishes to measure up to his responsibilities and obligations, he must not be content with only a special application of his knowledge at the bedside or operating table. Inasmuch as his pathway is not too thickly strewn with roses, let the public take care not to bestrew it with thorns. The physician may err betimes in not diluting his technical knowledge for the general welfare, and the people may need a general education sufficient to teach them their ignorance of technical matters.

Let us who are in the profession study it more deeply, believe in it more sincerely, uphold it more strenuously, practice it more faithfully, and educate the public more zealously. At the same time I appeal to the public to become acquainted at least with the underlying principles and the objects of medical science and art. What they do know let them know accurately. Let them exalt true science, instead of "science falsely so called." Do as Tennyson says, "Ring out the false, ring in the true," for there is no real scientist who would not cheerfully be awakened out of a much needed sleep to hear the intonations of such a bell. Medicine owes much to the world, but bear it in mind that the world owes much to the seekers and finders of truth, who, perchance, have grown old and weary and, perhaps, destitute in their labors for humanity.

In conclusion permit me to express the hope that in the discussion of an all-important subject my remarks may not be misunderstood or regarded as hypercritical or censorious. Far be it from me to advocate a mere limitation of the public's knowledge on any subject, to unduly exalt the attainments of medical men, or to condone their shortcomings. My sole purpose is to emphasize the evils resulting from the lack of an accurate acquaintance with scientific knowledge and methods on the part of many who claim to be its possessors; and to stimulate them to the acquisition of information which will enable them to appreciate science and join hands intelligently with its professed exponents. Life is too short and its problems too serious for the blunders of the novice or the pretender. Would that it were longer for those whose reasons teach them that they cannot know and practically apply every department of human learning.

I picture to myself a glorious time when there shall be a mutual understanding between medical men and the remainder of mankind. In that day, science, perfected as far as possible,

shall be seated on a throne erected by her trustful beneficiaries. Glad in robes of white, dignified in posture, calm in her demeanor, hopeful in her lineaments and successful in her struggles, she displays in her countenance no trace of resentment or of discouragement. For her the night of trial and sorrow has passed, and she looks with gratitude and approval upon the learned and generous and faithful throng whose victories she has helped to win, and who, in turn, have written victory upon her unsullied brow.

REPORT ON LARYNGOLOGY.*

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During the past year the work in laryngology and rhinology has been characterized by efforts to place a just estimate on certain methods rather than by the introduction of startling novelties. This is a subject for congratulation, since we are all too apt to be carried away by enthusiasm, or to leave in unmerited neglect something of value because of insufficient trial. Dogmatic assertions and extravagant claims regarding innovations sometimes seem to be necessary in order to attract attention, yet the long list of methods and medicines once in vogue and finally abandoned is a humiliating reflection on the judicial balance of the medical mind. The American rhinologist is the victim of particular censure for using ultra-radical methods in intranasal surgery. Perhaps we talk too much, and thus betray our weakness. But we believe that a study of the world's literature will show the existence of equally errant sinners in other climes, while those familiar with work in our specialty in this country must be convinced of the prevalence of a spirit of conservatism. It is well, however, to discriminate between a wise conservatism and the sentiment which prompted the answer of an old-fashioned grandmother to the proposal of a tonsillectomy upon one of her youthful descendants: "God put those tonsils there, and there they shall stay." Let us hope that the outcry against modern rhinology may not blind us to its blessings.

Interest in that "opprobrium of rhinology," *deviation of the septum*, still continues. The plan of operation described by Moure, of Bor-

*Read at a Meeting of the American Therapeutic Society, June 3, 1904.

deaux, seems to have found favor in England; while in this country Krieg's window-resection operation—substantially an elaboration of a method practiced by Ingals many years ago—has two warm advocates in Otto Freer and Felix Cohn.

From descriptions at hand it is difficult to understand how Moure's operation accomplishes much more than a shifting of the deformity from one nasal fossa to the other, and it is not quite certain that the relief of the original stenosis is permanent. In other words, it does not seem as though redundancy and resilience of the cartilage were sufficiently provided for. After an incision parallel with the floor of the nose beneath the deflection, and a second parallel with the dorsum, in front of and above, but not joining the former, the septum is pushed over *en masse* from the convex side, and is expected to be held in proper position by means of a dilatable intranasal tube. The operation is done under cocaine anesthesia, and is said to give uniformly good results. It is understood that a dislocated columna is to be resected submucously, and a hyperchondrosis on the convex side is to be removed with a specially devised chondrotome several weeks in advance, provided one or both of these complications may be present. It does not appear that the cartilage is detached from the vomer and the perpendicular plate of the ethmoid, and in consequence a tendency to recurrence must prevail on removal of artificial support. Thus the main principles which we are accustomed to recognize as essential to success are ignored. If Moure's operation is capable of permanently correcting a deviated septum we shall be compelled to revise our theories.

The ancient mode of dealing with a deflected septum proposed by Blandin by punching out a segment of cartilage anteriorly, thus giving the patient the ability to breathe through both nostrils without necessarily removing a posterior obstruction, is objectionable, not only for the reason that the deviation is not corrected, but also because of the annoyance from accumulation of secretion around the margins of perforation, and on account of a disagreeable respiratory whistling often noticed. The greatest discomfort is said to attend a perforation well forward, and with its long axis vertical.

No operation on the septum can be considered ideal that leaves a perforation. Yet Cohn affirms that the accident occurs in a rather large proportion of window resection cases in spite of

the utmost care, and he regards it of but slight consequence. In a series of about seventy-five cases he met with it in 20 per cent., while Heyman reports it in nearly 70 per cent. The episode is thought to be trifling also by Freer, the degree of whose respect for the nasal septum is evidenced by his statement that the portions of bone and cartilage removed in Krieg's operation "have no physiologic importance." He had but one perforation in ten of his early cases, and at present, with increased dexterity acquired by an experience in sixty cases, he feels practically secure. In addition to the risk of leaving a permanent breach in the septal partition, the operation is open to the objection that it requires exceptional fortitude on the part of the patient, and unusual patience and expertness on the part of the operator. The fear that the contour of the external nose might suffer from extensive ablation of tissue seems to be unfounded. The elaborate armamentarium recommended by Freer, if essential, adds nothing to the simplicity and attractiveness of this procedure. Moreover, an operation that consumes upwards of two hours is rather trying to all concerned. Undoubtedly the time may be shortened and the difficulties overcome by greater familiarity with technical details, and the fact that the deformity of the septum is disposed of seems to be incontestible.

In my clinic at the Manhattan Eye, Ear and Throat Hospital, in a series of cases operated on by W. W. Carter, the average time occupied was very much less than usually claimed. In one case in particular, that of a woman with a simple bowed deflection involving the bone to a slight extent, the mucous membrane was stripped up, and the cartilage and bone resected with Grunwald's forceps in less than ten minutes. We have had no instance of perforation and the final results have been excellent.

The preparation of the patient takes the most time. Thorough anesthesia with a ten per cent. solution of cocaine, and the free use of adrenalin chloride, 1-1000 are insisted upon. Thus it has been found possible to operate rapidly without excessive pain, and with little or no hemorrhage. All of our patients thus far have been adults—doubtless more tractable than children and nervous subjects. Cocaine in strong solution, or in powder, as advised by Freer on the ground that poisonous products of decomposition are liable to occur in solutions has not been necessary. Of course, fresh aseptic solutions should always be ensured. Anteriorly

the mucous membrane is often firmly adherent, and must be dissected up; as we proceed backward it peels off with perfect ease. We have had no instance of excessive hemorrhage or extreme shock. It is customary to support the flap for a few days with a pledget of gauze; otherwise more or less edematous swelling takes place, or the flap may become displaced. In some cases the margins of the flap are damaged, and hence it fails to completely cover the raw surface.

The importance of saving the mucous membrane on the convex side is not conceded by all operators (Bonninghaus), but it seems to me desirable to do so both with a view to shortening the period of convalescence, and to preventing subsequent scab formation over a scar surface.

Attention is drawn by Beaman Douglas to several *fallacies in connection with operations for deviated septum*. Fracturing the bony septum, sometimes required if the whole deformity is to be overcome, is by no means the dangerous procedure of which we have been warned, provided the grasp of the septum be not at too high a plane:—In other words, if the vomer and not the perpendicular plate of the ethmoid be subjected to traumatism. Fortunately the deformity more often involves the former than the latter. My own experience corroborates this opinion. It is customary to speak of fracturing at their bases the cartilaginous triangles formed by the incisions in the Asch operation. Douglas justly contends that it is impossible to fracture the cartilage, and that what we really do is to detach the cartilage from the vomer and the mesethmoid. He finds the chief obstacle to success in septum operations to be the intermaxillary spine, complete severance of which often obviates the necessity of incising or fracturing the septum itself.

By a curious coincidence he practices a method substantially identical with Harrison Allen's "supralabial operation," described many years ago, apparently forgotten, and recently revived by A. A. Bliss. It is undoubtedly a valuable expedient when redundancy of septal tissue is not extreme, but it is certainly not applicable to every variety of deviation. In Allen's operation, an incision large enough to admit a narrow bladed chisel is made in the gingivo-labial fold of the upper lip; the chisel is then driven backward by a few blows with the mallet, so as to release the lower border of the septum from the floor of the nose, if possible, without perforating the mucous membrane. The septum is then

pushed over and held by an intranasal splint until it becomes fixed in its corrected position. This operation is admissible only in displacements of the anterior nasal spine, and of the lower border of the septum, with little or no bending.

It is probable that the subjects of *asthma and of hay fever*, more than any others related to rhinology, interest the profession at large. If the claims made by Alexander Francis in his book on "Asthma in Relation to the Nose," prove to be well founded, we shall witness a renewal of that rhinological fervor which we, in America, are charged with especially promoting. The temptation to give "complete relief" to a case of asthma by such a simple device as searing the nasal septum with an electric cauterizing point will be irresistible. The author disclaims any element of "faith cure" in his results, but it must be confessed that in reading the record of his 402 cases one is reminded of the testimony in a Christian science experience meeting, or the voluble pretensions published in the "Queer Chemical Quarterly." Only about four per cent. of his results are acknowledged *failures*, a small proportion show more or less *improvement*, while a large majority are *perfect cures*. This is quite contrary to general experience.

He starts with the theory that *asthma* is a spasm of the bronchial muscles, "probably always induced by reflex action," the stability of the respiratory centre having been disturbed by a morbid connection between it and some parts of the nasal apparatus. This alleged instability is to be rectified by "cauterizing the septal mucous membrane." The accused region is opposite and immediately above the middle turbinate, and in exceptional cases "the spongy swelling which is sometimes found on each side of the posterior extremity of the septum nasi." The importance attached to regulation of the diet, and to hygienic measures tending to improve the general nerve tone seems to rob this special treatment of some of its significance, and we fear that a specific for asthma will continue to remain a deluding will-o'-the-wisp.

Hay fever is likely to be in the same category, unless the experiments of W. P. Dunbar with the pollen of certain grasses give us a reliable antitoxin. Several years ago Holbrook Curtis recommended the internal use of an extract of rag-weed, but the results were so disappointing that the apparent successes were looked upon by many as psychological rather than medicinal.

In a similar line Dunbar has pushed his investigations with the result of making what Semon calls "an interesting and important discovery." In the latter's experience, and in that of P. M'Bride, relief seems to have been obtained in some cases, which is no more than may be said of many other remedies. Emil Mayer has found the Dunbar serum an effective antidote in the vernal, but not in the *autumnal* variety of hay fever. On the other hand, A. W. MacCoy is enthusiastic over his experience with it in fifteen cases in which the attacks were *periodical* and *autumnal*. He regards it as a decided advance in therapeutics. In a recent report by Thost, of Hamburg, of forty-seven cases of hay fever treated with Dunbar's antitoxin, a favorable result was claimed in twenty-seven, partial or temporary benefit in twelve, and no effect was observed in eight. It is said to be of value in diagnosis, but we fail to see the need of it for such a purpose.

Observations thus far made bring into prominence the individual factor—that is, a predisposition exists in all hay fever subjects, and in those not susceptible the serum causes no reaction. More prompt and decided effects follow the hypodermatic than the local use of the remedy, but the former is not advised because of the violent reaction sometimes witnessed. It has been suggested that the various phenomena characteristic of neurotic disturbances allied to hay fever, such as paroxysmal sneezing, rose cold, autumnal catarrh, etc., are dependent each upon a special pollen. If true, this adds an awkward complication, since each sufferer must find his own particular poisonous pollen in order to adopt the suitable antitoxin. We are judiciously warned not to expect too much from this new contribution to sero-therapy, and are advised not to neglect the usual hygienic and dietary precautions.

In this connection the studies by Braden Kyle of *chemical changes in the nasal and buccal secretions are possible factors in the causation of hay fever*, are of great interest, and may prove to be of practical therapeutic value. In many cases of hay fever he has found a subacid condition of the saliva, owing to increased proportion of ammonium salts, in consequence of which this secretion is decidedly irritating. Being reabsorbed in its perverted state, it becomes a source of disturbance. The cause of the derangement of secretion is to be sought in faulty elimination from the kidneys, the liver, or the alimentary canal. An accumulation of

nitrogenous elements in the system always results in excess of ammonium salts. At the same time the influence of seasonal and climatic changes, of mental emotions, and of various local irritants is readily admitted. In those anomalous cases of pseudo-hay fever coming on at indifferent periods, and without known cause, it is believed that a similar change takes place in the nasal mucus, which on reaching the surface of the membrane liberates free ammonia. The latter is an irritant to the vasomotor system, the symptoms being identical with those following the inhalation of ammonia fumes. If these observations are correct the proper treatment of hay fever will demand measures to counteract these changes in secretion, and to remedy the conditions on which they depend.

We are so engrossed with questions presumably more important that certain trivial matters of daily routine are apt to be slighted. It is therefore a pleasure to find the German Otological Society and the Laryngological Society of London devoting themselves to a discussion of the *after-treatment of intranasal operations*, in spite of the fact that decided difference of opinion prevails as to many details of management. In a paper by G. Krebs, of Hildesheim, there are several points of special interest. He objects to post-operative plugging for four reasons. 1. It is not only ineffective, but may actually provoke bleeding by causing sneezing. 2. Bleeding is almost sure to follow removal of the plug after twenty-four hours. 3. It is dangerous in that disturbances of the eye or ear, sinusitis or even meningitis may follow. 4. It is extremely disagreeable to the patient.

These objections may be obviated in a measure by using as a plug material that does not adhere, and does not absorb moisture, and consequently may be left in indefinitely, and may be removed with ease.

After all, aside from the use of a plug, or more properly a splint, in deviated septum cases, there is but one condition that seems to me to necessitate a nasal plug—namely, excessive hemorrhage.

Krebs calls attention to a simple plan for controlling *nose bleed*, recommended by Hueter in his work on surgery. The patient is directed to breathe in deeply with the mouth closed, and to exhale slowly through the open mouth. Thus the blood is sucked into the thorax, the vessels of the nose are partly emptied, and the formation of a clot encouraged. He disagrees with those

who maintain that secondary hemorrhage is favored by the use of adrenalin, and quotes the experiments of Bukofzer, which demonstrate that it causes no consecutive hyperemia. He prefers local anesthesia for operative work, except with unmanageable and nervous patients with whom he resorts to chloroform. One of the most timely suggestions in this sensible paper is to leave the nose alone after operation, and not disturb a healthy wound by probing, swabbing, local applications, etc.

In a paper read at a meeting of the London Laryngological Society, Semon takes a sadly pessimistic view of *endo-nasal surgery*. His chief difficulty seems to be with a tendency in certain cases for the tissues to overdo the reparative process, in consequence of which the original thickening is reproduced to some degree with recurrence of stenosis and possible adhesions. All rhinologists must have met with similar misfortunes without always being able to explain them. In my observation they have usually resulted from failure to remove enough tissue in the first place, and too much meddling afterwards. But it must be admitted that in spite of our best endeavors in some persons, fortunately exceptional, generally full blooded, robust young subjects, a capacity for excessive tissue building is manifested.

In the foregoing paper and the discussion thereon, the following topics were especially considered, and aroused more or less disagreement, as they no doubt always will: 1. The use of general in preference to local anesthesia favored by some will certainly meet with objection, both on account of the added risk and inconvenience of the former, and because cocaine anesthesia in the majority of cases is found to be amply sufficient. 2. The statement that a tendency to secondary hemorrhage is increased by adrenalin is not in accord with universal experience, and Semon himself admits that the bleeding is rarely "of a serious character." 3. Post-operative plugging, advocated by some as a routine practice, and discarded by others, has been given a just estimate in the paper of Krebs, already quoted. Lake's India rubber splints seem to be popular in England, while in this country Asch's vulcanite tubes, variously modified, Kyle's malleable tubes, Simpson's tampons of Bernay's compressed cotton, and other appliances, are used according to the fancy of the operator. A striking difference of opinion appears regarding the submucous use of the galvano-cautery, one speaker denouncing it as be-

ing unsurgical, while another was warm in its praise. It is difficult to appreciate the chief argument in its favor—namely, that it saves the mucous membrane, if at the same time we recognize as the main indication for the use of the cautery the *destruction of redundant hyperplastic tissue*.

The *treatment of nasal and other deformities by paraffin prosthesis*, of accessory sinus disease, and of malignant disease of the larynx has each in turn attracted attention. No new dangers have been discovered in connection with the subcutaneous injection of paraffin, and in general we have learned how to avoid those accidents that occurred in our early experiences. The value of its judicious use in suitable cases is beyond question.

Of the accessory sinuses the sphenoidal has perhaps excited most interest, partly because this cavity has hitherto been more or less of an "undiscovered country," and partly because of the supposed difficulties in the way of dealing with it when diseased. Unquestionably many cases of *sphenoidal sinusitis* have been overlooked owing to our crude methods of exploration; other cases when detected have been left alone from fear of various risks attending interference. The view still held by many, and admissible in a certain proportion of cases, is that our patients are just as well off in the long run if given free drainage to pus as they are after attempts at radical cure. The conditions are very different when pus becomes incarcerated and tends to erode the bony wall of the sinus in the direction of vital parts. As a rule the anterior wall of the sphenoid may be reached by way of the nasal fossa. In some cases of coincident maxillary empyema it may be approached advantageously through the antrum of Highmore (method of Jansen). A wide exposure of the parts, as compared with that afforded by way of the nasal passage, is thus given, and hidden foci of suppuration are much less apt to escape notice.

A number of interesting papers and discussions on *cancer of the larynx* have appeared without adding much to our general fund of knowledge. The comparative merits of endolaryngeal operation successfully performed by Fraenkel, of thyrotomy, perfected by Butlin and Semon, and of complete laryngotomy, whose chief exponent is Gluck, of Berlin, have been severally extolled according to individual bias or experience.

With regard to the first, it is the general opin-

ion that only the most incipient and circumscribed lesion comes within its scope. The success of complete extirpation at the hands of Gluck suggests the possibility that less extensive operation might have sufficed until we read the details of his cases, when we are persuaded that this operator possesses rare technical skill and diagnostic discernment. At the present time he has under observation nine cases in which the larynx, pharynx and upper part of the esophagus have been resected for cancer. Nutrition is maintained through a feeding tube, and an artificial larynx gives an intelligible voice. It is hard to conceive that one accustomed to normal conditions could endure such a state of things with equanimity. The condition calling for total laryngectomy is wellnigh desperate—the operation offers such an uncertain lease of life, and involves such appalling mutilation that its alleged success must be looked upon rather as a surgical triumph than a boon to humanity.

On the other hand, thyrotomy for *intrinsic* disease leaves the patient with reasonable assurance of radical relief and with the functions of the larynx preserved to a useful degree. Thus we revert to the necessity of early identification before dissemination of the disease has taken place. There is some reason to believe that an arbitrary period of three years, adopted by many as the time limit for recurrence after operation, is unnecessarily long. In other words, if relapse does not occur within a year it may not be expected (Semon). Moreover, it is encouraging to have the assurance that *intrinsic* cancer of the larynx is more amenable to surgical intervention than malignant disease in almost any other region. When disease has become *extrinsic* it has passed beyond the reach of a simple thyrotomy. Now, it seems most reasonable and humane to leave the decision as to attempts at complete extirpation to the patient himself after a full explanation of the risks and probabilities.

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HEADACHES FROM EYE STRAIN.*

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The consideration of the subject of headaches as a whole would carry us through the entire

*Read before the Richmond Academy of Medicine and Surgery, September 27, 1904.

broad field of medicine to trace their manifold causes; so I have considered it best to restrict my remarks to one phase of the subject—viz., those headaches which are caused by some error in the accommodative or motor apparatus of the eye.

The eye as an optical instrument may be in many ways defective; but where is another instrument to be found which changes its focus instantly, bringing into clear relief at one moment a distant object and at the next some object but a few inches removed?

Glancing briefly at the physiology of vision, we find that the normal eye is so constructed that parallel rays entering it are brought to a focus at the retina. As the rays become more divergent, or, in other words, as the object is brought closer to the eye, the lens must increase in convexity to properly refract these rays that the focus may still be upon the retina. Without entering into discussion of whether this focussing of rays is brought about by relaxation of the lens capsule, as is the classic theory of von Helmholtz, or by a tightening of the lens capsule and pressure of lens between anterior capsule and vitreous as Tscherning¹, claims, we can state that accommodation is brought about by the action of the ciliary muscle.

Binoocular vision, or the seeing of one object with the two eyes in such a way that the two images falling upon exactly corresponding portions of the retina of each eye, are fused into one by the perceptive centre in the brain, is maintained by the extrinsic muscles of the eye. These muscles moving the eyeballs in every direction, keep the axes of the eyes always in such relation to each other that the observed object may be seen singly. Objects at a distance of twenty feet or more have their images focussed upon corresponding portions of the retina when the axes of the eye are parallel; but as the object is brought closer to the observer, the axes converge in order to maintain the relative position of the images. From the foregoing brief summary it will be seen that the normal eye, as far as its accommodative and motor apparatus are concerned, is at rest when looking at objects at a distance of twenty feet or more.

I think it would be no exaggeration to say that at least 75 per cent. of periodic or recurrent headaches, as stated by Davidson², are due to some strain upon the eye for the purpose of maintaining better vision. This fact will still further be borne out if we will observe the decrease in the sale of the many headache cures as

the importance of the proper examination of the eyes and fitting of glasses by a skilled ophthalmologist is appreciated by the medical profession and the public.

Bull³, of Paris, maintains that the headaches of eye strain are due to an insufficiency of the external recti muscles and not to accommodative effort, as set forth by Donders⁴ in 1864. I am of the opinion that the clinical facts will not support his theory; and the majority of ophthalmologists will agree that both of these conditions, or either one alone, is present when a disease is due to eye strain.

The conditions of the eye which cause headache are, in the order of their frequency, far-sight with astigmatism, astigmatism alone and far-sight alone; and to these is added insufficient strength of some of the motor muscles of the eye, and the endeavor on the part of these muscles to keep the eye in a state of parallelism.

The amount of refractive error is by no means an index of the amount of pain suffered, for it is not a rare occurrence for a patient with a very small error to have excruciating pain almost constantly, and one who has a large error to have but little suffering as a result of it. In my opinion, the comparatively small errors are the more frequent causes of pain, for in such cases the vision is good and can be kept good by a constant effort of the accommodative apparatus, which effort prevents the physiological rest that the eye should obtain in looking at distant objects. On the other hand, in high errors, the person is accustomed to clear distant vision and makes no effort to obtain it; hence the nerve strain is not great except during the performance of near work.

These headaches which result from eye strain are not constant or typical. They are probably most often frontal; the occipital with the pain running down the spine, is considered a very frequent type, and temporal or pain upon the pain upon the top of the head is often found. Sometimes, we are told that there can be a spot or location designated as the point of pain, but the whole head is aching. The character of the pain differs in almost as many ways as there are people to describe it; it is spoken of as dull aching, throbbing, boring, and by every term which the language possesses for describing such a condition, and frequently, new terms are coined to meet the exigencies of the case.

The time of onset is as variable as the location and the character of the pain. In those

who have the pain daily, it is most likely to commence or be at its worst in the afternoon, because then the eyes have been upon a strain without ceasing since rising in the morning, and the overtaxed nerves begin to cry out. However, the pain may be present upon rising, for it is not unusual for a prolonged use of the eyes to give rise to pain the next day or several days following. Again, the patient may be free of headache the greater portion of the time, but suffer excruciatingly when some condition is present to lower the resistance of the general nervous system; thus, it is by no means infrequent to find women who suffer headaches at the time of the menstrual period, though free from them at other times, have these headaches relieved by the proper correction of their refractive error; and I believe that there is not an ophthalmologist anywhere whose case book will not contain many such instances.

All who observe these cases will bear me out when I state that it is not the headaches which are hereditary, but the refractive error that, like all other physical or mental characteristics, is so frequently transmitted from parent to child. In spite of this fact, there are many who are martyrs to headaches and go to swell the receipts of the vendors of headache cures, thinking that relief is all they can expect because one or other of their parents was a lifetime suffered from just this condition.

Riding on the train, prolonged near work or work under bad illumination are often causes of a precipitation of an attack in those who are subject to eye headaches, as is also any condition which temporarily lowers the general body resistance and allows irritation at any point to be more keenly felt. In considering the intensity and character of the pain felt, we must not fail to take into consideration the personal equation of the patient, there being an almost infinite variety in the amount of suffering various people will submit to before complaining. Of course, the character of work for which the eyes are used has a most important bearing upon the headache, for eyes which allow the person to do outdoor work and cause no suffering would give rise to almost unbearable pain if they were used for constant near work.

I do not wish to be understood as saying that all eye headaches are caused by some error of the accommodative or motor apparatus of the eye. It is not uncommon to have pain from the normal eye where it has been subjected to too

prolonged strain at near work, or where the conditions of illumination are unfavorable, or where the general system is, from some cause, below par, and, consequently, efforts which at other times are borne without discomfort, in this lowered state of vitality cause more or less suffering.

The economic importance of correcting painful vision is hard to overestimate. In the adult it adds to their capacity as wage earners, while the child at school suffering from eye-strain, either neglects the lessons to save the eyes, and hence falls back in the race, or else keeps up and sacrifices the integrity of his vision. Risley⁵ has collected and tabulated the observation of American authors and added his own observations and deductions. This work shows the importance of the care of the eyes in school children in such a strong way that I think it should be in the hands of every physician or other person who has an interest in this department of the public health.

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Editorial.

Medical Society of Virginia.

The thirty-fifth annual session, held at Richmond, October 18-21, 1904, from a medico-legal standpoint, was one of the most memorable in the recent history of State Medical Societies; and there is ground for rejoicing at the result. It declined to adopt the plan proposed by the American Medical Association for reorganization of all State Medical Societies in affiliation with it.

The "plan" was so ingeniously worded as to dazzle the eye and allure the unwary, and thus, on first reading, to gain a wave of popular approval. Some States were caught napping, and by large majorities yielded their rights and

privileges to shoddy formalism. Other States, without proper consideration of the subject, fell into line—simply following the lead of file closers. Perhaps "the plan" suited a few other States that have adopted it, and we have no word of censure or complaint as to their adoption of it, for we concede to each State the right we claim for ourselves, to do as seems to them best for their own medical population. With each State it was "a family matter." And especially as neither the adoption nor rejection of the proposed plan affects any relationship of association or cordiality between the States, or between the States and the American Medical Association—whatever the decision of a State Society may be—no rights or privileges in the national body are affected—it becomes a matter of purely State policy as to what is best to do. It was unthoughted, therefore, that non-members of the Virginia Society should have intruded themselves—by print or otherwise—into the family affairs which Virginians were fully able to settle satisfactorily for themselves.

The American Medical Association adopted the method of selecting missionaries, with fluency of speech and cunning in their designs to go out into all the States—to drop down on their societies in session, without a word of official warning of their coming or of their purpose. Presenting their superficial but "eatchy" suggestions with oily tongues to unsuspecting audiences, it was but natural that they won their causes in so many States, and then, as they went into other States, enumerate such victories why all others should "fall into line."

If the proposed idea had materially other cause for its recommendation than the mere fact that it represents "a uniform plan," we fail to recognize it. Adroitly worded so as to leave the impression that the remotest country man is the special recipient of benefits—that he is a member of the *House of Delegates* of his State Society, and the medical *legislator* for his county! Thus, this bare touch of office is calculated to tickle his vanity and make him feel conspicuous as "a standard bearer." But suppose he is a doctor—a real surgeon or general practitioner of medicine—(and presumably he is the representative one of his county to receive so high a local distinction as to be a member of the *House of Delegates*)—what are his duties? He has to attend the sessions of the House of Dele-

gates during the first day of session of his State Society, and again on the last day; and also from time to time during the session of the State Society—as often as may be necessary to complete the business of the House of Delegates. During all of this time, papers of scientific interest and importance are being presented and discussed by the lesser lights of the profession, for presumably *the representative* physicians or surgeons of the State are in the House of Delegates; and yet it is the medical and surgical papers and discussions by these very representative men that are needed in general sessions. They cannot be in different places at the same time. Let those who are interested look over the proceedings of the sessions of State Societies operating under their new constitutions and by-laws last spring and summer, and see for themselves how often some of the prominent men of their respective States were called out of general sessions to attend sessions of the House of Delegates!

But sometimes in a House of Delegates, questions will arise that may interest the entire profession of the State, when conflicting opinions are to be ventilated and its sessions become prolonged. Members of the general session become aware of them. Medical politics absorbs the house. Squad by squad leave the general session to hang around the House of Delegates to hear what is going on. Thus the general session is broke up, for we all know that a good bull dog fight in the vestibule of a church will break up the most pious congregation in order to see what is going on. This is human nature, and the best of us doctors are but human.

Much has ben said about increased memberships of State Societies and large attendance on annual sessions because of component local societies. We are all aware that the estimate of 2020 regular practitioners in Virginia, as put down in the tables of medical population in each State in the Journal of the American Medical Association is much too large. But accepting the figures as nearly correct as they are for any of the other States named, the Virginia Society, with the additions during the recent session, has a membership of about 1330. This gives membership of the Virginia Society a percentage of about 65.84 as compared with the above estimated medical population of the State.

The Legislature of Alabama many years ago gave the medical profession of that State laws which specially favored the organization of

doctors in medical societies—county and State. But that State Medical Association—the only one in the United States that has such favoring laws—claims a membership of only 61.49 per cent. of the total medical population of Alabama. This Association was the only one that claimed such a percentage.

But be reminded that the Virginia Society is wanting in so-called component societies; that it has no august House of Delegates; that it has no body of councillors; *and yet*, it stands in point of worthy membership as the very first of the 48 States of the Union in number of membership as compared with this total population of the State. Solely by individual, *voluntary* joining of members, without any State aid whatsoever—it has nearly 66 per cent., and it is still growing in numbers and influences. About 520 were registered as in attendance during the recent session of the Virginia Society—a percentage of nearly 40 of the entire membership. Where is there a State Society with such territorial dimensions, and without railroad facilities in many counties, and requiring, in many instances, very circuitous routes to reach any common centre that has had such an attendance on an annual session? This attendance represented nearly every county in the State.

While we recognize that the scientific proceedings of the session last year at Roanoke were practically destroyed by the agitation of this question of reorganization, and that the recent session at Richmond was greatly marred in this respect by the four hours given to the same subject—now that the whole matter of reorganization is defeated, we venture to assert that hereafter the sessions will be, as they were before the Roanoke meeting, full of medical and surgical interest and instruction.

In no manner whatsoever does the non-adoption of the reorganization scheme affect the relationship of the Virginia Society to the American Association, or to any of the State Societies in affiliation therewith. Virginia is entitled, as other States, to one member in the House of Delegates of the American Medical Association for each 500 members of the State Society, or fraction of 500. Thus Virginia has three delegates to that National House of Delegates—namely, Drs. George Ben. Johnston, Hugh M. Taylor and Stuart McGuire—all of Richmond—each of them a surgeon of more than State reputation.

We have said this much simply in explana-

tion of the conduct of the Medical Society of Virginia, simply that all may understand its unique, enviable position among the State Societies of the Union, and without intention of provoking further discussion of issues that came so near disrupting it, but which we hope are dead to rise no more to disturb the harmony of its sessions.

Some good papers were read and discussed at the Richmond session. The papers composing the symposium on *Serum Therapy*, by Drs. Charles R. Grandy, of Norfolk; John Staige Davis, of University of Virginia; Lewis G. Pedigo, of Leatherwood, and Emmon G. Williams, of Richmond, were each of a high order of merit and usefulness. Besides papers by Drs. E. C. Levy, on *Interpretation of Sanitary Water Analyses from the Physician's Standpoint*; Henry Wireman Cook, on *Early Recognition of Hypertension*; Lewis C. Boshier, on *Post Operative Femoral Thrombo Phlebitis*; O. F. Blankingship, on *Treatment of Chronic Ulcers of the Leg*; Greer Baughman, on *Metastasis from Cancer of the Breast*; Hugh M. Taylor, on *Operative Intervention in Cases of Typhoid Perforation*; J. W. Henson, on the *Two Routes for Prostatectomy*; George Ben. Johnston, on *My Last 100 Hysterectomies*; Charles R. Robins, on *Is Gynecology a Specialty?*—all of the above from Richmond, Va.—papers and discussions were likewise had by Dr. Joseph Price, of Philadelphia, on *Bowel Repair in Accidental and Pathological Lesions in Pelvic and Intra-Abdominal Operations*; Dr. George Tully Vaughan, of Washington, D. C., on *Analysis of 25 Cases Strangulated Hernia Operated On*; Dr. Wm. B. DeGarmo, of New York, on the *Appendix and its Relation to Abdominal Hernia*; Dr. Southgate Leigh, of Norfolk, Va., on *Surgical Treatment of Cirrhosis of the Liver*; Dr. George Tucker Harrison, of New York, on *Conservative Treatment of Affections of the Uterine Adnexa—Its Indications and Limitations*; Dr. E. N. Brush, of Baltimore, on a *Plea for the Clinical Study of Insanity*; Dr. Lewis F. High, of Southern Pines, N. C., on *Etiology of Tuberculosis Considered in Relation to its Therapeutics*; Dr. Wm. E. Anderson, of Farmville, Va., on *Pneumonia—from the Practitioner's Standpoint*, etc., etc. Many other papers were read by title and referred to the Committee on Publication.

The ten members of the 92 doctors who as-

sembled in convention in Richmond, Va., November 2, 1870, to organize the Medical Society of Virginia who are still Fellows but who have not heretofore been recipients of the honor were elected to be Honorary Fellows of the Society.

Dr. Wm. S. Christian, of Urbanna, Middlesex county, was elected *President*; Drs. Lewis C. Boshier, Richmond, Harry L. Myers, Norfolk, and John D. Butler, Sparta, Caroline county, were elected *Vice-Presidents*; Drs. Landon B. Edwards, John F. Winn, both of Richmond, and R. M. Slaughter, Theological Seminary, Va., were, respectively, re-elected *Recording Secretary*, *Corresponding Secretary* and *Treasurer*. The committeemen as hertofore were generally re-elected to their several positions. Dr. Junius E. Warinner, Brook Hill, Henrico county, was renominated to succeed himself as *Member of the Medical Examining Board of Virginia from the Third Congressional District*—a position he had resigned some months ago. Dr. Wm. W. Chaffin, Pulaski City, Va., was nominated to fill a vacancy on the Virginia State Board of Health caused by the resignation of Dr. J. T. Graham, of Wytheville. The remaining six members of this Board were renominated for commission by the Governor of Virginia.

Several other items of interest might be enumerated as among the items of proceedings of this recent session, but want of space just now forbids. The retiring President, Dr. Joseph A. Gale, of Roanoke, was elected an Honorary Fellow. In this connection, it may be added that the Society has never had a more untiring, zealous officer in the chair as the addition to the membership, etc., evince. He has well earned the honorary fellowship bestowed upon him.

In the absence from the hall of the President and each of the Vice-Presidents-elect at the hour for the installation of officers, the chair was resigned by Dr. Gale to the chairman of the Executive Committee, Dr. Paulus A. Irving, of Richmond, immediately after which the session adjourned for the banquet, which was given by the profession of Richmond to the Medical Society of Virginia.

Dr. Wm. S. Christian, the President-elect, is a typical Virginia doctor and gentleman of the older school—valiant in war, prominent among his statesmen in times of peace, able as a physician, and possessed of an energy and activity that might be expected of a much younger man.

Every interest of the Medical Society of Virginia will be conserved, and every measure advocated by the Society promoted by his indomitable will and push, and by the wideness of his influences.

The thirty-sixth annual session will be held at Norfolk Va., during the fall of 1905. After the local committee of arrangements has been organized and the plans defined, due announcement of the exact day for convening, etc., will be made.

Professional Courtesy.

The time was—even in the recollection of the middle aged practitioner of this day—when professional courtesy was the mark of the physician, whatever may have been the degree of personal friendships or dislikes. Even when personal differences on other points existed, there was at least the observance of the principles of ethics on the part of one doctor toward another. It was considered a duty to remember and maintain the honor of the profession, and to avoid all contumelious and sarcastic remarks relative to the profession. Those entering the profession were taught to found their expectations of practice upon the extent of their qualifications—not on intrigue or artifice. Bombastic assertions of the possession of special skill for the public eye were denounced as belonging to the claims only of quack and charlatan.

In the matter of undermining the practice of other physicians by offers of underbidding the charges of established fees of communities, no regard now seems to be paid in some places to the regular tariff of fees. Commercialism is fast creeping into the professional customs which, unless checked to some extent at least, will soon lead to utter disregard of fraternal relationships between doctors.

As to the uninvited visits of a physician to the patient of another, no course of conduct was formerly allowable that might directly or indirectly tend to diminish the trust reposed in the physician employed. It was ethical, as it is now honorable, that no particular inquiries be instituted by the doctor paying a friendly visit to the patient of another doctor relative to the nature of the disease or the remedies being employed. In short, the custom among the high-minded representatives of the profession was to

try to "do unto others as ye would that others do unto you." And we are glad to believe that the same principles of etiquette and professional courtesy remain in the practices of the upright, straightforward, honest doctors of the present day—whatever may be their relationships to each other on personal matters.

But from some lack of education, or forgetfulness of the amenities of professional life, or, it may be, because of wilful disregard of the same, the day has come when we hear of doctors visiting the patients of other reputable doctors without invitation, or without consent, or even without a statement to the attending physician or that they have taken the liberty of so doing. During such so-called friendly visits, sometimes they make criticisms or disparaging remarks regarding the attendant—going even so far as to express surprise that the patient should have called in any other practitioner than the doctor who makes the friendly visit, or else one of his immediate set or clique.

Such conduct would be bad enough if confined to those who have not been accustomed to manners at home, or those who have not been trained to respect the rights and feelings of others. But we have heard of such instances as above on the part of practitioners in well appointed hospitals used in part as clinical schools for college medical students. How can pupils of such instructors learn much of the higher mutual relationships which should exist between regular practitioners of the same communities?

We do not believe that such conduct would meet with the favor of the majority of others connected with such institutions—if they knew of such instances. On the contrary, such conduct would be contemned by the larger class of high minded and honorable physicians and surgeons of any community.

But we call attention to these several matters of professional wrong and discourtesy because of a disposition which is too conspicuously creeping over some members of the regular profession. Such reminders as this note on the subject should lead such doctors as we have referred to to review their conduct, amend their record and observe the golden rule. If such things be allowed to proceed unchecked, unethical practices are apt to gradually increase until they may finally permeate and destroy the tone of the rank and file of the profession.

THE Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

Vol. 9, No. 15.
Whole No. 207.

RICHMOND, VA., NOVEMBER 11, 1904.

\$2.00 a Year.
10 Cents a Copy.

Original Communications.

LOSS OF CONSCIOUSNESS AND AUTOMATISM IN INEBRIETY.*

By T. D. CROTHERS, M. D., Hartford, Conn.,

Supt. Walnut Lodge Hospital; Honorary Fellow Medical Society of Virginia, etc.

During the past year in several instances where the question of responsibility was referred by the courts to medical men this question called for an answer: Can an inebriate or a person under the influence of alcohol lose consciousness of his surroundings and of the nature of his acts and go on automatically, giving no impression of his real condition? In other words, is it possible for an inebriate, not intoxicated in the general sense, to be unconscious of the nature and consequences of his acts?

The answers given to this question were so uncertain and vague as to indicate a strange lack of knowledge. Thus, in one case, a man who had used spirits continuously while conducting his farm work and giving no evidence of defective consciousness by the nature and consequences of his acts, shot a near friend who was crossing his farm. He was arrested, placed in jail, and a few hours later awoke claiming not to have any consciousness of his conduct from a point of time a day before the homicide up to the time when he awoke in jail. The physicians treated this statement as fiction and declared it impossible; a third one thought that it might possibly be a pathological state, but could give no reason or explanation. The man was executed, but up to the last moment protested that he had no recollection of the crime or the events occurring during this period, and there was no reason or motive for his act.

In a second case, a carpenter, who had been drinking steadily for several years, but never to intoxication, shot his wife at the dinner hour

and went back to his work, and later was arrested and taken to the station-house, and the next day woke up, and when told what he had done exhibited profound astonishment. He claimed no recollection of the event or any consciousness of his acts for several days before the crime. He also claimed to have blanks of memory in the past, during which he was unable to recall the events of the day. As he had worked regularly during these times and his conduct had been natural and reasonable, there seemed to be doubts of this condition beyond his own statements. On the trial this defence of unconsciousness was treated with contempt, and the medical witnesses swore that it was impossible to lose all memory and consciousness without making it manifest in conduct.

In 1879 I published the first study of this peculiar condition, which was termed at that time "cerebral trance." In 1877 and 1878 Dr. Hughlings Jackson published, in the West Riding Hospital Reports, an account of similar cases following epileptic attacks. Dr. Carpenter, of London, had mentioned such cases and called attention to their responsibility, but these occurred in epilepsy.

My study of these cases was the first that was made of this condition appearing in inebriates. In 1880, the late Dr. George L. Beard made a careful study of such cases with an explanation of the phenomenon, and from that time to the present many startling examples have been published, and the reality of this mental condition has been accepted. Notwithstanding this, the courts and many medical experts have regarded it as a doubtful state and a refinement of science, having for its purpose the increase of the irresponsibility, and to excuse the punishment of the criminals. Within the last year the subject has come into prominence again, and Dr. Sullivan, an English alienist, has taken up the matter, pointing out the physical conditions of persons in this state, and showing that it was not only possible, but a reality, which may be

*Read at Miss. Medical Valley Association at Cincinnati, Oct. 11, 1904.

demonstrated by facts that would admit of no other explanation. The following recent cases bring out the facts more clearly than any attempted description of symptoms:

A farmer, fifty years of age, with no history of heredity, had suffered from sunstroke when about thirty years of age, and had since that time complained of weakness and invalidism. Soon after the sunstroke he began to drink beer, and ten years later used spirits regularly every day. On several occasions he had been intoxicated, but recovered quickly and seemed more careful than ever to restrict the amount of spirits used to a minimum. He was arrested for placing obstructions on the railroad track for the purpose of wrecking a train. He was arrested four days after the act, taken to jail and claimed to have no recollection of what he had done, and no idea of the purpose and object in doing this. On the trial it appeared that he had lived regularly, and was quiet and retiring in his habits, drinking spirits regularly, and was considered a sensible man. His conduct to his family had been uniformly kind, consistent and reasonable. During the last five years several eccentricities and unusual acts occurred. One of them was to stop work suddenly, go off suddenly to a neighboring pond, take a prolonged bath, then return to the barn and fall asleep on the hay mow; a few hours later awakening, going on with his work without explanation or reference to what he had done. On two occasions during the winter preceding the crime, he arose in the night, went out to his barn, drove out his cattle, cleaned the stables, put the cattle back, fed them and returned to the house, and the next morning did not seem to know he had done this. When told of it, he attempted a childish explanation or reference and became more reserved than ever. On the evening of the crime he went as usual to look after his stock, but did not return for several hours. Coming in exhausted, he drank spirits and slept far into the next day. When asked where he had been, said: "To the barn," but gave no explanation why he had remained so long away. The crime showed great cunning and judgment. The obstructions were placed on a curve in such a way that they could not be seen far away and completed at a time just before the passing of an express train, and after the night watchman had inspected that part of the road. The obstruction appeared to be the work of more than one man, and particularly of some one very familiar with the con-

ditions. The engine was wrecked and the engineer killed. The detectives found that he had gone to the place with his barn lantern and had been seen by several persons going and coming; hence it was traced clearly to him. He stoutly denied all knowledge of the circumstances. On the trial there could be no motive proven. He had never expressed any anger at the road, having seldom travelled from home, and rarely on this road. The prosecution claimed that it was purely malicious, and the defence of no recollection was absurd. In a more detailed study it appeared from his own statements, which were confirmed by those of his friends, that he had blanks of memory during the last two years, and that his statement of no recollection must be true from his conduct in many minor things.

It was noticed that at times he seemed to be deeply absorbed in reading the details of accidents and sensational crimes over and over again, never mentioning them afterwards; at other times his reading was of a different character, principally novels and magazines. It was the opinion, confirmed by the expert for the defence, that during one of these blank periods he must have read of a similar effort to wreck a train in some part of the country, and this had so impressed itself on his mind that in this blank state he committed the same act. Probably the ingenuity and judgment displayed was merely following the details as given in the paper. This was treated with doubt by the court and the witnesses for the prosecution, and he was convicted, but died soon after being sentenced of some acute disease.

Several physicians swore on the trial that the continuous use of alcohol would not impair the mind or break up the consciousness of his surroundings and acts, unless accompanied by symptoms of delusion, delirium and other mental defects. They also swore that his conduct during this condition would of necessity give indications of his mental state, and that had he suffered from blanks of memory, he could not have acted consistently and sanely.

A second case, in which a will was contested, brought out the following facts: A man of middle life actively engaged in manufacturing, died suddenly and left a strange will, which was contested on the ground of alcoholic blanks, or loss of consciousness of his conviction at the time the will was written. It appeared that he came from a neuralgic family, in which several members, both in the direct and indirect line of

heredity, had been insane or paranoiac. He had lived a regular, temperate life up to forty years of age, when, after the death of an only son, he began to drink spirits. For the following fifteen years up to the time of his death, he drank regularly—although never intoxicated or apparently unable to transact ordinary business. It was his custom to visit his agent in New York monthly and go over the accounts and arrange for the purchase of materials and the sale of the manufactured product. On all these occasions he showed judgment, and clear discrimination of the conditions and the requirements necessary. At one of these periods, after finishing the business, he called in a lawyer and had an elaborate will drawn up, which contained details and dispositions of his property that seemed foreign to his usual thought and conduct. On several occasions during the year this will was written he had persisted in manufacturing a greater quantity of a certain product than ever. This over-production proved to be a loss; on another occasion it was a gain. He became interested in a mine, investing money in it, which was a very unusual thing for him. He had, while in New York, purchased expensive diamonds for his wife, and when chided about this claimed he had no recollection of it, and seemed annoyed. The family physician had been frequently called to treat him for imaginary conditions, which seemed of a hysterical character. The next day when seen he did not remember to have asked advice from a physician. When advised to give up the use of spirits, he promised to do so, signing the pledge and showed great interest in carrying out the advice; nevertheless, he continued to use spirits as before, and claimed that he did not remember to have made any promises of total abstinence. On the trial the medical testimony, as usual, differed widely, but the will was finally set aside.

In both these cases the physician hesitated about the possibility of the paralyzing action of alcohol. The increased heart's action following its use was considered a stimulant, and its injury to the mind thought impossible unless it was manifest in pronounced insane acts and thoughts.

Recent modern researches into the action of alcohol on the higher brain centres show that its continuous use, even in small doses, not only diminishes mental activity, but lowers the sensory powers, and that its accumulative effects show on consciousness and memory of events with more or less certainty in all cases. We

cannot tell how far this damage to the memory extends, but the frequent claims of amnesia and acts which show this condition really confirm it.

The central fact is of extraordinary interest, that normal consciousness and memory of events should be cut off and obliterated for a time and then return again. It is a very common experience among moderate or excessive drinkers to have periods of amnesia or blanks of memory, which later clear up, and the acts committed during this period are recalled. This occurs in the pronounced toxic states of alcohol. Thus, a man who is intoxicated may not recall what he said or did just before and during the period of stupor and delirium. Some time afterwards his memory returns and the acts which soon after were not recalled, later become clear to him. In these conditions the blank period is associated with stupor, delirium and strange conduct so that the real condition cannot be mistaken.

But in these particular cases that I am describing there was no marked unusual conduct or indications that he was not conscious of all the events of his surroundings and their relation to him. In one of the cases which I reported, a travelling man who drank steadily ceased to remember after a certain point in his journey and wakened eight days later in a distant city. The interval to him seemed only as a single night or a few hours. During this time he had pursued his customary work, soliciting orders for goods, talking with customers in a rational way, and no doubt thinking with them, but his real condition was not apparent to any one. He was literally acting automatically, doing accustomed work, but entirely unconscious of it, although writing letters daily to his firm and giving accounts of the business of the day. On recovery all this interval was a blank and only by memorandum on his daily note book was he able to determine how long he had been thus, where he had been, and what he had done.

In a large number of studies which I have made of this peculiar condition there appear to be three groups or divisions: One in which the mind in this condition acted along accustomed lines of thought and action; a second group, in which the mind displayed unusual ranges of thought and acts quite different from the ordinary custom; third, a class of cases in which the criminal or homicidal impulse was prominent at this time.

Cases illustrating these different conditions have been studied. The first and third groups

have come into greater prominence than the second.

The first group includes persons who go about performing accustomed work and later seem to have no recollection of it. A prominent case of this class was that of a railroad conductor, who drank at night before retiring, and frequently had no recollection of waking up in the morning, taking his train to its destination and sometimes returning before he became conscious of what he was doing. He would then ask the brakeman what had happened and be unable to recall anything of the ordinary duties of his profession. I have met a number of cases of this class who lost all recollection after a certain time, for indefinite periods, during which they seemed conscious, but on awaking and being told what they did became greatly excited and were placed under my care for treatment.

The second class during this blank state do unusual things, talk and act in a manner which make their friends suspicious of their natural condition, and yet no one suspects that they are not conscious and to a degree responsible for their conduct. Many of these cases after drinking display eccentricities of character, whether of a very emotional or depressed nature. One such man after drinking steadily for a few weeks will become intensely religious and visit clergymen, attend meetings, ask the prayers of his friends, show extraordinary anxiety for the world to come; and then he will suddenly change, go back to his old life and seem not to have any recollection of what he had done. Another man in this condition manifested great political anxiety about officers and politics. One day in his zeal he had a personal conflict with a doubter and immediately awoke, and denied all recollection of having said anything and could not recall any purpose or plan in his conduct. A number of business and professional men, after periods of continuous drinking, show great emotional changes and do strange things at the time, and then later deny all recollections of the occurrences. No medical study is made of these cases for the reason that the theory of vice and viciousness is so pronounced in the public mind that these conditions are explained as moral lapses.

The third class consists of those guilty of criminal acts and where conduct resulting in loss and injury to others are prominent. But here the same medical theories prevail in the court-room, and the question of responsibility is treated on the old time theory that inebriety is always

voluntary, and the use of alcohol as a beverage is always attended with consciousness and sane reasoning. Hence the commission of a crime under the influence of this drug is regarded as an aggravation, and all question of responsibility is treated with doubt and suspicion. When such a claim is made both experts and non-experts attempt to answer the question of responsibility by comparing the history of the crime and prisoner with other types of insanity. The absence of delusion, illusion and delirium or marked mental feebleness are regarded as evidence of mental soundness. The statement of the prisoner is always suspicious and regarded as an excuse; and where no effort is made to study the previous mental condition before the crime was committed, such as the facts of his surroundings and living, the expert accepts the teachings of the law concerning his condition without effort to understand the defects present. The late Dr. Beard, in discussing the question of unconsciousness during this condition, believed that there was a degree of consciousness present in all these cases, but that it was not fixed in the memory, and hence quickly forgotten. He said: "Consciousness is one thing; remembering past consciousness is quite another thing. There is a plane of consciousness below which it is unrememberable, and above which it is more or less rememberable. This whole matter is one of degree in which we forget much of our past life sooner or later." The peculiarity of these cases are that events and surroundings are quickly forgotten; then later this blank state passes away. During this time the person may act rationally, but not recall events.

There is one fact clear which should never be forgotten, and that is that this automatic condition is found associated with some form of neurosis, either induced by alcohol or existing before alcohol was used. In all chronic conditions where alcohol is used either in large or small quantities it may be found, and the person may be aware of this condition, and, if he is, conceals it; in others it is only dimly recognized. This particular form of automatism follows in persons who use spirits continuously or in the so-called moderate drinkers.

Some instances have been studied, as seen in the periodic drinkers, after an excessive attack of acute poisoning from alcohol, which resembles epilepsy, and very likely is some obscure form of this disorder. For many years blanks of memory and consciousness have been noted following epileptic paroxysm, but usually this

condition was characterized by symptoms indicating suspension of brain activity in certain directions. When this condition appears in the inebriates it is more obscure, and requires careful study to determine. There can be no question that pathologically certain areas of the brain are paralyzed. Their functional activity is arrested and cut off. It probably occurs in a very large proportion of cases, but is of so slight a degree as not to attract attention. In some studies I have concluded that at least 7 per cent. of all drinkers have blanks of memory, some of which they were able to recall later; in others the events occurring during this blank were never apparent after. The period of intoxication associated with stupor is always attended with loss of consciousness, particularly just before or after the stupor has passed off.

I think the following conclusions may be stated as confirmed by all careful clinical studies:

First. Cerebral automatism and loss of consciousness particularly, is a common symptom, especially in the later stages of persons who drink spirits occasionally. During this period there appears to be general consciousness in the acts and conduct which is not remembered afterward. This period may last for a few hours to several days.

Second. This condition is usually found associated with a neurosis and psychosis either induced or existing before alcohol was used. The first conclusion rests on the statement of the person supported by collateral facts. The second is apparent from the conduct and explanation supporting it. The third, from a grouping of the histories of different related events.

The following recent case brings out a class of facts that are known to many persons, but have not yet been understood: A lawyer of eminence, whose ancestors and family had all died of consumption, came under my care for alcoholic delusion and general exhaustion. He was a nervous, passionate man, wealthy, of brilliant talents, ambitious, and a politician of much prominence. From early life he had been a gourmand. Ten years ago, after an attack of typhoid fever, he began to use whiskey at meals, and continued its use not only at the table, but at all times and places. He was never seen intoxicated, but was constantly exhilarated under the use of spirits. His life was more or less irregular, and he complained of exhaustion and occasional insomnia. He was constantly employed as a campaign speaker and lecturer. On

one occasion after a protracted period of speaking, he went to a lawyer's office and wrote a will, had it properly signed, saying he was going to die, and asked the lawyer to send the will to his confidential banker. One month later in a distant part of the country he made another will, giving minute directions as to the disposition of his body and the funeral services. A few weeks later he became engaged in a mining scheme of great magnitude, drew up preliminary papers, arranged details and sent them to his banker. On all of these occasions he seemed perfectly calm and reasoned clearly about the wisdom of these events. Finally, with the advice of friends he went to the seashore to rest, and there consciousness returned, and he had no recollection of writing wills or forming a company. These and many other events were blanks. He had been speaking night after night for a week at a time without any recollection of where he had been or what was said; then he became exhausted, and would go to some friend's house and remain in bed for several days, and wake up and ask them where he had been and what had happened. This man recovered, but there was a period of nearly a year in which his memory was a partial blank. During the past summer he has lived a very quiet life in the mountains, but recently has gone on the stump and resumed his drinking. In all probability the same blanks or loss of memory will appear, and no doubt this case is one of many whose real condition is unknown.

The startling cases of crime, without motive or purpose and undefinable by any rules of courts and experts, undoubtedly belong to this class. Thus, a man who suddenly commits a crime or shows extraordinary credulity in business or does some very unusual act, entirely inexplicable on any theory of common sense or judgment, may be and most assuredly is in this automatic condition. There can be no doubt that many such persons are arrested for crime and offence against society; and the large part of the business of the courts is in the punishment of these poor victims for acts of which they are utterly unconscious.

The following is a summary of some of the facts which I wish to make prominent:

(1) Automatism in inebriety with loss of consciousness is not an uncommon condition, particularly in continuous drinkers. It is also seen in periodic cases as well as in epileptics, and is a distinct palsy of the brain.

(2) All unusual acts or crimes committed by

inebriates or hard drinkers should be studied, particularly where there is a possibility of loss of consciousness with alleged amnesia.

(3) When this condition is established the person is both legally and practically irresponsible for his conduct during this period, and his mental condition is one of great gravity, requiring immediate care and attention. No theories of vice, wilfulness and moral causation should be considered by the physicians. It is a great question of facts and their meanings.

(4) Cerebral automatism and loss of consciousness are pathological conditions, which must be studied from a scientific point of view to be understood.

THE THEORIES OF SERUM THERAPY.

By CHARLES R. GRANDY, M. D., Norfolk, Va.

[The subject for General Discussion during the thirty-fifth annual session of the Medical Society of Virginia, October 18-21, 1904, consisted of a *Symposium on SERUM THERAPY*. The four papers by Drs Charles R. Grandy, of Norfolk, J. S. Davis, of University of Virginia, Ennion G. Williams, of Richmond, and L. G. Pedigo, of Leatherwood, compose this symposium. Our space permits only the first two of these papers in this issue.—ED.]

I feel highly complimented at being chosen to open the general discussion before this Society, and more especially so, as you have given me a most difficult subject, perhaps the most difficult before the medical profession just now. At the same time I keenly feel my own limitations, and trust that in criticizing my paper you will not lose sight of the marked disproportion between the size of the subject and the capacity of the man you have chosen to discuss it.

A recent editorial in the *Journal of the American Medical Association* says: "The subject of serum therapy is developing rapidly into such a complicated affair that few physicians have time or patience to attempt to master it. It certainly seems a hopeless task for one engaged in ordinary practice." Thoroughly realizing this, it is my purpose to sift out the mass of fact and theory which surrounds our subject, and try to give a general idea of the whole in a simple way, leaving to others the discussion of the individual sera, with an account of their production, uses and limitations.

To thoroughly understand our subject we must first treat the theories upon which serum therapy is based. Mankind has always desired to explain the causation of disease, and as a con-

sequence many theories have been advanced and held as true, until further research, often based on the old theories, has proved them not in accord with nature.

At first disease was attributed to the influence of evil spirits and witches, and later to that of the moon and stars, and of the weather generally. But it was not until the discoveries of Pasteur and Koch had opened up the science of bacteriology that we could claim to know the true causative agents of some diseases. With improved microscopes an army of investigators now began to study the forms and cultural peculiarities of the bacteria and the changes which diseases produce in the body cells and tissues. They found that certain tissue changes were always associated with infection by a known species of bacteria, which were also proven to be the cause of these changes. Thus the causative agents and morbid anatomy of a number of diseases were discovered and described. The microscope showed the bacteria, and it showed the lesions, but it failed to show how the bacteria produced the lesions and symptoms typical of the diseases, though various theories were naturally advanced as explanations. I will not take up your time with theories which have been abandoned, but will pass to those now considered most nearly correct.

It has, of course, been a long undisputed fact, that disease could be produced by certain substances, mineral, animal and vegetable, which are termed poisons. Each of these poisons has been found to produce its peculiar set of changes on the body cells, one poison attacking one variety of cells and one another. Thus chemical substances in solution, invisible to the best microscope, may produce visible changes in the body cells and tissues. Roux discovered that in old bouillon cultures of diphtheria bacilli there is a poison which alone, when injected into animals, would produce the same symptoms as the bacteria which formed it. About the same time Fraenkel made a similar discovery in tetanus cultures. In other words, the diphtheria and tetanus bacilli produce in cultures, as well as in the body, poisons which are responsible for the symptoms of these diseases. These poisons or toxins are invisible chemical substances which are apparently produced by the cellular activity of the bacteria much in the same way as morphine is formed in the poppy, and in these cases readily pass into solution. The cellular changes are produced by the chemical action of the toxin, while the symp-

toms may be said to be "the expression of a reaction on the part of the cells to these injurious agencies." (Herter.)

To go a little further into the matter, there were separated from old diphtheria and tetanus cultures substances which, in very minute quantities, produced the symptoms of these diseases and death. Yet these are certainly not pure substances, the tetanus product containing at least two toxins besides possible impurities. One of these toxins has an affinity for the red blood cells, which it dissolves, while the other, the true toxin, becomes attached to the nerve cells and produces the tetanic spasms. We can remove the first, called *tetano-lysin*, by treating our poison with red blood cells, and the second by a similar treatment with central nervous tissue, to which it attaches itself both in test tube experiments and in animals. The diphtheria toxin, which may contain several toxins, does not seem to have such marked predilections, and consequently has not been so well analyzed.

From the foregoing it is seen that a bacterium, like many larger plants, may contain several more or less soluble poisons, which may pass into solution and become attached to specific body cells, which they thus injure. Bacteria cannot injure a cell unless that cell can be chemically combined with their toxin, or, in other words, contain a chemical group, to which the toxin can attach itself. These groups are termed side chains or receptors by Ehrlich, who supposes that they are commonly used by the cell in the absorption of food. These side chains, let me repeat, are mere chemical groups, and must never be considered as histological.

Let us now look at our subject from the opposite side. Certain diseases have long been recognized as running fixed, or nearly fixed, courses, and as tending to get well of themselves. After having such a disease once, a person acquires a temporary or a permanent immunity to a second attack. In other words, the body of itself tends to conquer these acute diseases, and, when it has done so once, it is in a better position to resist them. Besides this, some species of animals and also some individuals have a natural insusceptibility or immunity to certain diseases. All this class of diseases seems to be microbic in origin, or are produced by the toxins of various micro-organisms.

It has been found that, if an animal be injected with bacterial toxins for a long time, its blood serum is so changed that when mixed with the toxin it will neutralize it and keep it from

harming susceptible animals. Such a serum is called an anti-serum or an antitoxin. It is also found to be present in the serum of animals recovering from the disease in question. Antibodies can in the same way be formed against other chemicals besides bacterial toxins; for example, against rennet, whose milk-curdling properties it destroys.

Ehrlich has probably done the greatest amount of work in this line, and has formulated a most beautiful hypothesis; but nevertheless, for the sake of clearness, I am going to give you Victor Vaughan's modification of this theory, as I think it an improvement on the original. Vaughan works with large quantities of bacteria, which he cultivates in iron vats instead of in test tubes. In this way he has been able to obtain sufficient quantities for accurate chemical analysis, and has thus come near their true chemical composition. He considers each bacterium a fixed compound, which by appropriate treatment can be split up into various groups. Thus each pathogenic bacterium contains a fixed toxic group, more or less firmly bound in the cell. In some cases, as in diphtheria and tetanus, this substance is readily soluble; in others it must first be split off from the other cell components, as is the case with the colour, typhoid and anthrax bacilli. This he has been able to do by purely chemical means (by treating them with 2 per cent. caustic soda in absolute alcohol).

As mentioned before, he has been able to separate various chemical groups from bacteria, but at present I will only name two, as the others would merely complicate matters. They are (A) the *nuclein group*, and (E) the *toxic group*. The body cells he similarly divides, finding among others a nuclein group (A), and a receptor or antitoxic group (M). If the chemical affinity between the toxic group (E) and the receptor group (M) is greater than that between the toxic group and the rest of the bacterial cell, it will split off and combine with (M) in the body cell. If the cell has more than enough of this antitoxic group (M) to temporarily satisfy the toxin, it will be able to reproduce the part of the group which has been destroyed. In so doing it produces more than it needs, and this passes into the serum, where as antitoxin it is free to combine with the toxin before it can reach the cells. By beginning with small doses of toxin and gradually increasing them, the cells can be stimulated to produce more and more antitoxin, as is done in

its artificial production. If, on the other hand, the toxin is so strong that it takes up all the antitoxic group in the cell and perhaps also splits up its nuclein group, the cell is destroyed. Acting in the same way, but in reverse order, a small amount of antitoxin may stimulate bacteria to produce more toxin, as is shown by bacteria becoming more virulent when grown on immune serum. So we see that, in order to hurt the body cells the toxin must be freed from the bacterial cells, and must be capable of combining with some group in the body cells. Such a group may only be found in one kind of cell, as is seen in tetanus, whose toxin only acts on the nerve cells.

When a toxin is kept a long time it is found to gradually lose its poisonous properties, and yet to be able to form antitoxin when injected into animals. Ehrlich calls this substance a *toxoid*. His explanation is, that a toxin consists of two groups, one of which is the true poison and the other the group, by which it becomes attached to the antitoxic body; that the first (the toxophore) group is lost in toxoids, while the other (the haptophore) group remains, and is alone capable of stimulating the cell to produce antitoxin.

What I have just written explains the conflict between the body and bacteria in toxemias, but it does not explain how the body gets rid of bacteria in a septicemia, for an antitoxin is not bactericidal. We used to give the phagocytes credit for this, but the phagocytes have in recent years been shorn of most of their former glory. At first we considered them the chief, if not the only, defenders of the body, but soon it was found that they were incapable of destroying virulent bacteria. Then we thought that if they were protected by antitoxin the phagocytes would be capable of destroying the germs. But this, in turn, has been disproven, as it has been discovered that the body destroys bacteria by chemical means. Finally, the French school maintained that the phagocytes must at least be the source of these chemical agencies, but experiments have failed to prove this true. So now we can only consider the phagocytes as scavengers, who remove dead bodies, while they likewise serve as the means of surrounding and walling in foreign bodies, especially pyogenic bacteria, whose toxins seem to attract them strongly.

As long ago as 1888 Nuttall discovered that normal blood serum was capable of killing, agglutinating and dissolving certain bacteria. In

1894 Pfeiffer found that this power was increased in the serum of animals immune to the disease in question. Then it was found that the serum was capable of dissolving other foreign cells, notably red blood cells from other animals, and that after repeated injections of such corpuscles this power was so heightened that the serum would quickly dissolve similar corpuscles in a test tube. These dissolving substances are called *cytolysins*, and are entirely distinct from the antitoxins. This cytolytic power is lost, if the serum be heated to 55°C., but it can be revived by the addition of serum from a normal animal, which alone would be incapable of dissolving the cells. In other words, for this reaction there must be present two substances, one of which is normally contained in the serum, but the other is only produced under the stimulation of foreign bodies. The former has been named the complement; the latter the immune or intermediary body. The complement seems to be the substance which dissolves the cells, but it is incapable of so doing unless there is some other chemical body present to join or link it to the cells. The complement, which is quite unstable, seems to be the same for different species of cells, but the intermediary body is different for each variety.

The intermediary body is probably normally a cell constituent, having a place in the body cells resembling that of the toxin in the bacterial cell. When the affinity between this group (I) and some group in the foreign cell (C) is greater than the affinity between (I) and the remainder of its own cell, (I) will split off and join (C) in the foreign cell, thus forming the avenue by which the complement (X) can act on that cell and destroy it. When this intermediary group is thus given up, the body cell seems capable of reproducing it and of reproducing it in excess, as in the case of antitoxin. The complement, though normally present in the serum, is in all probability also a cell product.

The bacterial cells may likewise contain cytolytic groups (G). These can act with the complement, which, though formed for the protection of the body, can thus be turned against its own cells and destroy them.

Let me recapitulate. An *antitoxin* is produced by the body cells when stimulated by the presence of a toxin, which it is capable of neutralizing. It is a single body. A *cytolysin* is produced to destroy foreign cells. It is usually composed of two bodies, one the *complement*,

which is normally present in the serum, and the other the *intermediary body*, which is only produced under stimulation from foreign cells, and which varies with each variety of cell. Through it the *complement* can be attached to the cell and destroy it.

The agglutinative power found in normal and in greater degree in immune serum and made familiar to us by the Widal reaction, is apparently due to substances distinct from both antitoxins and cytolytins. Though closely allied to the latter, this reaction needs a different complement, as is the case with the various precipitins and coagulins. All these reactions, and probably many more besides, are apparently used by the cells primarily in the assimilation of food, and only secondarily as body defences. They are extremely complicated, and are but poorly understood, and are merely mentioned here to show the vast extent and great difficulties of our subject.

From the foregoing we see how the body resists bacteria and their products, and strives to rid itself of them. In the same way bacteria can be kept from injuring the body at all, if these anti-bodies be present at the time of the infection. So nature uses prophylactic as well as curative measures against disease. In both these lines the medical profession has been striving to follow nature, so as to help her, and in so doing has originated what is known as serum therapy, which we may define as the artificial supply of substances produced by the body cells as chemical defences against disease.

It is plain that to injure the body bacteria must be capable of living within the body, and of producing toxins which can combine with the body cells. Consequently no disease will occur if the serum contains substances which will kill bacteria on their entry, or if there is no strong chemical affinity between the toxic group and some group in the body cells, or if there is enough antitoxin present to neutralize the toxin as it is formed. We cannot change the chemical constituents of the cells without injuring them, but we can help the body ward off disease in the other two ways. To do this two methods are open to us; we can either stimulate the cells to produce their own anti-bodies (active immunization), or we can procure them from without and inject them (passive immunization). The first method is naturally the slower, but it gives the more permanent results. To obtain an antitoxic serum by this method we must inject small doses of the toxin; to obtain

a bactericidal serum we must inject dead or attenuated bacteria. We seldom inject toxins into man for this purpose, as we have found it better in diphtheria and tetanus, the two diseases in which soluble toxins are readily formed, to obtain our antitoxin from immunized animals, and to inject small prophylactic doses of these sera into man (passive immunization). To obtain immunity from diseases, where anti-bacterial sera are necessary, it has been found better to use the active method. This is roughly done in vaccination and in the Pasteur treatment of hydrophobia, where attenuated virus is introduced into the system; and by injecting dead bacteria as a prophylactic measure against typhoid, cholera, dysentery and the plague. This method is also used as a protection for the lower animals against various infectious diseases. Passive immunization with anti-bacterial sera has not had much success, because the immunity so obtained is of short duration, and because our anti-bacterial sera are very unreliable. Good results have, however, been reported from the use of anti-plague serum on people who have been directly exposed to the disease.

Curative injections.—We have been able to produce antitoxic sera for tetanus, diphtheria and snake venom, but only the last two have proved of much value after the symptoms have appeared. The tetanus toxin seems to combine immediately with the nerve cells, from which it cannot be separated by the antitoxin, which is consequently impotent. Attempts have been made to produce antitoxic sera for various diseases, notably for typhoid, but the difficulty in obtaining toxins has so far rendered these attempts futile. As already mentioned, Vaughan has obtained this toxin by chemical means, and is attempting to produce an antitoxin. We have good reason to hope that his efforts in this line will meet with success.

Anti-bacterial sera have been prepared for typhoid, cholera, dysentery, the plague, pneumonia, staphylococic and various streptococic infections, tuberculosis and several veterinary diseases. All of these seem capable of killing their parent bacteria outside of the body, but the curative results with most of these sera have been very unsatisfactory in human beings, though animal experiments have been successful. The exceptions to this are the anti-plague and anti-dysenteric sera, but these are said to have antitoxic as well as anti-bacterial properties. The explanation for our poor results in this direction is that anti-bacterial sera contain,

after a short while, only the *intermediary body*, while the *complement* is often what the body really lacks, or that the serum cannot get at the bacteria, as in cholera, or that insufficient serum is injected, as the resisting power of bacteria seems to be heightened by the conflict with the body. But all this will be explained in detail in the papers that follow.

I have attempted in the short time allowed me to give you some general idea of the theories upon which our subject is based, and to pave the way for a clearer understanding of the succeeding papers. I have naturally been unable to go into details, but trust that the little I could give you will stimulate your interest in this all important field of research, upon whose development, more than upon anything else, the whole future of therapeutics depends. Much work has been done to elucidate this obscure subject, but far more remains to be done. Much will be written, and many of our present theories will doubtless be swept away. But upon the old newer and truer theories will be based, until we really learn how nature wards off and cures disease. And then, and only then, will we, following in her footsteps, be able to use truly scientific treatment. Such is the field that our subject opens before us; may we all live to see the harvest gathered!

ANTITOXIC SERUM-THERAPY.

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The part of this discussion which I have the honor of opening includes the chief examples of antitoxic serum-therapy, and accordingly attention will be mainly directed to that class of the agents under consideration in which the remedial principle is supposed to act specifically against the poisonous bacterial products as distinguished from the class whose influence is exerted upon the bacteria themselves. It is practically the more effective form of serum-therapy.

The distinction is not thoroughgoing, as the same therapeutic agent may have more than one active principle; but for the purpose of this occasion consideration will be as far as possible confined to the antitoxins, whose most commonly accepted origin is the liberated receptors of the attacked molecules of the body cells, though Blum thinks they may be produced by autolysis

of dead cells. Investigations on immunity form the basis of serum treatment.

Antitoxic therapy depends on a contest between the affinity of the combining group of the poison for the cells and for the liberated side chains in the blood. It is ideally effective only when that for the latter exceeds and is greatly facilitated by the artificial addition of these receptors in large quantities. The chief hindrance in the manufacture of antitoxins is found in the insolubility of the proper toxins, which do not pervade the culture media, but remain in the bodies of the bacteria themselves.

Bactericidal therapy is more complicated and involves the destruction of the germs by a complement, chiefly derived from the leucocytes, through the agency of the so-called specific "immune body" which is present in large amounts in the blood of infected subjects and is derived from liberated side chains with at least two combining points. There are also present in immune sera other cytolytic agents as well as agglutinating and precipitating bodies, and various so-called "opsonins," whose functions are often obscure. They exist in varying quantities in different parts of the circulation.

A great hindrance here is the failure to recognize the necessity for and difficulty in supplying a sufficiency of both proper immune body and proper complement. They are rather unstable. Other difficulties are inaccessibility of the germ to the sera—too great dilution of the latter, impracticability of giving a sufficient dose, enhanced virulence of the bacteria, and failure to find proper complements in man for the immune bodies formed in the lower animals. Chronic maladies reduce the quantity of complements, thus affording one explanation of the tendency to terminal acute infections in these conditions.

The illustrious triumphs of scientific investigation in this domain of medicine, unsurpassed in any other field, should silence forever the misguided criticism and efforts at its restriction in certain high places.

Its importance is immense, as it is in this direction that insight into the nature of disease has advanced most rapidly and the prospects of successful treatment are most encouraging.

Glimmerings of the principles involved can be observed prior to the Christian era, when Mithridates, King of Persia, is said to have rendered himself immune to various poisons by the ingestion of minute and increasing doses of

these agents, until his system acquired a tolerance for otherwise fatal quantities.

The principal work, however, has been done in the last twenty years, and is originally associated with the names of Pasteur, Behring, Ehrlich and Metchnikoff, not to mention more almost as distinguished.

The diseases in which serum-therapy is based upon the antitoxin theory are, primarily, diphtheria and tetanus, though plague, streptococcus infections and pneumonia are also attacked partly along this line.

It is a variety of antiseptic or anti-dotal medication, which may act as an antitoxin, bactericide or stimulator of phagocytosis, through the agency of opsonins, which sensitive germs to the action of the white corpuscles. This last element is being formulated into a new theory of immunity. Two general methods are employed, which are, respectively, designated as active and passive. In a given case both may co-operate. In the former the body cells are stimulated to protect themselves. The power is acquired slowly and is durable. In the latter the protection is due to substances prepared vicariously. It is more rapidly gotten, but is transient. The last method is clinically more successful and less dangerous than the other, and is exclusively employed in the toxæmia.

Its results are not so good in man as in experimental animals, because in the latter the conditions are controlled and the remedy (here a more homologous serum) given at exactly the proper time. They are violently infected and a vigorous reaction is evoked. In man, on the contrary, the onset is more gradual, no such violent defensive reaction occurs, but during the insidious and unrecognized incubation period irremediable organic changes may be taking place, or may have existed and been the weak spot for infection.

When serum-therapy is clinically indicated, it may be too late to intervene or organs may have so far deteriorated as to be incapable of recuperation under any course of treatment. Hence sera succeed better in laboratories than in practice, and for this reason, among others, it is better not to abandon altogether old therapeutic methods. It is also frequently stated that, even if useless, serum therapy can do no harm; but, as we shall see, this is not absolutely true, though the good to be accomplished fully justifies the risk incurred. In man chiefly passive methods are utilized.

The *manufacture, uses and limitations* of the

sera of the diseases stated is accordingly my task for to-day, and will be taken up in order as briefly as possible.

Accessible literature has been freely used, as my experience is very limited. I desire also here to express my obligations to my former assistant, Dr. J. A. B. Sinclair, of Charlottesville, for valuable assistance in many ways, as well as to Dr. E. W. Saunders, of St. Louis, whose excellent library was put at my disposal.

DIPHTHERIA.

The antitoxin for this infection was practically discovered by Behring in 1890, following the discovery of the toxin by Roux in 1888. The latter consists of at least three parts, which combine with the former with different degrees of affinity.

It is prepared by the injection of toxin in increasing doses into horses at regular intervals, and then withdrawing the blood. The horse is selected because he can furnish a large amount of serum and has naturally a small amount of diphtheria antitoxin.

The toxin is obtained by cultivating virulent diphtheria germs in alkaline bouillon for five to seven days at 37°C. In England 10 to 20 per cent. horse serum is added to this bouillon, which it is claimed yields a toxin that acts more rapidly and safely in making antitoxin. Then 4 per cent. tricresol is added to kill the germs, and the whole is filtered through porcelain with special precautions. The filtrate should be sufficiently virulent in doses of .01 gramme to kill a 250 gramme guinea pig in four days. This is the toxin unit. A light colored, healthy horse is best, according to McFarland, and should receive first a small dose of diphtheria antitoxin and tetanus antitoxin, after having been tested for tuberculosis and glanders. Then he gets a dose of .1 cc. toxin to detect individual susceptibility, and this is followed at six to ten day intervals, to allow time for recovery from incidental reaction, with increasing doses until 500 cc. (now intravenously) can be injected at a time. Immediately after such a procedure the antitoxic value of the blood diminishes for two days, and then gradually increases to a maximum on the ninth day. When the horse has obtained a high degree of immunity (four to six months) and a small quantity of blood has been satisfactorily tested for its antitoxic value, ten days after the last injection, the animal is bled from the jugular vein about 7½ litres under strict asepsis into sterile vessels. After coagulation and maintenance on ice for a few days

the serum is pipetted off through a filter, if turbid. This is, or rather contains, the antitoxin. After 6 to 12 months the animal must be given a rest, as antitoxin production falls off rapidly from exhaustion of power to make receptors. Immunity may persist from absence of aptophores.

The manufacturers in this country employ some antiseptic to preserve the serum—4 per cent. tricresol being the most popular, though 5 per cent. carbolic acid, camphor and 1 to 1000 formalin have all been employed. Any resulting turbidity indicates refiltering. The Pasteur Institute prides itself upon the addition of no antiseptic to its sera. The strength of the serum is expressed in immunizing units, each of which exactly neutralizes 100 toxin units, and is reached by a number of careful experiments on guinea pigs in each sample. Its value deteriorates with time.

In order to make the dose as small as possible for hypodermic administration various expedients have been devised to concentrate the serum, such as partial evaporation in a vacuum, freezing and thawing.

A serum may contain from 250 to 1000 units per cc., but it has been found that about 750 units per cc. is the best working strength. If too dilute, dosage is too large; if more concentrated, it is more unstable and expensive. The manufacturers now give out but one strength, about that indicated, in the liquid forms. The dry forms are less easily handled, being often difficult of solution, and more apt to be followed by local disturbances. (1700 units per gramme has been obtained abroad.)

I have gone into some detail with regard to the production of this, the most familiar and efficacious antitoxin, and will content myself in the remaining cases with bare outlines and references, as the general process is very similar.

Uses.—Diphtheria heads the list for successful results in serum treatment. It is inconceivable how any reasonable doubt as to the efficacy of antitoxin treatment in this disease can be entertained, in view of the vast and ever-increasing testimonials to the fact throughout the world.

As a prophylactic and curative agent when properly employed its results are little short of marvellous.

New York Health Department reports 15,986 prophylactic injections in exposed subjects, of whom 5 per cent. took the disease, but in a very

mild form. This was several years ago, and doses were probably too small.

The mortality is 0 in cases treated prophylactically, the immunity beginning in 24 hours, and lasting about four weeks. "This method accomplishes what neither isolation nor disinfection can do, in that it prevents the disease in those already infected and susceptible, and prevents the establishment of new foci for dissemination of infection."

This, to use a military simile, dampens the powder of the enemy and enables nature's reinforcements to come into action.

The only intelligent skepticism as to the value of the serum as a curative agent comes from certain large hospitals which receive mainly moribund and operative cases, in which the antitoxin is confessedly at a disadvantage. Whenever the serum is administered early, in sufficient quantities, to uncomplicated, pure diphtheria, there have been wonderful results, as shown by a vast array of statistics at home and abroad.

Not to weary you with so many figures, I will only give some results of numerous observers collected from literature.

Billings has reported that the average mortality in 15,792 cases in 1902, which received serum, was 11.5 per cent., and excluding 722 moribund at the time of injection, the mortality was 7.5 per cent. Park's cases gave a mortality of 6.3 per cent., and Anders, quoting the American Pediatric Society, 4.8 per cent. In 73 per cent. of all these cases a bacteriologic diagnosis was made. Osler states that 132,548 cases gave a mortality of 14.6 per cent., and, excluding some not treated by serum, the death rate was reduced to 9.8 in all kinds of cases. An analysis by Bayeaux of 200,000 cases in 23 European hospitals treated with serum shows a mortality of 16 per cent. These statistics included moribund and complicated cases, but, even with this handicap, compare favorably with the pre-antitoxin death rate of 45 per cent.; 1,610 cases in private practice in St. Louis, reviewed by Zahorsky, gave a mortality of but 1.5 per cent., including all kinds of cases.

The best argument for serum therapy, however, is seen in the results in laryngeal cases, of which 1,256 were reported. One-half of these recovered without operation. Among 533 in which intubation was performed the mortality was 25 per cent., which is far less than one-half that ever reported by any other form

of treatment (i. e., 72.7 per cent.). Tracheotomy has been virtually superseded.

A table showing the average annual deaths per 10,000 of population in several large cities is instructive:

In London before antitoxin...	4.8	since	4.7
In Berlin before antitoxin...	10.2	since	3.7
In Paris before antitoxin...	6.5	since	1.3
In New York before antitoxin...	14.5	since	6.3
In Chicago before antitoxin...	13.1	since	5.0
In Denver before antitoxin...	12.9	since	1.7
In Philadel. before antitoxin...	11.9	since	9.6

In explanation of these figures it is proper to say that in London the trifling reduction may be ascribed to the limited use of and opposition to antitoxin there. The same statement may be made to a less degree of Philadelphia, where the authorities until lately discouraged the use of this agent. On the contrary, in Paris and Berlin the serum has been widely used, and with a more striking reduction in mortality. In this country the results have been proportionate to the extent to which the health departments have believed in the efficacy of antitoxin and furnished it free of charge to the poor, as has been done in New York and Chicago.

It is important to observe that success is directly proportional to the shortness of the period between infection and first serum administration. This is well shown by the report of the Health Department of Chicago covering the period from October 5, 1895, to February 28, 1899, and including 4,071 cases, with an average death rate of 6.7 per cent.

In those injected on the—

First day...	305	Mortality.	.27	(1 died)
Second day...	1,018	Mortality.	1.67	
Third day...	1,509	Mortality.	3.77	
Fourth day...	720	Mortality.	11.39	
Later	469	Mortality.	25.37	

The diagnosis was confirmed bacteriologically in all these cases. The difference in mortality between the cases treated early and those treated late is due to the fact that the serum cannot undo serious damage already inflicted on the body cells, and this at the time of the first injection may be so great as to entail death, despite the antitoxin.

Experiments have shown that after a fatal dose of toxin an animal can usually be saved by the administration of antitoxin within 48 hours, but rarely after that time.

While no case is too serious or too far advanced to justify withholding this remedy, the chances of its efficacy diminish in an accele-

rated degree with each succeeding day. To counteract this as far as possible the dosage must be proportionately increased thus: Immediately after infection twice as much should be given as is required for immunizing; in eight hours three times as much; in twenty-four hours eight times as much (Tyson).

DOSAGE AND METHOD OF ADMINISTRATION.

For *immunization* the dose is 100 units for an infant one month old, 500 units from two to ten years, 600 units ten to fifteen years. A nurse should receive 600 to 800 units.

For *cure*, 2,000 to 3,000 units should be administered in the mildest cases in children who require proportionately larger doses than adults, as they are more susceptible and have less resisting power. This must be repeated in eight to twelve hours, if necessary. Under one year of age the disease is rare, but the mortality is very high, probably in consequence of difficulty of early diagnosis and feebleness of infancy. A bacteriologic diagnosis should not be awaited in any severe or infantile clinical case.

For severe, late, laryngeal, nasal and ophthalmic cases, begin with 5,000 to 8,000 units, and repeat, at proper intervals, as long as life lasts.

One large dose is far better than repeated small ones, but a sufficient quantity must be given even if it is 100,000 units, as MacCollum has successfully contended. The dose of toxin cannot be measured, and consequently every effort must be made to neutralize the maximum.

Sterilized instruments are now usually furnished by the manufacturers along with the serum, but if not, an all-metal syringe of 10 cc. capacity, sterilized by boiling just beforehand and allowed to cool, is excellent. Piston syringes are better than those operating with bulbs, which latter may give trouble in expelling contents. The hands should be treated as before an ordinary operation. The injection had best be made in the subcutaneous tissue of the flank, where possible subsequent soreness will not interfere with dorsal decubitus. The skin here should be sterilized and wiped off with campho-phenique, which also has a slightly anæsthetic effect.

Lay the child on the side in the lap of a nurse with the pelvis steadied, and inject slowly just under the skin, which is pinched up for the purpose. Inject just fast enough to avoid umbilication or dimpling of the rising dome of skin, which is due to tension on subcutaneous trabeculæ and the chief cause of pain at this time. Do not rub or compress the swelling, but cover

the site of injection with sterile cotton. The instrument should be rinsed out at once with cold sterile water.

Intravenous administration is rarely indicated in severe or late cases, and would necessitate gentle warming of the serum.

If the dose has to be repeated for any reason employ serum from another source to minimize the danger of cutaneous rashes due to the production of precipitins, which is greatly facilitated, if the same serum is used again. This also helps to dispose of inefficiency or deterioration of the first serum used. Of course, the site of injection should be changed for each dose.

The just announced bactericidal diphtheria serum, if confirmed, will be invaluable in destroying, when locally applied, the persistent germs in the throat of convalescents, and may also have prophylactic uses. It is administered as pastilles, which are dissolved in the mouth.

LIMITATIONS.

The serum must be administered *early* in order to obviate irreparable damage. This may occur within one, or be deferred four, days. The most susceptible tissues are those of the nervous system, heart and kidneys.

Only a *fresh, reliable serum* must be employed, and in *sufficient doses*. There is far more danger of under than over dosage; in fact, the latter is practically nil. It is better to give enough at once than to have to repeat smaller amounts, the administration of which may consume valuable time and permit the infection to gain the mastery or allow secondary processes to get a fatal foothold.

The infection must be *pure* diphtheria. The antitoxin cannot combat streptococcus toxæmia, nor influence broncho-pneumonia, nor nephritis. Organic changes in the heart and nervous system are also beyond its reach. If much toxæmia exists, paralysis will occur with or without antitoxin. Serum therapy seems to have increased the paralytic sequelæ, but only apparently, as the severe cases, which ordinarily would have died, are thus saved to manifest this condition. As Jacobi expressed it: "It is better to have a paralyzed child with a strong probability of final recovery, than to have a corpse, without even a chance of paralysis." Abundant observations now prove that the occurrence and severity of paralysis is proportionate to the length of time treatment is deferred. Those injected on—
First day show paralysis in.5 per cent.

Second day.16.5 per cent.
Fourth and fifth days.25.9 per cent.
Again, the paralysis is thought to be due to the toxone element, which having the least affinity for antitoxin, is the last to be neutralized, and only when large amounts of the remedial agent are employed, bringing in the so-called "mass" action, of which so much is being made in England.

While there is no serious danger from antitoxin treatment, there are undoubtedly some accidents to be properly laid to its charge. These cannot be ascribed to the disease, as they occur in healthy persons who are being immunized. They are due, however, not to the antitoxin itself, but to its necessary vehicle, the foreign serum, since these untoward effects follow the hypodermic administration of normal sera. They may follow any serum therapy, but are conveniently considered here, as this treatment of diphtheria gives examples of most of them.

These are seen—

1. *In the skin*.—Abscesses due to faulty technique and deteriorated serum; such are readily avoided.

Eruptions.—These occur in 3 to 20 per cent. of cases, average 14 per cent., according to various observers (in my own limited experience 5 per cent. is the figure, and confined to those immunized). They manifest themselves, usually, from the seventh to the fifteenth day, though second to the twentieth are the extremes. Later than this they may be due to secondary infections, according to Roux, though this is discredited by many. They bear no relationship to the age of the patient nor the amount of the dose, but seem to be a matter of individual susceptibility, and peculiarity of a certain serum. The frequency varies at different times, and in France, at least, has been observed less often when the horses were starved a while before the blood is drawn. Heating the serum to 60°c. for half hour may help to prevent it, and not impair antitoxic value. Changing the source, too, minimizes the chance of such disturbance. The most frequent form of the eruption is urticarial, but a scarlatinal, measles-like, and a polymorphic erythematous variety are also described. They are rarely hemorrhagic. They begin at the point of inoculation and spread more or less over the rest of the cutaneous surface, with the exception of the face. They are usually benign and transitory, lasting from three to six days. They are often attended by—

2. *Joint symptoms.*—These are trifling as a rule and affect the knee and ankle. The pain may extend to adjacent muscles, and slight œdema of the backs of the hands and feet may be observed. Effusion into the joints is rare, and suppuration has been only once reported. These arthropathies usually disappear with the eruption.

3. *Fever.*—An elevation of temperature from a few tenths to several degrees is often noticed; it begins in a few hours to a day or two after the injection, and is transitory.

4. *Changes in the urine.*—Transient variations in the quantity in both directions and increase in the urea output have been recorded, as well as diminution in the chlorides. Far more important is albuminuria and nephritis. These were often seen before antitoxin was discovered. Experiments on animals, as far as they go, seem to indicate that the serum does not produce renal lesions. They also show that it cannot cure existing kidney diseases. According to some the serum hinders the action of the toxin on the kidney, and so tends to obviate albuminuria. However, allowance must be made for differences of action of different sera on different animals. The rabbit and guinea pig do not react to horse serum as man does, and it is entirely possible that the serum of different horses may have different actions in this respect. There may be cases in which serum causes albuminuria, when this symptom appears several days after an injection, along with eruptions, etc., known to be due to such an injection. A case I saw in consultation with Dr. Venable last winter is interesting in this connection. A boy six years old was clinically and bacteriologically ill with a violent case of diphtheria. He received two injections of 4,000 units, antitoxin, and his nurse 500 units of the same supply. All others exposed were given immunizing doses from a different source. The patient in three days, and the nurse in two, were seized with complete anuria, lasting over forty-eight hours in the child's case, and twenty-four in that of the nurse. The excretion began gradually, only one drachm being discharged on the third day after the seizure in the child, the examination of which was almost a course in urinalysis, so numerous and varied were the morphological constituents. There was no dropsy in either case. Both recovered in time, though the nurse was the victim of recurring nettle-rash for many weeks. Not one of the others was affected. The same antiseptic pre-

servative (4 per cent. tricresol) was used in both supplies of serum, so that there must have been something peculiar in the albumins of the article first employed especially irritating to particularly susceptible kidneys. The occurrence in the nurse would tend largely to exculpate the diphtheria germ. This is the only case in which I have seen renal complications in any way implicating serum therapy, and the outcome, even here, was favorable. Abroad it has been observed in 3.5 per cent. of cases, but usually clears up in three to five days.

5. *The blood.*—Hemorrhagic nephritis, purpura, epistaxis and uterine hemorrhages have been reported, though the serum has no effect on existing pregnancy. It is not known whether these result from the action of the serum on the vasomotors or on the blood itself.

According to Ewing, the injection of antitoxin diminishes the leucocytes at first, but just before the temperature falls there is an increase of these cells. The serum increases the aptitudes of the leucocytes for taking up dyes, while toxins have the reverse effect. If this tinctorial affinity is not restored, the outlook is fatal. The red corpuscles are reduced in number and hemoglobin so that subsequent anæmia may be partially ascribed to the serum.

6. Other accidents, fortunately very rare, are vomiting, profuse diarrhœa, adenitis and cardiac disorders, such as arrhythmia, tachycardia, and even asystole, though the latter cannot be attributed to serum therapy. Hysteria has at least once been provoked by an injection. Hare, in a recent review of the untoward effects following the use of antitoxin, explains them all by other influences than serum, and concludes that the agent is harmless.

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Prognosis of these accidents.—A slight reaction (febrile) is usual and unavoidable. It may become serious in persons already the subjects of disease, like tuberculosis. The overwhelming majority of these disturbances are trivial and transient. A few cases of sudden death after administration have not been satisfactorily explained as due to other causes, but they are very few. No medicine is perfectly harmless, and in the case of serums especially, individuals of the same age, race and weight may react very differently. As stated above, the foreign serum is the etiologic agent and not the antitoxin, and the great task of the future is to obtain the active principle in permanent and available form, freed from useless and harmful associations.

Continual progress cheers the worker on, and,

despite these slight but diminishing accidents, it can surely be affirmed without fear of contradiction that no remedy for any disease has more evidence in its favor than antitoxin for diphtheria. This, however, does not do away with other and local methods, but supplements them. Some of the discredit cast upon this incomparable agency is due to its exclusive adoption by too enthusiastic advocates. Before the disease is recognized, the vitality of the patient is being reduced and important functions becoming deranged. If only the immediate bacterial process were antagonized, post-infectious lesions would be left free to follow their evolution and the patient succumb to auto-intoxication. Use antitoxin, first, last and all the time, but do not neglect the other trustworthy local and general remedies, bequeathed to us by former generations.

TETANUS.

This, too, is a pure toxæmia, which is to be met, but not so readily or successfully, by an appropriate antitoxin. Here Behring and Kitasato are our original benefactors.

This agent is produced in the same general way as that for diphtheria—by the introduction of gradually increasing doses of the toxin into susceptible animals. The preparation of this toxin presents some peculiar difficulties owing to the anærobic nature of the germ. Horses, dogs and goats have been used for the purpose. It takes a longer time than the corresponding process in diphtheria, as the dosage of the prodigiously potent tetanus-toxin has to be very minute and very gradually increased to avoid the destruction of the animal. The antitoxin thus obtained has two directions of activity to antagonize, respectively, the convulsive and hemolytic properties of the tetanus toxin. It is available for clinical purposes in a solid and liquid form. It has not been standardized here as diphtheria into practical units, but is given in measured quantities, though in Japan a serum of ten units per cc. liquid, and 100 units per gramme solid, is spoken of. Behring, too, has devised a complicated unit analogous to that of diphtheria.

The characteristic clinical phenomena of tetanus are due to the action of its toxin on the nervous system, which it is recently intimated can only be reached through the axones of the peripheral motor nerves entering at their muscle plates. The incubation period is proportional to the size of the animal and consequent length of the nerves. The effective antitoxin has to

pursue the same course (but by the lymphatics of the nerves), and is apt to arrive on a field (that is, if clinical symptoms are awaited) in which the toxin has formed indissoluble connections with and done irreparable damage to the nerve corpuscles. It is much more firmly attached to the vulnerable cells than the diphtheria toxin, more of which circulates in the blood and is, in consequence, more readily accessible to the antitoxin. Zupnik considers that the tonic spasm of the disease which is most conspicuous at first in the vicinity of the wound is due to the local action of the toxin on the muscle fibre, while the clonic convulsions are central in origin. The characteristic lockjaw and opisthotonos are explained by him as due to this local action in muscles, where the greatest discrepancy in balance of power exists.

The bacteria, if washed free of their toxins, are much less dangerous, as phagocytes dispose of them before they can produce a serious amount of poison. They are also often overcome by a vigorous local reaction and free access of air, being strict anærobes. The most dangerous wounds are, of course, punctured ones, especially so if crushing and laceration are added to lower local resistance, and stable or street dirt, in which the germ delights, is carried in.

Uses.—Before the introduction of serum therapy into this disease the mortality was 80 to 90 per cent. in acute forms, and 25 to 40 per cent. in chronic. This has been reduced by the antitoxin to 70 per cent. in acute cases and 20 per cent. in chronic, though more recently Moschowitz gives 40 per cent. for acute cases. There are considerable differences in mortality according to the method of administration, but these lose much of their significance in the light of the recent discovery of the route of absorption, and need not be dwelt upon.

As a prophylactic its claims are indisputable. Nocard reported some years ago that of 375 animals, victims of wounds likely to have proven tetanigenous, which received immunizing injections, not one developed the disease, while 55 cases were observed in a presumably similar number of animals under the same conditions, but not so treated.

In the manufacture of the diphtheria toxin many of the horses succumbed to tetanus in the process, until prophylactic injections of the latter antitoxin (referred to above) virtually excluded this usually fatal complication.

These remarkable results and the high fa-

tality attending the developed disease have caused numerous physicians, individually and in formal assemblies, to urgently advocate the immediate employment of this agent in all cases of suspicious wounds—i. e., Fourth of July, and those received in barnyards, gardens, stables, blacksmith shops and on streets, where tetanus bacilli are likely to exist, especially in hot weather. The result of this action is shown in the reduction from 415 cases in 1903 to 105 cases in 1904 on July 4th.

Not so encouraging is the outlook in the developed disease. Here, as everywhere else in serum therapy, treatment must be instituted early, but, as frequently remarked, early and late are relative terms; what is early for one disease is late for another. The disease begins at the time of infection, which in diphtheria, for example, may be only two days before symptoms develop, while in tetanus it may be 10 to 14. We have seen that if treatment is deferred that long in the former it is almost useless, as the patient would probably be dying of diphtheria as he is now of lockjaw. In tetanus, however, we have a warning in the character of the wound which should excite the apprehensions of the conscientious physician to the point of giving a prophylactic injection in all possible cases.

In the developed disease, however, the earlier the better; it is never too late to employ it as a forlorn hope, which the new intraneural method of administration is strongly reviving.

DOSAGE AND METHOD OF ADMINISTRATION.

As a prophylactic the dose is 10 cc. hypodermatically, as in diphtheria, at once, after thorough cleansing of the wound. This latter must be done mechanically, as dirt cannot be surely washed out, and chemically with penetrating agents, such as iodine, peroxide of hydrogen or carbolic acid. This dose is to be repeated in ten days to catch the germs longest incubating. It is recently recommended to sprinkle the powdered antitoxin over the lacerated surface with a lavish hand, independent of the age or weight of the patient.

As a curative, the intraneural method of administration will here probably supersede all others, and was well described by Dr. Rogers last May, virtually as follows: Administer general anæsthesia and cleanse the wound as recommended above.

Inject the motor nerves from the affected part with 10 to 15 cc. antitoxin, after bruising them to facilitate the entrance and passage of the agent along their substance. Now, withdraw

150 drops of cerebro-spinal fluid by lumbar puncture and inject 10 to 15 cc. antitoxin in its place, and lastly, administer the same amount near the wound. Saline transfusion is a useful adjuvant. The ordinary sedative measures have not been superseded, and should be rigorously maintained.

This whole procedure under light anæsthesia (as the patient is now partly narcotized), should be repeated in twenty-four hours, and the subcutaneous and intraneural administrations kept up daily as long as indicated.

Intracerebral and intravenous administration have their advocates, and may still be resorted to, but the former is being rapidly abandoned on scientific grounds.

Several cases of cure in apparently hopeless conditions have been reported. The method is the rational one and most deserving of further trial.

Dr. Crittenden, of Unionville, Va., reports three cases successfully treated with antitoxin hypodermatically, one of which I saw with him.

Good accounts are heard of injections of brain emulsion to capture the unfixed toxin and carbolic acid (1 per cent.), and a specially prepared saline intravenously (Matthews). In the absence of the antitoxin I should try the carbolic acid, which is held in deservedly high esteem in Italy, where tetanus does not seem to be so fatal as in this country.

THE LIMITATIONS ARE VIRTUALLY THOSE OF DIPHThERIA.

For success, early administration, adequacy of dosage, and purity of infection should be combined. The same accidents are liable to be met with.

It is not as effective as the corresponding agent for diphtheria for various reasons, above indicated, but it is the most valuable therapeutic resource for lockjaw discovered, specific as a prophylactic, and the only, if often forlorn, hope in the developed disease.

STREPTOCOCCUS INFECTIONS.

This micro-organism is probably the most malignant enemy of the human race. Lurking in unexpected places and ready to fall upon us in any moment of weakness, it complicates and renders serious or hopeless otherwise mild cases of other diseases. This is not a pure toxæmia, as the germ invades the blood.

Diphtheria is distinctly increased in virulence independently of the effect of the streptococcus itself. Scarlet fever especially, measles, small-pox and many other infections are fright-

fully complicated by it; indeed, their main terrors may be ascribed to it.

It is the usual factor in mixed infections, and alone responsible in most cases of puerperal sepsis as well as other kinds. Erysipelas, too, is due exclusively to it.

The diplococcus of Poynton and Paine, held on suspicion of complicity in the production of acute articular rheumatism, is a close kinsman.

Serum therapy in this class of diseases has not obtained a large measure of success for various reasons, some of which are being overcome and with proportionately good results. One of these difficulties consists in the fact that there are different strains or breeds of the germs requiring different sera. This trouble is met by the production of a polyvalent serum by inoculating horses at regular intervals with virulent cultures of streptococci, obtained from as many different sources as possible, and the animal afterwards bled in the usual way. The large serum manufacturers in this country make a standing request of prominent obstetricians and surgeons in the cities to furnish virulent streptococci from any chance cases, so as to secure as many varieties of the germs as possible from human beings.

The other difficulty is more formidable, and is due to the fact that the infection is a bacteriæmia as well as a toxæmia. The serum has to be bacteriolytic and antitoxic at the same time. This is a hard combination, and entails, moreover, numerous uncertainties in the former element, which consists of several parts, whose relative deficiencies are often obscure. Besides, as Vaughan points out, more accurate knowledge of the toxin is to be desired. Artificial cultivation reduces virulence and interferes greatly with toxin production. These sera, too, are very unstable.

The pioneer here is Marmoreck, of the Pasteur Institute, and his methods have been extended from the monovalent to the polyvalent article, as indicated above by Moser and Tavel. It takes almost a year to get a proper serum in the usual way, and it is supplied in a liquid and dry form. Horder suggests that in chronic cases the serum be prepared from the germs in the patient himself so as to be sure of the right breed, but his reported results have not been brilliant.

The second and greater difficulty has been attacked in the "streptolytic" serum now on the market. In this the polyvalent idea is profess-

edly discredited and ignored, any one virulent example being utilized. These germs are grown on special, undescribed media, which are said to enhance virulence, and then injected into horses at short intervals in increasing doses. At the end of four or five months the animals are bled with special precautions and the serum separated, kept cold, and filtered for use. It is said to be feebly antitoxic, but chiefly anti-bacterial, though Bergey contends that the serum is only an antitoxin and stimulator of phagocytosis.

The investigations of Reudiger reported last winter go to show that turtle's serum is highly bactericidal for this germ and might be utilized for this purpose.

Uses.—A long array of diseases have been treated with the various anti-streptococcic sera, and with varying results. They are encouraging just in proportion as the administration occurs (lest the system be overwhelmed before sufficient anti-bodies can be produced), and especially if saline transfusion is also practiced. Fatally progressing cases of sepsis show leucopenia, which saline injection tends to correct, and may in this way supply the lacking complement.

As a prophylactic in hospital wards, when a septic case makes its appearance by an accident, it may be given to all susceptible subjects in doses of 10 cc. It is recommended by some to do likewise at the beginning of all severe cases of scarlet fever, to obviate the most dangerous sequelæ of that disease.

As a curative agent reports are unsatisfactory. One observer has excellent results, and another utterly fails.

The dose is large, 20 to 40 cc., to be repeated in half quantity every four to six hours in acute cases until improvement is manifested. Ten cc. daily in chronic cases, after the initial dose, is usually enough. Some should be injected near local foci, if such exist.

Satisfactory numerical statistics are not available, but from the cases reported I should advise its employment in puerperal sepsis, erysipelas, and any other infection bacteriologically shown to be streptococcic or strongly suspected to be so, provided the administration can be done early. In mixed pulmonary infections, especially the broncho-pneumonia of measles, it may be highly efficacious, as also in anginose scarlatina and diphtheria, though Henbner dissent in the last named. Small-pox, too, might be included. Charlton makes great claims for

it in all cases of scarlatina. Streptococcal infection of tuberculous subjects is said to be favorably influenced.

Good accounts are also heard in many cases of inflammations of serous surfaces—e. g., endocarditis, meningitis, etc.

Stengel reports three cases of good results in acute articular rheumatism, which, however, showed pyæmic temperatures. Menzer's serum prepared from cases of rheumatism is used abroad for this purpose, and acts best in the chronic form.

A remarkable case, hitherto unpublished, was related to me by Dr. Saunders, of St. Louis. It was an extremely grave attack of rheumatic chorea, with high fever and perpetual movements in a girl twelve years of age. Death seemed imminent, but 20 cc. of anti-streptococcal serum brought rest and relief. The dose had to be repeated next day in consequence of a relapse, since which a slow but uninterrupted convalescence has ensued. A slight heart lesion remains. Similar results were obtained in Paris two years ago.

There are the same general limitations of time, quantity and purity of infection here as in the other cases, though some good results have been seen to follow its administration in pneumo-bacillus infection. There are great variations in virulence and the remedy is too prone to be regarded as "a last resort." The uncertainty about the toxin used in original manufacture, the extraordinary virulence of the streptococcus in many cases and insufficiency of dosage may also be cited in this connection.

Rashes are the most unpleasant and frequent accidents, and seem to follow especially cases of mixed infections, 24 to 34 per cent. of cases show it, which is higher than after other serums.

It should again be emphasized that neglect of local measures in these cases is even less defensible than in diphtheria. In mixed cases the serum should be combined with that specific for the original infection, if such exist.

BUBONIC PLAGUE.

This also is not a pure toxæmia, in the sense that diphtheria and tetanus are, since here the specific germ, first multiplying in the lymphatic system, finally invades the blood stream.

The results of serum therapy in this disease are very encouraging from the standpoint of prophylaxis, and by no means hopeless in the developed disorder.

At least three different sera are employed for these purposes, which are differently prepared.

The prophylactic serum of Haffkine is made by the cultivation of virulent plague bacilli on bouillon, to which a little butter has been added to make floating islands for the germs. These cultures are grown for a month or so, being shaken at intervals to precipitate the successive crops of germs from the butter islands. This is said to produce an intense extra-cellular toxin containing large quantities of germs. The culture is now killed by heating to 70°C. for one hour, and used in doses of 1 to 5 cc. as a prophylactic. It is a sort of vaccination.

The curative serum of Lustig, which is said to be more truly antitoxic, is prepared by inoculating small animals, or, better, horses, with an analogous prophylactic, and then at intervals with increasingly virulent cultures. In Yersin's method increasing quantities of living agar cultures are injected intravenously into a horse. This yields a serum which, in large doses, rapidly produces phagocytosis and causes the bacteria soon to disappear from the blood in favorable cases. Its mode of action is uncertain, but it is partly, at least, bacteriolytic. The polyvalent feature here has to be considered, as germs from different localities and epidemics differ greatly in virulence.

Uses.—The best information accessible is given by Dr. Slaughter, of Washington, in her paper last November, on "The Plague in India," from which what follows is mainly taken.

Haffkine's serum is the agency employed. Immunity is afforded for from four to six months, and in some cases as long as two years. Two doses are usually given, the first of 5 cc., and the second in twenty days 10 per cent. greater, especially if the reaction after the first dose was slight. The dose of this agent put up at the Government Hygienic Laboratory, in Washington, is only 1 cc., which may probably be advantageously exceeded. The effect is rather unpleasant at first, but the reaction soon subsides. A small dose of Yersin's serum given at the same time obviates the disagreeable effects, and is especially worthy of consideration in the presence of an epidemic.

Those employed in infected districts receive inoculations every three months, as a matter of precaution.

From a vast array of statistics and observations Dr. Slaughter concluded, that—

1st. Haffkine's serum protects for three months.

2d. It acts within twenty-four hours.

3d. When the inoculation is made during the

incubation of the disease, provided symptoms have not actually set in, it has, in many cases, the power to abort it. This is entirely contrary to previous views, which regarded the administration of this agent after infection as dangerous.

4th. It has no effect on other diseases, except possibly eczema, which may be benefited thereby.

5th. Inoculation confers a high degree of immunity and greatly reduces the number of cases.

6th. When, in spite of inoculation, a person is attacked the chances of recovery are greatly increased.

It is as valuable for this disease as vaccination for small-pox, and in plague localities should be practiced in the same way. Morbidity is decreased and the mortality of 70 per cent. in non-inoculated cases is reduced to 27 per cent. in inoculated ones. A still better showing is made by the report of the Lower Damaun epidemic some years ago. It is there stated that of 8,330 persons exposed, 2,297 were inoculated with a mortality of 1.6 per cent., while the remaining uninoculated 6,033 showed a death rate of 24.6 per cent.

The curative treatment by Yersin's serum is not so satisfactory. Large doses 20 to 100 cc. intravenously are necessary, and smaller ones subcutaneously near the buboes. Diminishing doses under the skin should be employed daily in the morning, until the temperature is normal. In non-septic cases a mortality of 46 to 61 per cent. is reported, which is much better than the old 80 per cent. Miajima gives 33 per cent. in Japan in his report to the American Medical Association last May. Encouraging accounts of the effects of Lustig's article are also heard from India. Reports of the Government Commissions (English, German and Russian) are nothing like so favorable as those of individuals.

Here, again, early administration, before irreparable damage or secondary infection can take place, is indispensable, and is the chief limitation. It is the best available treatment for the Black Death.

PNEUMONIA.

In this, the last of the infections assigned to me, serum therapy is distinctly less satisfactory. This is especially deplorable in view of the increasing frequency and fatality of this disease.

The germ is harbored by 20 per cent. of healthy subjects, and when pathogenic may produce a simple toxæmia or also invade the

blood. The tendency to recurrence suggests individual predisposition rendering the subject specially susceptible to the pneumococcus. The serum will have to be antitoxic and bactericidal, and as the virulence of germs employed in its manufacture is very variable, and there are also different strains, an uncertain article is apt to be the result. Another difficulty, to which Welch has called attention, is that the existence of a toxin here rests only on clinical, as distinguished from bacteriological, evidence, and consequently the artificial production of a true antitoxin is impossible. On some of these sera the germ will grow, so these certainly are not bactericidal. Some intracellular toxins escape only when the germs die, and consequently certain bactericidal sera may not act beneficially, or they may even be harmful. Again, the germ may be inaccessible to the serum in the alveoli of the lungs. It is also possible that the immune bodies formed in the lower animals do not find suitable complements in man or different strains of pneumococci may act differently.

Serum therapy here is most efficacious when leucocytosis exists or can be promoted, conditions long ago recognized as of favorable import, whatever role we may ascribe to the white corpuscles. It also acts best when the invasion of the blood is least marked.

We are indebted to the Klemperer Brothers and Prof. Pane for the first and most scientific efforts at the production of anti-pneumococcal serum. Washbourn, too, has gotten out a reputable article, which he has attempted to standardize.

The method of production consists in immunization of ponies by injections of increasingly virulent cultures of pneumococci from several sources. The animals are then allowed to rest three or four months, until all the live germs introduced are supposed to have been destroyed, and bled in the usual way. This serum is very unstable, and the freshest possible article must always be obtained.

Uses.—The most elaborate report on the clinical results from the use of this agent is that of Tyler (J. A. M. A., June 1, 1901). He gives a mortality of 14 per cent. in 141 cases, most of the fatalities occurring in alcoholics and otherwise organically diseased subjects. A few favorable reports are heard from England in the last year.

Its use is also indicated in other forms of pneumococcal infection, especially meningitis, two cases of recovery from which under this

agent are reported by Roger. Unfortunately unfavorable cases are not referred to.

The dosage of the serum available in this country is 20 cc., which should be administered every four to six hours while the temperature exceeds 103° F.

The preferred situation for administration is the posterior axillary line, beginning at the eleventh or twelfth rib, so as to leave space above for subsequent injections. As the temperature declines, which it should do gradually, and not suddenly (a point of virtue claimed for this treatment), the interval of administration may be gradually increased, until but two doses per day are employed, morning and evening. This is kept up until marked improvement is shown. Recently intravenous administration is favorably spoken of.

We have thus seen that the pure toxæmia yield best to serum therapy, but that when complicated with bacteraemia the outlook is less promising just in proportion as the latter factor enters.

The more difficult conquest of this feature awaits a fuller knowledge of the laws of bacteriolysis, which the triumphs already achieved by the ingenuity and patient care of many faithful workers lead us to reasonably expect in the future: It is hoped soon.

INFANTILE CONVULSIONS.*

By B. W. RAWLES, M. D., Richmond, Va.

Convulsions occurring in infancy should be considered as a symptom and not a disease. They vary widely in severity; beginning locally they may become general, or they may be overwhelming motor discharges so intense and so protracted as to cause death. Many writers deny the gravity of infantile convulsions so far as immediate results are concerned, but admit that ultimate effects often follow.

It has been found upon close observation that many cases of epilepsy began with infantile convulsions. Osler found 180 cases out of 480. Gowers found 12:5 per cent. Berger found 20 per cent. Coutts found 11 out of 85 cases,

and 29 cases showing other neurosis, the remaining 45 cases being unaffected.

Dufour reports 15 cases of epilepsy out of 66 cases of infantile convulsions. Bullard and Townsend have ascertained the presence of other nervous phenomena in 9 out of 19 cases, such as night terrors, insomnia and enuresis. Therefore their conclusion is that all children suffering from infantile convulsions are predisposed to some form of nervous trouble.

If the above statistics be true, and I believe they are, we as general practitioners should be more careful in making diagnosis and treatment of infantile convulsions, constantly bearing in mind the ultimate results which are likely to occur in a large number of those cases which are fortunate enough to outlive the acute attacks or convulsion period.

Causes.—Convulsions—local or general—arise in excessive and irregular discharges of nerve centres in the cortex or base of the brain. It has been suggested that there is a convulsive centre in the pons.

The seat of discharge is thought to be in the ganglion cells of the brain, and the molecular disturbances in these cells necessary to the morbid discharge are determined by direct irritation of those centres or through the reflex channels by peripheral irritation.

In infants we know that all structures of the brain are undergoing rapid growth and development; therefore the great and complex nervous system must be immature and unstable, subject to discharge of nerve force.

The brain grows more rapidly during the first two years of life than it does during any other period of life. From this we can readily understand that we have anything but a stable nerve force.

At birth the lower centres only are developed; hence control over the nervous system is limited until the higher centres become competent to exert proper control. Therefore in the earlier months of life convulsions are quite common, gradually less so from birth up to the end of first year, and are more rare from the first to the end of the second year—thus showing as the brain and nervous system develop the stronger the controlling centres become.

The exciting causes are many, and are chiefly reflex from peripheral or outside irritations, causing over activity in the convulsive centres.

Some of the *predisposing causes* are:

Heredity, which plays a great part, especially

*Read before the Church Hill (Richmond, Va.,) Medical Society, October, 1904.

in children born of parents who are nervous, insane, epileptic, hysterical and alcoholic; rickets, anemia, syphilis, tuberculosis, craino-tabes softened occiput, variations in blood supply and quality, malaria.

Exciting causes are: Dentition, worms, adherent prepuce, phimosis, use of improper food, indigestion and any gastro-intestinal troubles, whooping cough, eruptive disease, ptomaines or toxic poison, anemia, any febrile state, burns, fatigue, extreme heat or cold, shock, emotion, internal pressure, such as hydrocephalus, abscess, emboli and thrombus, congestion of the brain, retention of urine, polypus, foreign bodies in air passages, digestive track or ear.

Convulsions may occur immediately after birth, and persist for months. In such cases there has probably been a meningeal hemorrhage or some serious injury to the cortex of the brain.

Symptoms.—Almost any one of moderate intelligence will recognize a marked convulsion or a convulsive tendency; and it is important that the attendant shall carefully note the starting point, progress, degree of severity and length of time it has persisted, for on the above facts will depend a proper diagnosis of the character and seat of the irritation. The slightest twitching of the thumb may indicate disease near the thumb centre. Twitching of the eyelid or movements in and around corners of the mouth point to central disease. There is a general restlessness and startlings upon slight irritation either by touch or noise.

Immediately before the convulsions there is pallor, a fixity of the eyes, or they may oscillate or be rolled up in the orbits. There may be strabismus, and these slight movements may pass into convulsive twitchings extending rapidly over the entire body or shifting from one side to the other, retraction of the head and rolling of the body to one side or the other. The hands are usually clinched with the thumbs buried in the palms. The great toe is extended downward—"carpo-pedal spasm."

Frothing at the mouth may be seen. Respiration is embarrassed, and at times almost suspended, and there is usually a gurgling sound in the throat. The pulse may be slow or rapid—usually rapid and irregular, sweating of the forehead, and finally blueness of lips and face (cyanosis); the sphincters may become relaxed, and involuntary evacuation of bowels and bladder may occur.

After the spasm there is complete relaxation of all the muscles, and usually marked evidences of prostration from violent muscular contractions and total exhaustion of nerve centres. Patient having had one attack is predisposed to a second.

Pathology.—There is no one constant lesion. Autopsy may give negative results or may reveal lesions which may have led to the convulsions without having been absolutely responsible for them, such as hepatization of the lungs, enteritis, cerebral tumor, meningitis, etc.

Diagnosis.—Less than 5 per cent. of the cases are correctly diagnosed during the acute attack. The history of this stage is important in making a differential diagnosis. Convulsion may be distinguished from spasm of the glottis by jerky movements which accompany loss of consciousness. In spasm of the glottis there is merely apnoea, with cyanosis without muscular twitchings. In tetany the stiffness is limited to the extremities. In epilepsy the age of the child, together with sudden fall, cry and anra will settle the diagnosis.

Convulsions occurring in brain diseases, except acute meningitis, rarely are accompanied with high fever. Convulsions may indicate the onset of some acute febrile disease, such as pneumonia, scarlet fever, measles, but the important point is they are accompanied with high temperature, 104 or 106°.

Convulsions depending upon disorder of the alimentary tract—in these cases we may be able to get history of improper feeding, and in case of nursing infants sometimes of poison or even intoxication in the wet nurse. Convulsions are most frequently due to disordered digestion; therefore the condition of the digestive organs should be one of the first inquired into. Examination of the urine should not be omitted in any doubtful case even where no dropsy is evident.

Dentition and worms should be considered among the least probable.

Prognosis depends upon age of patient and cause of convulsion.

Treatment.—Inhalation of chloroform, morphine, chloral, bromides, ice cap to head, mustard to back, feet in mustard water, high enema, calomel, pressure upon carotid arteries.

Analyses, Selections, Etc.

Strictures of Male Urethra.

Dr. A. Ravogli, Cincinnati, O., in a paper read before the October, 1904, session of the Mississippi Valley Medical Association, states that any process, any tumor, or spasmodic irritation is liable to produce diminution in the calibre of the urethra, temporary or permanent, but these are not considered in this paper.

But the urethral strictures, the subject of our study, are affections localized to tracts of the mucous membrane and of the submucous layers of the urethra; they often result from gonorrhoea, not rarely from trauma or traumatic urethritis.

The effective cause in their production is due to sclerotic changes of the connective tissues, the result of the chronic infiltration. These changes form a scar, which, retracting the tissues, causes the narrowing of the lumen of the urethra.

The author maintains these distinctions: First, *wide strictures*, which, although soft and succulent and not affecting the dimensions of the urethra, are the cause of maintaining constant irritation. Second, narrow or organic strictures, formed by hard, retracting tissue, with a tendency to constantly narrow the calibre of the urethra.

Strictures deserve attention according to the portion of the urethra they occupy. The etiology of only the strictures produced by trauma or by gonorrhoea are considered. In some cases both causes may act together, as happens in the breaking of a cordex, or in the injudicious use of instruments.

In reference to pathogenesis, the process is illustrated by that which occurs in the conjunctiva in the case of a gonorrhoeal ophthalmia. Gonococci have a tendency to make their way deep into the subepithelial layers, maintaining a constant irritation, causing infiltration and proliferation of the connective tissues of the cavernous urethra. In consequence, this sclerotic process is not limited to the mucous membrane alone, but goes deep into the connective tissues. A chronic inflammatory infiltration of the mucosa of the urethra is the starting point for the formation of the stricture. The presence of a few drops of urine retained by the stricture have some influence in maintaining and increasing the inflammatory process.

The shape of the strictures is linear or annu-

lar, and at other times tortuous and irregular, formed by an irregular mass of cicatrix.

He referred to the gross and minute anatomopathological alterations as found in the cadaver, to show the difference between the wide and the organic or narrow strictures.

The *symptoms* which lead to ascertaining a stricture in the urethra are, some suggestive, others subjective, and others objective or physical.

Suggestive symptoms of stricture are a long standing gleet, the presence of shreds in the urine, the irritability of the bladder, revealed by frequent and irregular micturition. In the sexual act the semen is quickly discharged, and then dribbles out of the urethra. In many cases, patients complain of diminution of the sexual appetite.

Subjective symptoms are, the changes in the stream of the urine, the reduced calibre and the lack of projection. In some cases micturition may be painful. The last drops of urine retained by the stricture come out after urinating; this compels the patient to make an effort to expel them or their clothes are wet with urine.

The bladder may be affected with spasmodic pains and sometimes it may result in vesical retention of the urine. Sexual neurasthenia is often the result of the stricture.

The objective symptoms are obtained by the instrumental exploration of the urethra, which is done with an ordinary steel sound, or better, with an olive shaped one. When the stricture is a wide one, the instrument is introduced without difficulty, but in withdrawing the instrument it is grasped by the stricture. When the calibre is affected, then the sound meets with the obstacle in the introduction. The stricture can be located, measured, and sized by means of the urethrometer.

In reference to *prognosis*, narrow strictures of the urethra are diminishing in frequency due to the more rational treatment of gonorrhoea.

In reference to *treatment*, Dr. Ravogli relies a great deal on gradual dilatation, for which he employs Kollmann dilators, associated with irrigations of the urethra. In narrow strictures electrolysis is of great value, to dissolve the fibrous tissues and dilate the urethra.

In obstinate cases, when dilatation is of no value, urethrotomy has to be resorted to. For the urethrotomy of the anterior urethra the author has a special knife, which he uses through an urethroscop. In this way the place to be cut can be seen without fear of cutting where

it ought not to be cut. In rare cases the external urethrotomy is the only remedy.

Yet all these means—dilatation, electrolysis, urethrotomy—will be of only temporary relief unless sounds are constantly introduced in order to maintain the dilatation and to reduce the thickness and the hardness of the strictured point of the urethra.

Book Notice.

Text Book of Alkaloidal Therapeutics. By W. F. WAUGH, M. D., and W. C. ABBOTT, M. D., with the Collaboration of E. M. EPSTEIN, M. D., Chicago. The Clinic Publishing Co. 1904. Cloth. 8vo. Pp. 405.

It is strange that so many of the profession adhere to the old system of administering the galenicals, of constantly varying degrees of potency, when their alkaloids, of definite strengths, are obtainable in convenient and compact form. It would seem unnecessary to draw special attention to the subject of this well prepared book, if doctors would stop just a moment to think of the advantages of the alkaloidal system of giving medicines. The virtues, uses, doses, etc., of about 140 of the soluble alkaloids or their salts are given in this book, which gives it a usefulness on the desk of the doctor that will be constantly appreciated. The Alkaloidal Company, of Chicago, is entitled to great praise for their efforts to popularize the active principles of drugs. We very greatly appreciate the results of their work—dedicated to those who advocate the use of the "smallest possible quantity of the best obtainable means to produce a desired therapeutic result."

Editorial.

Kentucky Requirements of Medical Colleges After July 1, 1905.

Every medical college (to be recognized as reputable by the State Board of Health of Kentucky) shall uniformly exact the requirements for matriculation adopted by this Board. It shall literally observe its own published requirements for admission, tuition, etc. It shall have an adequate equipment and an active and competent faculty. It shall have clinical and hospital facilities based upon the minimum muni-

cipal population of its location of not less than 50,000—except institutions under State control which by law receives patients gratuitously. Actual attendance upon 80 per cent. of each four courses of instruction of not less than thirty continuous weeks, excluding holidays, in four separate years, is required, and shall not hold more than one graduating class in any one year. No provision is made for giving advanced standing for A. B. or other degrees. It shall not accept notes in payment of fees, nor offer scholarships, nor reduction in fees or any form of rebates, except as required under State laws, or under the laws of endowed universities; and no student shall be given credit for attendance, or advanced or graduated until all fees have been paid. Colleges may honor official credentials of medical colleges of equal requirements as to students who have complied with the requirements for admission to medical colleges, except in branches of study embraced in the last year of their own curriculum.

Unhealthy Countries of the World.

The weekly reports of the U. S. Public Health and Marine Hospital Service show continually that in certain countries small-pox, yellow fever, cholera and plague are endemic—diseases that were, until within the last decade or so, very widely prevalent. The values of vaccination and of general sanitary measures have demonstrated so clearly what can be done to stamp out the diseases mentioned that we are led to wonder why similar measures to those adopted by this Government in Cuba and the Philippine Islands are not more extensively pushed in Brazil, Mexico, India, Turkey, South Africa, and a few other countries, by the general governments named—especially when it is shown that the local authorities are not properly doing their part.

Committee of Arrangements, American Medical Association, 1905.

Those having occasion to consult this committee previous to the June session, 1905, should write Dr. K. A. J. Mackenzie, Portland, Ore., chairman. He has associated with him Drs. A. C. Smith, George F. Wilson, William Jones, Henry Waldo Coe, Andrew J. Giesy and Ernest F. Tucker. Dr. Wm. Jones, Portland, is chairman of Committee on Hotels. The Finance Committee at Portland reports that it will require not less than \$20,000 to \$25,000 to give proper entertainments.

THE Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

Vol. 9, No. 16.
Whole No. 208.

RICHMOND, VA., NOVEMBER 25, 1904.

\$2.00 a Year.
10 Cents a Copy.

Original Communications.

OTHER SERA, INCLUDING THOSE OF TYPHOID FEVER, CHOLERA, DYSENTERY AND TUBERCULOSIS.*

By ENNION G. WILLIAMS, M. D., Richmond, Va.,
Professor Histology, Pathology and Bacteriology, Medical College
of Virginia, etc.

My predecessor has explained to you the nature and source of those sera that act by neutralizing the soluble products of bacteria, exemplified by the antitoxins of diphtheria and tetanus. These bacteria cause disease by means of the soluble products or toxins, and the neutralizing substances formed in the body are called antitoxins. There are, however, certain bacteria which form little or no products or toxins, and whose mode of action is either unknown or dependent upon poisonous constituents of the bacterial cells. How nature defends herself against this class of bacteria must now be explained.

An account of certain experiments which laid the foundation stones of our knowledge will give a clear conception of this process.

The blood of a rabbit was injected into a guinea pig. From this guinea pig serum was taken and mixed with blood from a rabbit. It was found that the red cells of the rabbit disintegrated and dissolved, whereas when mixed with serum of an uninjected pig the red cells were unaffected.

This experiment showed that the presence of the blood of the rabbit in the guinea pig caused a substance to develop in the serum of the pig which would disintegrate and dissolve the red blood of any rabbit. Such a substance is called a hæmolysin, and the process hæmolysis.

Experiments along these lines were extended, using other cells of the body. Emulsions of

kidney cells of one species were injected into another. It was found that the serum of the latter, when injected into the former species, induced marked degenerative changes in the kidney. Such a serum is called a nephrolytic serum, the specific substance being called a nephrolysin. In a similar manner there are developed hepatolysin, pancrealysin, neurolysin, leucolysin, etc. The process in general is called cytotoxicity or cell destruction.

It is analogous or by quite the same process that immunity is secured against those pathogenic bacteria that are not marked by the production of a soluble toxin. It is called bacteriolysis or anti-bacterial immunity. Bacteriolysis was first noticed by Pfeiffer. A guinea pig was given repeated injections of attenuated cholera bacilli. The serum of the pig was found to destroy and disintegrate even virulent cholera bacilli either within or outside the body of the animal. Thus it was proven that immunity was conferred by the development within the body of a substance or substances which caused the bacteria to disintegrate. The question that then presented was, "What are the substance or substances that cause the destruction of the bacteria: in other words, what is the nature of the bacteriolysin?" The immune serum which, of course, would destroy bacteria was heated to 55 degrees C. It was then found to have lost its destroying power, but this power was restored when normal non-immunized serum was added. The inference to be drawn from such experiments is that the dissolving power or bacteriolysis is due to two distinct substances: One present in the normal blood and rendered inert by heating to 55 degrees C.; the other the specific immunizing substance, different for each bacterium and found in the serum only after treatment of an animal with the particular bacterium. The latter has been called the immune or intermediary body, and the former the complement or alexin. Thus we see that there is

*Read before the thirty-fifth annual session of the Medical Society of Virginia, at Richmond, October 19, 1904.

always present in the blood a germicidal substance, the alexin or complement. It cannot, however, attack and destroy the bacteria unless there is present the specific immune body different for each bacterium which is necessary to join the complement to the bacterium.

Whence come these immune bodies? The complement was present in normal serum. The bacteria which gain entrance into the animal, and to which it proceeds to adapt itself, lead, through union with such body cell receptors as may be fitted to them, to the over-production of these special receptors. These superfluous receptors being cast off into the body fluid constitutes the immune bodies. The reason, therefore, why the bacteriolytic sera have not been so successful as the antitoxic sera is because two substances are necessary: the immune body, which can be increased as has been explained, and the complement normally present in serum, but which cannot be increased artificially, as may be necessary to destroy a large number of virulent germs.

Thus we see that there is ever present in all normal serum a powerful cell destroyer, the complement or alexin. The immune body has been compared to a key. There is a specific one for each species of cell. If the immune bodies fit invading bacteria, the complements, like loyal defenders of the body, will attack and destroy the invaders. If, on the other hand, immune bodies gain access, which fit the normal cells as with the venom of certain snakes, these same complements will turn with equal severity upon these normal cells to destroy them.

There are substances called agglutinins and precipitins, which are related to the cytolytins from the fact that they are formed as a result of the introduction into the living body of substances which can induce a special reaction. For instance, when typhoid germs enter the living organism there is formed a substance called an agglutinin, which, when added to a live culture of typhoid bacilli, will cause the cessation of motility and the clumping of the bacterial cells. Besides the typhoid bacillus the spirillum, the cholera, micrococcus of Malta fever, bacillus of dysentery, tuberculosis, streptococcus, and many others have this power of agglutination. This reaction is of great value in the diagnosis of certain diseases.

The precipitins are substances developed in the serum of an animal by treating with albu-

mins from an animal of another species. If now the serum containing the precipitins be mixed with the albumins originally used these albumins will be precipitated. The precipitins are of value in differentiating the albumins and testing blood stains. At the last meeting of our Society one of our honored members, Dr. J. W. Mallet, of the University of Virginia, reported some of his experiments illustrating the possibility of detecting the race from which a specimen of blood may have come by means of developing in animals a specific precipitin.

To review, we see that the serum of an immunized animal may contain antitoxins capable of neutralizing the poisons of bacteria, bacteriolytins or anti-bacterial bodies which destroy the micro-organisms, cytolytins which destroy living cells, agglutinins which agglutinate bacterial and blood cells, and precipitins which cause a precipitate with the albumens of the serum of other species.

We will return now to the bactericidal or bacteriolytic sera and consider them individually. As has been already mentioned, their use has been disappointing, because, although the immune bodies are increased in the serum, there is no way yet found to increase the complements.

TYPHOID FEVER.

The bacillus of typhoid fever belongs to that class of bacteria which under ordinary laboratory conditions produce little or no toxins, but whose toxic substance is within the bacilli themselves or intra-cellular. The poison primarily affects the lymphoid tissue in the Peyer's patches of the intestine, which slough away, leaving ulcerated surfaces and produces a marked depression of the nervous system.

Considering the nature of the bacillus it is necessary for the serum to be bactericidal. It is found that the serum of convalescents from typhoid is bactericidal in its action. By a special method of using a culture medium of macerated spleen and bone marrow with defibrinated human blood Chantemesse prepared a toxin and by inoculation of horses during two years with this serum he obtained an antitoxin. The reports of cases treated with this serum have been very encouraging. Of 179 cases treated with this serum seven died, or a mortality of 3.7 per cent., whereas the usual mortality of typhoid fever is about 10 per cent.

Animals have been rendered immune to ty-

phoid fever by the successive injections first of dead culture and then of living cultures. This process develops in the body of such animals a serum which is bacteriolytic in its nature. The use of this serum in preventing or curing the disease in man has been disappointing. The reason why such sera have not been successful may be because the bacilli being localized in the intestine it is difficult for the serum to reach them, or the condition of the body may be such that the bacilli produce toxins which would require an antitoxin serum; or again, it may be that the immune body present in horses' blood is not capable of uniting with the complement in human blood, in which case no bacteriolysis would occur. Furthermore, the bacterial poison is intracellular, and bacteriolysis may liberate the poison without destroying it.

As a preventive measure people have been inoculated with dead cultures, which process, like vaccination, is said to develop immunity. The conclusions reached after a large number of inoculations in the British army is that a very decided protection was afforded.

The agglutinative property of the serum of a man or animal suffering from typhoid fever has proven of great value in the diagnosis of this disease. In 1896 Widal and Grunbaum independently discovered that when blood serum from typhoid fever patients is added to culture of the typhoid bacillus there occurs a complete cessation of the mobility of the bacilli and a collection of the bacilli in clusters or groups—agglutination.

The reaction, commonly called the Widal reaction, appears about the sixth day of the disease, sometimes earlier. In about 5 per cent. of cases of typhoid fever, clinically diagnosed, the reaction fails to appear. This is attributed to the probability of these cases being an infection resembling typhoid, but due to a bacillus known as the para-typhoid bacillus. The serum from such a case will cause an agglutination of the para typhoid bacilli, but not of the true typhoid.

The Widal reaction is a specific one—that is, only the serum of a patient suffering from typhoid will agglutinate the typhoid bacilli under proper conditions. The conditions required for an accurate determination of this reaction are that the serum shall be diluted 1 to 50, and that the reaction take place in one hour.

CHOLERA.

The spirillum of cholera, like the bacillus of typhoid fever, does not form toxins in any artificial media, and its poisonous properties are within the bacterial cell.

A serum, therefore, to be preventive or curative must be bacteriolytic. So far it has not been possible to develop a serum that has proven successful. Besides the reasons mentioned in the discussion of the typhoid sera, which may operate against successful use of this class of sera mentioned, should be made of the very rapid course of cholera. It was with this germ that Pfeiffer first noticed the phenomenon of bacteriolysis. Injecting a culture of spirilla into the peritoneal cavity of an animal immunized by the successive injections of dead bacilli he found that the bacteria underwent a peculiar granular degeneration and disappeared.

The phenomenon did not take place when the culture was mixed with immune serum in a test tube, but did take place only when normal serum also was added. The reason for this has already been explained—viz., that the immune sera furnished the immune bodies and the normal sera the complements. As this action is a specific one, it has been used to differentiate the cholera spirilla from others.

The serum of patients convalescent from cholera have the property of agglutinating the cholera germ, but this reaction is of no use for the diagnosis of cholera, as it does not occur until late in the disease.

Although the attempts to develop a preventive or curative serum have been unsuccessful, Haffkine has succeeded in developing a degree of immunity in man by means of vaccination, first, with an attenuated culture, and then five days later with a virulent culture. As a result of 40,000 inoculations in India he claims that the number of cases were diminished, and also that there was a decrease in the mortality of those who had been inoculated and afterwards contracted the disease.

DYSENTERY.

The bacillus of dysentery was discovered by Shiga, of Japan, to be the cause of epidemic dysentery—not amœbic dysentery—and later by Duval and Bassett to be the cause of summer diarrhœas in infants and cholera infantum. The bacilli develop little or no toxin in culture media, and its poison is intracellular, and has

a selective action on the large intestine. It was found by Shiga that horses were especially susceptible to this bacillus, and could be rendered immune. A horse was inoculated every week or ten days with a dead or attenuated culture of bacilli collected from different sources. After a month it was found that the serum from the horse had marked agglutinative properties, both for the bacilli found in the dysentery of adults and in the diarrhoea of infants.

After continued inoculation for four or five months the properties of the serum are such that it is curative for guinea pigs which had been inoculated with virulent cultures. After two years the serum is said to be protective and curative in man. Shiga reports that in 266 cases treated with the serum the mortality was 10 per cent., whereas the mortality in those not treated was 32 per cent. The serum developed by means of cultures obtained from cases of dysentery in adults are more curative of dysentery, and those from diarrhoea in infants for diarrhoea, yet they are to a less extent interchangeable. The serum has, however, been more successful for the epidemic dysentery than for the diarrhoea of infants.

TUBERCULOSIS.

The bacillus of tuberculosis discovered by Koch in 1890 to be the cause of the "Great White Plague," has been the recipient of the most marked attention at the hands of that band of medical scouts who are exploring the realms of our invisible enemies.

The toxic substance lies chiefly within the bodies of the bacilli. The small amount of toxins developed in culture media are not well understood. One toxic substance produces the characteristic degeneration known as caseation; another gives rise to fever. Death may be brought about in two ways, either by rapid multiplication of the bacilli and the formation of toxins, as in acute milliary tuberculosis, or by the gradual destruction of some organ necessary to life, which process is usually assisted by the pus producing organisms. A lesion may be repaired by the formation of granulation and scar tissue or the infiltration of a tubercular area with calcareous matter, but for the destruction of the bacteria and their poisons there should be anti-bacterial and antitoxin substances.

These to a small extent are found in the serum of normal, healthy individuals, but they are not increased in those suffering from tuber-

culosis; on the contrary, they are diminished or absent.

Koch endeavored to develop an immunity by the use of toxins prepared from the tubercle bacillus. These toxins he called tuberculins. The bacilli were grown for two months on glycerin bouillon, then the medium was filtered through a porcelain filter to remove the bodies of the bacteria, and the poisons in solution remained, which was called tuberculin. When this so-called "cure for consumption" was announced to the world great hopes were raised, which have fallen to the ground since further experience has shown the limitations of its use and the inconstancy of the results. Koch later prepared a tuberculin which consisted of the extracts of the bacilli. He took virulent cultures of bacilli, dried them in vacuo and triturated them in mortar. The resulting powder was treated with sterile distilled water and centrifugalized. The supernatant clear fluid was removed and called tuberculin O. (Oberer). The solid residue was then again dried and the same process of extraction was repeated several times, the fluid each time being preserved, and the whole finally mixed together. This mixture constituted the residual tuberculin or tuberculin R. Koch claims especially valuable properties for this last preparation—that gradually increasing doses, injected into animals, will produce immunity to tuberculosis, and also to the action of the other forms of tuberculin.

In regard to its action, if a minute quantity of the tuberculin be injected into a healthy man or animal there is no reaction, but if the man or animal be suffering from any form of tuberculosis very definite symptoms are produced. There is a rise in temperature from one to three degrees Fahrenheit, accompanied by a feeling of illness and sometimes by nausea and vomiting. Around any localized area of tuberculosis there occurs a vigorous reaction with heat and redness. After the reaction has subsided there is usually a marked improvement in the local disease.

The tuberculin R. differs from the original tuberculin in that it produces a general reaction of a febrile nature, but does not produce the same changes around the existing lesions. Its curative power is exerted by stimulating the tissues of the body generally to form anti-bodies to the tubercle bacilli.

Patients in the early stages react much more

strongly to the tuberculin than do those in the last stages. Indeed, in the latter the reaction may fail to appear. This fact does not seriously interfere with its use as a diagnostic agent, because it is only in the early stages that this use is of value.

Since the reaction to an injection of tuberculin takes place only in a man or animal suffering from tuberculosis, and not when they are in a state of health or suffering from other diseases, tuberculin has been much used as a means of recognizing the presence of tuberculosis, particularly in cattle. No ill effects follow except the temporary fever, malaise, nausea or vomiting. In man, although its value as a diagnostic agent cannot be denied, yet there are certain drawbacks that have prevented its extensive use. It has been said by some and denied by others that tuberculin may light up again a tubercular focus that has become quiescent. Koch and Anders have each reported more than 3,000 injections of tuberculin without any ill effects. There is danger of having virulent germs in the tuberculin, which, of course, is dependent upon the care with which the tuberculin is prepared. To be of value for diagnosis certain precautions and directions must be observed, for even in a healthy individual an excessive injection may give rise to a febrile reaction.

As a therapeutic agent the great hopes that followed the announcement of tuberculin have been succeeded by keen disappointment. Reports were made showing favorable results following the injection of tuberculin in various tubercular conditions, but particularly lupus, but it has practically fallen into disuse, as it is now believed to be more efficacious than other forms of treatment.

There are some who still have great faith in the tuberculin treatment. The lack of success in the hands of many may be due to ignorance of its real value or fault in the preparation of the tuberculin or in the method of administration. Tuberculin is meant only to assist in the healing, and other forms of treatment should not be neglected. As tubercular lesions are so often infected secondarily with pyogenic bacteria, it has been recommended that anti-streptococcal serum be also used with tuberculin.

Instead of tuberculins consisting of the toxins of the bacilli or the extract of their body substance, Koch has used an emulsion of the bacilli by suspending powdered bacilli in a 5

per cent. solution of glycerine. He claims considerable improvement in patients under this treatment.

Klebs prepared modifications of tuberculin called tuberclicidin and anti-phthisin. The modification consisted in retaining certain ingredients which were volatilized in the preparation of tuberculin, and eliminating other ingredients which were considered harmful. Klebs claims 60 per cent. of cures among his cases.

Margliano and Marmorek have each prepared sera for tuberculosis along the same lines used in the preparation of antitoxin for diphtheria. These sera are especially antitoxic and to a less extent bacteriolytic. The reports concerning their use have been too conflicting for one to state their real value.

In the serum therapy of tuberculosis one can hardly expect any great degree of success. Tuberculosis differs from the other infectious diseases in that one attack does not seem to confer immunity. In fact, one attack seems to predispose to another.

Now, in conclusion, serum therapy, with the exceptions of certain antitoxins, is still in the experimental stage. Its principle rests upon a purely scientific and rational basis. It attempts to use the processes that the organism itself used in its defence against harmful invaders. It develops artificially and brings to our service the *vis medicatrix naturee*. The present knowledge, of which we can speak but briefly in the time allotted, reminds one of the awakening light of the dawn of a new era in therapeutics. All the old agents can never be laid aside, but the present signs give promise that in the near future new and more powerful agents will be developed to aid us in the fight against disease.

315 E. Grace St.

ORGANO THERAPY.*

By L. G. PEDIGO, M. D., Leatherwood, Va.

Organo-therapy is not a product of sudden invention or discovery, but like other branches of serum-therapy and like antisepticism and many other contributions to the sum total of

* Read before the thirty-fifth annual session of the Medical Society of Virginia, at Richmond, October 19, 1904.

modern medicine, it is a thing of gradual evolution. It had its origin in the crude thought of empiricism. A curious passage in the history of medicine is found in a book published in the 17th century describing a "tincture," of animal origin, which evidently anticipated in many essential particulars the orchitic extract made in the modern laboratory. It is known that centuries ago the various organs of animals were ingested with a view to curing maladies and weaknesses of corresponding organs in the human subject. To such rude empirical beginnings we trace the origin of organo-therapy. The subject was finally placed on a scientific basis and reduced to a clinical system by the epoch-making work of the great physiologist Brown-Sequard, whose final complete announcements were made in 1889, but who had done hard, conscientious, experimental work to this end for not less than twenty years. Indeed, if we trace the investigation back with care, we find in his experimental inquiry into the functions of the suprarenal capsules, published in the Archives Generales de Medicine, as far back as 1856, a theoretical anticipation of the valuable discoveries of the last few years as to the active chemical principles furnished by those organs. We find, too, that his theory of internal secretion seems to have been suggested to him by certain experiments done by Legallois in 1827 endeavoring to establish the now known fact that the venous blood varies in composition as it emerges from the different organs.

Since this memorable theory furnishes the doctrinal foundation of organo-therapy, and since it has never been displaced or ever improved in fifteen years of fruitful discovery and rather heated controversy, it may be well to restate it as briefly and clearly as possible.

The diverse glandular organs of the body—whether equipped with an excretory conduit or not, and the various non-glandular special tissues elaborate an internal secretion which is absorbed into the blood along with the products of nutritive disassimilation of the glands or tissues, and which in each case has an office to perform in the intricate processes going to make up the life of the organism. This internal secretion not only makes its impression on various nerve centers, influencing their action, but modifies in numberless ways, the complex processes of nutrition and the functions of remote organs. Surgical removal, accidental injury, or disease

of any organ such as would abolish or materially impair the production of this internal secretion, will manifest itself by serious effects on the functions of various other organs and grave disturbance of nutrition. The new therapeutic method proposed by Brown-Sequard consisted of the hypodermic and internal use of carefully prepared extracts of the glandular organs and special non-glandular tissues of healthy animals corresponding to those injured or destroyed by traumatism or disease. This was to be done with a view to supplying to the blood the deficiency in the chemical principles of the internal secretions. It was broadly claimed that this measure not only had a similar effect to that of the naturally supplied principles, but that it reacted favorably on the defective organ, tending to restore it to the normal performance of its functions. This theory and these conclusions have been through the usual ordeals in turn, of over enthusiasm and exaggeration, ridicule—reaction—and finally steady, quiet, impartial examination and use. They have stood the test and to-day in spite of some minor dissension, no better theory is proposed to account for the accepted facts of Organo-Therapy than the Brown-Sequard theory of internal secretion.

As to the practical application of all this, it is not my purpose to present an exhaustive paper on the subject, or even to cover the entire ground however briefly. It will be more satisfactory and profitable in the short time at my disposal to select some of the more important divisions of the subject and cull a few facts from my own practice and that of others, and present some practical thoughts and suggestions with a view to stimulating discussion.

Suprarenal Extract.—Of all the organic preparations, perhaps, that made from the suprarenal bodies is most useful. Its physiological effect consists essentially in causing tonic contraction of the involuntary muscular fibres, notably in the arterioles and heart, thus increasing blood pressure. This extremely interesting effect, followed as it is by almost no reaction gives this remedy an exceptionally wide range of usefulness. Hence the clinical reports in the Medical Press recording its use in such a bewildering variety of conditions as to read like an old fashioned patent medicine advertisement, have a rational explanation and a reasonable basis in fact. All of its diverse uses in medicine and surgery are reducible to sim-

plicity by tracing them to two or three plain items of physiological effect. Lack of tone in the small blood vessels is responsible for so large a part of the sum of human ills that an agent which controls the circulation in this one particular becomes a remedy of inestimable value and of very wide range of applicability. The astringent effect of suprarenal extract together with its sustaining influence on the heart—thus point the way to its use in atonies, congestions, inflammations, internal hemorrhages—and finally in the prevention and control of surgical hemorrhage. Its use would seem to be rational and efficacious in epistaxis and intestinal hemorrhage, metrorrhagia and hematuria and also in hemoptysis provided the hemorrhage is from the bronchial artery. But when we consider that it contracts the entire set of systemic arterioles, thus increasing blood pressure and also strengthening the action of the heart, and the further fact that the minute subdivisions of the pulmonary artery have exceedingly thin walls with no muscular coat, and therefore cannot be contracted by drug influence, but would tend to yield to the increased general blood pressure, it would seem that suprarenal extract is contraindicated in true pulmonary hemorrhage. Some recent laboratory experiments showing pulmonary congestion and œdema after excessive hypodermic doses corroborate this view, and yet it must be remembered that the effect of small repeated doses is not usually the same even in kind as that of the toxic doses; and in point of clinical fact we have all used these preparations indiscriminately in hemoptysis with apparently good effects, and so far as I know without the untoward results. In hemorrhage from the bowels, whether from typhoid fever or other causes, this remedy is indicated both rationally and from clinical experience. It should be given in moderate, frequently repeated doses. Its absorption from the alimentary canal (except in the mouth) is very slow, and therefore its local effect in hemorrhage is all the more to be depended upon. In uterine and vesical hemorrhage the local as well as general use is advisable. In all systemic use for hemorrhage, except in that of gastric or intestinal origin, either the hypodermic method or dropping the solution on the tongue is advisable, to secure prompt action. In the prevention and control of surgical hemorrhage this remedy is exceedingly useful. In general

surgery, in gynecology, in special surgery of the eye, nose and throat, and of the urinary organs, it is found increasingly satisfactory, as the details of its application and the limitations of its use are gradually learned. One point of great practical interest is its combination with cocaine to increase and prolong the anæsthetic effect and limit and hold in check the absorption of the latter agent into the general circulation and at the same time to prevent hemorrhage. On a basis of my own experience I can heartily recommend this procedure in partial tonsillectomy. In an operation last spring, in which I had special reason to fear excessive hemorrhage, I first applied solution of cocaine to the gland. When the anæsthetic effect had supervened I inserted a hypodermic needle and injected a 1 to 5,000 solution of adrenalin into the tonsils. Fifteen minutes later (after reapplication of the cocaine) I removed both tonsils without hemorrhage, primary or secondary.

Its various uses in gynecology are of great practical interest, especially convenient is its local application to the interior surface of the uterus after curettage to stop bleeding and incidentally allow inspection of the interior, and convenient application of other local remedies. I would suggest this procedure after curettage in puerperal septicæmia with a view to limiting the absorption of septic matter.

In general surgery, suprarenal preparations are used either by direct local applications or by injection into the tissues through a hypodermic needle. In the latter use it is well to be cautious, as several cases of sloughing have been reported.

At the meeting of the Electro-therapeutic Association in 1903 Dr. T. A. Pease presented a new method of treatment of exophthalmic goitre worthy of note. He applies a four per cent. solution of adrenalin over the enlarged thyroid by means of a copper disc electrode, and passes the continuous current through it until the skin is thoroughly blanched by cataphoresis. He then uses the high frequency current by means of a modification of Dr. Snow's wooden electrode. He claims that this gives better results than any other method of treating exophthalmos.

The second most interesting and valuable of the organic remedies (ranked first by some authors) is *Extract of Thyroid Gland*. This remedy in a narrower field than the suprarenal

extract is found very definitely and positively efficacious. Its best established uses are to be found in myxedema and cretinism. This line of treatment was originally suggested by Brown-Sequard in 1891. The same year, possibly independently of him, Prof. Geo. R. Murray, of the chair of Comparative Pathology in the University of Durham, began and published his experimental use, with very satisfactory results. From that time to the present the evidence has steadily accumulated that thyroid is a definitely curative remedy in these two otherwise intractable maladies. Since it is obviously intended as a virtual substitute for a seriously defective and sometimes practically annihilated thyroid gland, however, it is necessary as a rule to continue the treatment with intermissions for a long time—in some instances probably for life. Outside of this field no treatise on Thyroid-therapy would be complete without reference to a rather remarkable paper read by Dr. Wm. M. Polk before the Baltimore Obstetrical Society a few years ago on the clinical effect of thyroid extract upon fibroid tumors of the uterus. He gives a report in detail of ten cases and announces his conclusions as follows: The net results in each case has been improvements, the greatest existing in those who took the treatment longest. Its manifestations were:

- (a) Control of the menstrual flow.
- (b) Arrest of the growth and in some cases diminution of the tumor and apparently softening of it.
- (c) Disappearance of pain and diminution of tenderness in the growth and also of the sense of abdominal and pelvic distension, with increase of muscular and nervous energy.
- (d) Betterment of general nutrition manifested at first by loss and then by return of flesh, improved state of the skin, hair and nails and in the substitution of a good color for the appearance of anemia.

Of course he met with the usual limitations and drawbacks, gastric disturbances, tachycardia, nervousness, insomnia, etc., etc., but did not find those obstacles insurmountable. He infers that thyroid extract has its use here, not as a substitute for the knife in cases requiring surgical intervention, but as a valuable measure of treatment when operation is for any reason impossible or inadvisable. This paper is particularly notable as coming from a high authority

who makes a specialty of major operations in this field. Other gynecologists have made favorable reports on the use of thyroid in the treatment of menorrhagia and metrorrhagia occurring independently of fibroids and especially when connected with the menopause. Its use in goitre has not measured up to expectations, and in exophthalmic goitre it is worse than useless.

Prof. Murray is at present engaged in a series of experiments with an autotoxic serum (for use in exophthalmos) prepared by injecting rabbits with from 5 to 10 minims of thyroid liquid daily for five weeks, collecting and preparing the serum in the usual way.

His last report in the *London Lancet* is not encouraging.

Its use in various skin diseases, notably psoriasis, is of secondary importance, but worthy of investigating.

There are three distinct methods of using thyroid:—

- (1.) Hypodermic use of the liquid extract.
- (2.) Internal use by thyroid feeding or by giving the dried gland or a solid extract in capsules.
- (3.) Thyroid grafting.

The internal method is usually best and always most convenient. Grafting is now being improved by systematic experiments, and when perfected will be valuable in some cases because of the permanence of results, but for obvious reason it can never supplant the internal mode of administration. A report appeared in the *London Lancet* some years ago which should be labeled "Important if True," viz., a review of the treatment in Edinburgh of a case of carcinoma of the female breast, in a patient aged sixty-one, by the use of thyroid gland for eighteen months, resulting in complete recovery, notwithstanding that the axillary lymphatics had become involved. It would scarcely be proper to leave the subject of the thyroid without mentioning the fact that this treatment has been used with reported good effect in some cases of acute mania and melancholia and other mental conditions, and to add that this practice has the endorsement of as high authority as Clouston of Edinburgh.

The Parotid Gland has some interesting effects in one field of work, viz., in the relief of certain functional, congestive and inflammatory affections of the ovaries and contiguous pelvic

structures, which disturbances, if left untreated, usually prove to be forerunners of more serious suppurative lesions calling for surgical treatment. Here again, Organo-Therapy is suggested not as a substitute for the surgeon's knife, but as a legitimate means of relief at an early stage of the affection. This line of work has been prosecuted especially by Bell of Glasgow, Shoher of Philadelphia, and Mallett of New York. The last named authority sums up his results as follows:

(1.) It has seemed to relieve the pains of dysmenorrhœa in all cases, without regard to alleged causes and present conditions to a greater extent than any of the so-called uterine sedatives which I have been able to obtain.

(2.) It relieves the dull aching pains referred to the back and ovarian regions usually designated by those familiar though vague and unsatisfactory terms, "reflex pains, nervousness, ovarian neuralgia," etc.

(3.) Menstruation when deranged becomes more regular as to periodicity, less in amount and shorter in duration.

(4.) During its exhibition pelvic exudate seems to soften and become absorbed more rapidly under abdomino-pelvic massage.

(5.) The general health, strength, appetite and spirits seem also to improve under its use, and those dull headaches which constitute such a persistent and annoying symptom in these cases, is almost invariably relieved, and in some cases disappears entirely.

A careful reading of the literature of this subject leaves the impression that in view of the increasing prevalence of the conditions claimed to be relieved this method is worthy of careful, practical investigation.

The ovary and mammary glands may be grouped with the parotid for all practical purposes and will not be considered separately in this paper.

(A) *The orchitic extract* fell into disrepute almost from the beginning owing to the wild exaggeration of its properties—chiefly in the popular press and to the eager and unspeakable way in which it was exploited in the world of charlatanism. In point of fact the proposed use of this preparation rested upon sound, scientific reason, and the subject was presented in a perfectly rational, moderate and well guarded manner by the distinguished scientist who originated it. As an illustration of its legiti-

mate employment I beg to refer briefly to its use in one instance in my practice. It was a case of progressive paresis of age, and of course, incurable; patient seventy-four years old, was still rational and able to walk, but with dragging gait, and complained of double vision obviously due to paresis of the ocular muscles, and the bowels were sharing in the general paralysis, so that the rectum emptied itself very imperfectly. Within forty-eight hours after beginning the use of the orchitic extract, without other change in treatment, the patient volunteered the information that he could lift his feet over obstructions in his path more easily, that he could count the stumps accurately on the opposite side of a thirty-acre field; that he had larger actions from his bowels, and, as he expressed it, he could seem to "get a more satisfactory grip on them and prize against them better." The improvement in the general condition of the patient corresponded in every way with these significant and interesting symptoms. In view of this and other similar experiences I take this occasion to suggest that the profession is not giving this measure of treatment the fair trial it deserves.

The Pancreas has been unaccountably neglected in investigations relating to Organo-Therapy and yet it was one of the earliest to come under notice in the history of this line of research. Years ago Brown-Sequard observed that artificial glycosuria could be induced in an animal by total removal of this organ; also that if any considerable part of it remained (whether it included the duct or not); glycosuria did not occur. Other investigators following his lead found that if a part of the pancreas be engrafted upon the peritoneum it answered the purpose of preventing this accident after removal of the organ. Brown-Sequard naturally inferred that the pancreas elaborates a chemical proximate principle which is delivered into the blood through the lymphatic channels and which bears some dynamic relation to the yet unsolved problem of the glycogenic function of the liver. As a corollary he suggested the hypodermic use of an aseptic extract of the sound, fresh pancreas of a healthy animal in the treatment of diabetes. The suggestion was adopted with perhaps too sanguine enthusiasm. When I was making a special investigation of diabetes in 1892, I had the pleasure of some correspondence with Brown-Sequard, in the course of which he

wrote me that this treatment was then being used with encouraging results in various hospitals on the continent of Europe. Unfortunately the results were only temporary in many of the cases; in some there was no relief. The discouragement which followed has produced a reaction and drifted the profession to the other extreme, and the pancreas in this connection, as well as in general medicine, is a strangely neglected organ. The fact still remains that the pancreas is found seriously diseased in autopsies of more than fifty per cent. of cases of diabetes, and that when any cause materially affects the structural integrity of the islets of Langerhaus, diabetes is a sure result. If the profession can ever be brought to realize that diabetes may proceed from morbid conditions in at least three if not four separate organs, and that pancreatic diabetes is a special and well recognized pathological type, whether it can be clinically differentiated in the present state of our knowledge or not, then this important matter will receive the attention it deserves, and the perfected pancreatic treatment of certain selected cases will be used with some satisfaction.

Evidence of the efficacy of *Thymus Gland* in the treatment of goitre and exophthalmos is still conflicting. My own limited experience with it in the latter disease is altogether favorable. I have reason to believe, however, that in many of the unfavorably reported cases it has been used too freely. One of my own cases had already been brought almost to the point of death by its reckless use. After careful treatment of the effects I did not hesitate to use the same remedy again in small doses. The case recovered.

Renault gives an interesting account in the *Hospital Gazette* of his trial of an *Extract of the Kidney* in albuminuria. He asserts that the kidney is not a mere filter, but a true gland, and that it contributes to the blood an internal secretion which reacts upon the kidney and promotes its functional activity. On this theory he makes a liquid extract in the usual way from the normal kidney of a healthy animal, and, in cases of renal insufficiency from various causes, administers it internally, claiming that it is not injured in the processes of digestion or absorption. The following are some of his conclusions which seem rather exaggerated:

(1.) The substance obtained by maceration of the kidney given to patients suffering from

urinary insufficiency has proven the most efficacious and active medicament yet proposed. Better than any known means it opens up the kidneys closed by uremic œdema. It has an intense diuretic action which is rapid and certain. When its administration is sufficiently prolonged it restores the urinary excretion to normal and keeps it there. It does no harm to the diseased kidney.

(2.) This method also has the advantage of causing the albumen to disappear from the urine while restoring the kidneys to full activity. Even over long periods of time it can keep the urine free from albumen and contribute to the restoration of the renal epithelium where this is histologically possible.

(3.) In the numerous cases in which it has been used, there have been no important bad results. On the contrary, under its use, there has been progressive and rapid disintoxication. The arterial hypertension and the tendency of the nephritic heart to dilatation have always shown improvement under its influence when it has been given a sufficient length of time.

THE PREVENTION OF APPENDICITIS.*

By WILLIAM M. HARSHA, M. D., Chicago, Ill.,

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University of Illinois.

From available figures it would seem that appendicitis is more frequent in our country than elsewhere. This is on the assumption that the mortality rate is much the same in England, Germany and France, where modern methods both of medical and surgical treatment are practiced, and where statistics are or should be reliable. Possibly more detailed information relative to our whole country might give different results.

In Illinois, with a population of about 5,000,000, there were in 1903, 471 deaths from appendicitis, or 94 per million. In Chicago alone, which represents nearly two-fifths of the population of the entire State, in 1901 there were 429 deaths; in 1902, 261, and in 1903, 262, being at the rate of 140 per million.

The same high death rate, as shown by the

*Abstract of a paper read before the Mississippi Valley Medical Association, October 12, 1904.

statistics cited, is approximated in other cities of our country, especially in similar latitudes.

As to foreign countries and cities, in England and Wales, with a population of about 33,000,000, there were 1,244 deaths from appendicitis and perityphlitis in 1901, or 38 per million. In 1902 there were 1,485 deaths, or 45 per million.

After citing the statistics of large cities in England, of Paris, Vienna, etc., it would seem that in cities of like size, and where modern methods obtain, there is a less mortality abroad, especially in England, than in our country.

Considering the causes that may be influenced by treatment, errors of diet appear to be the most frequent. The disease occurs most frequently at the age and in the sex where faulty habits of eating and error of diet are most common. It is common to see attacks follow an immoderate meal, or the ingestion of indigestible articles of food. If one has transgressed in either of these ways and feels the approach of an acute digestive disturbance, the rational treatment is the promptest possible evacuation of the whole digestive tract, keeping it empty and urging strict recumbency. Cholera morbus ushers in many cases of appendicitis, which is regarded as the primary trouble. That is, acute digestive disturbance irritating the mucosa is followed by stenosis of the base of the appendix and the affection follows. This, the author has observed formerly in a considerable general practice. Cases of this type are also caused by taking cold.

Right living is the treatment. This means avoiding of wet feet and drafts; keeping the vital powers up to par by avoidance of dissipation, overwork or worry, and proper heating and ventilation of our houses, with care as to diet.

While fecal concretions or foreign bodies are less frequent causes of appendicitis than was formerly supposed, they cause probably 10 per cent. of cases. From the slight but somewhat frequent attacks, with little or no temperature, followed by prompt recovery under treatment by absolute rest and starvation, the writer has several times found, as expected, fecal concretions with or without foreign bodies. In many of these cases there is a stricture proximal to the concretion. The proper preventive treatment in this class of cases is operation. After one such attack, especially if there is any bar to operation, it may be tried to wash out the bowel with salines with some chance, probably

better than we should have in efforts to expel gall-stones.

Flatulent dyspepsia, which is held to be a frequent cause by many authorities, is amenable to treatment—generally by diet, exercise and remedies to relieve the atony of the colon.

George Rubin has shown by experiments how a distended cecum may admit foreign bodies into the appendix that could not be made to enter otherwise.

It is probable that flatulent indigestion or constipation with fecal stasis in the cecum not only favors admission of fecal matter into the appendix, but also by dragging or torsion cause kinking or closure of the lumen, or other irritation or abrasion of the mucosa, inviting the infection.

Traumatism by injury from without, or from muscular strain, is a cause of appendicitis in a small per cent. of cases, and the preventive treatment is summed up in the one word *caution*.

It is obvious from the mechanical factors that figure in this disease and the numerous conditions that attend or precede the attacks, that no rule can be made to apply in every case. It may seem to be petty attention to details to consider some of those items which are potent as preventive measures; but in the practice of the profession no one knows better than the surgeon the importance of attention to just such details in order to get the best results. It is easy to advise and do operations, and in case of progressive infection the author believes in operation in the early stage, that is, twenty-four to forty-eight hours, as also in recurrent cases, and in some instances after even one attack; but there are people who will not listen to operation and others in whom diabetes or other contraindications may be present, and on whom we dare not operate. There are also many cases that cannot secure competent surgery on account of their location. The individual case must be considered by itself, its etiology carefully studied, as well as any peculiarity, and treatment adapted accordingly. In one case it will be necessary to regulate the habits of eating; in another to cultivate immunity from colds or proper habits of exercise, while digestive disturbances of various kinds will require attention in others. In all, the proper hygienic conditions should be secured to keep the vital resistance up to the highest point.

During the past six or seven years the author

has advised these measures as preventive after one attack in which there has been no operation, and so far as can be known, recurrence has not occurred in over 20 per cent. of the cases, most of these being in young people, partly because of the greater frequency in the young, and in part because of lack of intelligent cooperation on the part of the patient. The consensus of opinion is that more than 50 per cent. of cases not operated on recur.

THE TREATMENT OF THE DISEASES OF THE LIVER.

By HUBERT RICHARDSON, M. D., Baltimore, Md.,

Late Pathologist to Mount Hope Retreat; Pathologist to Maryland Asylum and Training School for Feeble-minded Children; Demonstrator of Physiological Chemistry, University of Maryland.

The liver is the largest organ of the body, performing a number of functions of the greatest importance to the health of the organism. It is the principal factor in assimilation, its functions being glycogenetic, proteolytic, metabolic and biliary—the bile acting as an excretive and in the intestines as a digestive. It is an accepted fact that any organ which fails to excrete its waste products soon becomes unable to function properly, and it is therefore of the greatest importance that the secretion of the bile should be sufficient. There are presumably several "active principles" formed in the liver, probably of the nature of ferments such as the aldehyds of Jacobi, which take a very active and essential part in its metabolism but which are at present little known, but their formation and activity is most certainly destroyed if the biliary secretion is decreased.

All experimenters are unanimous in their results as to the inutility of the so-called cholagogues of the pharmacopeia—all agreeing that they fail to increase the flow of bile, and they also agree that the bile salts, viz., the glycocholate and taurocholate of soda are the only substances that will increase the quantity of biliary excretion.

Gall-stones are usually the result of bacterial invasion of the gall-bladder coupled with the precipitation of cholesterin and of the lime salts of the colouring matters, which can only take place when there is a deficiency of the bile salts

which hold these substances in solution in the bile. Obviously then the treatment of gallstone is to supply sufficient bile salts to hold these substances in solution. Even after operation for the removal of gall stones it is by no means uncommon for a fresh formation to occur, the operation having to be repeated. The administration of the glycocholate of soda over a lengthened period will often dissolve small stones already formed, and will always prevent their formation; it is therefore advisable that any patient who has been operated upon should take glycocholate of soda at frequent intervals to insure against the return of the trouble. Gallstones are much more common than is usually imagined, producing a great variety of symptoms, and occurring in about 10 per cent. of women and 5 per cent. of men.

Hepatic troubles are constant with high livers and alcoholics and also among those of sedentary habits—the liver being overworked to begin with, while want of exercise causes a deficient circulation and consequent congestion of the organ. In these cases the writer has found the glycocholate of soda mass of great service, it apparently acting as a purge to the organ.

In the intestines the bile acts as an emulsifier and increases the absorption of fats. Many cases of malnutrition are due to the want of the proper quantity of fat, which is often the result of a deficient supply of bile. The well known effect of occlusion of the bile duct on the absorption of fat and the consequent acholic stool is well known. In diabetic diet where carbohydrates are reduced to a minimum and fats given as a substitute, the administration of glycocholate of soda is a great assistance. In several instances the repugnance of the patient to the large quantities of butter, oil and fat prescribed in the diet was overcome after a few days' treatment.

Dr. Russel's very successful treatment of tuberculosis by the fat diet can be facilitated by the administration of this drug, as not only does it increase the absorption of fat, but it also materially aids the purgation, which is one of the main features of the treatment.

In chronic constipation the drug is often of great service, as many of these patients have the purgative habit, which decreases the quantity of bile. Under normal conditions nearly the whole of the bile salts are reabsorbed from the intestines, returning again to be re-utilized in the

formation of bile. In purgation this reabsorption is interfered with and consequently the bile formation is decreased. Many cases of chronic constipation have been able to do without purgatives after a few weeks' treatment with the drug.

In all cases when the liver is infected as in malaria and in the convalescence of typhoid fever the drug is very valuable accessory to other treatment, the yellow icteroid skin clearing up and the assimilation of food increasing.

It is rarely necessary to give more than five grains or at the most ten grains *t. i. d.*; less than five grains is not of much use except over long periods and preferably it should be made up in capsules with magnesium oxide. Occasionally the patient may suffer from nausea after taking the capsule, but this usually passes off in a few days, sometimes it produces a diarrhoea for a day or two when the stools become normal.

RANDOM NOTES OF A PHYSICIAN'S VACATION.*

By JAMES DUDLEY MORGAN, M. D., Washington, D. C.

Fortunately the retiring president of a medical society is given wider latitude than most essayists—first, in the selection of his subject, and then how it is to be treated and amplified. A favorite theme with most officials, before taking their seats among the members, is to tell what has and has not been done during the year, and to offer suggestions for the improvement and advancement of the society. Your retiring president is free to confess, that the field of this topic seemed very interesting, for being deeply interested in the success and growth of the Society, he has seen and considered many things, which in his humble opinion, would be for advancement and a mutual aid to the members of this Society. He must however forego this enticing field; we are so fashioned by nature that we like to pose as critics, and to scold and find fault is naturally ingrained.

In the rambles of a summer trip, among those met, was an honorary member of our Society,—the Surgeon General of the Public Health and Marine Hospital Service. We discussed many

things, but there was no one topic of our conversation that made greater impression than the plea, that all contagious diseases were unnecessary, and why not abolish them? It would be a worthy and noble part for the profession could they convince the arbitrators of the world, the universal peace lovers, the disarmament talkers, that a good scheme to work on, and one on which the good of humanity was stamped, would be to divert the immense sums now used to make a nation warlike toward the prevention and stamping out on a universal plan all contagious and infectious diseases.

In a vacation of a little over a month, there were seen many things to be praised and commended, and very many more to be condemned. It is a strange thing:—there is nothing we are so careless of as our own health. Before leaving home we will see that our property is properly protected against fire and burglary; we will have the vacancy clause in our policy, will have the house wired or left with a guardian; the water and gas will be turned off; the windows, the shutters and doors locked. Our horses will be put to pasture on some well selected farm; the animal pets will be put in a dog or cat hospital, and the birds will be given to a fancier; then we are ready to leave on our vacation and for a change.

The place where we are going, we have only heard of through a friend. We do not know how long he stayed, or whether he gained or lost flesh. It matters little to us, whether he is of a roving or quiet disposition; whether he was born by the sea or in the highlands; whether he likes fish or fowl. We don't know if he had lung, heart, nerve or liver trouble, or no trouble. We only know he said he had a "bully" time. Dawn doesn't come to us until we have reached our destination and people entered the dining room, when we begin to wish we had asked our friend a little more about the environments. Why are the people at the adjoining tables using bottled water? Is the drinking water wholesome? Oysters and clams would be nice to start the meal with, but then if the water is bad, there is no telling about anything else. We begin to think of hotels we had read of, which have their own dairy farms, with vegetables and poultry and a plentiful supply of pure water.

We left Washington July 26th for Atlantic City, determining to stop over in Philadelphia for luncheon. The day being a hot one, we all

*Read at a meeting of the Medical and Surgical Society of the District of Columbia, October 3, 1904.

soon became thirsty, and not choosing to risk the train water, ordered the first drink of Apollinaris. At Philadelphia a simple luncheon for four cost three and a half, of which one dollar and twenty cents went to take the place of the Schuylkill. After sojourning for about two weeks at one of the reputed better hotels at Atlantic City, we met another crank from Washington, who told us he had just found out that our hotel did not have its own artesian waters, and considering he had drunk about a barrel of it in the past week, he was wondering what his chances would be to escape the bacteria. There are many good things to say of Atlantic City, and a few bad ones. For such a conglomeration and concentration of humanity in a small place, as often occurs during the heated months, there is more order, good nature and sobriety than in centres less populous, more religious, and more moral. If one wishes to keep well, he must eschew many temptations, both of palate and mind, which strew and adorn the boardwalk on its highways and byways. Woe to him who tries to gratify his thirst with orangeade, who eats of the sugar steamed corn or the tenderloin roast. The sea bathing is a great boon, and the cleanliness and exhilaration which it brings more than repays for the drawbacks. We are convinced that there should be more care and hygienic methods used in cleansing and caring for a bathing suit. Such negligence as was witnessed in some establishments should never be tolerated by the authorities. Guests of the bathing establishments should be told that the salt water, barring the unpleasantness of the sticky feeling it leaves for a time is rather beneficial than otherwise, and that to use a cold, fresh shower following the bath will in many cases lead to cold. Other harmful customs connected with bathing are remaining in too long, and lying with wet bathing suits in the sand. Swimming is one of the healthiest of exercises, and in moderation is a nerve tonic, and when there is slight cardiac dilatation and arteriosclerosis, it tends to strengthen the heart muscles and increase nephritic elimination.

From Atlantic City our party journeyed rapidly northward, not stopping until we hauled up the next morning in the Adirondacks, only forty miles from the Canadian shore. The night on the train was accompanied with the usual discomforts, and we were again forcibly reminded what a crusade should be continued

against the heavy hanging fringed portieres and curtains and cushioned seats, packed with blankets in oven-fashion. We were much surprised at the hotel to find a place built for about five hundred guests, housing only about forty. As the whole hotel was wide open, and seemed to be running in full blast, so far as the clerks, waiters, bell boys, electric launches for hire, and a full livery, we were much mystified to solve a problem, where a proprietor was giving more than he got, and was making a display for fun. We spent the better part of our arrival day in inspecting the full equipment of the place and interviewing and quizzing an employee here and there, and suggesting that politics and the St. Louis Fair were making things so dull.

It was well on in the evening of our arrival that a too talkative clerk tackled a little boy of our party, and very soon had imparted the knowledge we had been seeking all day: There had been lots of children there, but the scarlet fever had emptied the hotel. In looking around among the guests, a friend, a physician, was recognized, and soon after we visited his cottage and obtained the full situation. The commentary to make on this is, that it is unpardonable, a party can enter into correspondence with and later engage rooms for a lengthened stay, with children knowingly in the party, in any hotel from which has been removed fifteen to twenty cases of scarlet fever in a little over a month. A well known bacteriologist of New York city visited the place, and after a fumigation, pronounced the place safe. The proprietor acknowledged that scrubbing, scraping and repainting the rooms had not been suggested or ordered.

Our flight was now southward, and we stopped over at Saratoga and New York. At Saratoga, even among the best of hotels, there are the wooden double beds, wooden boxed bath tubs and toilets. A thing, though, to be commended is the sprinkling of damp sawdust on the bare floors of the halls, corridors and porches before sweeping. In New York city you see many things to impress you that people are somewhat awake to sanitation, and for good eating and clean, sensible bed-rooms with appointments, they excel the world.

We were now nearing home, and so met more of our townsmen; at Buena Vista, where we stopped, there was quite a colony. One of our prominent bankers was recovering rapidly from

a prolonged and obstinate attack of gout, and was all praise for golf as a remedial agent; a preacher's daughter was having good results from Dr. Dunbar's serum for hay fever. It is a pity that the railroad facilities to Buena Vista are so poor. A health seeker would lose much of the benefits of his trip in the scramble and fight for a seat, and between the shifting and jerking of the cars with flying cinders and pulverized dust infected with the odor of an occasional near by western or southern Maryland negro, you bless your stars when you arrive in the hospitable town of Baltimore.

A day at Johns Hopkins completed our tour, and with a look at the new books on their shelves, and a word about Osler, we were glad to get back to Washington, fully satisfied with our rest and unrest.

919 15th St., N. W.

PROGNOSIS.*

By JOHN M. BATTEN, M. D., Downingtown, Pa.

Prognosis is based on diagnosis. If the diagnosis is correct we can more easily make a true prognosis. I was a victim of an unfavorable prognosis in 1870, based on a wrong diagnosis. I had a sister to die of phthisis pulmonalis in 1869. In March of the following year I suffered with an attack of pleuro-pneumonia, which left me with empyema or pus in the pleural cavity at the lower part of the left lung, which kept up a lingering cough with expectoration of blood and pain of the lower part of the left lung. Many physicians who examined me pronounced my ailment phthisis pulmonalis, and that I might probably be benefited in the climate of St. Paul, Minn. About this time I was examined by a physician who found out the true source of my ailment, and through his direction I was restored to my wonted health.

It is my habit, if I can help it, not to make an unfavorable prognosis, and if forced to make one, to state it, not to the patient, but to a third person. We have witnessed many cases, where an unfavorable prognosis has been made, linger a long time, and then finally recover. We have

been called to attend cases that have been given up as hopeless by other physicians that have finally entirely recovered. This was no fault of the attending physicians' management of the cases, but was owing to their belonging to the pessimistic class of physicians.

There is an heredity of tolerance in disease in persons which can be markedly observed in many cases. This factor in disease should always be considered in making a prognosis. Two cases came under my observation that were attacked with the same disease about the same time. Both were of the same age, the same sex, and the same strength. One succumbed to the effects of the disease, and the other recovered. When I came to search for the cause of the death of the one could find it only in the one being less tolerant of disease than the other; for the treatment, nursing, diet and care in every respect were the same. A physician often builds his reputation on what seems to be his fortune in being called to patients that are more tolerant to disease than those of his less fortunate brother physicians. One time I remember being in attendance upon two cases of typhoid fever. As far as I was able to judge, they were similar cases. My prognosis of them was good, and we had no thought of either of them dying of the effects of the disease. They were both taken sick about the same time. About two weeks after commencing to attend them I was discharged from one of the patients. Soon after my discharge from the patient the patient, without accidental causes, died, while the one I continued to attend recovered. Now was this a case where one had more tolerance of disease than the other, or was the death caused by the mismanagement of the case by the other doctors? Sometimes the physician in attendance upon a patient belongs to that class of people that are pessimistic, and never looks on the bright side of anything. The world is always dark to them. In this condition he is likely to give an unfavorable prognosis.

I remember a gunshot wound of the ankle joint in 1863 in which Prof. Gross made the prognosis that if the leg was not amputated, the patient would die. The leg was not amputated, and the patient fully recovered the full use of the leg. Two men each had his right external iliac ligated on the same day from the effects of a gunshot wound received at the battle of Gettysburg. One recovered and the other died.

*Read before the Mississippi Valley Association, at Cincinnati, Ohio, October 13, 1904.

A soldier was wounded in the neck by a fragment of a shell at the battle of Gettysburg. The fleshy part of the neck, except larynx, trachea and blood vessels, were carried away. The patient was nourished per rectum for three months, and in spite of an unfavorable prognosis, he finally fully recovered. In making my daily visits in an active practice I could usually intuitively decide whether my patient would recover or not. And this decision was strengthened on the side of recovery when I had the full confidence of my patient and his family.

When Caucasian blood is mixed with African blood we have found that there is very little tolerance to disease manifested in that class of people, and especially among their children.

The early attacks in an epidemic or endemic are more fatal than later on, when the poison becomes more disseminated and less effective. The same, too, is true among those in a family first attacked with contagious disease. The fatality is always greatest among those who are early attacked.

No disease should be looked upon as trivial and insignificant. No mother who has lost a child from chicken-pox or measles wants to be told that these diseases are trivial and insignificant, and need no attention. Nor does it increase the confidence in the profession to be told by it that neurasthenia and hysteria are imaginary diseases.

The question of imparting an unfavorable prognosis may be considered in cases where wills are to be made, or the last rights of the church or faith have to be administered.

We remember one time being called to a case of post-pharyngeal abscess that was in a dying condition on account of the pressure it produced against the larynx. It had been spoken of as hopeless by the attending physician. I simply in making the examination of the child pressed the abscess by my index finger, and the pus rolled out of the mouth of the child, and it was immediately relieved.

Some physicians magnify the seriousness of every case to which they are called with the hope of increasing their reputation in the treatment of serious cases.

Many physicians feel like abandoning their cases when they are confident that nothing more can be done. They think it wrong to run a bill for attending such patients. Other physicians send, if possible, such patients away from home only to die, simply to get rid of them.

The condition of the heart and blood vessels should be taken into consideration in making a prognosis. To give a favorable prognosis, the heart and blood vessels must be in first rate condition. In fact, all the organs must be perfect.

A case is cited in *The Life and Letters of Charles Darwin*, edited by his son, Francis Darwin, New York, 1887, Vol. I: Called to see a patient who had been given up to die by the family physician. Dr. Darwin took a different view of the matter, and maintained that the man would recover. He was found quite wrong in all respects, and owned his error. He was convinced that he would never again be consulted by this family, and was much surprised at being called in after a few months by the widow. He asked a friend of the widow why he was again consulted. The widow answered that she would never again see the odious old doctor who said from the first that her husband would die, while Dr. Darwin always maintained he would recover. In another case Dr. Darwin told a lady that her sick husband would certainly die. Some months afterward he saw the widow, who was a very sensible woman, and she said: "You are a very young man, and allow me to advise you always to give, as long as you possibly can, hope to any dear relative nursing the patient. You made me despair, and from that moment I lost my strength. My father, continued Darwin, said that he had often since seen the paramount importance for the sake of the patient of keeping up the hope and with it the strength of the nurse in charge.

In a letter of Theodore Billroth, 1902, speaking of the slow decline of Prof. Breisky, and of the attending physician telling the whole truth to the wife, he remarked: "I admit under certain circumstances this is necessary; but here I do not think it is necessary. How can a poor wife, without a glimmer of hope, bear the weeks till the liberator of sorrows gently approaches the husband? We should give her courage and the poor patient morphine—a hard task. But let us remember that every family physician is in this situation hundreds of times, and often has to see his incurable patients daily. If the young man suspected these mental tortures when he enthusiastically enters the temple of Esculapius he would surely turn back. To face the unveiled figure of Sais requires all the undaunted resignation that we slowly win in our profession." Vol. XLII, No. 24, *American Medical Association Journal*.

THE PAPILOMATA AND THEIR DEGENERATIONS.*

By Wm. DE BERNIERE MACNIDER, M. D., Raleigh, N. C.,
 Demonstrator of Clinical Pathology, Medical Department University of North Carolina; Pathologist to Rex Hospital and St. Agnes Hospital.

The papillomata are primarily benign tumors, and, as their name indicates, resemble in structure the papillæ of the skin.

The etiology of these growths is in many instances impossible to determine, arising as they do in an apparently spontaneous manner, and in some cases tending to disappear almost as rapidly as they occur. In other cases, prolonged irritation seems to be a factor concerned in their production. The so-called venereal warts, or condylomata, which are prone to appear upon the genitalia of patients suffering from gonorrhœa and uncleanly subjects very likely originate as a result of irritating discharges.

The papillomata, for convenience of study, may be divided into two classes, the hard and the soft. The *hard papillomata* are found chiefly upon the skin, where they are known as warts; but in some cases this variety is found in the larynx. Their most common site is the skin of the back, neck, face and hands.

The general appearance of these growths, with one exception, presents nothing of especial interest. They vary much in size, ranging all the way from that of a pin's head to that of a good-sized marble, and are generally found in clusters, but sometimes singly. The surface has a rough feel, and upon close examination we can find small point-like projections with intervening fissures. It will be noticed that some of these tumors differ markedly in appearance from others in that they are pigmented. The color is only slightly noticeable in some cases, being a light brown, while in others the color is dark brown or even black. The degenerative changes in this variety of papillomata are especially interesting, and will be referred to later.

The structure of the hard papillomata is simple, consisting of projecting tongues of connective tissue containing blood vessels, and covering this frame work are several layers of epithelial cells. In the skin the connective tissue and epithelial covering follow the type of normal papillæ; and so we get a growth which consists of an aggregation of these new formed papilliform bodies.

The *soft papillomata* have essentially the same structure as the hard growths with the exception that the individual papillæ have a marked tendency to give off branch-like processes resulting in the formation of a cauliflower growth, which is very vascular. The soft papillomata are found principally upon the mucous membrane of the bladder, gastro-intestinal tract, larynx, nasal chambers and pelvis of the kidneys. In this variety of the tumor the connective tissue is less abundant; they frequently have a distinct villous formation, and the epithelium covering the villæ follows the types of origin in which the papilloma is situated. If this be on the intestinal mucous membrane the epithelium will be of the simple columnar variety; if in the bladder, transitional epithelium will be found.

The *degenerative changes* of the papillomata are of especial interest. The chief ones are *sarcomatous and carcinomatous*. A discussion of all the degenerations would consume too much time, and therefore the sarcomatous changes will be considered somewhat in detail with a report of several cases, while the other degenerations will be dismissed with only a passing notice.

A papilloma or wart beginning to undergo sarcomatous changes exhibits two symptoms, which are noticed by the patient as well as the examiner—e. g., an increase in the size of the tumor and pain. These symptoms are most likely to appear in middle aged or old people, and the exciting cause is difficult to determine. A history of some injury or continued irritation to the growth is sometimes given, while in other cases no such history can be obtained. The tumor tends to increase in size, and with this the pain becomes more severe. In both cases to be reported superficial ulceration was noticed. Upon a microscopic examination the following changes are observed:—The wart has lost in part or altogether its papillary arrangement; the stroma has decreased in amount, while the cellular element has increased. In place of finding a growth formed of numerous papillæ, we get a mass of cells, most frequently of the small, round cell variety. The stroma is scanty, while the blood vessels are numerous. In *simple papillomata* the blood vessels are found in the central stem-like mass of connective tissue; but in a papilloma which has undergone sarcomatous changes the blood vessels are found sur-

* Read before the North Carolina Medical Association, June, 1904.

rounded by the cells which form the tumor. The walls of the vessels are very thin, and in some cases the vessel wall is formed by tumor cells. In such cases it is not difficult to see how easy it is for metastasis to take place by portions of the tumor being carried to distant parts of the body in the blood stream.

CASE I.—R. H. D., colored; age, 53; laborer; family history good, there being no evidence of malignant disease. Personal history good up to the present time. For ten to fourteen years he has had warts on right hand and forearm. One of these growths on the posterior surface of the first phalanx of middle finger commenced to increase in size, and, accompanying this, there was considerable pain extending from the finger up into the right axilla. There was no history of any injury. When I first saw the patient the growth was about one and one-fourth inches in diameter, fixed, the surrounding tissues indurated, and the surface of the growth was beginning to ulcerate. The patient had lost considerable flesh, and was unable to sleep on account of the intense pain.

The very probable nature of the trouble was explained to the patient, and an amputation of the middle finger advised, to which he consented. The finger was removed at the metacarpophalangeal joint, the wound becoming infected on account of the sloughing condition of the growth. The healing process was slow, and before this was complete a recurrence had formed at the upper angle of the wound, and an amputation above the wrist was suggested, but declined. Subsequent to this several of the other warts became sarcomatous, and when last heard from the patient was being treated by an old woman who posed as a "cancer doctor."

CASE II.—The history of the second case—one of *melanotic sarcoma* arising from a pigmented wart—was kindly given me by Dr. Z. M. Caveness, of Wakefield, N. C., who, in association with Dr. G. M. Bell, treated this patient.

MR. S. P. G., age 65; farmer; personal and family history negative. The patient had a congenital pigmented mole, on his back, between the shoulders and near the vertebral column, which gave him no trouble until 1902. During this year the growth became inflamed probably from being constantly rubbed by clothing, increased slowly in size, and was removed in September, 1902, at which time it was about the

size of a small marble. The wound made by the removal of the growth was slow in healing. After this the patient was relieved of all symptoms until the latter part of the spring of 1903, at which time he detected a small freely movable tumor in each axilla. These bodies slowly increased in size until the latter part of the summer, when the enlargement in the left axilla began to grow very rapidly, causing much pain. It soon became adherent to and incorporated in its substance, the axillary vessels, and therefore its removal was not attempted. About this time the enlargement in the right axilla began to increase very rapidly in size, and, in order that he might retain the use of his right arm, the mass was removed on November 5th. The wound healed nicely, and patient expressed himself as feeling better. The mass in left axilla continued to enlarge and caused much pain, necessitating the administration of morphine. There were no symptoms of especial interest until Nov. 2d, when the patient had a very profuse intestinal hemorrhage. This was checked by appropriate treatment, but was followed by a severe diarrhœa, which continued until the time of the patient's death on November 29, 1903.

A microscopic examination of the removed lymphatic gland showed it to be a small rounded melanotic sarcoma.

The following two cases were reported by Dr. R. H. Whitehead in a "Contribution to the Study of Malignant Tumors Arising in Congenital Moles," and by his courtesy I include them in this paper.

CASE I.—"The subject of this tumor was a white man, aged 47 years. He had noticed as long as he could remember a 'black mole' on the front of his right forearm a little above the wrist. For the last few weeks this had been enlarging rapidly, so that when I saw him there was in the situation mentioned, a perfectly black tumor, conical in shape, and about 2 c. m. high. The color was due largely to clotted blood, with which the tumor was encrusted, owing to frequent hemorrhages. The growth was removed by incisions carried widely into apparently healthy tissues. Eight months afterwards I learned that he had died with tumors all over him. They were estimated to be at least 200 in number, were situated in and beneath the skin, and varied in size from that of a pea to that of a hen's egg. Towards the end of his life he suffered much from frequent

painful micturition, and on several occasions passed in his urine fleshy masses believed by his medical attendant to be pieces of tumor."

CASE II.—"This tumor was obtained through the kindness of Dr. C. S. Mangum, from a white woman fifty years old. She consulted Dr. Mangum concerning a large mole situated over the inferior angle of the left scapula. It had been present all her life, but only recently had been enlarging. Dr. Mangum thought best to remove the mole, especially as there were evidences of beginning ulceration. The subsequent history, unfortunately, could not be obtained. It was learned, however, that the wound made by the operation never healed, and that the lymph nodes in the left axilla soon became enlarged. About eighteen months after the operation she was considered by her family physician to be dying of a malignant tumor of the uterus."

These growths, according to Unna's views, are true carcinomata and not sarcomata, as has been previously stated. He bases this opinion not so much upon the histology of the developed tumor as upon the embryology.

In considering the other degenerations of the papillomata only a few words will be necessary.

Carcinomatous changes sometimes take place in these growths, and this degeneration is most commonly seen in the papillomata of the face, and occurs especially in very old people. Here the epithelial covering of the papillæ instead of remaining upon the surface of the tumor dips downward in long tongue-like processes, invading the subcutaneous and deeper tissues, and we have formed an *epithelioma*. The villous tumors of the bladder which are soft papillomata have a tendency, especially when of long duration, to take on carcinomatous changes. In a case of Dr. R. H. Whitehead's, which was operated upon by Dr. H. A. Royster for tumor of the bladder, the growth proved to be a papillomata with probably beginning carcinomatous changes.

Analyses, Selections, Etc.

Gynecological Importance of Prolapsed Kidney.

In a paper presented at the annual meeting of the New York State Medical Association,

October 17-20 (*Med. Rec.*, October 22, 1904), Dr. Augustin H. Goelet, New York, shows conclusively that the prolapsed kidney is an important etiological factor in producing and maintaining pelvic congestion and diseases of the female pelvic organs arising therefrom. Constriction of the waist by the corset or clothing forces the misplaced kidney back upon the ovarian vein, as it ascends along the spine, causing compression, and hence obstruction to the return circulation from the pelvis. Without recognizing this condition in gynecological cases, the diagnosis must be incomplete otherwise. Cases are cited to show that many needless operations on the pelvic organs may be done, if this condition and its relations thereto is not recognized. Restoration of the kidney to its normal position is the essential object of the operation for fixing the kidney, and unless this is accomplished, the patient is often left in a worse condition than before. Patients are often given an erroneous idea of the gravity of the operation by those who do not understand it. He contends that the operation has no mortality, since he has completed a series of 197 consecutive nephropexies, without a death—in 47 cases fixing both kidneys at the same time.

Two Cases of Chronic Nephritis Treated Surgically.

Dr. J. A. Nydegger, of the U. S. Public Health and Marine Hospital Service, gives the histories of two nephritics treated by having one kidney decapsulated. The first patient—with chronic interstitial nephritis—did well for about three weeks after the operation, and then gradually became worse, and died three weeks later. The albumen did not diminish after the operation. The second patient—with chronic parenchymatous nephritis—was relieved of severe headaches, and the amount of albumin was decreased by the operation, so that he was discharged much improved. The author believes that two classes of patients must be recognized; one, those that are benefited, and finally cured, by decapsulation; two, those that are not benefited. His two patients represent the two classes. With regard to the way in which decapsulation benefits, he says that the autopsy in Case I showed the kidney operated on to be covered with a rather dense, smooth, white scar tissue, which seemed to offer a poor means of transmitting an increased blood supply to the cortical

substance. Perhaps we should look more to the theory that the decapsulation relieves internal cellular pressure and thereby allows the compressed cells to return to their normal relations and functions.—*Medical Record*, November 5, 1904.

Local Treatment of Erysipelas with Acetozone.

Dr. J. Knowles, Logan, Iowa, personally reports that he had an ugly case of facial erysipelas in a woman of about thirty-eight years. He used as a local application, to begin with, a saturated solution of boric acid, and depended largely upon tincture ferric chloride as an internal remedy. He got the attack under control, and supposed he would have no further trouble, but all at once the disease began to spread over the scalp. The usual remedies did no good. He thought that if acetozone was the germ destroyer it was represented to be, it should be of use to him. So he made a solution of fifteen grains to two pints of water, and used it freely on the scalp, and obtained results at once; in twenty-four hours the disease had abated.

Numerous reports from the profession with reference to the therapeutic uses of acetozone prove it to be an agent that is destined to take a most prominent place among the list of remedial preparations.

Book Notices.

Surgical Treatment of Bright's Disease. By GEORGE M. EDEBOHLS, A. M., M. D., LL. D., Professor of Diseases of Women, N. Y. Post Graduate Medical School and Hospital, etc. Frank F. Lisiecki, Publisher, New York. 1904. Cloth. 8vo. Pp. 338. Price, \$3.

For the most part, this book, except as to reports of cases, is a reprint of various articles by the author on the subject named in the title. He recognizes that it is too soon, since his first contribution in 1899, to attempt a complete systematic treatise, and he therefore presents this work to meet the demands for obtainable facts and information as to results of renal decapsulation for the cure of chronic Bright's disease—an operation devised by himself. The results

of his 72 operations for the purpose named, were 7 deaths—each of whom was within a few weeks of natural termination of life by the disease. Nine others who were near death's door have months and years added to their lives by the operation. Of 22 ulterior deaths, none were due to operation—and only 6 received no appreciable benefit from operation. There were 17 cures, and it is believed that many of the remaining cases will prove to have been cured also. The author concludes that the evidence "not alone justifies the surgical treatment of chronic Bright's disease, but establishes surgery as at present the main, if not the only, hope of sufferers from a hitherto incurable malady."

Compend of Medical Latin. By W. T. ST. CLAIR, A. M., Professor of Latin Language and Literature, Male High School, Louisville, Ky., etc. *Second Edition. Revised.* Philadelphia: P. Blakiston's Son & Co. 1904. Cloth. Large 12mo. Pp. 131. Price, \$1 net.

The day is passing for the need of such a book, since medical college requirements are now demanding as essentials for matriculation certificates of graduation from high schools, or A. B. titles from recognized colleges, etc. Besides, the language of medicine is rapidly becoming modernized and English, French, German, etc., names are becoming generally introduced. Furthermore, the decimal system is becoming more and more popular in prescription writing, etc. If, however, colleges are yet admitting students without regard to their qualifications as graduates of high schools, academic colleges, etc., then this book will be of great service to the medical student. It is well arranged, is correct in its statements, and progresses in such easy grades to the end that the lessons are easily learned, and are practical; for a great deal of the medical nomenclature must remain as Latin or derivative therefrom. The book is one of "Blakiston's Quiz Compend Series," designed expressly for elementary training of medical students.

Gazette Pocket Speller and Definer—English and Medical. *Second Edition.* New York: Gazette Publishing Co., 35 W. 42d street. 1904. Price, 50 cents net.

This is what is commonly called a *pocket dictionary*. Of the 216 pages, 100 are given up to medical terms—between 5500 and 6000 such words being concisely defined and accentuated.

Over 6000 English words are likewise dealt with. Such a book is useful for the medical student—especially for use in the class room. For those who may have the first edition, we may add that in this second edition nearly 700 English and over 300 medical words have been added. The advantage of the book is its size, which permits it to be carried in a coat pocket, without more inconvenience than ordinary memorandum book.

Beauty Through Hygiene. By EMMA E. WALKER, M. D., Member N. Y. Academy of Medicine, etc. *Illustrated.* New York: A. S. Barnes & Co. 1904. Small 12mo. Pp. 306. Cloth. \$1 net.

Another title for this very practical book is "Common Sense Ways to Health for Girls." It is a great misfortune that it seems hard to induce young women to read such books as much as they should. It should be read by doctors, however, who may encourage their patients to adopt it as a home book of useful information. It tells of the advantages of deep breathing, exercise, sports, poise; it tells of corrective exercises for the fat and the thin girl; how housework may be made healthful exercise; it tells of massage or passive exercise; how to take care of the skin and complexion, etc., etc. In short, it is a good book to show how young women may and should live to retain or regain the bloom of health.

New Methods of Treatment. By DR. LAUMONIER. *Translated and Edited from Second Revised and Enlarged French Edition,* by H. W. SYERS, M. A., M. D., Cantab. Physician to Out Patients, Great Northern Central Hospital. London: Archibald Constable & Co., Ltd. 1904. Large 12mo. Pp. 321. Price, \$2.50 net. (For sale in America by W. T. Keener & Co., 90 Wabash avenue, Chicago. Ill.)

This book on the newer preparations and their therapeutic values strikes out on a new path—so far as book making is concerned. But so far as its utility is estimated, it is a book that practitioners have long wanted—especially since the introduction of the later agents. It has eleven chapters; in each the newer remedies for the conditions considered are stated and their therapeutic uses given. These chapters are on Nutritive, Blood, Respiratory, Renal, Vaso-Motor and Nerve *Alterants*. The other five chapters are on Mineral Medication, Opothrapy, Sero-Therapy, and Vaccination, the Antipyretics and

the Antiseptics. The index is quite full—referring to each drug or remedy lately introduced and the indications for their uses. We repeat, that this is a book for the practitioner of to-day.

Refraction and How to Refract. By JAMES THORINGTON, A. M., M. D., Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine, etc. *Third Edition—215 Illustrations.* Philadelphia: P. Blakiston's Son & Co. 1904. Cloth. 8vo. Pp. 314. \$1.50 net.

Beside descriptions of several new instruments lately brought forward as material aids in estimating refractive errors, this edition has but little that was not in the former edition. The sections on optics, retinoscopy, the fitting of spectacles and eye glasses, etc., are all good—in fact, the book itself is good—especially for those who have a limited knowledge of mathematics, and who cannot appreciate the more advanced classic treatises. The work is systematically arranged—beginning with a consideration of rays of light, and gradually progressing until finally the adjustment of lenses for ametropic eyes is taught.

Toxicology—A Manual for Students and Practitioners. By EDWIN WELLES DWIGHT, M. D., Instructor in Legal Medicine, Harvard University. Lea Brothers & Co., Philadelphia and New York. 1904. Cloth. 12mo. Pp. 298. Price, \$1.

This is one of the "Medical Epitome Series," edited by Dr. V. C. Pedersen, Instructor, etc., New York Polyclinic Medical School and Hospital, intended as a resume of the subject. As such, it is an excellent book—covering the field with wonderful ability. It is modern and trustworthy for either practitioner or student. As a companion of the *Epitome of Medical Jurisprudence* by the same author, it will fill nearly all practical wants—very little that is in exhaustive treatises being overlooked.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles. Edited by A. O. J. KELLY, M. D., Philadelphia. Vol III: *Fourteenth Series.* 1904. Philadelphia: J. B. Lippincott Co. Cloth. 8vo. Pp. 300. Price, \$2 net.

The doctor who keeps up with these quarterlies will find that he is keeping up with the times. This volume, as usual, is full of valuable, practical matter, and up-to-date.

Editorial.

The Pan-American Medical Congress

Will meet in Panama, January 2-6, 1905. Dr. Rudolph Mtas, 2255 St. Charles Avenue, New Orleans, La., Secretary of the Section of General Surgery for the United States, requests that those who wish to contribute papers send titles to him at once. He also announces that the United Fruit Company's Agents are offering as a special inducement to American "Congressistas" a reduction of the regular fare for the round trip from New Orleans to the Isthmus to \$50,—that is, \$.5 each way. The steamers leave New Orleans every Friday; the last steamer to leave New Orleans in time for the opening of the Congress will sail on December 30, 1904, at 11 A. M. It takes about four and one-half days to reach Colon, and seven days on the return trip on account of a stop-over at Port Limon, where ample opportunity is given to tourists to visit San Jose, the beautiful capital of Costa Rica—"the Paris of Central America"—where the most picturesque tropical scenery can be seen at this season, under the most favorable conditions.

The American Public Health Association

Will hold its thirty-second annual meeting at Havana, Cuba, January 9-13, 1905. Papers to be presented at a general session must be in the hands of the Secretary, Dr. Charles O. Probst, Columbus, Ohio, at least twenty days before the approaching session. Dr. H. L. E. Johnson, Washington, D. C., Chairman of Transportation Committee for the United States, reports that he has not yet been able to complete arrangements, but that his committee is endeavoring to arrange routes via New York to Havana and return same way, or by Tampa or New Orleans, or else to go and return via New Orleans or Tampa.

The Mississippi Valley Medical Association,

At their 30th annual meeting, held at Cincinnati, Ohio, October 11-13, elected officers for the ensuing term, as follows: President, Dr. Bransford Lewis, St. Louis, Mo.; Drs. Frank Parsons Norbury, Jacksonville, Ill., and J. H. Carstens, Detroit, Mich., respectively, first and second vice-presidents; Dr. Henry Enos Tuley,

Louisville, Ky., secretary; Dr. John F. Barnhill, Indianapolis, Ind. assistant secretary; and Dr. S. C. Stanton, Chicago, Ill., treasurer. The place of meeting for next year will be at Indianapolis, Ind., during the month of October.

Medical Society of Virginia.

The *Transactions* of the recent session are rapidly passing through the press, and when issued in January, 1905, will form a volume of very general value to practitioners. It should be emphasized that this State Society has the largest membership—in proportion to the population of the State—of any Society in America; and the attendance upon the recent session was likewise the largest. While much of this success was due to the magnificent work and constant services of the retiring president, Dr. Jos. A. Gale, we are glad to know that the incoming president, Dr. Wm. S. Christian, of Urbanna, Va., will be as untiring in his efforts. Already applications for membership at the Norfolk session, October, 1905, are coming in; and from the manifestation of interest in the organization in all parts of the State, we have a right to anticipate as excellent a session next fall at Norfolk as at the Richmond meeting. We are glad to learn that some members are at work with some original observations, which they hope to present as scientific contributions at the next session.

Dr. Ernest C. Levy,

By a recent resolution of the Board of Aldermen of Richmond, was directed to continue his tests for a period of one year of the water used in this city, and three thousand dollars was appropriated for apparatus, etc. Dr. Levy is too well and favorably known, especially by the profession of Virginia, to need any word of commendation from us, and it is with pleasure that we note the retention of his services for this most important work.

Dr. Benjamin B. Warriner, of Crewe, Va.,

Contract surgeon in the U. S. Army, sailed on the Sherman November 1, 1904, from San Francisco, Cal., for the Philippine Islands, where he has been ordered for service after several months leave of absence spent in this country.

Medical Examination of School Children.

Over 12,000 children attend the Richmond public schools. The *Virginia School Journal* contains an address to the teachers by Dr. M. D. Hoge, Jr., member of the Richmond School Board, which gives some useful advice that may be elsewhere adopted. It is proposed to have the schools daily visited by a physician, whose duty it will be to examine any scholar referred to him by the principal. According to the doctor's advice, the pupil will be allowed to remain in school or else sent home with a note to the parents—telling them of the incipency of disease, or of the physical unfitness of the child to continue at school. Under no circumstances is the inspecting physician to prescribe or give specific medical advice—all of that is left to the family physician. The idea is to detect disease at the start, prevent its further development in the individual, and its spread to other children of the school. It is not expected that perfection of methods for such examinations will result at once; but faithful work by the medical examiner may not only prevent much sickness, but probably perform the more blessed act of saving life. The teachers are themselves to see that the children carry out for a few minutes some simple calisthenic exercise, while the windows of the room are lowered for ventilation, etc.

If the plans devised are faithfully carried out there can be no doubt as to the beneficial results on the children, as well as teachers. Of course, such things as seeing to vaccination of children beginning school life is also to be attended to.

Medical Officers of U. S. as Observers in Russo-Japanese War.

We are glad to note that the War Department is sending to the front with either army in the great Eastern struggle a representative of the Medical Department for the purpose of observing the methods now in vogue as to anything medical. It has been often remarked upon even by numerous literary magazines, and it is generally conceded that the Japanese by their attention to sanitary and hospital arrangements and to their commiseration lead the whole civilized world in the prevention of camp diseases. It is stated that their surgeons are sent out in advance of the main army, *even on the skirmishing lines*, with microscopes, etc., to ex-

amine the water supplies, and to label them—whether fit or unfit for drinking purposes. This has been done by this Government in times of peace before maneuvers, as at Manassas during the recent summer, but we have never heard that such measures have heretofore been adopted before the approach of an actual fighting army.

In this connection, we note the departure on special detached duty of Assistant Surgeon, Capt. Charles Lynch, on November 9th, for Tokyo, Japan, and of Assistant Surgeon-General Colonel Valery Havard, on November 17th, for St. Petersburg, Russia.

The Southern Surgical and Gynecological Association

Will meet in their seventeenth session December 13-15, 1904, at Hotel Hillman, Birmingham, Ala. Thirty-six titles of papers are announced in the preliminary circular, not including the presidential address, by Dr. Floyd W. McRae, of Atlanta, Ga., and the addresses of presentation and acceptance of the W. E. B. Davis monument. Dr. W. D. Haggard, of Nashville, Tenn., is secretary, and Dr. John D. S. Davis, of Birmingham, Ala., is chairman of the Committee of Arrangements. Reduced rates will be given on all railroads of the Southeastern Passenger Association.

Dr. L. Duncan Bulkley,

So it is announced by the Governors of the New York Skin and Cancer Hospital, began the sixth series of clinical lectures on Diseases of the Skin November 2d, in the Out Patient Hall of the Hospital, Second avenue, corner 19th street, New York city. The course of lectures is given only on Wednesday afternoons, and is free to the medical profession.

Dr. Wm. H. Welch, Baltimore, Md.,

So it is currently stated at the Medical School of Johns Hopkins University, will be elected to the chair of Medicine to succeed Dr. Osler after his departure for Oxford. He now holds the chair of Pathology in the same institution.

Medical News Visiting List, 1905,

Is issued in four styles by Messrs. Lea Bros. & Co., Philadelphia; *Weekly*, dated for 30 patients; *Monthly*, undated for 120 patients; *Per-*

petual, for 30 patients, as also for 60 patients weekly. Price of either, \$1.25; thumb letter index, 25 cents extra, by mail. Each *List* is wallet shaped, bound in flexible leather, with flap and pocket, pencil, and calendars for 1905 and 1906. A number of useful data are in the 32 pages of text.

The Physician's Visiting List (Lindsay & Blakiston) for 1905.

Is now ready. It is a plain, systematic method of keeping physicians' accounts—pocket size, well printed, strongly bound, durable and convenient. It is issued as a *regular edition* for 25 patients weekly, \$1; up to 100 for \$2.25; *perpetual edition*, without date, \$1.25 to \$1.50; *monthly edition*, without dates, \$1. Memoranda and data revised to date.

Pictures Given Away.

Upon request to the Angier Chemical Co., manufacturers of petroleum emulsion, Allston District, Boston, Mass., they will send their doctor friends two pictures—"The Doctor," by Luke Fildes, and "A Study in Anatomy," by Rembrandt, each picture measuring 17½ by 13 inches.

The Perpetual Visiting and Pocket Reference Book,

As issued by the Dios Chemical Co., St. Louis, is useful—containing information in some emergencies compiled from standard authors. It also has a brief dose table, etc.

The Grand Prize

For pharmaceutical preparations at the Louisiana Purchase Exposition has recently been awarded Messrs. Wm. R. Warner & Company, of Philadelphia.

Obituary Record.

Dr. Frederick C. Lefew, of Roanoke, Va.,

Died at his home, November 13th, from the effect of stab wound of the chest inflicted by Charles R. Fishburne. Dr. Lefew was twenty-

eight years of age. He graduated from the University College of Medicine, Richmond, 1900, though he passed the Medical Examining Board of Virginia 1899. He joined the Medical Society of Virginia 1901, and attended the sessions 1903 and 1904. He was rapidly rising in his profession, and had won for himself a large popularity, as attested by the many tributes to his memory. He leaves a widow and a stepson. His remains were brought to Richmond—the home of his parents—for interment.

Among the tributes of love and esteem, the Roanoke Academy of Medicine sent an immense floral cross, and adopted the following preamble and resolutions:

"Whereas it has pleased Almighty God to remove our fellow-physician and member of the Roanoke Academy of Medicine, Dr. Frederick Lefew; and whereas we deeply feel this sad bereavement; therefore be it

"Resolved, That it is the sense of our body that we have lost a useful member, and one whose future promised much for himself and the medical profession at large, as well as a friend and pleasant companion.

"Resolved, That we extend our heartfelt sympathy to his bereaved wife, his invalid mother and aged father, brothers and sisters, who so faithfully watched his bedside in his last illness.

"Resolved, That a copy of these resolutions be published in the local papers, in the journal of the State Medical Society, in the daily papers of Richmond, and a page in our minutes be set aside as a memorial page.

"R. W. Brown, M. D., R. H. Garthright, M. D., H. E. Jones, M. D., Committee."

Dr. Hunter A. Bond, of New York, N. Y.,

Formerly of Petersburg, Va., committed suicide by shooting himself at the home of his mother in the latter city, November 13th. He had been suffering with nervous prostration for several months, but became decidedly worse during the last two or three weeks of his life. Dr. Bond was born in Petersburg, Va., July 22, 1866. He studied medicine at the University of Virginia for two years, later going to Bellevue College, in New York, where he graduated. Since then, with the exception of a short stay at Amityville Sanitarium, Long Island, he has been at the Manhattan State Hospital, where he received steady promotion.

THE Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

Vol. 9, No. 17.
Whole No. 209.

RICHMOND, VA., DECEMBER 9, 1904.

\$2.00 a Year.
10 Cents a Copy.

Original Communications.

PRACTICAL POINTS IN THE INTERPRETATION OF SANITARY WATER ANALYSES, FROM THE PHYSICIAN'S STANDPOINT.*

By ERNEST C. LEVY, M. D., Richmond, Va.,
Expert in charge of Richmond Experiment Station.

It is a generally recognized fact that the chief advances in medical science during the past few decades have been along the line of preventive rather than curative medicine, and this seems likely to continue to be the case, in spite of all that has been accomplished, and is likely to be accomplished by serum therapy, which, as has been so ably pointed out this morning, is itself the most promising line of advance in therapeutics.

No branch of hygiene, perhaps, has taken longer strides than that which relates to water sanitation. While this is undoubtedly true, at the same time it must be admitted that the medical profession deserves little credit for what has been accomplished in this direction. If we look over the list of eminent men to whom we owe the most significant advances in matters relating to water supply and water purification, we are forcibly impressed by this fact. Not only is this true, but the profession at large devotes little accurate study to the question. Only an exceedingly small percentage of medical men are capable of interpreting the results of a sanitary analysis of water.

Recognition of this fact is my motive in presenting this paper. It is scarcely necessary to call attention to the fact that this subject, being one to which some of the ablest scientific men in this country are devoting their entire time and study, only a few suggestions can be given in a paper of this length. I desire at least to point out the importance of the subject and to suggest

that medical men should become familiar with it in somewhat the same way as they are required to be informed on strictly medical specialties—that is, to know what this specialty is capable of doing, to recognize the proper cases to be referred to the water specialist; and, lastly, to possess at least sufficient knowledge of the subject to distinguish between the work of the real expert in this branch and that of the charlatan, who, I am happy to say, is in a most satisfactory minority in this line, though he is nevertheless to be found.

Sanitary analysis of water includes examination by four different methods. In addition to the laboratory tests, the necessity of having at hand all possible information as to local conditions cannot be too strongly insisted upon. The day is past when reputable chemists will undertake, except in unusual instances, to give an absolute verdict after analyzing a sample—of the history of which they are in ignorance. The chemist may condemn a water in one instance and consider another water absolutely safe on account of a difference in source or local conditions, in spite of the findings being practically the same in the two cases.

It is always necessary, therefore, in sending a water for sanitary analysis to give as full data as possible as to its source and as to surrounding conditions. A better plan, where time will permit, is to send first for instructions as to the manner of collecting the sample and an outline of what information will be helpful to the analyst.

At times, and always where the case is one of great importance, the expert should collect his own sample, and at the same time make a sanitary survey of the surroundings.

The four methods embraced in sanitary examination of water are: (1) The chemical; (2) the bacteriological; (3) the physical; and (4) the direct microscopical. Each of these methods has its own peculiar value; and at times one, at times another; or, again, a combination of

* Read before the Medical Society of Virginia at its thirty-fifth annual meeting, at Richmond, October 18-21, 1904.

two or more is absolutely necessary in arriving at a final opinion as to the character of a given water.

Of the above mentioned methods, *chemical analysis* is the oldest, and very often it is still the most valuable. One of its strongest claims to confidence is that it is able to determine not only the present condition of the water, but also to tell a good deal about its past history, and furthermore, in certain instances, to predict the probability of future dangers. On the other hand, it is by no means as delicate a method of detecting pollution as is furnished by bacteriological examination, where the latter is intelligently conducted.

Chemical analysis of water is divided into two classes—mineral analysis and sanitary analysis. The first has for its object the ascertaining of the kinds and amounts of inorganic constituents. This is frequently of real importance in connection with the use of waters for industrial purposes, and with some medical waters, and of supposed importance in connection with the vast majority of "mineral waters," so called.

Sanitary chemical analysis has for its object the ascertaining whether a given water is safe for drinking purposes; and this, in most cases, by determining whether or not there are evidences of pollution by sewerage or other wastes of human life. Analyses of this character have to be undertaken with the utmost care, since the most minute amounts of certain substances have to be detected and measured. It is in this class of chemical analysis of water that the interpretation is all-important; for a sanitary analysis of water does not detect substances which are in themselves injurious—even when present in many times the quantity ever found in the worst water. Neither does it detect substances peculiar to polluted waters.

A sanitary analysis which would lead a chemist to condemn a water unqualifiedly shows nothing but substances such as are found in another specimen which he reports as safe, only in the former instance these are present in larger amounts, though even this is not always the case. With these facts as they are, it would still be comparatively an easy matter to interpret a sanitary analysis of a water if any limits could be possibly laid down below which a water could be regarded as safe, and above which it could be condemned. But even this is not

possible. The findings of the analysis are to the chemist what symptoms of disease are to physicians, and the diagnosis is made in each instance by a careful weighing of all the evidence at hand; hence skill in the interpretation of a sanitary water analysis comes only with experience. Furthermore, as mentioned above, local conditions must always be taken into account. An amount of chlorin, for instance, which would lead one positively to condemn as unsafe a water coming from the western part of this State, might be entirely normal in water from the Eastern Shore.

The chief points in connection with sanitary analysis of water are the quantitative determination of chlorin, the various forms of nitrogen, and, less important, the organic carbon, though other tests are commonly included.

Chlorin, in the form of chlorids, is found normally in almost all waters; so the entire value of the test is a quantitative one. There are three sources of the chlorin which may be found in water. First, there is the "normal chlorin," derived from the salt which has been taken up in the vapor arising from the ocean and precipitated as rain or snow. The amount of normal chlorin is dependent upon several factors, the most important of which is the distance from the sea, though temperature and the direction of prevailing winds are also to be considered. The second source, which has only occasionally to be taken into account, is the soil. In some sections ground water contains large amounts of chlorin derived from this source.

The third source of chlorin is the one which is of interest to sanitarians. If we can be sure that the soil of a given region does not contain chlorids, and if we know the "normal chlorin" of the section (both of which facts can be ascertained by analyses of waters from the same region which are known to be unpolluted), we are usually safe in attributing any excess over and above the normal chlorin to contamination by the wastes of human life, chlorid of sodium (common salt) being intimately associated with human beings. In certain States, normal chlorin maps have been constructed, and by inspection of these the analyst is at once able to state whether a given sample of water contains an excess of that element.

Once having gained access to a water, chlorin remains there in spite of any process of purification, natural or artificial, to which the water

may later be subjected. It is an indelible sign of pollution, but it does not give any information as to the time at which the pollution occurred—whether recent or so far in the past that the water is no longer dangerous. This latter point is well indicated by the tests for nitrogen in its various forms.

Aside from small amounts of ammonia, and, at times, nitric acid, the nitrogen found in waters has been derived from organic matter. The form in which the nitrogen or organic matter itself shows up in analysis is as "albuminoid ammonia," so that a large amount of this constituent shows, in general, recent entrance of organic material; but mere chemical analysis is often unable to determine whether this material is harmless vegetable matter or dangerous animal pollution.

The natural decomposition of albuminoid ammonia gives rise to "free ammonia," which is thus taken to indicate a somewhat more remote entrance of organic material into the water. The next stage of oxidation gives rise to nitrites, and finally nitrates. When the nitrogen reaches the latter stage, mineralization of the organic matter whence it was derived is complete, and the water no longer contains food material for bacteria, though it has then become excellent ground for the growth of algæ, blue-greens, etc., which are sometimes responsible for disagreeable tastes and odors in water, although never responsible for disease.

By the actual amounts and relative proportions of nitrogen in the forms of albuminoid and free ammonias, nitrites and nitrates, the sanitarian is thus enabled not only to form a pretty accurate idea of the degree of pollution, but he is also able to tell a good deal about the time at which such pollution occurred, and hence whether or not the water is safe.

One of the greatest weaknesses is what has been referred to above—namely, the inability of chemical methods to determine whether the nitrogen is from vegetable or animal sources. Considerable aid is given in this direction by the amount of chlorin, or, at times, of the "oxygen consumed," which latter is a measure of the organic carbon. Thus, high albuminoid ammonia is probably of vegetable origin if the chlorin is low and the oxygen consumed high; while high chlorin and low oxygen consumed usually indicate animal origin.

The second method of examination of water

for sanitary purposes is the *bacteriological*. This is divided into two branches, the quantitative and the qualitative. The first consists in merely ascertaining the number of bacteria found per cubic centimeter; the second, in a general way, whether the bacteria present are of such kinds as to indicate that the water is dangerous for drinking purposes.

The mere enumeration of the bacteria present is at times of great value, especially where this has been ascertained by daily observations over an extended period, but there is not, and never can be, any arbitrary standard in this respect. Here, again, judgment is all-important, since a number of bacteria sufficient to condemn a certain water may be entirely permissible in water from another source or in the same water under different conditions. The bacterial count has its greatest use in connection with tests of purification methods. Here it is invaluable, and is, indeed, all that could well be desired, since it is entirely fair to assume that any method which will remove a large proportion of bacteria, regardless of their kind, will equally well remove pathogenic bacteria, should such be present.

As to the qualitative methods of bacteriological examination, the one of greatest importance is the determination of the presence of bacillus coli. While this organism is not itself capable of producing disease when taken into the human intestinal canal, of which it is a normal inhabitant, still its presence in water is taken to indicate, under most conditions, the pollution of that water by human excreta. This is by no means universally true, since this bacillus is also found in the intestinal tract of other animals; besides which we now know that bacteria, which it is impossible to differentiate from the colon bacillus, occur more or less widely distributed in nature. In spite of these drawbacks, the test for bacillus coli, properly conducted, is the most valuable single test for fecal pollution. The test must, however, take into consideration the number of these organisms present, since any surface water, no matter how pure, will occasionally give a positive test for B. coli, if sufficiently large samples are examined.

There are a number of refinements in the work of detecting and correctly interpreting the presence of B. coli in water. If these are properly observed, this test is capable of showing the presence of one part of sewage in from

10,000 to 100,000 parts of water, while the most delicate chemical tests fail if the dilution is greater than 1-1,000.

When bacteriological methods were first applied to the examination of water, it was rather confidently expected that by this means we would be able accurately to determine whether actual disease germs were present. This expectation has not been substantiated by facts, and now no competent bacteriologist expects to find, for instance, the typhoid bacillus, even though there is every reason to believe that the water in question is responsible for an outbreak of typhoid fever. It is beyond the scope of this paper to enter into the explanation of this fact. What the bacteriologist does rely upon in such cases is the detection of the colon bacillus. If this is found, and especially if it is found repeatedly, it indicates fecal contamination; and hence, if there has been a case of typhoid fever among the individuals from whom this fecal contamination is regularly derived, it may be pretty safely stated that typhoid bacilli have also entered the water. The test for the germ of Asiatic cholera is far more satisfactory, but at this time, and in this country, we are, fortunately, never called on to examine water for this purpose.

Besides the chemical and bacteriological methods, we have also *the physical* and the direct microscopical. The former gives us exact information as to the amount of turbidity and color present. It is, therefore, valuable chiefly from an esthetic, rather than from a sanitary, standpoint. The odor of water, both cold and hot, also belongs to the physical methods. At times this is of decided value, but the question cannot be discussed here.

The direct microscopical method is for the purpose of ascertaining the kind and amount of matters in suspension. This is often of great service taken in connection with the chemical analysis. For example, a water which has been found to contain an undue amount of albuminoid ammonia may thus turn out to be entirely safe (though undesirable for other reasons), if the microscopical examination shows a large number of algæ, and especially blue-greens, present. Again, the finding of other objects in suspension may be of great value. In a water which I examined at Waterville, Me., additional evidence of pollution, besides that brought out bacteriologically, was furnished by the finding

of epithelial cells, although, in this instance, chemical analysis alone would have pronounced the water safe.

In the foregoing paper many matters of importance have been altogether neglected, and others but lightly touched upon. My object in presenting these remarks before the Society was, to repeat, simply to endeavor to show the importance of the work which is now being done in the line of sanitary examination of water, and to urge the members to become acquainted at least with the elementary principles upon which this work is founded. This specialty, as others, must remain in the hands of those who devote themselves strictly to its study, and who have at their command the necessary experience and familiarity with all the methods above mentioned, besides the rather costly laboratory equipment; but there is every reason why physicians should themselves be acquainted with this work in a general way. The time so spent will not be wasted. Those who are willing to take the trouble to acquire this knowledge will have the satisfaction of being able to throw light upon many problems which would otherwise remain unsolved, doing this often by their own efforts, and at other times by recognizing the possibilities of this science and calling in the water expert as they do the medical and surgical specialist.

THE APPENDIX AND ITS RELATION TO ABDOMINAL HERNIA.*

By W. B. DEGARNO, M. D., New York, N. Y.,
Professor Special Surgery, New York Post-Graduate Medical
School and Hospital; Honorary Fellow Medical
Society of Virginia, etc.

When I was honored by an invitation to read a paper before the Medical Society of Virginia, it occurred to me that the members might find some interest in the relations occasionally found to exist between the vermiform appendix and abdominal hernia.

Some members of this Society may feel that the appendix has already received too much attention from the surgeon, but I am confident that those who have met its ills most frequently will welcome any information regarding its pos-

* Read before the Medical Society of Virginia at its thirty-fifth annual meeting, at Richmond, October 18-21, 1904.

sible action when involved with hernia. Such matter as I give you, whether you find it of interest or not, is given to this Society as new material—the cases here related never having been reported before to any society or journal.

You must consider it a note, based upon personal experience, rather than a scientific study of the subject. These cases have been met with during the operative treatment of 1,162 cases of abdominal hernia, of which number 928 were hernias of the inguinal type.

The appendix has been seen in a number of cases not included in this report. I have considered a free normal appendix in the same light that I have any other normal protruding viscus, and have reduced it without special attention or record.

Another even larger number of cases where the appendix has been removed through the internal abdominal ring while operating for hernia are not recorded in this list. These appendices had at some previous time offended their owners, but were in no way directly associated with existing hernia, for the cure of which the operation was primarily done.

It is, perhaps, this double exclusion from my list of cases that brings the percentage, to the number of cases operated upon, rather lower than reported by some other operators. To illustrate: Colzi, of Florence, has reported the finding of the appendix 27 times in 1,586 operations for hernia. Retter von Hoffman, of Vienna, found it 9 times in 250 operations, while this report gives only 11 cases in 1,162 operations.

The time of this Society is too precious to listen to detailed case histories; so that I shall draw upon these cases only to illustrate important points. The case histories will be published in full with the paper.

It has been claimed that those suffering from herniated appendices are much more liable to appendicitis than others, on account of the greater liability to traumatism in this position.

This would seem a perfectly rational view, and still it does not appear to be borne out by my cases. It has, in fact, been a source of surprise to me to know how much traumatism the organ will tolerate, in this position, and how little inconvenience the patient is subjected to. This traumatism occurs from blows upon the protruding viscus, by pinchings from muscular contraction in the various movements of the

body, and under the truss pad, if one is being worn. The following cases illustrate this tolerance to traumatism:

J. C. G., age 50, a lawyer, but an all-around athlete and bicycle rider, had right scrotal hernia, and had been under my care for truss treatment for fifteen years, and his experience was about that of the average truss-wearer—that is, periods of comfort broken by spells of troublesome retention. In the main, his hernia was well and comfortably retained under very strong truss pressure.

I had advised him on one or two occasions to submit to an operation, but found him much opposed to it, and did not feel that it was necessary to urge it upon him. Three of his club friends, upon whom I had operated for hernia, persuaded him, however, to have it done, and the following condition was found:

The sac was a very thick one, extending down into the scrotum to the top of the testicle. To the anterior wall of this sac was firmly attached an appendix about four inches long. This led to the head of the caecum—also adherent in the upper part of the canal and well through the internal ring. The adhesions were firm, and evidently of long standing. There is no question that the truss-pad had been worn for many years directly across the upper part of the appendix and close to its junction with the bowel, and still no extraordinary amount of inconvenience had been experienced.

A young woman, M. G., age 32, consulted me October, 1899, and I found a thickening in the canal, which was not reducible, and advised operation, as I felt sure that truss-wearing would be neither comfortable nor efficient. She claimed that she could not have the operation at once, and a truss for temporary use was applied. She was seen several times, and the bulk of the hernia appeared to be retained. She then disappeared until February, 1901, more than one year, when she came back with many apologies. Friends had advised her to go into a hospital in a neighboring city for operation, so that she would be near home. Six weeks after the operation she found the hernia apparently in its former position and of the same size as formerly. She then returned to truss-wearing until her present visit to me. Examination revealed the same thickening as found upon her first visits, plus the scar and thickening following operation. She readily consented to an-

other operation, which revealed the appendix in the inguinal canal where, apparently, it had rested for a long time. It was evident that the canal, or certainly the sac, had not been opened by the first operation. A letter to the previous operator, stating what had been found, brought only a curt and rather disagreeable response, but no information as to what had been done.

In my experience with a child, age two years, seen in the hernia clinic at the Post-Graduate Hospital, there was pain from truss-wearing, but apparently no tendency to appendicitis. The child had a scrotal hernia of the congenital type that was considered reducible. In accordance with our usual custom with children under five years of age, a truss was applied. At our next clinic the mother informed us that the truss had caused the child so much pain that she was obliged to remove it. It was readjusted and the mother cautioned about removing it for pain that might come from other causes. She returned to our next clinic, however, assuring us that the child could not tolerate the pressure of the truss. This was so entirely contrary to our ordinary experience that operation was advised and readily consented to.

An appendix, fully eight inches long, was found with its tip coiled around and adherent to the testicle. The appendix, towards its junction with the bowel, gradually enlarged to the size of the cæcum, so that it was not possible to decide exactly where the one terminated and the other began. It is believed that, in this case, the truss pressure was across the cæcum, which was held in the canal by the adherent appendix.

In all of my cases I have found the appendix in an inguinal hernia on the right side, but my associate, Dr. Geo. E. Doty, has had the rare experience of finding it as part of the protruding contents of a left side inguinal hernia. There are also a number of cases on record of its being found in femoral sacs, but none such have fallen under my observation.

Some have attempted to prove that an appendix that has been subjected to repeated inflammatory attacks is more liable to become herniated than one in normal condition. This view does not appeal to me as being a very probable occurrence, as it seems much more likely that when an inflammation takes place the appendix will become anchored in the position it then occupies.

In most of my cases the appendix was found adherent to some part of the hernial sac, and held by that in the canal. In the case just narrated, it was adherent to the testicle. In another, a young man of 22 years, it was mixed up with pretty general adhesions in the canal with an undescended testicle and intestine. This young man had been injected by some advertising doctor for the cure of his hernia. It made him very sick, and some of the adhesions may have been the result of this injection. In still another, child of five, the tip of the appendix was tightly held just above the testicle in one of those tough, fibrous rings which so frequently form in hernial sacs. (I pass about a specimen which illustrates what I refer to.)

In still another case, in a man of 53, the tip of the appendix was firmly held in one of these rings at the bottom of the scrotum. This was held so tightly that it could not be drawn out, and still there was no strangulation of its tissue.

In Case 1, there was a history of an attack of appendicitis as the beginning of the man's trouble. He suffered from a large and uncomfortable scrotal hernia, which proved, upon operation, to be the head of the cæcum. The appendix had been entirely destroyed, and, apparently, had been discharged into the bowel. Its former site was plainly visible.

Two of my cases were hernias of the caecal type with coexisting sigmoid hernia on the opposite side. In these forms of hernia the large bowel slips down through the canal, having a peritoneal covering anteriorly but none posteriorly. There is no true hernial sac.

In the cases reported the appendix has been in such condition in every case as to leave no question as to the advisability of removal. While perforation in the hernial sac, which has been reported by others, was not found, they were in a state of inflammation or obstruction, which would have made their return to the abdominal cavity a very dangerous proceeding.

During the past few years, since the appendix has been under such constant suspicion, it has been a rather common experience to meet with incipient hernia where a diagnosis of appendicitis had been made, and in two instances every preparation for operation had been completed. It is true that ordinarily the formation of hernia is unaccompanied by any amount of pain, but in exceptional cases, where a loop of intestine is the first to enter the canal,

there is an amount of intestinal irritation and local tenderness that is quite misleading.

One case that is not given in this series seems of special interest. A man of 24 had been operated on for left strangulated inguinal hernia. The abdominal pain had been general and constipation not complete, but a small swelling in the left inguinal region led the physician to suspect hernia. With the aid of a neighboring physician, he operated and found in the canal what he believed to be a cyst. Thinking that they had to deal with an inflamed cyst of the cord, they closed the wound after evacuating the fluid. The symptoms persisted, and I was called to operate upon a case of appendicitis. There being no special tenderness or rigidity on the right side, I enlarged the incision of the first operator so as to expose thoroughly the internal ring, and here I found a loop of intestine with its anterior wall only strangulated in a tough band in the hernial sac—the mistake of the first operator being in not thoroughly exposing the internal ring. He had opened into the lower part of the sac and had not discovered the incarcerated bowel.

Deaver, in his graphic work on *Appendicitis* (p. 154), gives a case of the disease mistaken for strangulated hernia, where earlier recognition of the real trouble would doubtless have saved the woman's life. Six of the 27 cases of Colzi were in incarcerated hernia, but in none of my cases has strangulation of the hernia existed.

According to my own cases, the appendix will be found as an actual complication of hernia in about one out of every hundred. That it will be seen oftener is also within my experience, and those who report every case that they see will show a much larger percentage.

CASE I. (Card No. 571.) Oct 13, 1899. H. K., male, age 24, right irreducible scrotal hernia. Hernia 6 years. Larger than two fists. Supposed to be omental. No truss worn. Operation at Murray Hill Sanitarium, Dr. Carter, gas-ether anesthesia; Dr. Doty assisting. Usual incision made and sac opened on anterior surface, when it was seen that sac was full of large bowel firmly adherent at many points. Back part of protrusion not covered by sac. It was a cæcal hernia; the cæcum being enormously distended. The appendix had been obliterated by an attack of appendicitis. He gives history of attack which might account for

this at the beginning of his trouble. In the bowel at the site of the appendix is a hardened mass which probably represents its remains. With much difficulty the bowel was loosened from its attachments and replaced within the abdomen. The cord was so closely attached to the bowel in some places that it could not be isolated, nor was it possible to get out a well-defined sac. The whole mass was put back, care being taken to remove any adhesions that might cause obstruction or constriction of bowel. The cæcum was so enormously distended that there was little danger of this. The distance from the ilio-cæcal valve to the bottom of the cæcum was fully eight inches. The cord could not be elevated to the upper angle of the wound; so it was buried under the internal oblique and transversalis down to the pubic bone and the aponeurosis covered as usual. Considerable pain was experienced for 48 hours, after which he was comfortable. Prompt recovery.

CASE II. (Card No. 582.) Nov. 14, 1899. M. W., male, age 5, right irreducible scrotal hernia. Hernia since birth. Feels like adherent omentum. Operation Post-Graduate, Dr. Kenan assisting. Appendix fast at bottom of scrotum. Amputated and canal closed by Bassini method. Primary union. Left hospital on 21st day.

CASE III. (Card No. 683-4-5.) Oct. 4, 1900. C. M., male, age 67, double inguinal hernia and left femoral lipoma. Appendix in right cæcal hernia. Gives history of rupture on the right side for forty years, during which time he had worn a truss almost constantly. On the left side he had had a small hernia for ten years. Upon examination it was discovered that the right scrotal hernia was only partially reducible, and that when it was reduced another tumor was found in the femoral region, which was supposed to be an irreducible femoral hernia. He gave a history of having previously suffered from pneumonia and bronchitis and is now subject to attacks of asthma. Physical examination, however, failed to discover any organic lesion of the heart or lungs. As it was impossible to retain the right scrotal hernia by pressure of the hand, it was not thought that it would be possible to apply an effective truss. An operation was therefore advised and consented to.

Operation at Post-Graduate, assisted by Dr.

Conover. On opening the canal on the right side it was found to be full of a mass of fat, in which was distributed quite large blood vessels, and in other respects did not resemble an ordinary hernial sac. It was therefore carefully entered at its upper and anterior portion and was found to contain the cæcum and appendix, about five inches long, with mesentery of the intestine and some epiploca. That portion of the peritoneum from which the mesentery sprang formed the posterior portion of the hernial sac; that is, the large bowel with its mesentery and associated peritoneum had slid down through the inguinal canal.

After removal of the appendix, the peritoneum was closed by an internal purse-string suture of chromicized catgut as close to the bowel or mesentery attachment as possible. This was ligated externally and the surplus tissue cut away. Several elongated masses of fat were cut out of the canal and stripped from the cord, and the stump of the sac was turned up under the internal oblique and transversalis muscle and stitched there by chromicized catgut. The internal oblique muscle was then stitched to Poupart's ligament in the usual way and the aponeurosis closed over the cord.

Time required for the operation about one hour.

Before closing the skin incision, the lower flap was dissected away to expose the femoral region, and here was found a lipoma protruding through the femoral opening about the size of a hen's egg and hanging by a pedicle about the size of the little finger. This was loosened at its neck and tied with chromicized gut.

The femoral opening was closed by one Kangaroo tendon suture and the skin incision by plain catgut.

On the left side was found an inguinal sac about two inches in length. This was tied off and several masses of fat taken out of the canal and the latter closed in the usual way.

The length of time required for the three operations was about one hour and a half, which was stood by the patient perfectly well.

Following the operation there was some pulmonary œdema, which soon cleared up. An abscess formed on right side of scrotum in third week. Hernial wounds all right. Left hospital at end of fifth week.

CASE IV. (Card No. 753.) April 22, 1901.

G. W. P. D., male, age 22, right delayed testicle and hernia. Hernia since birth. Have tried many kinds of trusses, all of which caused great discomfort. Was injected for cure, which made him very sick. Operation advised. Operation at Murray Hill Sanitarium, Dr. Carter; gas-ether; Dr. Doty assisting. Testicle found below Poupart's ligament in femoral region. Canal opened to internal ring, and as he had had three attacks of appendicitis, the appendix was brought down through the internal ring; found inflamed and constricted at junction of bowel and adherent to bowel and cord. Appendix removed and adhesions broken up. Cord long enough to allow testicle to go to top of scrotum. Placed in this position. Primary union without event.

July 17, 1901. Testicle in top of scrotum and in good condition.

CASE V. (Card No. 732.) Feb. 13, 1901. M. G., female, single, age 32, right complete inguinal. Hernia 3 years. Size of hen's egg. First seen October, 1899. Intestine reducible. Thickening in canal considered ovary, or vessels? Operation advised, but delayed. Truss applied. Patient disappeared and returned Feb. 4, 1901, sixteen months after first seen. By advice of friends, she went to ——— Hospital. Operation by Dr. ———, May, 1900. In hospital six weeks. Recurrence in one month. Same thickening in canal as when first seen.

Operation at Murray Hill Sanitarium, Dr. Carter Gas-ether, Dr. Doty assisting. Thick sac and fascia in canal. In sac was appendix, 4 inches long, inflamed and in bad condition. Removed and all thickening also removed with sac. Muscles good and well closed by Bassini method. Healed by primary union. Left hospital on 14th day.

Cure permanent to present date.

CASE VI. (Card No. 832-3.) Jan. 30, 1902. A. L., male, age 5½, right congenital scrotal and left incomplete inguinal hernia. Has worn double truss for many years. Left side appears cured, but right side has grown worse.

Operation at Post-Graduate Hospital, Dr. Adams assisting. In sac on right side was found a long appendix, the end of which was coiled around and adherent to the testicle. Appendix amputated, bowel reduced and sac removed to top of testicle. On left side a very thin sac about one inch long was found. Canals

closed by Bassini method. Primary union. Left hospital on 16th day.

CASE VII. (Card No. 850-1.) March 18, 1902. A. H., male, age 44, double omental serotal hernia. Right hernia size of two fists; left size of one fist. Both appear reducible. Not retained by truss. Clinic case. General condition of patient poor.

Operation at Post-Graduate Hospital, Dr. Adams assisting. Ether given. On right, intestine firmly united to internal ring, and appendix also in mass all matted together. Appendix, about seven inches long, gotten out and removed. Canal then closed with good muscles. On left, large mass of omentum amputated. Patient a very bad ether subject and large quantities seemed necessary to control him. On table two and a quarter hours. Next day, aside from very sore tongue (forceps), he was in very good condition. On 4th or 5th day temperature 100, and shortly after developed articular rheumatism, and following week lobar pneumonia. Professor Weber in consultation. On 5th or 6th day nurse reported staining of bandages to house surgeon, but no attention was given to it. When I ordered bandages off on 8th day, I found considerable hemorrhage had occurred on left side (primary union on right) and large blood clot under skin and infiltrated under surrounding parts. Cleaned out and healing progressed without infection. Very slow, but eventual recovery. Permanent cure of hernias to date, October, 1900.

CASE VIII. (Card No. 907.) Aug. 12, 1902. J. C. G., male, age 50, right serotal hernia. Truss worn constantly under my care since 1888. Hernia increasing in size and trouble. Operation at Murray Hill Sanitarium, Dr. Pederson; gas-ether; Dr. Doty assisting. Sac lobulated in shape, and on opening found full of adherent omentum, and attached to its upper surface its whole length was a very long appendix firmly adherent. The truss pad must have pressed over its middle and over the head of the cæcum, which was strongly adherent in the internal ring for many years. A mass of omentum the size of extended hand was ligated and stump reduced. Adhesions to bowel broken up and appendix amputated by ligature of chromic catgut. Stump turned and covered by purse-string suture. Neck of sac ill-defined and closed by inside suture. Stump perfectly reduced and muscles (good) well closed in by

kangaroo tendon. Time of operation one hour and a quarter. Primary union. Left hospital on 14th day. Cure to present date.

CASE IX. (Card No. 939-40.) Nov. 18, 1902. F. W., male, age 53, right serotal irreducible hernia and left complete inguinal hernia. Hernia many years. Right side strangulated within past week and reduced by Dr. Geo. J. Moser.

Operation at Post-Graduate Hospital, assisted by Dr. Tracy. Ether given. Left side found to be a sigmoid hernia with sac in front, but none back of hernia. As much of sac as could be was cut away and stump stitched up under internal oblique muscle. Muscles closed in as well as possible. Right side: Appendix found fastened at bottom of scrotum in a narrow ring in sac, and was about seven inches long. Removed in usual way, sac tied off and muscles closed. Primary union. Out 14th day.

CASE X. (Card No. 1020.) May 28, 1903. Male infant, right serotal hernia. Hernia since birth. Truss failed to hold. Size of adult fist.

Operation at Post-Graduate Hospital, Dr. Williams assisting. Cæcum and appendix about eight inches long. Appendix normal, except in length. Not removed owing to rush of cases in short allowance of time. Sac removed and muscles (good) closed. Primary union. Out on 14th day. Mother stayed with child. This appendix should have been removed.

CASE XI. (Card No. 1154-5.) Oct. 6, 1904. I. La R., male, age 2, double serotal hernia. Hernia since birth. Uncontrollable by means of truss. Both sides appear to be reducible, and on the right side the appendix can be plainly felt.

Operation at Post-Graduate Hospital, Dr. Parker assisting. Right side sac found packed full of cæcum and ileum. An abnormally long appendix, in fairly normal condition, was coiled around the testicle. This was removed and bowel reduced. On left side a loop of ileum was found in sac. Both canals closed by Bassini method. Muscles good. Case still in hospital.

CASE OF MANGLED LIMB ILLUSTRATING VALUE OF CONSERVATIVE SURGERY.

By WM. E. ANDERSON, M. D., Farmville, Va.,
First Vice-President Medical Society of Virginia, Etc.

I wish to show you, gentlemen, a surgical case which has been to me both interesting and instructive. I brought this boy with me from Farmville in order that you might observe the nature and extent of his injuries and the good results obtained by conservative treatment of same. This negro boy is 12 years old. About one year ago he was stealing a ride on a Norfolk and Western freight train and fell when he jumped off. He evidently fell by the side of the rail—the wheel passing over the right leg longitudinally. This leg, as you see from the cicatrices, was lacerated—skin, muscles and fascia mangled—from junction of middle and upper third of the thigh down. The only skin left intact was an irregular patch, probably two by four inches, in front of the knee-joint and less than this back of the knee-joint. The bones, above and below knee, were freely exposed, but not crushed except in ankle and foot. Car wheel evidently passed over the foot, crushing it badly. Cinders and dirt were ground into the open wounds and ragged muscles, as usual in railroad injuries. The accident happened a mile from town, and the boy was brought to my office about two hours after being injured.

On examination of the case, amputation seemed clearly indicated. Due to the fact that the principal bony structure and the main blood vessels were not seriously damaged, I determined to try to save the leg—or at least enough of it to be useful. The majority of negroes are not much account with two legs, and certainly this one would have been worthless with only one.

I removed at least half of the bones of the foot; brought the great toe and the little toe—the only ones that enough was left of—to a point which you see is now used as a foot. Then, after cleaning out dirt and cinders and using antiseptics freely, I stitched up muscles enough to cover bones and planted all available patches of skin. The case had to be treated in a negro cabin under very unfavorable surroundings, or I should have resorted to skin grafting later.

Considerable sloughing followed. Several times it looked as if my work had been in vain and the leg must come off. The case made slow progress, but after a few months it was in satisfactory condition. The boy now has good useful limb. Knee and ankle are both working well, as you notice. Also observe there is but little limping, and this boy could, if he would, make his own living. His mother gave him to me, as she despaired of his life; and this, gentlemen, is the only negro I own at present. I am considerably in debt on him—bad investment I assure you—still I have the satisfaction of knowing that by conservative surgery I have probably saved the country to have one less pauper or the railroad one less parasite. Probably I have reserved for the State a convict.

THE ETIOLOGY OF PULMONARY TUBERCULOSIS CONSIDERED IN RELATION TO ITS THERAPEUTICS.*

By LOUIS F. HIGH, M. D., Southern Pines, N. C.
Medical Director Pineshire Sanitarium, etc.

Our acceptance of the theories with regard to the causative relation of certain germs in the production of particular diseases has led us too far afield in some instances. The existing cause has been exalted almost to the point of sole cause in cases in which the predisposing factors are most important. This is particularly true of tuberculosis.

While most disease germs require none or but indifferent modification in the physiological processes of the body for their growth, the tubercle bacillus is a notable exception to that rule. There are few known pathogenic microorganisms that require such definite conditions for the maintenance of its vitality and proliferative capacity. Though the limitations of favorable environment are narrow, clinically, it appears that a slight physiological deviation of a particular kind is sufficient to meet the requirements of the parasite. Proof of this is seen in the large per cent. of recoveries found post-mortem in which the disease had not been sus-

* Reported during thirty-fifth annual session of the Medical Society of Virginia at Richmond, October 19, 1904.

* Read before the Medical Society of Virginia at its thirty-fifth annual meeting, at Richmond, October 18-20, 1904.

pected during life. The favorable nature of its environment having changed the bacilli had perished, leaving a cicatrix as evidence of the feebleness of their struggle against an approximately normal resistance.

It is asserted by various observers that from 50 to 98 per cent. of all persons have tuberculosis at some period of life. As the mortality rate of the disease is about 15 per cent. of mankind's total death rate, it is at once seen that by far the larger part of those in whom it develops recover without treatment, or without any directed to the real cause of the disorder. Again, it appears that the tubercle germ has a very slight hold upon life and can only reproduce itself under very certain and particular conditions.

It has been experimentally demonstrated that the great number of bacilli contained in phthisical sputum and in the cavities are incapable of further growth.

The difficulty of growing vigorous cultures from bacilli contained in pieces of old tissue infested by the organism indicates that many of those so situated have lost their vitality. Even when cultivated under favorable conditions and at a proper temperature upon dead media and shielded from all deleterious influences, they die within a relatively short time.

Furthermore, it has been shown that the bacilli of greatest virulence are more difficult to cultivate and that their growth is scantier than in the case of bacilli of less virulence.

Finally, sufficient has come to light from the investigation of the bio-chemistry of the bacillus and analysis of the therapeutic resources that have shown decided influence over its control, to prove that the conditions for its multiplication are limited and transitory.

That so large a per cent. of recoveries follows the simple procedure of keeping patients constantly surrounded by an air supply of absolute purity is evidence which, in the present state of our knowledge, admits little doubt that the consequences of impure air as a result of deficient ventilation is the underlying cause of pulmonary tuberculosis.

It has been demonstrated again and again that the remedy which dispels the sallow skin, pale face, cold feet and hands, weak pulse, feeble power of digestion and assimilation, with the attendant loss of nerve-energy—all of which are prime characteristics of deficient oxygena-

tion—is the same that arrests tuberculosis when applied sufficiently early and continued under proper conditions sufficiently long.

Herein have therapeutics cast a ray which has illumined and shown the primary, the pre-germic cause, the physio-chemical condition without which tuberculosis practically does not exist. The catabolism of suboxygenation is resolved from dyscrasia into disease by such even and constant gradations as to establish a cause and effect relation.

No advancement made in the study of tuberculosis to the present, except, indeed, it be the discovery of the bacillus, so positively points out the principal factor in its etiology as does the degree of success which everywhere attends the open-air treatment of pulmonary tuberculosis when properly carried out.

It is now known, though not generally appreciated, that the symptoms of the devitalization induced by deficient absorption and distribution of oxygen are those of incipient tuberculosis. The only notable difference relates to the rather constant temperature phenomenon and the possibility of a slight cough in the last named disorder.

This view of the origin of tuberculosis is not new, for it was foreshadowed by Hippocrates, advocated by Celsus, and has for no considerable period since the latter's day lacked for a small and indifferent sort of support. Still the notion, for it hardly amounted to more, was of little practical value until Brehmer's day when in 1859 he began the actual demonstration of what was with him a theory by inaugurating the open-air treatment. The results of his method surpassed any plan that had been previously pursued. The plan was slow of adoption, probably for the reason that it was at variance with preconceived ideas relative to the fancied necessity for the even temperature of which history speaks.

Little progress had been made in the general adoption of this plan until within the past few years, though happily it is growing in favor. For this advancement we are largely indebted to Dr. Trudeau, who was its American pioneer and its present chief exponent.

Dettweiler, a pupil, supplemented Brehmer's method by adding the rest cure or enforced inactivity in the open air. His results were more brilliant than his master's. So it appears that each of these men, who were the originators of

the most successful treatment of tuberculosis, looked beyond the possibilities of the then unknown bacillus and directed the energy of their efforts to the eradication of a fundamental degeneracy of which the disease was the final expression.

Notwithstanding our results of to-day are somewhat better than those of the first advocates of the method, which we of the present follow, they have not improved to the extent hoped for from the knowledge imparted by our acquaintance with the bacillus.

I would not be understood as meaning to belittle the part taken by the bacillus in its destructive role, nor do I favor relaxing in the slightest degree any effort for the collection and destruction of phthisical sputa. I even hope for the time when the tubercle germ will do as some others—namely, produce a substance which will destroy the quality of the soil which renders its own growth possible.

But I do believe it is incumbent upon us as a present duty, from which there is no turning away, to go beyond the findings of the microscope and consider as a reason for the universal prevalence of the disease the incalculable extent of physical degeneration of medium degree, due to the simple lack of clean, pure, unbreathed, out-door air, on account of which grows this great scourge.

TYPHOID FEVER—I. FATAL HEMORRHAGE IN A CHILD. II. DOUBLE RELAPSING TYPHOID.*

By R. S. MARTIN, M. D., Stuart, Va.,

Secretary Medical Examining Board of Virginia.

I wish to report two cases of typhoid fever which were a little out of the ordinary.

CASE 1. Female, eleven years of age. On my first visit, the temperature was 104° F., pulse 120. The case went from bad to worse—all symptoms daily becoming more aggravated. Abdominal symptoms were well marked. She was delirious on the 8th day, comatose on 9th day, bowels very much distended, and the temperature was 105°. On the 14th day, profuse hemorrhage from the bowel occurred about 6

A. M. The hemorrhage was repeated at 12 M., and the patient died at 1 P. M., never regaining consciousness. I never saw a case so young have hemorrhage and symptoms so violent from the beginning.

CASE 2. Male, age 22, taken sick July 20th. Case ran the usual course—temperature never over 104° and the pulse from 96 to 100. No marked abdominal symptoms. At the end of the sixth week, he was discharged—making my last visit on August 25th. But I was called again on September 4th and found the patient with a relapse, which continued twenty-three days. About the 8th day of the relapse patient was delirious, and had marked tremors—typhomania. Temperature 104 to 105°, pulse 140 to 150; incontinence of urine and feces, bowels tympanitic, and all the symptoms very grave. He remained in this condition about a week. Pulse was so quick at times that I could not take it accurately. Improvement began about the 16th day of the relapse and the case was discharged by the 23d day.

In about five days afterwards I was called again and found the patient suffering with a second relapse. The duration of the second relapse was 15 days and was not so severe as the first relapse, but the patient for several days had high temperature and typhomania; pulse 140 and bowels tympanitic. He has been free from fever for about one week and I fully expect his recovery.

This last case shows clearly to my mind that no case of typhoid fever, however severe, should be considered hopeless so long as the stomach will take and retain stimulants and nourishment.

DISCUSSION.

DR. E. T. BRADY, Abingdon, Va.: I think that the case just reported fully illustrates what we have at all times thought—namely, that those cases which have a tendency* to relapse rarely terminate fatally, although they are always anxious cases.

A view to which I wish especially to refer here is that we do have at least four types of fever in the mountain regions. Amongst them, by far the most frequent and the least accurately diagnosed, is what we have called *gastric fever*. It may not be scientific, but it is nevertheless true. They have no characteristics in common with typhoid fever, and in our section outnumber the typical typhoid cases ten to one.

* Reported during the thirty-fifth annual session of the Medical Society of Virginia, at Richmond, October 19, 1901.

What gastric fever is—or rather its cause—has never been determined. From my own observation, I believe it to be a hypo-secretion rather than a disease. I am not going to try to explain why I hold this view, but there is one characteristic typical of it, and that is in nearly all septic fevers you have a rather rapid pulse, whereas in gastric fever there is a slowing of the pulse. I think this feature is characteristic in the diagnosis and treatment. While you may sometimes have slowing of the pulse in typhoid—and you do see it occasionally—in at least 90 per cent. of the cases you do not see it. In gastric fever you always have slowing of the pulse; in typhoid you rarely do. Gastric fever never extends beyond ten days; typhoid is never cured in so short a time. In gastric fever you cannot possibly have hemorrhage or any indication of it; in typhoid you almost always have hemorrhage—or at least some indication of it.

If we were all to air our views on gastric fever, too much of the time of the Society would be taken up, so I will only add that I wish to emphasize the fact that it is separate from, and has no characteristics in common with typhoid fever, although oftentimes is diagnosed as an atypical form of typhoid fever.

THE EARLY RECOGNITION OF HYPERTENSION.*

By HENRY WIREMAN COOK, M. D., Richmond, Va.,
Visiting Physician Memorial Hospital.

Last fall at the annual meeting of this Society in Roanoke a paper of mine was read on the "Value of an Accurate Estimation of Pulse Tension." Such a general treatment of the question seemed permissible at that time in view of the fact that an approximately accurate determination of pulse tension in the human subject was a development of comparatively recent date and had received but slight general recognition or appreciation.

The instrument shown at that time was the first mechanical device made in this country and the only one of sufficient simplicity, compactness and accuracy to make possible a

* Read before the Medical Society of Virginia at its thirty-fifth annual meeting, at Richmond, October 18-21, 1904.

routine estimation of pulse tension by the general practitioner in office or on daily rounds.

Since then at least eight manufacturers have put instruments on the market, some of the same model as the one shown last year and others with various changes, but all aiming to supply the demand for a sphygmotonometer that shall at once be both accurate and of sufficient simplicity and portability to permit its routine use in general practice.

In the past two years medical journals have been publishing in increasing number clinical notes and articles on methods of estimating pulse tension, and results derived from an application of these methods by W. W. Keen, Crile of Cleveland, Harvey Cushing of Baltimore, and others among the surgeons, Broadbent, Clifford, Stengel, Thayer and Cabot among physicians, and gradually sphygmotonometers are becoming more and more instruments of routine use among practitioners.

No longer is it necessary to urge such generalities as the comparative value of accurate estimations of pulse tension by an instrument of precision versus the indefinite results of tactile impression; for the approval of authoritative voices has been heard, and the steady increase in the practical application of the newer methods by the general practitioner gives the final and requisite endorsement which any scientific advance must acquire before it may be considered established. For often a pseudo scientific theory or laboratory development has fallen short when tested by general practical application and its interest at once becomes historic rather than present or vital and its use obsolete.

Though conceived, born and nurtured through a protracted infancy in the physiological laboratory, the sphygmotonometer has at last fully entered upon the broader field of clinical usage and has already won for itself a worthy position among the valued advances in scientific medicine. Therefore in this paper it is unnecessary to detail at length the advantage of exact methods for determining this symptom or to describe in detail the principles of the various instruments used. I shall likewise omit more than passing reference to the use of the sphygmotonometer in the more acute conditions of abnormal tension, such as hypotension from toxæmia as in typhoid and other infectious diseases, or from traumatic or surgical shock

or hemorrhage, or the hypertension of acute nephritis, valvular heart disease, or cerebral hemorrhage; and shall proceed at once to the special group of cases to which I would call your attention and of which I cannot too strongly emphasize the value of an early recognition with a view to correcting their pernicious tendencies.

Generally speaking death comes to the majority of mankind in one of two forms, either first through trauma or the equally accidental contraction of one of the infectious diseases, or secondly by the destructive action of the wear and tear of life. In the individual case of any infectious disease (excepting quinine in malaria, mercury in syphilis and anti-toxin in diphtheria) medicine can avail little; and finally the ultimate struggle with these diseases must be by legislation, by boards of health and popular enlightenment as to methods of prevention. Broadly speaking the termination of any individual of these cases is of relatively slight importance to the race by comparison with the perfection of methods of prevention.

For instance, the treatment of any individual case of cholera fifty years ago is of little concern to the race to-day. It is the system of quarantine that is saving us thousands of lives from the disease yearly. These infectious diseases are for the most part preventable, nor are they the necessary or natural consequences of life. They should be regarded as equally accidental to trauma and similar means adopted for their prevention. A man who contracts consumption by being put into a sleeping berth which had been occupied the night before by a consumptive is as much the victim of a preventable accident as though the wheels were unbound or the rails had spread.

When we turn to the second group in the causation of mortality we find an entirely different aspect. The deaths are not due so much to an external or casual agent, but directly to the individual, his forbears and his mode of life. It is in this group that a larger and larger proportion of individuals belong, and finally when our methods of sanitation and prophylaxis are perfected it is the way practically all will die. Fifteen years ago 4,000 more people were dying yearly in New York City of tuberculosis than at present. A certain proportion of these are spared to die later on of natural causes. Few physicians would to-day make a correct diagnosis if a case of typhus fever came

under their observation, and we must hope for the day when a clear water supply will permit a similar ignorance of the clinical manifestations of typhoid.

To-day about half of the population escape the infectious diseases and live to develop the manifestations of natural decay; but the practitioner will see a larger and larger proportion of these cases as sanitation and legislation gradually deprive him of his infected patients. It is in the early recognition (with a view to the postponement of its most important manifestation of this natural progress toward dissolution) that I would ask your attention. As the great international clinician, Dr. Osler, has said "Longevity is a cardio-vascular question. To a majority of men death comes primarily or secondarily through this portal." Other things being equal the individual who best conserves the powers of his cardio-vascular system will be the survivor over the one whose overtaxed heart prematurely falters in its rhythm, or whose strained blood vessels transude albumin into the kidney or rupture into the brain. The heart and blood vessels that continuously bear an abnormal strain cannot be expected to endure with those that do the least work consistent with maintaining a healthy condition. The maximum strain which the heart and vessels endure, sixty to eighty times a minute, is known as the maximum or systole blood pressure. So that a measure of this intra-vascular tension is an exact guide to the amount of strain the cardio-vascular system is subjected to.

Collaborated observations show that the blood vessels can endure normally a continued minimum strain of about 70 to 80, and that with each pulse beat this may be raised to 130 or 140 without unduly taxing them. Overexertion, either physical or mental, anxiety, over-eating—especially of meats—and certain toxins—auto, bacterial, metallic, or albaloidal—produce a rise in blood pressure, and therefore added strain on the cardio-vascular system, upon the integrity of which health and life so directly depend. This rise in blood pressure, in part physiological, becomes when treated protracted over extended periods a most pernicious and potent factor in inducing the train of cardio-vascular diseases which develop in clinical manifestation as cerebral apoplexy, aneurism, artero-sclerosis, vertigo, angina pectoris, or nephritis.

After the terminal affections have fully

developed into clinical entities it is too late to establish corrective treatment. This is the special point that I would emphasize, the vital importance of early recognizing the presence of hypertension so that the otherwise inevitable results may be avoided, and not wait until these results have developed and themselves demand attention. Any layman can detect the presence of some abnormal process underlying an attack of apoplexy, or at sight of the dyspnoic victim of acute cardiac dilatation. The physician should try to forestall such an event. Small credit is now given the practitioner who summons surgical aid in appendicitis after the development of general peritonitis. If he had made a careful abdominal examination in the supposedly simple case of cramp colic the result might have been different. Similarly I believe that the routine use of accurate methods for estimating pulse tension in apparently trivial affections will often be the means of detecting the existence of abnormal cardio-vascular strain and of forestalling its later development.

We, as a profession, have more than the average of hard work with numberless cares and anxieties, though of over-eating I presume the majority are innocent, and are particularly prone to consider vascular renal disease. Five years from now a certain proportion of those present to-day will have passed away of apoplexy, heart disease, or nephritis, and still others may have a residual hemiplegia, dyspnea on exertion, or severe headaches and a little puffiness of the ankles. The larger proportion of those men would now show a definite increase in their tension, which increase, in direct proportion to its amount and indirectly to the resistance of the individual, will determine the onset of the terminal symptoms. This increase for a long time during which it is perceptible by the sphygmotometric reading and possible of graphic representation by an ascending line, is quite unrecognizable to the palpating finger either as to its mere presence or the gradations of its constantly upward tendency.

Unfortunately the physician is compelled to bide the chance of some intercurrent affection developing to bring these cases under his observation. If people only went to the doctor as they do to their dentist, to have disease prevented before it gave evident symptoms, many disastrous results could be avoided. But un-

fortunately it is not the laity alone who are guilty of carelessness in this respect.

Physicians too often treat the slighter symptoms of which some of his more careful patients come complaining without a thorough cardiovascular and urinary examination. These should certainly never be neglected in a man over forty years of age.

Frequently the urine is negative and heart sounds clear in a man between forty and fifty whose blood pressure will perhaps average 180 or 200 mm. Such a case under casual observation for some slight intercurrent affection or trivial symptom will miss treatment for the serious condition present until dyspnea, paralysis, vertigo, or pulmonary or general œdema have developed, and at this stage the prognosis is of the worst.

With our present knowledge of normal blood pressure limits and the means of accurately following variations in blood pressure in any individual case we may frequently discover a chronic hypertension threatening the integrity of the cardio vascular system, before any of the serious results have developed, and with this knowledge as a basis and guide may institute a prophylactic line of treatment. Primarily a searching history of the case should be undertaken, 1st, of the family, to find the possible hereditary tendency to early cardio-vascular disease that is well recognized. 2nd. Of the individual, his habits and routine life, to discover an etiological factor in over-eating, gout, gastrointestinal disease, and toxæmia, over work worry and anxiety. A careful physical examination may detect nothing or merely a slight cardiac hypertrophy or accentuated aortic click, or in later cases an intermittent or very occasional albuminuria.

Initial treatment should be confined strictly to hygienic measures without specific indication. This may prove all that is necessary, and a removal from business cares, correction in diet, more important in *quantity* than quality, free bowel evacuation, regulated exercise and hydro-therapy will often restore a normal vascular tone.

When such means fail we have specifics for this affection in sodium or potassium nitrites, nitro-glycerine and erythrol tetranitrates. Of these sodium nitrite seems by far the most valuable and apparently should soon almost entirely supplant nitro-glycerine. The action of

nitro-glycerine, though occurring in perhaps ten or fifteen minutes before the nitrite, usually lasts only about an hour while the nitrite may endure three or four hours or longer. The latter is not apparently followed by the headache which nitro-glycerine occasionally produces, and does not so often produce the flushing and throbbing which the more rapid action of the nitro-glycerine exaggerates.

Two to five drops of a saturated solution of sod. nitrite may cause a drop in arterial tension of 30 mm in ten or twenty minutes which may last several hours. Following the case with frequent sphygmotometric observations the blood pressure should be kept at the level which is most suitable for the individual; that is, no attempt should be made to bring every ease to a certain figure of the average normal b-p, but the decrease in the tension should be gradually induced until such a point is reached that the strain has been lessened and yet the fall has not been so great as to produce the lassitude, weakness or discomfort that an individual accustomed to a high tension will experience after a sudden or extreme depression of his vascular tone. The general features of each case combined with the b-p curve should form the criterion of the degree of depression required rather than any absolute numerical standard of average normal values.

To summarize:—Exclusive of the immediate effects of the infectious diseases a large and increasing proportion of deaths are due to cardio-vascular disease.

2. Cardio-vascular affections in a majority of cases are accompanied and in many cases antedated by a rise in arterial tension.

3. This rise in arterial tension is an important factor directly and indirectly in the production of the terminal organic lesions.

4. An early recognition and continued observation of this rise in tension is a most valuable element in the diagnosis, prophylaxis and corrective treatment of these conditions.

CASE OF POST OPERATIVE HYSTERIA SIMULATING EPILEPSY.

By KARL C. CORLEY, M. D., Washington, D. C.,
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In the history of gynecology, we find that, it was not an uncommon thing for operations to be performed upon the female pelvic organs

for the cure of the neuroses. Beyond doubt it was the rule in certain quarters to remove the adnexa with the hope of curing hysteria, reflex neuralgia, and even certain forms of melancholia and epilepsy. Since that time, however, it has been shown that many of the diseases of the pelvic organs, however severe, bear no relation to the associated mental or nervous condition; and *vice versa*, until we are positively certain that we have no known definite relation upon which to formulate a rule of cause and effect, it is reasonable to suppose that certain neuroses, such as hysteria or even epilepsy, were cured by operation, but whether cured by removing the cause of ill health, remains problematical.

The case now presented is one of those representing a type which is perhaps seldom seen or reported, in which the symptoms of hysterio-epilepsy appeared during the recovery of a patient who had undergone salpingo-oophorectomy for general pelvic infection, and who had not had these symptoms previously.

Patient J. T., age 26, married six years; nullipara. Family and previous histories do not bear directly on the case.

Her present illness dates back ten years when she had an increase of pelvic pain before and after menstruation. This pain increased in severity and duration until she was never free from it, but always noticed a marked increase about the time of her periods.

With the foregoing history, the patient was admitted to Columbia Hospital on June 17, 1904, and was operated upon June 22, 1904. Both tubes and ovaries were found to be involved in a gonorrhœal infection. The right ovary contained several ounces of pus. We say "gonorrhœal," because at no time prior to operation and during the time of stay in the hospital was her temperature above 100° F.

For ten days following operation, the condition of the patient was good. Her temperature during that time occasionally reached 100° F., but caused no apparent discomfort either mentally or physically.

On 11th day after operation, her highest temperature was 101.2° F. Pulse 96. Patient was restless, had no appetite and complained of abdominal cramps and a "choking sensation." Examination per vaginam showed a mass to left of the uterus about the size of a lemon.

On 12th day, highest temperature, 101.8° F.

Pulse 96. General condition much the same. Cramps were of increased severity and the "choking sensation" was so exaggerated that a condition of "globus hystericus" was reached. Mental state on several occasions was very dull.

On 13th day, highest temperature, 101° F. Pulse 106. Suffering almost continually with sharp abdominal cramps; globus hystericus present the greater portion of day. Several times she had epileptoid attacks, during which she would lose consciousness; the eyes rolled back; respirations were stertorous, and general muscular rigidity ensued.

On 14th day, highest temperature, 102.50° F. Pulse 104. Physical condition the same; mentally, was dull and stupid. Attacks occurred four to eight times during the day. They were increased in severity and duration.

On 15th day, highest temperature, 102.30° F. Pulse 104. No change during preceding 24 hours.

On 16th day, highest temperature, 101.50° F. Pulse 96. Symptoms were all ameliorated—the cramps having almost entirely disappeared.

On 17th day, highest temperature, 98.8° F. Pulse 80. She enjoyed a complete absence from all unpleasant symptoms. Mental condition became much brighter, globus hystericus disappeared, as did epileptoid seizures. On examination per vaginam, no signs of mass in pelvis could be found. For a period of five days or until the 21st day, patient had no unpleasant symptoms when temperature reached 99.8° F. Pulse 80.

During the following eight days, she went through all the symptoms of the former attack except that they were less severe in every respect.

On the 29th day, her temperature dropped to subnormal, followed by a complete relief of all symptoms. We failed to discover any pus in her stools, and have no explanation to offer for her sudden recovery. Examination of pelvis was negative, excepting a few adhesions. Convalescence from this point was uninterrupted and on July 28th, the patient was discharged from hospital cured.

On October 16th, or about four months later, the patient was seen at her home. No recurrence of symptoms of epileptoid attacks had appeared. She was in perfect health and making her living by doing general house work.

The conclusion to be drawn is that pelvic conditions may have an effect on the nervous system which, if not epilepsy, very closely simulate that disease.

ADENO-CARCINOMA OF ILEO-CECAL VALVE WITH LARGE AMOUNT OF FIBROUS TISSUE—RESEMBLING APPENDICITIS.*

By R. M. SLAUGHTER, M. D., Theological Seminary, Va.
Member Medical Examining Board of Virginia; Treasurer Medical Society of Virginia, etc.

The patient from whom this specimen was taken—a man aged forty-six years—came under my care in July, 1904. He was then suffering with an attack which exactly simulated an attack of acute appendicitis, with its classical symptoms of severe abdominal pain, localized tenderness, muscular rigidity, nausea and temperature. There was a history of recurrence of these attacks for the last five months with increasing frequency. At McBurney's point, a large tender mass was distinctly palpable. I made a diagnosis of chronic recurrent appendicitis, with the provision of possible carcinoma of the appendix, in view of the palpable mass present.

Operation was advised and accepted, and about the 1st August, with the able assistance of Dr. W. P. Carr, of Washington, D. C., the operation was done at the University Hospital, Washington, D. C.

On opening the abdomen we found what was undoubtedly a carcinoma of the ileo-cecal valve and did a resection of the cæcum, making an end to side anastomosis by suture.

The patient made a good recovery with the exception of the development of a fecal fistula, which, however, soon closed. Microscopic examination showed the growth (which you observe almost completely blocks the lumen of the gut) to be an adeno-carcinoma with a very unusually large amount of fibrous tissue.

The man is now in good health and at work, but of course how long he will remain so is to be seen.

I report this case to illustrate and emphasize the difficulty of making a positive diagnosis in many cases of intra-abdominal lesions.

*Reported to the thirty-fifth annual session of the Medical Society of Virginia, at Richmond, October 19, 1904.

DISEASES OF EYE, EAR, NOSE AND THROAT—CASE NOTES.*

By JOHN DUNN, M. A., M. D., Richmond, Va.,

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CASE 8. An Unusual Case of Adenopathy. Secondary to Conjunctival Infection. Probably Parinaud's Conjunctivitis.

On September 20, 1903, Miss A., aged 12, noticed that her left eye was partly closed and that she raised the upper lid with difficulty. One week later a swelling began to appear below the left ear.

The case was first seen October 12th. The subauricular gland was then as large as a pecan, but not painful on manipulation nor did it show any evidence of breaking down. The loose tissue over the upper lid was faintly congested but markedly swollen. The swollen tissues, however, were not densely infiltrated, so that the upper lid could be easily everted. The conjunctiva of the lower cul-de-sac and that covering the lower two thirds of the eye-ball were slightly red. *The upper one-third of the ocular conjunctiva*, the conjunctiva of the upper cul-de-sac and of the lid adjacent were much congested. Two or three rows of numerous papillary excrescences studded the region of the upper cul-de-sac. These excrescences resembled those seen in spring catarrh, except that they were more glue-like in appearance. The eye was not painful, although the lid "felt sore." There was excessive lachrymation. Other than the tears, the secretion from the eye was inconsiderable. Eye and vision normal.

Several efforts were made to discover the germ causing the inflammation. Both the single and double stains were used. No germ of any kind could be found.

The treatment consisted of instillations of argyrol once daily, the use of yellow oxide ointment, and to the swollen gland inunctions of blue ointment. After three or four days the area of the granulations along the upper cul-de-sac were found to be covered with a very thin membrane.

Efforts were made to obtain cultures by inserting pieces of this membrane into agar, blood serum and bouillon. All of these media failed to show any growth, although cared for two

or three days longer than is usually necessary. Treatment for the first ten days seemed to be without effect; the granulations and the subauricular gland both increased in size. About October 23d a slight change for the better was noticeable and by November 6th the eye was practically well and the gland was scarcely to be felt. Two weeks later all traces of the trouble had disappeared.

The case has several points of interest. Except for a mild case of mumps which had occurred three months previously, there was no history of any recent infectious disease. The throat and nose, save for a slight enlargement of the faucial tonsils, were practically normal. There were present about the face and scalp no eczema, impetigo or other skin affection. The patient was slightly anæmic, but otherwise seemed healthy.

The mild character of the congestion of the general ocular and palpebral conjunctiva and the slight secretion from the inflamed area are also noteworthy. The patient said the lids were generally stuck together when she first awoke in the morning, but during her visits to the office, I, on several occasions detained her a considerable time hoping to determine the amount of mucous secretion which was, however, so slight that I had difficulty in obtaining sufficient to examine.

That the inflammation was intense of its kind is shown by the presence of the membrane covering the area in which the granulations were present. I do not think that this could have been caused by the argyrol which was applied only once daily and which was continued long after the inflammation began to subside during which time it certainly had no such effect. This membrane was very thin, but distinct. The granulations were large and well defined and sprang from an inflamed mucous membrane. They were not so firm and dense in appearance as the granulations seen either in granular lids or spring catarrh—they were more gruel-like. One day the patient complained of some blurring of the vision. I could, however, discover no cause for this.

The rapid disappearance of all trace of such mild measures as were used, also speaks against the trouble being either granular lids or spring catarrh or even "the pseudo-granular lids" so often seen. I think the swelling of the subauricular gland was the direct result of the infec-

*This series of Case Notes was begun in issue of September 23d, and continued in the October 2d number. No effort is made to report cases in full. Only one, or, at most, two special points are dwelt upon.

tion in the lid and conjunctiva. This adenitis made its appearance a few days after the swelling began in the lid, it increased in size and diminished with the disappearance of the lid trouble. I feared at one time I had to do with a case of tubercular inflammation of the conjunctiva. If so it was of the mildest type. The picture was not that of pink eye due to the bacillus of Weeks, nor of conjunctivitis due to the pneumococcus, staphylococcus, streptococcus or gonococcus. Nexia also, it would seem, could be excluded; there was no phlyctenular complication, all of which affections may be accompanied by adenitis (Poullard). The case most closely resembles Parinaud's conjunctivitis. The gland, however, did not suppurate; this I attributed to the constant inunctions of mercurial ointment.

CASE 9. *Acute Mastoiditis in an Otherwise Healthy Adult. Illustrating How Early the Mastoid Should be Opened, and Reasons Therefor.*

On August 7, 1904, Mr. A., aged 35, while at the seashore, was taken with a violent pain in right temple. This pain gradually worked downward and backwards until it reached his right ear and shortly afterwards was felt deep in both ears. The pain continued severe, although on the 8th both drums ruptured and a "bloody water" ran from each canal. The patient experienced no relief from the severe pain except from the use of morphine, which his physician administered several times.

On the 9th the pain continued so great that, though ordered to remain in bed, he left the seashore and came to Richmond for treatment. At this time he was suffering intensely with both ears and the sides of the head. Both drums were discharging freely a sero-sanguinous fluid. On the left side the opening was in a pocket protruding from the posterior upper part of the drum. The right drum was inflamed, had ruptured, but there was no bulging. The pain in the left ear was worse, but both temporal bones were the seat of severe pain, as evidenced by the patient's holding his hands to his head and tossing it from side to side. The bowels were constipated, no purgative having been prescribed. One was now ordered, and the left ear drum split through the bulging pocket above mentioned. The retro-auricular regions of both ears were hypersensitive—that of the left side the more markedly so. At this time it

was not possible to do more than suspect mastoiditis, possibly double, probably on the left side. Temperature $99\frac{1}{2}^{\circ}$ at midday, $101\frac{1}{2}^{\circ}$ at 6 o'clock P. M. Tongue coated. The constant use of hot boric solutions for the ears was ordered.

The patient suffered all night, the purgative acting; towards morning he became slightly more comfortable. By the middle of the day of the 10th the pain in and about the right ear subsided into sensations of much dull discomfort. On the left side, however, in spite of a profuse discharge, becoming more and more purulent, the pain increased and the surface of the mastoid became extremely sensitive. Towards the afternoon this pain became more severe. I was unavoidably out of town for a few hours, and Mr. A. sent for his family physician, who administered calomel and morphine.

On the morning of August 11th I advised that the left mastoid be opened. This was done and the cells were found to be extensively infiltrated with pus.

In the large majority of the cases of acute mastoiditis which have come under my care the symptoms at the time of my first seeing the patient have been of such a character that there could be no doubt as to the trouble and the nature of the treatment required, and in nearly every case the patient was only too willing to submit to anything offering relief, having learned for himself the uselessness of drugs and applications. In a case seen at the beginning, when the inflammation of the drum membrane and middle ear, atrium and attic, is in full swing, it is not always easy to say when mastoiditis is first present, and what is the earliest moment when it is wisest and best not to defer operating. The rule sometimes set down that where there is free discharge from the drum, and the pain and fever, after a few hours, have not subsided, the mastoid should be opened has too many exceptions to make it more than a rule of general value. In the case of Mr. A. the drums had ruptured more than twenty-four hours before he came under observation, and yet there was fever and both ears and the regions adjacent were the seat of intense pain. However, twenty-four hours later there could be no question but that no opening of the right mastoid was called for. At the same time the symptoms in and about the left ear pointed more and more clearly to left-sided mastoiditis.

The surface of the left mastoid was getting more and more sensitive. I did not advise immediate operation because the left ear had become involved some little while later than the right.

After the very severe attack of pain on August 10th, operation on the opposite side was, it seemed to me, clearly called for. This was three days after the middle ear inflammation had first set in.

In Case I of this series it will be seen that in Mr. L.'s mastoid, operated on the fourth day after opening the drum, the fifth day after the first symptom of earache, the cells were for a considerable extent found to be filled with pus. It is possible that some pus in the mastoid cells of a vigorous patient may be disposed of by the mucous membrane of the cells.

It is a question whether osteitis of the mastoid occurring as the result of "pus under pressure" in acute purulent mastoiditis ever gets well without surgical intervention—save in the rarest instances, as, for example, through the long drawn out course of an external fistula; and this is the prime reason why osteitis of the mastoid demands early and thorough operative attention.

What is the earliest symptom of osteitis of the mastoid? With what may it be confused? *Acute empyema* of the mastoid antrum is the "form of mastoiditis" which may get well without external operation. It is at the same time a "form of mastoiditis" where operation is the surest and quickest method of obtaining a cure, and the method which leaves least bad results to the hearing and middle ear.

Sometimes, in certain patients, *acute inflammation of the attic* leads to symptoms which closely resemble mastoiditis. The history of the case as watched for a day or two usually removes diagnostic difficulties.

There is a further reason for early operation in osteitis of the mastoid or empyema of the antrum, and that is its effect upon the hearing. In most cases of acute mastoiditis the discharge from the middle ear ceases with the operation, or very shortly thereafter. In the cases left "for nature to cure," or to become chronic, the disastrous effect upon the hearing power is well known to all who have any proper knowledge of ear diseases.

This case, that of Mr. A., is a type of acute, purulent mastoiditis where following rupture of the drum with profuse discharge from the

middle ear—this discharge being at first sero-sanguinolent, and later becoming purulent—the pain in and about the ear increases in severity and finally becomes localized in the region of the mastoid, whose surface becomes hypersensitive. The fever continues. The pain is severe, and has periods when its severity is much increased. Usually the degree of fever and pain go hand in hand. In these cases the mastoid should be opened as soon as the pain has definitely localized itself in the mastoid process, provided the discharge from the external canal is purulent. *

This last point is important, as we rarely have cases with symptoms pointing to acute mastoiditis, where the discharge remains sero-mucous. Here, however, the pain is less severe than in the purulent cases, and may be watched longer before operation is advised.

There is another form of acute purulent mastoiditis where following rupture of the drum the severe pain subsides, but where destruction of the mastoid process goes rapidly on. This type will be commented upon later.

Book Notices.

Practical Dietetics, with Reference to Diet in Disease.
By ALIDA FRANCES PATTEE, Instructor in Dietetics, Bellevue Training School for Nurses, etc. *Second Edition. Revised and Enlarged.* A. F. Pattee, Publisher, New York city. Large 12mo. Pp. 311. Cloth.

This book—intended especially for the trained nurse—is equally valuable to the house wife, who has frequently to prepare foods for the sick in the family. On every page, are evidences of practical experience by the author, for no one who is not herself familiar with the details could have written so valuable a book. Many of the directions are useful alike for every day uses in the pantry or kitchen. Beside classification of foods for sick and well, details are given for the preparation of various liquid, semi-liquid and solid food. Then follows a section on diet in diseases, diet in infancy, etc. An appendix of 11 or 12 pages gives a number of practical suggestions for the nurse in the sick room. Indices of Recipes, and of Diet in Disease con-

cludes the book—the price of which, we are sorry, is not stated.

System of Practical Surgery, By Professors E. VON BERGMANN, M. D., P. VON BRUNS, M. D., and J. VON MIKULICZ, M. D. Vol. V. Translated and Edited by WILLIAM T. BULL, M. D., Professor of Surgery, College of Physicians and Surgeons, Columbia University, New York, and EDWARD MILTON FOOTE, M. D., Instructor in Surgery, same College. *Surgery of the Pelvis and Genito-Urinary Organs.* Lea Brothers & Co., New York and Philadelphia. 1904. Large 8vo. Pp. 789. Cloth. \$6 per Volume. Sold by subscription only.

This magnificent work—increased in value by the notes of the American editors—will long remain the standard exhaustive system of practical surgery. This concluding volume of the *System* treats of malformations, injuries and diseases of the pelvis, of the anus and rectum, of the urethra, of the penis, abnormalities, injuries and diseases of the kidneys and ureters; of the bladder and prostate, of the scrotum, testicle, vas deferens and seminal vesicle. It would be impossible in the brief space at our disposal to individualize any special chapter for comment. In addition to the index of 18 pages for this volume, a general index of the entire *System* of five volumes is appended—covering 52 pages. Perhaps, in a *System of Surgery* so exhaustive as this, the reader will be disappointed in finding so little on what might be called the *principles* of surgery. Distinctive chapters on some such *principles* would have made the *System* thoroughly complete—excepting, of course, certain specialties as of the eye, nose, throat, etc., for which practitioners would be most apt to look for special treatises.

Practical Medical Series of Year Books—Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under General Editorial Charge of GUSTAVUS P. HEAD, M. D., Chicago. The Year Book, Publishers. 1904. Cloth. 12mo. Price of Series of Ten Volumes, \$5.50, payable in advance; price per Volume, \$1.

The July, August and September volumes are before us—each rich in up-to-date material on the various subjects of which they treat. This series is not intended as text books, but simply to note advances beyond the most recent of the standard works. Each subject reviewed has a special editor. The July number is Volume VIII, and is taken up with advances in *Materia*

Medica, Therapeutics, Preventive Medicine, Climatology, Suggestive Therapeutics and Forensic Medicine—the editors being, respectively, George F. Butler, Ph. G., M. D., Henry B. Favill, A. B., M. D., Norman Bridge, A. M., M. D., and Harold N. Moyer, M. D. The August number, or Vol. IX, considers *Physiology, Pathology, Bacteriology, Anatomy*, and a *Dictionary of New Medical Words*—W. A. Evans, M. S., M. D., Adolph Gehrman, M. D., and William Healy, M. D., being the respective editors. Vol. X, or the September number, reviews *Skin and Venereal Diseases*, and *Nervous and Mental Diseases*, with W. L. Baun, M. D., and Hugh T. Patrick, M. D., as the respective editors. The work of each one of the editors has been well done—presenting volumes of the greatest practical service to physicians and surgeons.

Medical and Surgical Report of the Presbyterian Hospital in City of New York. Vol. VI. January, 1904. Edited by ANDREW J. McCOSH, M. D., and W. GILMAN THOMPSON, M. D. Trow Directory Printing and Bookbinding Co. Board back. Large 8vo. Pp. 331.

This, like so many volumes of society and hospital reports without index, etc., contains many very valuable papers that are practically lost to the profession, for but few know what is in the book. In the *Report* before us, Drs. Geo. A. Tuttle and Herbert S. Cartler give *Data regarding Acute Lobar Pneumonia*; Dr. Ellsworth Eliot has an illustrated article on the *Behavior of the Costal Arch in Diseases of the Abdominal Organs, and its Importance as a Diagnostic Symptom*; Dr. W. P. Northrup writes an illustrated article on *Linear Atrophicæ, Associated with Rapid Growth of Long Bones*; Dr. Woolsey reports a *Case of Tumor of Spinal Cord*; Dr. John Howland's Prize Essay is on the *Pathological Anatomy of Shiga Bacillus Infection of Intestines in Infants*; Dr. Forbes Hawkes writes on the *Treatment of Advanced Cases of General Septic Peritonitis from Appendicitis*; Dr. George A. Tuttle reports a *Case of General Streptothrix Infection, with Study of the Micro-Organism*; Dr. W. N. Berkeley writes on *Malpositions of Adrenal Tissue in and on the Kidney*; Dr. Clarence A. McWilliams reports *86 Cases of Intestinal Obstruction following Appendicitis Operations*; Dr. Herbert Swift Carter gives a *Contribution to Cyto-*

Diagnosis in Pleural Effusions, with Especial Reference to the Tubercular Form; Dr. A. F. Buchler reports an *Unusual Case of Fungating Potassium Bromide Eruption*; Dr. Burton J. Lee reports 13 *Cases of Tubercular Axillary Adenitis*; Dr. John W. Coe gives *Blood Findings in a Series of Skin Diseases*; Drs. P. van Ingen and Lewis Fox Frissell report a *House Epidemic of Para-Typhoid Fever*; Dr. M. H. Siccard reports on *Malignant Endocarditis—32 Cases*; Dr. P. van Ingen reports a *Case of Glanders*; and Dr. A. J. McCosh reports a *Case of Extraction of Intubation Tube from Right Bronchus*.

Textbook of Practical Therapeutics. By HOBAR.

AMORY HARE, M. D., B. Sc., Professor of Therapeutics and Materia Medica, Jefferson Medical College, Philadelphia, etc. *Tenth Edition, Enlarged, Thoroughly Revised and Largely Rewritten. Illustrated with 113 Engravings and 4 Colored Plates.* Lea Brothers & Co., Philadelphia and New York. 1904. 8vo. Pp. 908. Cloth, \$4; leather, \$5; half Morocco, \$5.50 net.

The popularity of this work is shown by the fact that this tenth edition is now demanded. The present is not a reprinted, but a practically rewritten and rearranged edition, with much new matter, and the omission of the obsolete. Part I gives general therapeutic considerations; II—about 400 pages—deals with drugs; III—about 100 pages—describes remedial measures other than drugs, and gives details as to feeding the sick. IV is taken up with treatment of diseases, tables of doses of medicines, and about 20 pages are devoted to an index of diseases and remedies, which is an exceedingly helpful part of the book for the busy practitioner. We know of no one book comparable to this in completeness and general utility for the doctor who undertakes the employment of remedial measures upon a rational basis. It is a book that the general practitioner can ill afford to be without.

Qualitative Analysis Brief. By ALLARD MEMMINGER, M. D., Professor of Chemistry, Hygiene and Clinical Urinary Diagnosis in Medical College of State of South Carolina, etc. *Second Edition, Revised and Rewritten.* Philadelphia: P. Blakiston's Son & Co. 1904. Cloth. 12mo. Pp. 124. \$1 net.

This is a plain, practical help for the student of qualitative chemical analysis in a quick, ready method for determining the presence of

chemical elements in samples—single or combined—with which he is expected to meet most frequently in practice. For lecture room or laboratory uses, each facing page of text is blank for memoranda, notes, etc. Methods are detailed for determining the presence of various elements in a given mixture—fluid or solid—so plain and simple in detail that a novice can follow instructions. Inorganic and organic acids are similarly dealt with. Tests for various alkaloids are also given, as well as tests of general interest—such as for carbolic acid, salol, antipyrin, acetanilid, salicylic acid, sulphonal, etc. The agents most frequently used are named, and a table index of solvents is given. A good index of the contents of the book is added. This book is calculated in a high degree to give interest to the beginner in the study of qualitative chemistry.

Blood Pressure as Affecting Heart, Brain, Kidneys, and General Circulation. By LOUIS FAUGERES BISHOP, A. M., M. D., Physician to Lincoln Hospital, New York, etc. New York: E. B. Treat & Co. 1904. Cloth. 12mo. Pp. 112. Price, \$1.

No question in modern medicine is exciting more interest, or attracting to it the studies of abler men than this one. This monograph ably deals with the means of determining the degrees of blood pressure as affecting the organs named in the title—especially emphasizing the clinical features. The importance of the subject chiefly concerns those who are from middle to older ages, particularly those overworked or under the constant strain of modern demands upon brain and nervous energy. The book can be read within three or four hours, and much that is important for the physician to remember is well impressed.

Hand-Book of the Anatomy and Diseases of the Eye and Ear. For Students and Practitioners. By D. B. ST. JOHN ROOSA, M. D., LL. D., Professor of Diseases of the Eye and Ear, New York Post-Graduate Medical School, etc., and A. EDWARD DAVIS, A. M., M. D., Professor of Diseases of the Eye, New York Post-Graduate Medical School, etc. 300 pages, Square, 12mo. Cloth. \$1 net. F. A. Davis Co., Publishers, Philadelphia, Pa.

About 200 pages are devoted to the eye and 100 pages to the ear. It is a plain, concise manual—omitting reference to very few subjects of common importance to the doctor. Discussions of theories are omitted, as also obsolete material.

Its descriptions of methods in diagnosis and of treatment adapted to given conditions are thoroughly in accord with the most advanced practices of to-day. In short, it is a perfect *hand-book*; and the only danger we see is that the student or *practitioner* who masters this volume will find little inclination to read fuller works. The busy worker is content with results and seeks to avoid detailed descriptions. The very complete index is worthy of special mention as enabling the practitioner to refer promptly to the point about which he seeks information.

Editorial.

State Board of Medical Examiners of South Carolina.

According to the new medical practice act, only one regular examination is held each year—beginning on the fourth Tuesday of April. No person who shall have graduated later than February 27, 1904 (date of passage of the act), shall be eligible for examination without evidence—in addition to sufficient preliminary education—that he or she is a graduated M. D. of a recognized college requiring four full courses of lectures of at least 26 weeks each (no two courses being in the same year), and presents a certificate vouching for these facts. All such graduates are exempt from examination in the junior curriculum (which includes General Anatomy, Physiology and Histology, *Materia Medica* and Medical Botany, Chemistry and Medical Physics, Bacteriology and Pathology), but such graduates must be examined on the senior curriculum, which includes Regional and Surgical Anatomy, Practical Hygiene and Sanitary Science and State Medicine, Practical Urinalyses and Urinary Microscopy, Therapeutics and Toxicology, General and Special Surgery and Surgical Procedure, Practical Medicine and Diseases of Children, Practical Obstetrics and Gynecology, and Medical Jurisprudence and Toxicology. The board is empowered, without examination, to endorse, upon receipt of license fee of five dollars, licenses issued by other State Boards having an equal standard, *provided* said other State Boards accord to the licenses of the South Carolina State Board the same courtesy. A fee of \$5 is required of each applicant for ex-

amination, which will be refunded in the event he or she fails to pass.

In many respects the South Carolina law (of which we give only a partial abstract) is excellent; but we regret very much that the fee of only \$5 is fixed, which has to be returned unless the applicant receives the certificate of the Board. Such a fee will not pay the expenses of the Board, nor allow a compensating per diem to members. It is to be remembered that many days of hard work have to be given to papers even after the return of members to their homes, for which some compensation should be allowed. During the days of the session of the Board the members have to absent themselves from their homes and their practices, which is a very decided loss of money. And no one who has not been a member of such a State Board can appreciate the annoyances of correspondences and personal calls—especially of those fairly and squarely rejected. A fee of not less than \$10 is, in all conscience, small enough, and such fee should not be refunded if the applicant fails. The same service is rendered by members of the Board in the cases of the unfortunates; and while the fortunates receive congratulations, the unfortunates are a tax upon the sympathies of the examiners, for which he should be paid, if he discharges his duties faithfully.

Compulsory Vaccination in Rio de Janeiro

Caused a small sized revolution during the middle of the past month, military and naval detachments having to be called upon to restore order, which was done only after seven persons were slain and thirty or more wounded. The city of Rio has a population about equal to that of Boston. The U. S. Public and Marine Hospital Service Health Reports for the weeks ending November 25th and December 2, 1904, give the number of cases of small-pox in the South American city as 578 and 427, while the deaths numbered 183 and 175, for the two weeks, respectively. Surely compulsion is necessary where such a state of disease exists.

Fourth Pan-American Medical Congress.

An arrangement has been perfected with the United Fruit Company by which a steamer will leave New Orleans for Colon, Panama, on Wednesday, December 28, 1904, at 10 A. M., instead of Friday, December 30th, at 11 A. M., as was announced previously. This steamer

will arrive at Colon Monday, January 2, 1905, the opening day of the Congress, and in view of the facilities offered to reach Panama via New Orleans, it is expected that many will choose this route. Those contemplating taking this trip are requested to forward their names, not later than December 22d, to Dr. R. Matas, Secretary of the Section on General Surgery, 2255 St. Charles Ave., New Orleans, La. A reduction of the regular fare for the round trip from New Orleans to the Isthmus to \$50 is also announced.

The Samuel D. Gross Prize

Of twelve hundred dollars will be awarded on January 1, 1905. The conditions annexed by the testator are that the prize "Shall be awarded every five years to the writer of the best original essay, not exceeding one hundred and fifty printed pages, octavo, in length, illustrative of some subject in surgical pathology or surgical practice, founded upon original investigations, the candidates for the prize to be American citizens."

The Supervisors of Mecklenburg County, Va.,

Recently passed an order that hereafter the regular fee to be paid physicians who attend small-pox shall not be over ten dollars per day. This action is said to be the result of some disagreement as to the matter of fees when small-pox existed in that county last winter.

The Medical Examining Board of Virginia

Will hold their next examination in Richmond, December 13 to 16, inclusive. All persons interested should note the advertisement on the fourth cover page of this journal. Any further information can be obtained from the secretary, Dr. R. S. Martin, Stuart, Va.

Dr. Hugh T. Nelson, Jr.,

Formerly of Charlottesville, Va., has been appointed Assistant Surgeon U. S. Navy, with rank of Lieutenant (Junior Grade), from November 14, 1904, and has been ordered to the Naval Hospital at Washington, D. C.

The Southside Virginia Medical Association

Will hold its first quarterly meeting for 1905 at Wakefield, Va., on Tuesday, January 3d.

The membership of this Society is composed of doctors from the counties of Prince George, Surry, Sussex, Southampton, Greensville and Brunswick, and those who are not now members are earnestly urged to join at this next session. Dr. O. C. Wright, of Jarratts, Va., is president, and Dr. Lucien Lofton, of Emporia, Va., is secretary.

Dr. Henry R. Winfree.

If any acquaintance knows his post-office address, he would confer a favor by letting us have it.

Dr. J. Mettauer Winfree, Richmond, Va.,

Is quite sick at his home on West Grace street, and his friends feel anxious about him.

Obituary Record.

Dr. William Brooks Gray

Died at his home, Richmond, Va., November 24, 1904, aged 71 years. After a course at the University of Virginia, he graduated in medicine from the Jefferson Medical College, Philadelphia, 1852. He began practice as an associate with his father, Dr. W. A. Gray, in Fluvanna, his native county, Va. During the Confederate war he served on the medical staff of Dr. James B. McCaw, surgeon in charge of Chimborazo Hospital, Richmond—up to that period the largest military hospital of the world. After that war, he resumed practice in Fluvanna county, Va., but moved to Richmond, Va., about 1872, where he became a well established practitioner up to the time of his fatal illness. In 1871 he joined the Medical Society of Virginia, of which he was elected Vice-President in 1881. He was a member and vice-president of various local medical societies, to each of which he contributed papers of merit. His is the second death of those who attended the recent session of the Medical Society of Virginia during October. Dr. Gray was a devout Christian, and a faithful member of the Baptist church, and according to its rites, his remains were laid to rest in the vault recently built in Hollywood Cemetery, Richmond.

THE Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

Vol. 9, No. 18.
Whole No. 210.

RICHMOND, VA., DECEMBER 23, 1904.

\$2.00 a Year.
10 Cents a Copy.

Original Communications.

AN ANALYSIS OF TWENTY-FIVE CASES OF STRANGULATED HERNIA TREATED BY OPERATION.*

By GEORGE TULLY VAUGHAN, M. D., Washington, D. C.,

Assistant Surgeon-General U. S. P. H. and M. H. S.; Professor of Surgery, Georgetown University, etc.

In 115 operations for inguinal and femoral hernia I have had 25 cases of strangulated hernia requiring operation. Care has been taken not to include simple incarcerated hernia, but only those cases in which the intestine was not only incarcerated but the circulation of blood was so obstructed as seriously to threaten, and in several cases to destroy, the integrity of the intestine.

As to variety, 5 were femoral and 20 were oblique inguinal. Twenty-three were on the right side—only 2 on the left. Hernias are much more common on the right side than on the left side. In my list of 104 inguinal hernias, 69 were on the right and 35 were on the left side. Of 11 femoral hernias, 9 were on the right and only 2 on the left side; but when we consider the 25 cases of strangulation we find all (5) the femoral and 18 of the 20 inguinal hernias on the right side. It would seem from these few statistics that strangulation is more apt to occur in the right than in the left sided hernia. I had no case of strangulated direct inguinal hernia. According to the relation of the hernia to the peritoneum there were 11 congenital, the funicular process remaining open, 6 acquired, and one of the infantile variety—in 18 cases, 7 not considered—the 5 femoral hernias and 2 inguinal in which the variety was not stated in my notes. The case of anatomically infantile hernia is the only case I have seen. The patient,

No. 6 in the table, was a hard drinker and had had a hernia all his life. On incising the covering of the hernia, 3 distinct layers of peritoneum were divided before reaching the intestine—the first two layers forming a pouch above, which was continuous below with the tunica vaginalis testis. These statistics would indicate that congenital is about twice as apt to become strangulated as acquired inguinal hernia. There were two cases of properitoneal or interstitial hernia—cases No. 15 and 24 in the table. In No. 15, a boy 13 years old, the hernia consisted of a mass of gangrenous omentum tightly wedged in between the transversalis muscle and transversalis fascia above the internal ring. The funicular process was open.

No. 24 was a youth aged 18 years who stated that the hernia had suddenly appeared about 41 hours before he was operated on. About 3 inches of small intestine were found wedged in between the transversalis fascia and transversalis muscle and slightly protruding through the external ring. These are the only cases of interstitial hernia I have seen in 104 inguinal operations. Coley reports only 7 cases in 937 operations.

Only one of my cases, No. 14, was complicated with an undescended testicle.

My youngest patient was six weeks, and the oldest 77 years.

4 patients were between 10 and 20 years of age.

2 patients were between 20 and 30 years of age.

4 patients were between 30 and 40 years of age.

5 patients were between 40 and 50 years of age.

3 patients were between 50 and 60 years of age.

2 patients were between 60 and 70 years of age.

4 patients were between 70 and 80 years of age.

*Read before the Medical Society of Virginia at its thirty-fifth annual meeting, at Richmond, October 18-21, 1904.

The ages of the fatal cases were as follows: two 77, one each 60, 52, 51, and 41 years old.

Site of constriction.—Often it is impossible to determine the exact point between the internal and external rings which causes the strangulation and sometimes it seems to be caused by constriction exerted along the entire inguinal canal. In sixteen cases in which I was able to determine definitely the point of greatest constriction, in 3 cases it was at the external ring, in 7 cases at the internal ring, and in one case in the abdominal cavity—probably volvulus (case No. 8).

Contents of sac.—In the large majority of cases (19) the sac contained small intestine alone, and in every instance in which small intestine was found in the sac and the portion identified—11 in number—it was found to be ileum. In one case the contents were 2 loops of small intestine (case No. 18); in 1, small intestine and omentum; in 1, small intestine and undescended testis; in one, large and small intestine and omentum; in 1, large intestine (sigmoid flexure) only; and in 2, omentum only. In 11 cases dark or turbid fluid—sometimes blood clots were found, and in these cases strangulation had existed from 2 hours to 96 hours—in 8 cases over 6 hours and in only 3 cases less than 6 hours. Venous thrombosis in the mesentery, ecchymosis, or hæmatoma of the intestinal wall or mesentery was found in 10 cases, and while it is admitted that venous thrombi may be caused by constriction alone, yet it is believed that they are caused most frequently by taxis. In 2 cases the intestinal wall was rough and bruised, and in 1 a large hæmatoma was found in the intestinal wall and was treated by incision, evacuation and suture.

In 9 cases the contents of the sac were gangrenous, 3 of the omentum only and 6 of the intestine, and in 4 of these there was what is usually called general peritonitis.

In the gangrenous cases the time during which strangulation had existed was as follows:

- In 1 case 13 days.
- In 1 case 9 days.
- In 2 cases 4 days.
- In 2 cases 3 days.
- In 2 cases 1 day.
- In 1 case 4 hours.

In the last case the gangrene was probably caused by volvulus in the abdominal cavity—there was not sufficient constriction at the rings

or in the sac to cause such a complete strangulation—case No. 8.

Symptoms.—Besides the physical signs the 2 most valuable symptoms of strangulated hernia are *pain* and *vomiting*. Pain existed in every one of my cases, but it varied in character, duration and locality. It is often described as sickening, sometimes as griping, and usually lasts until the constriction is relieved or gangrene sets in. While usually felt most severely in the neck or in the immediate vicinity of the hernia, the pain may be general in the abdomen or the point of maximum intensity may be quite distant from the hernia. In case No. 13, a right strangulated femoral hernia, the patient complained of most pain in the left hypochondriac region and for some time could not be persuaded that the pain came from a small swelling so far away, which was just a little tender, and which he had had off and on for 30 years, so that 24 hours of valuable time were lost and a gangrenous bowel was the result.

Vomiting occurred in 20 out of the 25 cases, nausea without vomiting in 2, and neither nausea or vomiting in 3. In 4 cases the so-called stercoraceous vomiting occurred—that is, the contents of the small intestine were ejected, and as would be expected strangulation had existed a long time—in 2 cases 4 days, in one 9 days, and in one 13 days. The last two cases ended fatally.

Complete notes of the pulse and temperature were not kept, but enough was seen to justify the conclusion that they are unreliable as affording evidence of the condition of the bowel. For example, in case 9, after strangulation had existed 9 days, the pulse was 68 and temperature 96, while in case 11, after strangulation had existed for the same length of time, the pulse was 120 and temperature 98.6.

Treatment.—Taxis was not advised and not practiced except when insisted on by the patient after having the dangers pointed out. The danger of returning a bruised, ruptured or gangrenous intestine or omentum, or a loop of intestine with the constriction unrelieved, is not to be compared with the safety of an open incision with inspection of the contents of the sac so that they may be dealt with according to the conditions found. Occasionally patients are seen who prefer death to an operation—as in one of my cases, an old lady with a strangulated femoral hernia.

The probable happy outcome of an operation and the inevitable fatal result without an operation were explained to her, but she deliberately preferred to die, and did so within a week.

In all of my cases except three, after attending to the contents of the hernia sac some operation for radical cure was performed. Of the three exceptions, two were cases of peritonitis in which it was thought best to provide for drainage, and the third did not survive the operation. After examination of the hernia with sufficient gentle manipulation to determine its condition the operation is performed as soon as possible.

In inguinal hernia an incision is made as in Bassini's operation for radical cure, exposing well the external abdominal ring and the upper part of the hernial sac. The sac is then opened and the contents examined, after which the aponeurosis of the external oblique is slit up, opening the inguinal canal and thereby revealing the constriction unless it is situated at the internal ring or in the abdominal cavity. The contents of the sac are then treated according to circumstances. All constriction having been relieved the intestine is pulled down until the result of constriction on the bowel can be seen, as the pressure at this point is sometimes so great as to cause an indentation with damage to the bowel or even a perforation—especially in femoral hernia. If the intestine is of doubtful vitality it is covered with cloths and kept wet with physiology salt solution for from fifteen to thirty minutes. If the circulation returns as shown by the red color, the bowel is restored to the peritoneal cavity, but if the circulation fails to return resection is at once performed and the ends of the bowel united with sutures or button. A few gangrenous spots limited to small area may be treated by turning them in with sutures or by telescoping a portion of the bowel so as to cover and reinforce the damaged part and fixing with sutures.

The formation of an artificial anus with or without resection of the intestine must not be done in any case in which the patient's condition will permit resection with immediate reunion, since Gibson's statistics show a mortality from the former just double that which results from the latter operation. In every case in which the patient's condition will permit, an operation for radical cure is performed.

In femoral hernia the incision is made from

above downward and inward, crossing Poupart's ligament at an angle of about 45 degrees and extending over the hernia. Poupart's ligament is divided whenever it is found necessary to do so. The subsequent steps so far as treatment of the hernia is concerned correspond with those already given for inguinal hernia. As far as I have been able to ascertain, the results of the operation for radical cure in strangulated cases are as satisfactory in every way as those performed at other times.

Mortality.—There were 6 deaths in 25 operations: *Case 6* was a hard drinker, had a fatty liver and died of delirium tremens on the 5th day after operation. *Case 7* was a woman aged 77 years, who had suffered from strangulation 13 days and had an incipient general peritonitis when the gangrenous intestine was resected. She died of peritonitis 48 hours after operation. *Case 9* was a man 51 years old, who had had a right inguinal hernia about 40 years, but he stated that he had not been troubled with it for more than a year. At the time of operation he had been suffering with intestinal obstruction 9 days and was very weak. No sign of hernia could be found by examination externally, but laparotomy revealed a knuckle of ileum which was little more than a Richter's hernia, having entered the internal abdominal ring just far enough to produce complete obstruction and become strangulated. The patient died on the table apparently from exhaustion as soon as the hernia was reduced. An interesting phenomenon in the form of dynamic ileus was observed in the case—the intestine for fully 10 inches below the strangulated portion being contracted into a small cord, completely obliterating the lumen so that water would not run through. There seemed to be a tonic contraction of the circular muscular fibers, which remained in that condition after the specimen had been removed from the body and placed in preserving fluid. *Case 11* was a woman with a right femoral hernia which had been strangulated 9 days, and general peritonitis had set in. The gangrenous intestine was resected and a Murphy button used, but death occurred 14 days later from peritonitis. *Case 13* was a man aged 60 years, whose death was caused probably by his own obstinacy in not permitting an operation sooner. He had gangrene of the intestine from 3 days of strangulation with numerous mesenteric thrombi and beginning general

peritonitis. Nineteen inches of intestine were resected, but death occurred 4 days later. Necropsy showed general peritonitis and gangrene of 3 feet more of intestine. There may have been an arterial embolism in this case.

Case 22 was a feeble man aged 77 years, inmate of an insane asylum, who had had strangulation of a right oblique inguinal hernia for 8 hours and had been treated by taxis. Three feet of ileum almost black were found in the sac with numerous large thrombi in the mesentery. Death occurred on the 4th day from toxæmia or exhaustion. No peritonitis.

There were 6 cases of resection of gangrenous intestine with 3 deaths—all from general peritonitis which existed at the time of operation.

Reviewing the histories of these fatal cases it is almost certain that with one exception, case 6, a timely operation would have saved the life of every one of the patients.

It may be of interest to show the mortality (1) in general, (2) when gangrene or general peritonitis was not present, and (3) when gangrene or peritonitis was present.

Operations for strangulated hernia 25
Deaths 6
Mortality 24 per cent.

Cases in which the contents of the sac were in good condition (though some of these had thrombi in the veins and damage to the intestine) 16
Deaths 3
Mortality 18.75 per cent.

Cases in which the contents of the sac were gangrenous or general peritonitis existed at time of operation 9
Deaths 3
Mortality 33.3 per cent.

Six of these cases were resection of gangrenous intestine and three of removal of gangrenous omentum.

At Johns Hopkins Hospital from 1889 to 1899 there were operations for strangulated hernia 64
Deaths 19
Mortality 29.68 per cent.

Cases in which the contents of the sac were in good condition . . 48
Deaths 4
Mortality 8 per cent.

Cases in which the contents of the sac were gangrenous or general peritonitis existed at the time of operation 16
Deaths 15
Mortality 93.75 per cent.

Erdmann reports:
Operations for gangrenous intestine or omentum 8
Deaths 4
Mortality 50 per cent.

Six of these were resection of the intestines with two deaths; one removal of gangrenous omentum with one death; and one formation of artificial anus with one death.

Horwitz reports:
Operations for strangulated hernia 43
Deaths 15
Mortality 34.88 per cent.

Three of these were resections of gangrenous intestines with two deaths; mortality, 66.66 per cent.

Coley reports in 1,063 operations for hernia 17 operations for strangulation, with 2 deaths. One resection of gangrenous intestine resulted fatally.

Gibson collected from the literature from 1888 to 1898, 226 resections of gangrenous intestine with immediate reunion, having a mortality of only 26 per cent., and in 63 cases in which the Murphy button was used the mortality was even less, only 22 per cent.

This is a much smaller mortality than that of any of the operators quoted here, and is probably a little more favorable than would be the statistics of all cases operated on were it possible to collect them. It is well known that the successful is much more apt to report his cases than the unsuccessful operator, so that many failures are never heard of, whose sum total added to those published would materially increase the mortality. This is true of operations for other troubles beside strangulated hernia.

Opposite is given in tabular form a resume of the 25 cases discussed:

No.	Sex. Age. Color.	Variety.	Symptoms.	Contents of sac and condition.	Site of con- striction.	Duration of strangulation.	Treatment.	Result.
1	M. 31. W.	L. O. I. Acquired.	Little pain, no vomiting.	Piece of omentum size of walnut, twisted and gangrenous.		4 days	Excision of omentum. Bassini.	R.
2	M. 37. W.	R. O. I. Old, congeni- tal.	Pain and vomiting.	About 6 feet of small intestines red and congested, and consider- able fluid.		13 hrs.	Reduction and Bassini.	R.
3	M. 17. C.	R. O. I. Acquired. 2 years.	Pain, vomit- ing and bic- ough; vom- itus for last 18 hours stercoraceous and pain much less.	About 4 inches of small intestine dark red with a black spot 1 inch long on it, which became red after exposure.	Internal ab- dominal ring.	53 hrs.	Reduction and Bassini.	R.
4	M. 46. C.	R. O. I. Congenital, old.	Pain and vomiting.	Small intestine congested—bloody fluid and blood clots.	External ah- dominal ring.	6½ hrs	Reduction and Bassini.	R.
5	M. 29. C.	R. O. I. Congenital— since child- hood.	Pain and vomiting 3 days.	Six or eight inches of black, small intestine, gangrenous omentum and bloody fluid. Intestine be- came red after exposure.		3 days	Excision of gangrenous omentum. Bassini.	R.
6	M. 52. W.	R. O. I. Infantile— since child- hood.	Pain and vomiting.	Congested small intestine and con- siderable bloody fluid.	External ah- dominal ring.	4 hrs.	Reduction and Bassini.	D. from de- lirium trem- ens on 5th day.
7	F. 77. W.	R. F.	Pain and vomiting 13 days, ster- coraceous 4 days.	One inch gangrenous, small intes- tine and mesentery—peritonitis, general.		13 days	Excision of intestine, Murphy but- ton.	D. 48 hours after opera- tion from peritonitis.
8	M. 60. C.	R. O. I. Congenital, old.	Pain and vomiting.	Large mass composed of caecum, ileum and omentum congested, and on reducing it a coil of gan- grenous intestine came down. Thrombi in mesentery.	In abdomen from volvulus.	4 hrs.	Excision of 28 inches of in- testine. Murphy but- ton and Bas- sini.	R. button passed 14th day.
9	M. 51. W.	R. O. I. 40 years, but not recently.	Pain and vomiting 9 days, ster- coraceous 4 days.	No external sign of hernia. Lapa- rotomy showed knuckle of ileum just engaged in inguinal ring. Thrombosis of mesenteric veins.	Internal ab- dominal ring.	9 days	Laparotomy and release of hernia.	D. on table from ex- haustion.
10	F. 24. W.	R. O. I. 18 months.	Pain and nausea.	Small intestine congested; haema- toma in intestinal wall (Taxi).	External ah- dominal ring.	3½ hrs.	Haematoma incised and walls su- tured. Rad- ical cure.	R.
11	F. 41. W.	R. F. 2 years.	Pain and vomiting. P. 120, T. 98.6.	Two inches gangrenous small in- testine in sac—peritonitis.	Femoral ring.	9 days	Hernial sac opened; 3 inches in- testine re- sected and Murphy hut- ton used.	D. on 14th day from peritonitis.
12	F. 50. W.	R. F. 20 years	Pain and vomiting 4 days, ster- coraceous.	Gangrenous small intestine—fluid in sac—peritonitis.	Femoral ring.	4 days	5 inches in- testine ex- cised ends united with su- tures. Rad- ical cure.	R.
13	M. 60. W.	R. F. 30 years.	Pain, vomit- ing and hic- ough.	Gangrenous small intestine and mesentery—peritonitis. Thrombi in mesenteric vessels.	Femoral ring.	3 days	19 inches in- testine re- moved and Murphy hut- ton used. Radical cure	D. 4 days lat- ter; gan- grene 3 ft; more of in- testines. Peritonitis.
14	M. 30. W.	R. O. I. Congenital— 20 years.	Pain and vomiting.	Knuckle of dark brown, small in- testine and testis—bloody fluid just above testis.	External ah- dominal ring.	3 days	Reduction. Testis brought down into scrotum. Bassini.	R.

No.	Sex. Age. Color.	Variety.	Symptoms.	Contents of sac and condition.	Site of con- striction.	Duration of Strangulation.	Treatment.	Result.
15	M. 13. W.	R. O. I. Congenital, interstitial or periperitoneal.	Pain and vomiting.	Omentum—part of which was gan- grenous—this part was tightly wedged in above, between the peritoneum and transversalis muscle. Bloody fluid.	Internal ab- dominal ring.	24 hrs.	Omentum ex- cised. Bassini.	R.
16	M. 46 dys. old. C.	R. O. I. Congenital.	Pain and vomiting.	About 18 inches of ileum highly congested in tunica vaginalis testis, to which it was adherent.	Internal ab- dominal ring.	24 hrs.	Reduction and Bassini.	R.
17	M. 15. W.	R. O. I. Acquired, 1 year.	Pain and nausea.	Four inches of darkly congested small intestine and turbid fluid.	External ab- dominal ring.	2 hrs.	Reduction and Bassini.	R.
18	M. 43. C.	R. O. I. Congenital, 30 years.	Pain.	Two separate coils of small intes- tine—one 18 inches long, the other 5 inches long—the four limbs of the 2 coils came through the same opening; both coils deeply congested and both mesen- teries contained venous thrombi.	External ab- dominal ring.	2 hrs.	Reduction and Bassini.	R.
19	M. 77. C.	R. O. I. Congenital, "long time."	Pain and vomiting.	Six inches of gangrenous ileum and bloody fluid.	Internal ab- dominal ring.	24 hrs.	8 inches ex- cised and ends united with Mur- phy button. Radical cure	R.
20	M. 76. W.	R. O. I. Acquired, 40 years.	Pain and vomiting.	Twelve inches of congested ileum next caecum—3 or 4 venous thrombi in mesentery.	?	9 hrs.	Reduction and Bassini.	R.
21	F. 45. W.	R. F. 10 years.	Pain and vomiting.	Two inches of highly congested ileum in sac—thrombus in mesen- teric veins. Deep epigastric ves- sels were pulled down by the sac and lay on its outer side and above.	Saphenous opening.	40 hrs.	Reduction and operation for radical cure.	R.
22	M. 77. W.	R. O. I. Congenital. Insane pa- tient.	Pain and vomiting.	Three feet of ileum almost black in color; numerous large thrombi in mesentery.	External ab- dominal ring.	8 hrs.	Reduction and operation for radical cure.	D. on 4th day from toxemia.
23	M. 36. W.	L. O. I. Congenital.	Pain. No nausea or vomiting.	About 5 inches sigmoid in sac. Appendices epiploicae ecchymotic (from taxis).	Internal ab- dominal ring.	12 hrs.	Reduction and Bassini.	R.
24	M. 18. C.	R. O. I. Acquired day before operation. In- terstitial.	Pain and vomiting.	About 3 inches of small intestine between transversalis fascia and transversalis muscle just pro- truding through external ring. Intestine dark brown, rough and bruised (taxis), 2 thrombi in mesenteric veins, and 50 c. c. dark fluid in sac.	Internal ab- dominal ring.	41 hrs.	Reduction and Bassini.	R.
25	M. 45. C.	R. O. I. Acquired, 20 years.	Pain and vomiting. Pulse 50.	About 3½ feet of ileum dark and caecum and appendix visible. cold to touch—little dark fluid— No thrombi (no taxis).	External ab- dominal ring.	5 hrs.	Reduction and Bassini.	R.

BOWEL REPAIR IN ACCIDENTAL AND PATHOLOGICAL LESIONS IN PELVIC AND INTRA-ABDOMINAL OPERATIONS.*

By JOSEPH PRICE, M. D., Philadelphia, Pa.,

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It is difficult to make a choice of a subject that will interest and benefit the modern prac-

*Read before the Medical Society of Virginia at its thirty-fifth annual meeting, at Richmond, October 18-21, 1904.

itioner who seeks the object lesson so generally and freely offered in educational circles. On many subjects it would seem that sufficient has been said about our work, in the specialties, to guide us, and that it only remained for us to go ahead and perfect our methods and materials.

Early in the history of surgery—and much of our surgery is new—papers were read in larger numbers in our country, State, and national meetings, and earnest discussions made of them.

At present the X-ray and serum therapy are receiving marked attention. In a recent State meeting five X-ray papers were read; in your meeting, Mr. President, you could have a special session for serum therapy.

The well schooled surgeon values precise knowledge—pathological, diagnostic, and operative. It would require a lengthy article to cover all accidental and pathological lesions in intra-abdominal operations. Those due to traumatism are numerous; lacerations of or puncture of nearly every viscus have been recorded in good numbers; fractures of kidney, spleen, liver diagnosed; the abdomen opened, the organ carefully sutured, a thorough toilet and drainage made, with recovery. Pathological perforations of about all the intra-peritoneal organs, stomach, large and small bowel, bladder and gall bladder have been recognized early, repaired early, with speedy and happy recoveries.

I have recently had two experiences to which I shall briefly refer:

A large, well developed Roman was shot directly through the right groin in the region of the appendix by a negro assassin or highwayman. The thirty calibre bullet passed through the posterior wall of the cæcum downward to the right and into the pelvic basin. He was kept quiet in a hospital for three days and a group of unpromising symptoms developed. The third day I opened his right groin, evacuated a large quantity of fæces and decomposing blood. A deep toilet was made to cleanse his pelvis and remove the ball, which I found in his pelvic tissues; the posterior wall of the cæcum was open and necrotic, too extensive for trimming and suturing; open treatment and generous gauze drainage resulted in a speedy recovery.

About the same time I opened the abdomen of a patient who had all the typical symptoms of appendicitis—pain, nausea, vomiting, marked distension, rigidity and elevation of temperature. The local symptoms were higher up than usual and more severe than commonly occur in appendicitis—sufficient to influence me in making my incision higher up than usual—feeling quite certain I should find a ruptured gall bladder. Through the opening free bile and sero-purulent fluid escaped in large quantities. The whole peritoneal cavity looked filthy; was discolored and soiled with bile, and greatly con-

gested. I removed a large number of large bile stones, made complete wet or wash toilet of the peritoneal cavity, drained both gall bladder and peritoneal cavity with gauze. Recovery uneventful.

Time will not permit me to go into the clinical course following a great variety of displacements, adhesions, twists, contortions, flexures, retentions, abnormal fixations, post-operative complications, or sequæ or grave complications, avoided or neglected, in primary operations. The neglected complications may be the result of our present procrastination or failure to make an early diagnosis. A large number of complications follow gall bladder drainage; omentum, transverse colon and liver are all found fused and strongly adherent about many of the extensive incisions now made for that work. Shorter incisions, and, to use football parlance, "less fumbling" would give better results. We find but few sequæ about incisions for the removal or fixation of the kidney, the region of the incision. Total absence of fumbling gives a satisfactory solution and prevents the dangerous, extensive and interesting varieties of adhesions, twists, snarls, figure of eights and ss of the small bowel before and after pelvic operations for suppurating forms of pelvic disease (tubes and ovaries), also similar conditions and complications about the head of the cæcum and appendix.

I have given the closest possible attention to the symptoms, clinical history, physical sizes, and logical findings in the surgery primarily, and in the repeated operations. While I revel in dealing with all sorts of pathological snarls, I lament that we as yet have found such recurrences in a good number of our cases. I know perfectly well that the trained operators do a great variety of operations with a great variety of pathological complications with the best possible results. I know some of my own cases return for repeated operations, for the correction of something that was adjusted and recurred. I also know that a large number of patients from other surgeons come to me for repeated operation—for all sorts of operative sequæ. I have now in bed some ten such cases; one a physician's wife, from whom ten months ago I removed a large number of large gall stones, with an apparent pleasing recovery. In reoperating I found that the omentum, colon, liver, gall bladder were fixed to the abdominal incision;

they were again freed, and the adherent drained surfaces covered.

Another case from a prominent surgeon in Washington, who did the most inexcusable work that it has ever been my bad luck to encounter; he probably opened the sheath of both recti muscles, sewed the uterus between them—the posterior sheath to the posterior wall of the uterus, the anterior sheath to the anterior wall. He rotated the uterus to the right, two inches of the left tube in and parallel with the fibres of the left recti muscle; the bladder, too, was stored away, and the vesico-uterine space entirely obliterated. If he had started out to do a ventral fixation he succeeded. Some years ago I had a similar experience in St. Paul. On this occasion, in freeing the uterus, I opened the bladder. This woman had had a ventral fixation in Chicago and demanded its release, stating "she had jumped from the frying pan into the fire."

It is always interesting and instructive to study the work of other people—what they do, how they do it, and what they don't do. Many years ago a New York surgeon, while the president of a prominent society, stated that he had freed bowel adhesions in two cases, loosening both—"that he had long since learned to look upon bowel adhesions as sacred, and to keep his hands off."

Now, gentlemen, releasing bowel adhesions, relieving acute and chronic obstructions, etc., are very important parts of our work, in primary and repeated operations, and we must not shirk it—pseudo-ileus is dangerous. A prominent operator states that a certain amount of gaseous distension follows all abdominal operations; this has not been my own experience. The more thorough preparation of the patient, less fuss, feathers and foolishness during the operation and after treatment, a higher degree of cleanliness on the part of the operator and all aids, are my solution—many of us having long series of abdominal operations without perceptible distension.

I lament the fact that most surgeons are afraid of adhesions and use the word "inoperable." The common practice of incision and puncture of pelvic accumulations, and the use of the aspirator, are due to this fact. Such methods make simple operations difficult. We must be prepared at every point to meet both old and new complications with trustworthy methods and the most approved tactics—full preparedness to meet and deal with every complication

found. Dealing with acute lesions, or early in the natural history of nearly all intra-pelvic calamities, suppurations or growths, is easy; bowel and other adhesions are friable; planes of cleavage easily found, lesions due to adhesion—freeing or accident readily repaired. Diminished lumen or greatly thickened or dilated portions of bowel are not then found.

Before the many present mechanical devices, Murphy button and the great variety of rings, I used the needle and suture for all sorts of lesions of viscera with perfect results, occasionally reducing the lumen of a mutilated piece of bowel more than one-half, or to the size of an ordinary pencil, at one or more points. At present I rarely do a resection, but use fine needle and thread freely. The dirty, thickened and infected portions of omentum are tied and cut away; the appendix, if adherent or if the patient's condition is sufficient for another feather, removed.

Big books are written on the surgery of the anal ring. I find the surgery of the big bowel inside more interesting, and am satisfied a more useful book could be written on the section of the bowel from the sigmoid down. Dirty necrotic points of the cæcum, sigmoid or rectum should be trimmed, curetted or scraped with a sharp knife and bridged over with healthy tissue. The last two feet of the ileum are worthy of our most careful inspection and manipulation; we should never leave it adherent or elbowed. We should always free it from the pelvic basin, cæcal region and diseased specimen.

Suppurating forms of tubal and ovarian disease give us the greatest variety of complications; the removal of the diseased tube and ovary is play compared with the difficulty of releasing the strongly adherent, disorganized bowel. But the bowel has important functions that must be conserved; those of the tube and ovary have already been destroyed. Suppurations, perfecting the broad ligaments and uterine tissues, through the lymphatic spaces commonly met with in post-puerperal cases, should be found, cleaned and drained.

Bowel lesions are rarely found in cases of ectopic pregnancy that are operated on early; in delayed cases of these conditions, bowel lesions are extensive and trying, requiring considerable repair after freeing, but they must be freed to complete our work.

All forms of tubercular peritonitis give the

intra-peritoneal surgeon the very best possible schooling for dealing fully and completely with bowel adhesions. He should learn to use his two thumbs and two index fingers deftly; then bowel adhesions will not stump him often. It is always well to seek the easy side in freeing the bowel. If it is firmly adherent from right to left, try it from left to right; if the muscular coat gives way, making flap doors, reverse your enucleation, leaving the loose portion of bowel on bowel, and stitch it down carefully. I have many times opened the peritoneal cavity when I could see only a portion of bowel surface and no mesentery, finishing the operation by viewing both sides of the mesentery from the ileo-cæcal valve to the stomach. In this group of cases iodoform and drainage are most important.

Dermoid tumors are commonly inflamed, adherent, deeply fixed in the pelvis, and covered by stringy adherent viscera, which must be freed, inspected, and repaired.

Visceral lesions are quite common about large, dirty or unhealthy pedicles or dead ligatures. The adhesions of the small bowel at such points is well defined, hard to separate, and almost always requiring repair.

You are all familiar with the various theories in regard to the most favorable day and hour for operations for infectious and septic forms of appendicitis and pelvic disease. A great number of authors have recorded results of their early and late or interval work. I find the mortality of the latter is not *nil*. You will find the record of an interesting interval operation, a bowel obstruction on the sixth day, by Dr. Peck (*Trans. of A. S. of O. & G.*, Vol. 7, —1894). I cite this case simply to show this discussion commenced a long time ago. I do a large number of these cases over—adhesions necessitating reopening. In all delayed or neglected work complications become so great and extensive, the adhesions so strong, that nothing short of a well schooled operator, and one accustomed to dealing with adhesions, can wade through them. Many young surgeons have never even seen such work.

241 N. 18th Street.

Anxious old lady (to bow-legged boy):
 "Here, little boy; stand back from that bonfire—your legs are warping dreadfully."

SURGICAL TREATMENT OF CIRRHOSIS OF THE LIVER.*

By SOUTHGATE LEIGH, M. D., Norfolk, Va.,
 Surgeon in Charge Sarah Leigh Hospital; Visiting Surgeon Norfolk Protestant Hospital.

Abdominal surgeons have of late been much impressed with the possibilities of collateral circulation in the treatment of certain degenerative diseases of the abdominal organs. One frequently meets with a case in which a new growth springing from one source is supplied with blood through inflammatory adhesions with other parts. Recently I myself have had two cases of very large solid tumor of the uterus in each of which the rapidly growing mass was supplied with blood through enormous venous and arterial trunks from both omentum and abdominal wall. In the course of the disease inflammatory adhesions had united these parts to the tumor and the fine superficial blood vessels had rapidly increased in size. In each of these cases the circulation had come so conveniently and fully through the new channels that the uterine and ovarian vessels had practically not developed at all. After tying off the new blood vessels, the remainder of the operation was nearly bloodless.

Cirrhosis of the liver is in the majority of cases caused either by the direct or indirect effects of alcohol. There is at first a fatty infiltration and congestion of the hepatic substance, then a rapid formation of new connective tissue, which later gradually contracts, displacing the liver cells both by its presence and by its contraction.

The portal system of veins carries the blood from the digestive organs through channels which permeate the liver in every direction. After being filtered through the liver tissue this blood is taken up by other vessels which converge to form the hepatic veins, and they, in turn, empty into the vena cava. Both the presence and the contraction of the connective tissue in cirrhosis lessen the size of the venous channels, and thus dam the blood back on the abdominal organs. This, in turn, leads to digestive disturbances and ascites.

The medical treatment of cirrhosis has been practically devoid of results, and the cases have been looked upon as usually hopeless.

Talma's operation was devised for the pur-

* Read before the Medical Society of Virginia at its thirty-fifth annual meeting, at Richmond, October 18-21, 1904.

pose of increasing the blood supply of the liver tissue, and of relieving the congested condition of the abdominal veins. The operation itself is an extremely simple procedure, consisting in scarifying or irritating the surface of the liver and the parietal peritoneum, causing them to adhere one to the other, and in fastening the omentum to the abdominal wall. The adhering of the liver to the abdominal wall and the diaphragm causes a collateral circulation to spring up and a compensatory growth of the surface liver cells to take place. The adhesions between the omentum and the abdominal wall and the consequent new circulation produced thereby, carry off the excess of blood from the portal system, which is not able to get through the contracted liver channels.

To my mind the operation is one of great possibilities. It has not been performed in a sufficient number of cases to fully demonstrate its usefulness, and in many of those operated on the disease had progressed too far or the patients were in too bad a condition to stand the anaesthetic.

I have recently had the good fortune to operate on a case of severe cirrhosis of the liver, with apparently a perfect cure. The case seemed so hopeless before operation, and indeed for some time afterwards, that it may be of interest to give its history somewhat in detail.

I first saw the patient in May, 1903, with his physician, Dr. Charles Saunders, of Norfolk. He was at that time sixty years of age, and gave a history of "liver complaint" of many years' standing. He had used alcohol, though not to great excess. For several months his abdomen had been enlarging, and he had become jaundiced to an extreme degree. Examination showed some artero-sclerosis, heart fairly good, spleen somewhat enlarged, kidneys normal, stools light, moderate emaciation. The liver was enormously enlarged, extending down to midway between the umbilicus and symphysis and nearly half filling the abdominal cavity. There was some ascites.

We feared malignancy, and decided on operation simply to explore the abdomen. The incision was made longitudinally over the mass. The liver appeared hard and nodular, and we still feared that it might be carcinoma. After scarifying the surface, the omentum was brought up and attached by three catgut sutures to the front of the liver. The abdominal in-

cision was closed roughly, so as to allow adhesions of the omentum to the line of the wound. The patient stood the ordeal fairly well. Convalescence was uninterrupted except by difficulty in moving the bowels. There was, however, no improvement in any of the old symptoms up to the time that he left the hospital, about three weeks after the operation.

He returned to the Soldiers' Home at Hampton, of which institution he was an inmate. We lost sight of him entirely, and indeed thought that he had succumbed to the disease. About fourteen months after the operation he wrote me that he had entirely recovered, and felt better than for years. After some correspondence I called to see him October 9, 1904, a little over sixteen months after the operation. He stated that for three months after leaving the hospital there was no change in his condition. Then he began to improve in every way; his color gradually cleared up, stools got darker, and flesh increased. In six months practically all the symptoms had disappeared. On examination I found him well nourished and of good color. Spleen normal. Liver of about normal size except that there was a projection downward from its middle to the scar of the operation, through which evidently the new blood vessels were passing from the abdominal wall to the liver substance and to the omental vessels. The patient seemed to be thoroughly robust and well.

In my operation I varied somewhat from the method pursued by Talma. It seemed to me that the revivifying of the liver tissue was the most important step in the procedure as far as a permanent cure was concerned. I therefore did not depend entirely upon the small blood vessels of the abdominal wall to carry arterial blood to the surface of the liver, but fastened to it the omentum with its splendid arterial supply received direct from the abdominal aorta through the cœliac axis. Thus I made use of the omentum for two purposes—first, to carry off the visceral congestion through venous anastomosis with the abdominal wall; and second, to carry a fresh supply of arterial blood to the surface liver cells.

The operation detailed above is a very simple one, and has no specially depressing effect on the patient. It offers a good chance of cure in a disease otherwise practically hopeless. It should be done early in the disease, before the liver tissue is too far degenerated to admit of

repair; and where ascites is present, before chronic inflammatory changes in the peritoneum have taken place. Even in bad cases, however, it seems to offer hope for improvement.

THE DIFFERENTIAL DIAGNOSIS BETWEEN STREPTOCOCCIC AND GONORRHOEAL PELVIC INFECTIONS.*

By G. BROWN MILLER, M. D., Washington, D. C.

I refer in this paper to that class of cases where the infection has extended outside of the uterus; to the class which are generally put under the head of "pelvic inflammation," "pelvic inflammatory disease," etc.

Of the various bacteria which cause pelvic inflammation, the two which occur most frequently and which present the most striking contrast to each other are the gonococcus and the streptococcus pyogenes. The paper which I present contains the convictions which are the result of observation and study for the past eight years of a subject which first attracted my attention while doing bacteriological work for Kelly's clinic in Baltimore. I shall perhaps bring to your attention nothing new, but I wish again to emphasize a subject whose importance I am convinced is not fully appreciated. While every physician recognizes the gravity of a streptococcus infection, most operators either do not appreciate the necessity of diagnosing streptococcic from gonorrhoeal and other pelvic infections, or else think it impossible to do so before operation.

In the *American Journal of Obstetrics*, Vol. 39, No. 6, 1899, and again in the *Journal of the American Medical Association*, May 18th, 1901, I reported eleven cases of streptococcic pelvic infection operated upon in the gynecological department of the Johns Hopkins Hospital, and emphasized the necessity of recognizing streptococcic infections prior to operation. Of the eleven cases referred to six were laparotomies and two of the six died, making a mortality of 33 per cent. The five who were drained extra-peritoneally all recovered.

Jung, at the meeting of the Deutscher Natur-

forscher und Aerzte in Karlsbad, in 1902, reported 117 cases that had been operated upon in Martin's clinic in Greisswald for purulent affections of the uterine adnexa and pelvic connective tissue. Of these 101 were intra-peritoneal operations and consisted of the following:

39 laparotomies with 13 deaths.

43 colpotomies with 5 deaths.

9 vaginal total extirpations with 4 deaths.

9 vaginal incisions with 0 deaths.

1 vaginal puncture with 1 death.

Total—101 operations, 23 deaths.

The remaining 16 cases were operated upon extra-peritoneally. They were:

12 abdominal incisions with 1 death.

4 vaginal incisions with 0 deaths.

Total—16 extra-peritoneal incisions with 1 death.

The 101 operations where the peritoneal cavity was invaded showed a mortality of 22.7 per cent.

The pus was examined bacteriologically in 81 cases with the following result:

Sterile, 15 times.

Streptococcus or staphylococcus, 25 times.

Gonococcus, 12 times.

Tubercle bacillus, 17 times.

Colon bacillus, 5 times.

Streptococcus and colon bacillus, 2 times.

Streptococcus and tubercle bacillus, 1 time.

Streptococcus and tubercle bacillus and colon bacillus, 1 time.

Tubercle bacillus and colon bacillus, 1 time.

Actinomyces and staphylococcus, 1 time.

Unknown cocci, 1 time.

Of the 24 fatal cases the nature of the infecting micro-organism at the time of operation was determined 19 times.

In 10 cases the streptococcus was present and all died of septic peritonitis. Of the remaining fatal cases, 2 died of hemorrhage, one of catgut infection, one of ileus, and one of general tuberculosis, leaving only four cases who died of infections other than streptococcic.

Robb in a paper read before the American Gynecological Association, May, 1904, states that in 724 abdominal sections he had a mortality of 3.45 per cent. Nineteen of these cases were streptococcic infections and 7 died, making a mortality of 36.8 per cent. of laparotomies where this micro-organism was present at the time of the operation.

Facts such as these should make every gynecologist

* Read during the thirty-fifth annual session of the Medical Society of Virginia, at Richmond, October 18-21, 1904.

cologist recognize the importance of diagnosing, prior to operation, streptococic infections of the pelvis. Do the majority of them appreciate this importance, and have they a definite mental picture of the pathological lesions produced in the pelvis by this virulent bacterium? I think not, and believing that these infections can in most cases be diagnosed prior to operation, I would call your attention to the characteristics of the streptococcus pyogenes and of the gonococcus, and contrast the lesions produced in the pelvis by these micro-organisms, which, as before stated, are the infecting agents in the majority of pelvic inflammations in women. The tubercle bacillus plays an important role in pelvic inflammation, but the brevity of my paper will prevent it being considered.

The normal uterine cavity is free from all bacteria, and it is generally believed that the vagina is normally free from pathogenic bacteria. The streptococcus has not the faculty of invading unaided the normal vagina and uterus. Introduced into the normal vagina it is quickly destroyed; introduced into the normal uterus, it would probably meet with a similar fate unless there was an abrasion of the uterine mucosa. Although the latter point has not been definitely settled, clinical observations would make it appear true; while if introduced into a uterine cavity containing retained blood it would doubtless grow and possibly cause an endometritis, salpingitis, etc., such cases rarely occur. It is essentially an infector of wounds so far as the genital organs of women are concerned, and to gain a lodgment there must, as a rule, be an abrasion of the mucosa. Having once entered the tissues it spreads by way of the lymphatics, thrombosed blood vessels, occasionally the circulating blood, and shows little tendency to extend along the mucosa of the Fallopian tubes. In all except the rapidly fatal cases of peritonitis, even when it causes a salpingitis, it penetrates the tissues and causes the dense exudates so characteristic of its lesions. It has the faculty of living for years in the exudates and abscesses which it produces; in two of my cases the primary infection had occurred 6 and 12 years, respectively, prior to the operation at which the micro-organisms were recovered. Jung, in the paper before referred to, gives a case where it had remained alive 14 years in the tissues.

Bearing these characteristics of the micro-organism in mind, it is not so difficult to remem-

ber the lesions produced in the pelvis by its invasion. *Streptococic pelvic infection* which arises from the vagina or uterine cavity practically always follows some abrasion of the mucous membrane. Hence we see it following labor and abortion; operations on or injuries to these organs; in cases of carcinoma of the uterus or vagina; in intra-uterine fibro-myoma, sarcoma, and a few other conditions where the naturally antiseptic property of the vagina and uterus are overcome, accompanied by a patulous os and some abrasion of the mucosa. Spreading largely by way of the lymphatics and thrombosed blood vessels, its local lesions are a lymphagitis and phlebitis, producing exudates which are largely retro-peritoneal when the infection takes place in the vagina and lower segment of the uterus; inflammatory processes directly between the uterus itself and intestines, omentum, tubes and ovaries, or pelvic wall, etc., when the fundus is penetrated; and occasionally salpingitis with dense adhesions to the infiltrated structures which lie in contact with the tube. The exudates are, as a rule, asymmetrical.

When the tissues surrounding the vagina, cervix, and lower uterine segment are invaded we have the typical parametritis. In this there is at first a softish, elastic swelling, which, as absorption goes on, becomes harder, so that it frequently has a board-like consistency. Pus formation generally occurs, usually taking the form of small abscesses scattered throughout the mass.

As the infection follows the parametric connective tissue the exudate may have various positions with regard to the uterus. It seems generally to lie in the posterior and lateral region, but it may lie anteriorly, antero-laterally, or posteriorly; or it may fill the whole pelvis, taking in the rectum and vagina in its extension. At times, by pushing the layers of the broad ligament upward, it forms a large tumor mass extending into the abdominal cavity, or by extending in the retro-peritoneal tissues it forms a tumor lying in the posterior, lateral, or anterior abdominal wall, not extending usually above the umbilicus or across the median line. It may cause tumors of the false pelvis; may include the upper portion of the vagina in its extension; may displace the bladder from its normal position, thus giving rise to urinary symptoms; or so constrict the lumen of the intestine as to cause an almost total obstruction

of the bowel. The uterus is usually intimately connected to the exudate, rendering it immovable. The exudates are of a board-like consistency even when the invasion takes place through the tubes, and the adhesions are so dense that it is generally impossible to separate the adherent structures except by the use of the knife or scissors. The adhering structures are much infiltrated, and when the bowel is involved there is frequently a communication between the abscesses and its lumen.

Pyosalpinx without an accompanying parametritis is extremely rare, the usual lesions being the following: The tube and ovary of one side form part of an inflammatory mass overlying a parametritic exudate or are adherent to the spot where the infection penetrates the uterine wall. In several cases which I have observed, where there was a parametritic exudate or the corpus uteri was densely adherent, the tubes and ovaries were normal. It is much more likely to be encountered in cases coming from the country, where the gonococcus is not so prevalent and where asepsis is, as a rule, not so well carried out as in cities.

The following case serves to illustrate most of the points made in the preceding pages:

M. K., white, age 26 years, gave birth to a child in January, 1898. The labor was a difficult one, a breech presentation. She was confined to her bed for three months with puerperal fever. Since then she has not been pregnant. She has suffered with slight leucorrhoea and painful, irregular and profuse menstruation; has had pain in the back and pelvis, which is, at times, severe.

She was admitted to the Garfield Hospital in Washington and operated upon April 23rd, 1901. At the operation a large solid tumor mass was found in the pelvis, "probably arising from the right sacro-iliac synchondrosis." The diagnosis was inoperable sarcoma and no attempt was made to remove the tumor.

Under this diagnosis she was treated with Coley's mixed toxins from December, 1901, to June, 1902. The mass, which in December, 1901, measured externally approximately 4x2½ inches, diminished in size and she apparently improved in health. She has had, at times, slight elevations of temperature, once an attack simulating dysentery, and albuminous urine.

She was seen by me in June, 1902, and I found in the right iliac region a mass the size

of two fists, apparently a parametritis, and of dense consistency. The mass extended from the pelvic wall to the uterus, and this organ was immovably fixed by it. The left side of the pelvis appeared to be free from inflammatory tissue. The diagnosis of parametritis of streptococcal origin was made at this time. After this she had attacks of pain and fever at intervals until April, 1904, when she entered the Columbian University Hospital and was operated upon by me.

The following notes were made at the time of operation after opening the abdomen:

The cervix is bilaterally lacerated. The uterus is much enlarged, is high in the pelvis and intimately connected with an irregularly shaped, dense mass, which lies retro-peritoneally in the right broad ligament, and, surrounding the rectum, extends into the left pelvis. The mass in the right broad ligament is extremely dense and board-like. The intestines, omentum, tubes and ovaries are densely adherent over the exudates. Several cyst-like bodies, the size of a lemon and filled with translucent yellowish or straw-colored fluid, protrude into the peritoneal cavity. On the left side is a mass resembling a thin-walled ovarian abscess. As it was not feasible to get at the exudate extra-peritoneally by an external incision, an opening was made posterior to the cervix and the exudate invaded by blunt dissection. A pocket of pus containing several ounces lying in the left broad ligament was opened and at the same time there was an escape of pus into the rectum. No abscess could be found in the right broad ligament. The vaginal opening was drained and a small hernial sac removed from the lower angle of the old incision.

Microscopical examination of the pus from the abscess obtained from the vaginal opening showed chains of streptococci, and cultures gave a pure growth of the streptococcus pyogenes.

The patient made a good recovery from the operation and was discharged in three weeks with a considerable decrease in the size of the exudates and suffering no discomfort.

Next let us briefly consider *gonorrhoeal pelvic inflammation*. The gonococcus is essentially an invader of mucous membranes and has the faculty, when introduced into the vagina, of invading unaided the normal uterine cavity, and from thence extending along the mucosa to the Fallopian tubes and peritoneal cavity. While it may in rare instances invade the tissue be-

neath the mucosa, it does, at times, enter the circulating blood and cause endocarditis, arthritis, etc.; while it can cause a general peritonitis, practically the lesions which we see are confined to the mucous membrane of the pelvic organs and to the pelvic peritoneum.

Hence the lesions which it causes in the pelvic organs of generation of women are endometritis, salpingitis, pyosalpinx, intra-peritoneal pelvic abscesses, pelvic peritonitis, tubo-ovarian abscesses, etc. In other words, we find its pathological lesions in the uterus, in the tubes, inside the peritoneal cavity. We find inflammatory processes which have extended from the vagina to the uterus, to the tubes, and to the peritoneum, and beginning in most cases in previously healthy mucosa, instead of extending through the wall of the vagina, the cervix, or corpus uteri and having their origin in wound infection as is the case with the streptococcus. The lesions in the pelvis are as a rule symmetrical, both tubes being infected and we never find uterine adhesions with normal tubes. The adhesions are as a rule not so dense and are usually capable of being separated by blunt dissection. Indurated exudates with little or no pus formation are not caused by this micro-organism.

Let us now summarize: *Streptococcic pelvic infections* begin, as a rule, with labor or miscarriage, although they may have as their starting point operations on the vagina, uterus, etc., intra-uterine soundings, applications or other injuries to the uterus; they may arise with carcinoma of the cervix, intra-uterine tumors, or pelvic tumors which become adherent to the intestine and allow an invasion of intestinal bacteria. The exudates and abscesses are largely retro-peritoneal, are usually asymmetrical, are of a board-like hardness, consist usually of small abscesses in extremely indurated tissue, and often communicate with the lumen of the gut. The process may remain active a considerable number of years, in which there are constant evidences of an inflammatory process going on. The pelvic adhesions are extremely dense and indurated, being found where the bacteria penetrated the uterine wall, the surface of the broad ligament, the tube, etc. Infection of both tubes is not common and a frank pyosalpinx I have never encountered. The tubes and ovaries when infected usually form part of an inflammatory mass made up of broad ligament exudate, intestines, omentum,

etc. They are, at times, perfectly normal in cases of parametritis or where the uterus is densely adherent. General streptococcic peritonitis is doubtless always fatal, and encapsulated intra-peritoneal abscesses in the cul-de-sac of Douglas are, I believe, never seen.

The gonorrhœal infections give a history of urethritis, or cystitis; of, perhaps, vaginitis, infection of Bartholin's glands, of increased leucorrhœa, irregular menstruation, etc. The invasion of the uterus does not, as a rule, occur at labor or miscarriage, although where a gonorrhœal infection of the vagina or cervix exists at labor the uterine cavity is liable to become infected during the puerperium. The pelvic lesion is nearly always bilateral and consists of salpingitis, pyosalpinx, tubo-ovarian abscesses, or a collection of pus or serum in the cul-de-sac of Douglas. The masses are not so dense and board-like as in the streptococcic infections and there is never a parametral exudate. General peritonitis may exist and is not generally fatal. Gonococci can usually be found in the urethral and cervical secretions. In women who have never been pregnant, who have had no treatment of, nor operation upon the uterus or vagina, who have no tumor of the uterus such as carcinoma or an intra-uterine myoma, there is little probability of a streptococcic infection. But an infection beginning after labor, abortion, operation upon the uterus, and in other conditions where the mucosa is wounded, with the characteristics previously described, is in all likelihood due to the streptococcus.

Finally, what practical benefit is to be derived from making such a diagnosis? The answer is contained in the statistics previously given. Invasion of the abdominal cavity, except as an exploratory measure in streptococcic pelvic infections, is an extremely fatal procedure, the mortality being from 20 to 40 per cent. The exudates and abscesses should be treated as are like conditions in other parts of the body—that is, by free drainage extra-peritoneally. In gonorrhœal pelvic infections, on the other hand, we need not fear a general peritonitis due to contamination of the peritoneal cavity by the pus during operation, the deaths in most cases of operation for gonorrhœal infections are as a rule not due to the infection but to shock, hemorrhage, intestinal obstruction, etc.

RECENT ADVANCES IN ANAESTHESIA.*

By REYNOLDS WEBB WILCOX, M. D., LL. D., New York,

Professor of Medicine in the New York Post-Graduate Medical School and Hospital; Physician to St. Mark's Hospital.

More than half a century has elapsed since William T. G. Morton publicly demonstrated that insensibility to pain could be safely produced. The operation on Gilbert Abbott, performed at the Massachusetts General Hospital by John Collins Warren on Friday, October 16th, 1846, during insensibility produced by inhalation of ether administered by Morton, was an achievement of the greatest importance to the healing art, to its practitioners, and to the world at large. Not only was Boston the *locus* of the discovery and the demonstration, but there the name was given. For Oliver Wendell Holmes proposed *anaesthesia* as a fitting term to designate the condition of artificial insensibility to pain.†

It is also noticeable that those who aided in bringing anaesthesia to a practical use and who furthered the diffusion of knowledge concerning it over the civilized world, and, finally, who combined in tendering substantial recognition of the service which Morton had rendered to humanity, were men whose names are borne upon the catalogue of Harvard College.

Until that memorable October day, no discovery in the science of therapeutics stands in bolder relief; since then, asepsis alone is of importance comparable to the boon given to the world by Morton. Asepsis was a necessary corollary to anaesthesia, but lacking the latter, we would lack all. With the name of Lister, the Scotch surgeon, we must always join that of Morton, the American medical student; but without what Morton gave us, the work of Lister would have been of far less importance.

During the fifty-eight years which have elapsed, many substances have been proposed as a substitute for ether; most have had an ephemeral vogue, others have to some extent sur-

* Read before the American Therapeutic Society at its fifth annual meeting, in New York June 2, 1904. Only chemical terms are employed, by resolution of the Amer. Ther. Soc.

† Note by Editor.—We have never been able to understand why proper credit for the earlier use of ether as an anaesthetic has not been accorded Dr. Crawford W. Long, of Athens, Ga. The late Dr. J. Marion Sims conclusively showed (*Va. Med. Monthly*, May, 1877,) that Dr. Long, assisted by Dr. P. A. Wilhite, extirpated a tumor from the neck of a Mr. Venable while he was completely anaesthetized by sulphuric ether, during March, 1842. He used ether for anaesthetic purposes also in 1843, 1844, etc.

vived the stage of experiment. Later came various methods of local anaesthesia, some of doubtful safety and questionable utility, while others offer encouragement as to their usefulness. To-day William James Morton, one of our members, a distinguished son of a distinguished sire, will tell us of his work in this connection.

In the rapid invasion of many hitherto presumably non-surgical fields, in the increasing use of anaesthesia for purposes of diagnosis, in the more frequent employment of mechanical methods for speedier results, the importance of the subject of this symposium has increased beyond what our medical fathers might have imagined. Therefore it seems to us that the time has arrived when, with a half century behind us, with conscientious laboratory experiment and intelligent clinical observation, and with an enormous literature, we are in a position to make definite statements as to safety, contra-indications, limitations, range of adaptability, and especially practicability of any substance or method which has been presented. Farther than this, and in consonance with the title, definite statements may now be made more particularly as to the "Recent Advances in Anaesthesia." It is believed that the subject has been so sub-divided that all phases will be presented in ample detail and with exemplary exactness.

There are some points which should be insisted upon:

1. Of what avail are the enormous number of facts ascertained in the laboratory, clinic and hospital, and recorded in the journals, monographs and text-books, if the future anaesthetist is not to receive careful, exact and extended instruction in the principles deduced from these facts?

Compare general anaesthesia as conducted in Berlin, Vienna, Paris, London or Edinburgh—and I speak only from personal observation—with that with which we are more familiar, and the answer will be a demand for instruction at least equal to that which obtains in the medical centers which I have above mentioned.

2. While the best preparation for anaesthesia is the selection of a competent anaesthetist, has not the consideration of the patient as a subject for anaesthesia received too little attention? All the physiological systems should be interrogated, for upon their activity may depend not only the ultimate recovery of the pa-

tient, but even from the immediate effects of this profound artificial insensibility. The respiratory, circulatory and urinary systems call for careful study, not only as to choice of anæsthetic, but as well in establishing methods of preventing ill effects from the anæsthetic employed.

3. Is it not too frequently the case that deaths not apparently intimately associated with anæsthesia, have been ascribed to other causes, when a more careful study would have developed a causal relationship?

A more rigid analysis of the effects of anæsthesia on heart, lungs and kidneys would probably lessen the number of unfortunate terminations usually ascribed to shock. And some later morbid conditions might also be found to be less remote in cause than in time.

4. Has not the widespread use of general anæsthesia resulted in higher death rate than is inseparable from its employment? The statement was made on several occasions that the proportionate number of deaths to anæsthetizations, instead of decreasing, has rather been increasing. If this statement is true, the care of the patient during the time that he is unable to care for himself, is imperative. This means protection from cold, moisture, exposure, and the avoidance of unsuitable postures. Especially the slower rate of operating has resulted in detriment to the patient. Finally, the operating room is no place for lectures upon either the patient or the operation. An anæsthetic has been defined as an agent by which the patient is carried to the edge of death and held there while the surgeon does his work. Is further comment necessary?

General Anæsthesia. At the outset it must be borne in mind that all substances employed for this purpose are poisons; some, however, to a less degree than others. Ether is probably immediately fatal once in ten thousand, chloroform once in two thousand administrations. The final results are incapable of exact tabulation, quite likely to the advantage of chloroform. There is, then, a risk in every instance of general anæsthesia which cannot be estimated beforehand, either as to immediate or remote consequences. Of mixtures, whether alcohol, 1; chloroform, 2; ether, 3, of our British colleagues, or chloroform, 1; ether, 6, of our Vienna days, or ether, 1; alcohol, 1; chloroform, 3, of our old master, Billroth, the rate of relative evaporation is doubtless modified by the mixture

and the total effect is not one of a single rate of diffusion, but a succession of volatilizations, varying according to the boiling points of the substances used. From my own observation I would have none of them, but adhere to either ether or chloroform, making my choice according to the individual patient. With the development of physical chemistry, it was found that chloroform and ether, when combined in proportion of 43.25 and 56.75 respectively by volume, entered into molecular solution; this being on the basis of their molecular weights, (chloroform, 119.5; ether, 74). The boiling point of this molecular solution is said to be 125.6° F., (although subsequently denied by Minor, Jr.,) as against that of chloroform, 149° F. and of ether, 93.2° F.

In order to reduce the boiling point of this mixture to near body-heat, Meyer, on the suggestion of Weidig, proposes that ethyl chloride, 17 per cent. by volume, shall be added to this solution 83 per cent. also by volume. The resultant is a clear liquid of a specific gravity of 1045 and a boiling point of 104° F. Analysis shows that the resulting solution contains 17 per cent. of ethyl chloride, 35.89 per cent. of chloroform, and 47.10 per cent. of ether, by volume, roughly in the proportion of 1, 2 and 3. The theory of this new solution is satisfactory up to the point of the addition of the ethyl chloride; then the question arises as to the sufficiency of proof as to a second molecular solution. Chemically, it is believed that there is no residual chloroform, although the variations of the boiling point of this solution show marked variations in composition. Sufficient clinical proof has not yet been advanced as to its therapeutic value, and the suggestion that a preliminary hypodermatic injection of morphine may be required, throws some doubt upon the efficiency of the method. Finally, this substance presents the full danger of the A. C. E. mixture, as will be presently shown, besides the additional one of the respiratory symptoms, even toxic ones, of ethyl chloride.

As to untoward effects; chloroform, whose high boiling point prevents only fractional elimination by the lungs, shows its most potent after-effects on the heart, kidneys and liver. Ether, with its lower boiling point, on inhalation distends alveoli and by increased intra-alveolar pressure opposes the elimination of carbon dioxide from the blood, and thus pro-

duces some degree of cyanosis, with the further result of salivation, bronchorrhœa, and liability of secondary pneumonia. On the other hand, Kemp, from his laboratory experiments, shows quite conclusively that ether produces a special contraction of the renal arterioles, with consequent damaging effect on the renal secretory cells. This appears in mixtures in which ether is present as a constituent. Under these findings, ether is contra-indicated as an anæsthetic if renal disease be present and especially with albuminuria, and a tendency to pulmonary œdema. Chloroform appears, from his experiments, to have no effect on the kidney. As for the heart, chloroform is depressing; ether is stimulating. In the A. C. E. mixture we have the chloroform-heart and the ether-kidney, that is, as Bigelow was accustomed to say, the disadvantage of both and the advantages of neither. So far as concerns the kidneys, nitrous oxide seems the least deleterious of all.

Local Anæsthesia. This should be further divided into (1) the Corning-Bier method, or intra-spinal anæsthesia, and (2) the Hall (1884) method of direct injection of an anæsthetic into a nerve trunk.

Of the Corning-Bier method, much has been written of its success, which is in many instances indubitable, and of its dangers, which are real, although the estimate of Mohr-Bielefeld is exaggerated, and of its comparatively limited field, which is evident. The use of benzoylvinyldiacetonalkamin hydrochlorate has improved the record of this method and rendered its future more favorable.

Cocaine for the second variety has long held a prominent position. An over-dose is by no means devoid of danger, and probably half a grain is the maximum for one operation. Inasmuch as anæmia, when it can be artificially produced, aids in the production and prolongation of local anæsthesia, the addition of the vaso-constrictor element of the suprarenal gland, has been of decided advantage.

The more recent additions to our list of local anæsthetics, diethylglycolpara-amido-orthoxybenzoic acid methylester hydrochloride, p-amido benzoic acidethylester, or the compound of this with parphenolsulphonic acid have received insufficient clinical attention for a valid opinion to be presented. For local anæsthesia by the infiltration method (Schleich-Braun) the use of the above-mentioned vaso-constrictor supra-renal

substance, in combination with benzoylvinyldiacetonalkamin hydrochlorate presents a real advance, both in efficiency and safety.

The search for local anæsthetics which offer greater stability and less toxicity than cocaine, has gone on with unabated vigor. The derivatives of the acetonealkamin group have been noted above. Under the holocain group should be mentioned the oldest p-diethoxyethyl di-phenylamidine, and guaiacol-benzylester, eugenol-acetamide calcium orthoguaiacol sulphate, and finally methenyl-p-phenetidine. Of the acoints, hydrochlorides of these derivatives, one, *di-p-anidyl monophenetylquinindine* offers some hope of succeeding cocaine because it possesses a minimum of poisonous action with a greater intensity of anæsthesia. Necrosis, however, may follow the subcutaneous use of strong solutions.

Aside from the introduction of various chemical agents by cataphoresis for the production of anæsthesia, the observations of Ledue are important. This observer showed that almost complete inhibition of the cerebral centres could be produced instantaneously by a continuous current.

Another modification of local anæsthesia is that denominated by Gant as that produced by the injection of sterile water. Halsted, as early as 1885, showed that anæsthesia could be produced by this method, and Schleich, in 1891, obtained far greater anæsthesia than the amount of anæsthetic contained would lead us to expect, and so confirmed Halsted's observations. When the injection is locally confined for the time being, or the lesion is fairly superficial, this method is applicable, and to Gant are we indebted for a practical, safe and efficient method of producing local anæsthesia, even if its field be somewhat limited.

To the gentlemen who are to discuss this subject in its various phases, no words of mine are needed to emphasize its importance. To those who may hear this discussion, I commend the reports which follow as worthy of their most careful attention and thorough consideration. It would seem that at this time we may reach definite conclusions which shall have a permanent value.

Many a pencil with a point is responsible for a joke without one.

SARCOMA OF THE ORBIT, WITH REPORT OF CASES.*

By E. OLIVER BELT, M. D., Washington, D. C.

Sarcoma originating in the orbit is exceedingly rare. It may arise from the lids, the eyeball, or any of the orbital tissues. Of the cases I present to-night, the first originated in the lower lid; the second, which was an osteosarcoma, probably in the orbit or by metastasis; the third, in the eyeball; and the fourth in the orbit. Authorities generally agree that sarcomata are rapidly fatal, especially in the young, and when removed are very prone to recur. My experience in these few cases bears this out, except that complete extirpation would seem to give greater hope than is usually admitted, though sufficient time has not elapsed to say that two of these may not recur.

Quotations from the following authors give what may be considered the consensus of opinion in regard to the origin, treatment and prognosis of sarcomatous tumors of the orbit.

Jackson says: "Sarcoma of the several varieties occurs in the orbit. It may start from the walls of the orbit, or from any of its contents, or may invade the orbit from neighboring cavities. The recognized treatment is early extirpation, although the growth is liable to recur. Generally the whole of the orbital contents should be removed, and if the growth is large, it will be well on the following day to cauterize the orbital walls with chlorid of zinc paste."

Swanzy says: "The early extirpation of the tumor with complete evisceration of the orbital contents affords, in general, the only prospect, and that a slight one, of saving the patient's life."

Hansell & Sweet say: "Sarcomata may start from the osseous walls, the periosteum, lachrymal gland, muscles, connective tissue, or nerves. They are frequently of rapid growth, with great tendency to spread by metastasis. The treatment consists in early and complete removal, but even then the percentage of recurrence is large."

Fick says: "A genuine orbital sarcoma is a great rarity. Its malignancy is betrayed by its rapid growth, pain, and early effect upon health. There is besides, a disturbance quite out of proportion to the size of the tumor, due of

course, to involvement of the muscles within the growth; an innocent tumor merely pushes the muscles to one side, and, therefore, affects movement only mechanically. The prognosis is bad, and the more unfavorable the younger the patient, and the richer in cells the tumor is."

Case I. Miss H., white, age 58, was sent to me from Virginia, March 18th, 1902, to have a tumor removed from the left lower lid. She gave a history of having had an operation on the lid three years previously for what was thought to be a chalazion. About two and a half years later, a second operation was performed, but the growth quickly returned and increased rapidly. Six months later I found the entire lower lid involved. It was hard and nodular, three-quarters of an inch thick, one inch wide by two in length. The skin was freely movable over the growth, but the latter was only slightly movable, and extended somewhat under the eyeball into the orbit. There seemed to be slight ulceration near the caruncle. Vision with x I. D—20-100. The upper lid had to be raised to enable the patient to see, as the eyeball was pushed upward under the lid by the growth. Dr. Burnett saw the case and agreed with me that it was probably a sarcoma, as the skin of the lid was so freely movable over the tumor. Both of us thought the lid might be saved. The patient was admitted to the Episcopal Eye, Ear and Throat Hospital, and under chloroform anæsthesia, I carefully dissected the tumor from the lid, eyeball and periosteum of the floor of the orbit. It seemed to be most strongly attached at the inner canthus, but was as readily removed as though it had been encapsulated. The lid was re-attached by sutures. In ten days the patient was able to leave the hospital apparently well.

However, as the tumor, which had been examined by a pathologist, was said to be a large round cell sarcoma, the patient was cautioned to return immediately if there seemed to be a recurrence of the trouble. In just a month she came back. The growth had re-appeared in the lower lid near the outer canthus and in the orbit just above the inner canthus, where it seemed firmly adherent to the periosteum. The patient was re-admitted to the hospital; the very serious nature of the disease was fully explained, and she was told a most radical operation would be necessary to save her life. On May 2d, under chloroform anæsthesia, both eye-

* Read before the Medical Society of the District of Columbia, November 2, 1904.

lids were excised and the eyeball was removed with the entire contents of the orbit, including the periosteum; the orbital plate of the ethmoid was found to be broken down. There was considerable hemorrhage from the central retinal artery, but this was controlled by packing with iodoform gauze. There was no further trouble until the gauze was removed five days later, when there was recurrence of hemorrhage. This was again controlled by packing, after which, she made an uneventful recovery, and was discharged in about a month.

A few weeks ago I received a letter from her niece, in which she stated that her aunt has had no further trouble, and is enjoying splendid health. It is just two and a half years since the last operation.

Case 2. Mrs. A., white, age 50, came to see me at the Episcopal Hospital February 3rd, 1902, complaining of pain in the right eye for one month. She could raise the lid only with difficulty, and could not throw the eye up fully. The eyeball was protruding downward and outward. A firm tumor could be felt in the roof of the orbit. She was frail, and gave a history of having had a malignant tumor removed from the right breast three years before. There had been no return of it. The case was kept under observation until May 2d, and as it had not decreased notwithstanding the administration of the iodides, the patient was anaesthetized and an exploratory incision was made through the upper lid. A firm growth closely adherent in the periosteum was found, and it appeared to extend far back into the orbit. A small portion was removed for microscopical examination. It was examined by Dr. J. B. Nichols, who reported that it seemed to be fibrous tissue, though the main portion may prove to be malignant. May 16th, I removed the entire contents of the orbit. The tumor was mainly in the roof, and along the inner wall, cone shaped and involving the orbital wall. As much as possible was removed without entering the cranial cavity. As all of the diseased bone could not be removed, only one result was anticipated. She left the hospital in three weeks, and died four months later.

Case 3. T. W., male, white, age 68, came to the Episcopal Hospital in March, 1904, with the history of having received a blow in the left eye 18 months before. He had been blind ever since, and for the last three months the

eye was protruding beyond the lids. It seemed to form an irregular nodular mass, ulcerating and presenting the appearance of a malignant growth. On April 6th, he was admitted to the hospital, and as the orbital tissues did not seem to be involved, the eyeball only was removed. Six days later he left the hospital without permission. The eyeball was examined and pronounced sarcomatous. I did not see the patient again until August, (four months after the enucleation) when he came to my office. I then found both lids involved and the orbit filled with new growth. I fully explained the serious nature of the trouble and told him there was a chance of arresting the disease, but both lids would have to be removed with the entire contents of the orbit. He consented to have this done, and at my request Dr. Monte Griffith performed the operation most successfully, during my absence from the city, August 24th. He found the ethmoidal plate perforated, and also the floor of the orbit. The patient left the hospital a week later. He has been kept under observation, and the orbit now presents a very healthy appearance, with no sign of recurrence of the disease, though the openings in the ethmoidal and maxillary sinuses persist.

Case 4. J. D., colored, male, age 24, was brought to my office October, 1904. I found the eyeball protruding and fixed. He was unable to move it in any direction except upward slightly. Both lids were œdematous and the lower one completely everted. His vision was 20-100. A firm tumor could be felt above the eyeball, under the roof of the orbit, and extending its full width; another portion could be felt under the eye near the outer canthus. The history was that the trouble had begun suddenly about two months previously, with swelling of the lids and protrusion of the eyeball and marked chemosis of the conjunctiva. The chemosis had subsided, but otherwise the case had progressed steadily, notwithstanding the administration of the iodids. There was considerable pain. Dr. Wilmer saw the patient and agreed with me that the growth was probably malignant, and thought complete exenteration of the orbit should be done immediately to save his life. He was admitted to the Episcopal Eye, Ear and Throat Hospital and the operation was performed October 4th. Nine days later he was able to leave the hospital. The orbit now presents a very healthy appearance, with no

sign or recurrence. The case did not present a typical picture of sarcoma of the orbit; but was so suspicious that we felt it would jeopardize the life of the patient not to operate immediately.

Dr. Nichols made the following report of the case: "The post-ocular tissues consist of mingled adipose tissue, muscle, and fibrous tissue, all densely infiltrated with small round (lymphoid) cells. Numerous nodules of (apparently) lymphoid tissue are also scattered about the tissue. The condition is more that of an intense infiltration of lymphoid cells into pre-existing tissues (similar to leukemic infiltrations) than of a neoplastic formation. It does not look like sarcoma, although the infiltrating cells are small round cells."

The Farragut.

PERINEORRHAPHY AND CURETTAGE IN A CASE OF UTERUS SEPTUS THREE MONTHS PREGNANT.*

By EDWARD T. HARGRAVE, Ph. G., M. D., Norfolk, Va.,

Clinical Assistant St. Vincent's Hospital, and Lecturer on Chemistry Protestant Hospital Training School for Nurses.

The literature on the subject of uterus septus is not very extensive, and I regret not being able to obtain data as to its frequency from the text books on obstetrics and gynecology at my disposal. The below-mentioned case is reported on account of its comparative infrequency, and to demonstrate the fortunate superiority of the resisting power of a pregnant uterus over the diagnostic skill of the writer.

On Aug. 15, 1903, I was consulted by Mary L., 23 yrs old, colored, married 3 years, mother of 2 children (youngest 14 months old), family history negative; had usual diseases of childhood, menstruated at fifteen and enjoyed good health until birth of her first child about two years ago, when she sustained an extensive laceration of the perineum. Labors otherwise normal but tedious; menstruation has always been irregular and at times profuse; has leucorrhœa, backache, headache, irritable bladder, constipation, hemorrhoids and loss of appetite.

*Read during the thirty-fifth annual session of the Medical Society of Virginia, at Richmond, October 18-21, 1904.

Examination revealed an old laceration of the perineum involving both sulci, induration and erosion of the cervix, slightly enlarged and retroverted uterus, normal ovaries and tubes.

Diagnosis. Lacerated perineum, endometritis and subinvolution.

Operation was advised, and as she had tried and lost faith in everything in the form of medicine, including Lydia E. Pinkham's Vegetable Compound, and her love for the human race, she consented. After two weeks preparatory treatment she was admitted to St. Vincent's Hospital September 3, 1903, and on the 4th instant, under chloroform, I did a curettage and perineorrhaphy. In curetting I was struck with the narrowness and outline of cavity. I noted a peculiar bulging of one lateral surface which was smoother than the other. At the time I thought it was a small fibroid in the uterine wall, and did not use the sharp curette on that side as energetically as I did over the rest of endometrium. The patient's recovery was uneventful, and within about 17 days she was discharged from the hospital well.

October 5th, she came to my office to consult me concerning an enlargement of her abdomen. She felt perfectly well, and her general health was completely restored. She had her sickness a few days before, and had no nausea or vomiting. Examination showed a symmetrically enlarged uterus, with fundus just above the level of pubes, hard cervix of usual length, and absence of any other sign of pregnancy except the enlarged uterus.

I confess that I could not seriously consider pregnancy after having thoroughly curetted thirty days before. But remembering the peculiar outline of the cavity at the time of operation, I explained the possibility of her having a septum in her uterus, and instructed her to report at the expiration of thirty days for further examination and advice.

She moved from the city a short time after this and I never saw her again until early in April, when she informed me that she had given birth to a small, healthy child February 28, 1904. The labor was tedious, but she did not have a physician, until several days after, when she was treated for fever.

July 27, 1904, I was called in to treat the child for gastro-enteritis, and its mother called my attention to a scar on the outer aspect of its thigh, about 1 inch long and one-eighth of an inch wide. The child's grandmother was sat-

ified that I had "cut dat ehile in de horse-pittle." Notwithstanding the statement that the scar was present at birth, I am convinced that it probably resulted from traumatism incident to the tedious labor, and was not made by the instrument at the time of operation, for the reason that had the wound resulted from the curette I would have ruptured the membranes and abortion would have followed. Again, in my opinion, the fœtus was not sufficiently developed at the time of the eurette for the wound to have been confined to one part as the uterus was not above the pelvic inlet. It is unfortunate that I failed to ascertain whether or not she menstruated during her former pregnancies.

In conclusion, I think it probable that uterus septus may be responsible for some of the cases in which menstruation occurs during pregnancy, and when we meet with this condition we should at least remember the malformation referred to and be on our guard, in that it may complicate labor by causing malpresentations and faulty attachment of the placenta, in which case hemorrhage in the third stage is likely to occur.

460 *Freemason St.*

cavities being united, the ribs extending across from one to the other. (See cut.)

No. 6 Bank St.



CASE OF MONSTROSITY.

By WM. CLAIRBORNE POWELL, M. D., Petersburg, Va.

On Sunday, September 11, 1904, at 3 P. M., I was called by 'phone to the house of F. G., his wife being in labor. Being out of town, Dr. L. S. Early was called in, and upon arriving and making the usual examination, he discovered a breech presentation, four (4) feet presenting.

Thinking he had a case of twins to deal with he determined to wait and give nature a chance. As the labor progressed he discovered there was only one body. The four (4) arms were brought down, and the two (2) heads coming down, resting against the pubic arch, stopped there. Thinking he would have to amputate one of the heads, he sent for his instruments, and while resting and waiting, the two (2) heads were born spontaneously.

Two well-developed, still-born twin girl babies—having two (2) heads, four (4) arms, four (4) legs, and only one body. There was only one placenta, the thoracic, and abdominal

Analyses, Selections, Etc.

Public and Professional Concern in Consumption.

Dr. Paul Paquin, of Asheville, N. C., discussed this question at a meeting of the Ohio Valley Medical Association, Evansville, Ind., November 10th, 1904. The death roll of all the wars of the nineteenth century is estimated at 14,000,000 and that of consumption in the same period and countries at 30,000,000.

Our country's yearly death rate by consumption is approximated at 160,000. Of these invalids perhaps one-fifth are not wage-earners and have incomes continuing while sick. The remaining four-fifths lose their previous daily revenue. If all of the latter are too ill to earn anything for one year, and each of them was previously earning one dollar a day three hundred days a year, it represents in yearly loss \$38,400,000! If the average length of invalid-

ism is two years it means a loss of \$76,800,000 a year. These are flat losses of income.

Why is the world so strangely apathetic with regard to this, the very gravest and most comprehensively destructive of all the ills of mankind? First, because the majority of the medical profession continues to consider tuberculosis, particularly pulmonary consumption, as incurable in any event. Second, because this circumstance and the lack of instruction in sanitary science in our system of education has produced a public mental attitude of wanton optimism. Third, because there remain here and there a few who reject facts of infection, mathematically demonstrated the world over, and continue a public crusade in favor of their mistaken ideas. Fourth, because, when tuberculosis is recognized, the truth is often concealed so long from the patient and relatives, that the former loses precious chances of recovery, and is allowed to disseminate the disease broadcast. Fifth, because, by the marriage of consumptives, prolific new centres of infection with far-reaching fatal influences reinforce the popular idea of unavoidable pathogenic perpetuity. Sixth, because the diagnosis of the disease, in the great majority of cases, is made too late for any measure of prevention or cure to be effective.

Yet, tuberculosis, according to Dr. Paquin, is proven largely curable by the experience of specialists, general practitioners and experimentalists. How are we to remedy the situation, cure more cases and finally stamp out the disease? On this question he suggests a more complete medical education, so that early diagnosis may be possible.

The medical college that will establish a competent chair to teach the pathology and clinical factors of the borderland of disease will confer a blessing on the profession and humanity, for it will do immediate good and soon be emulated. This sphere of medical science, including physiologic conditions as they taper down and change to pathologic states, and which have been explored only by few, contains the very germ of knowledge for the early diagnosis of all diseases affecting the constitution, and could be treated in a most interesting manner without in any way interfering, but rather supporting or supplementing the regular courses on the principles and practice of medicine. A dozen or two of good, practical lectures would

be of immense advantage to students and physicians alike.

The author argues that tuberculosis is, after all, a disease of nutrition due to a faulty nervous system which permits directly and indirectly the introduction and development of germs and their toxins in the system; and claims that, under a complete and proper control and guidance of all the organs in the system, consumption could not occur.

Dr. Paquin, following other writers and practitioners, believes that the tonsils and other tissues of the neighborhood constitute the chief gateway of the tubercle bacilli, and mentions tonsilitis, habitual nose bleed, chronic hacking coughs, pleurisies, deficient nutritions and dyspepsias, etc., as early symptoms of consumption in the borderland.

He lays great stress on the necessity of diagnosing the borderland of tuberculosis in order to arrest the malady in its incipiency, on the usefulness of open air life in a suitable climate, the value of certain remedies in the line of natural law, as certain vaccines and serums, when applicable and in select suitable cases, and deprecates the pitiful habit of sending consumptives away moribund, often without any prior arrangement with a physician where they are sent to care for them, save them from errors of conduct and treatment in a new climate and the pitfalls incident to new, strange surroundings.

Not only should the profession be better trained in the knowledge of the symptomatology of the borderland of organic and infectious diseases in general, but medical societies and boards of health of the land should inaugurate a systematic plan of action looking to the education of the public—beginning with the school children—on the subject of hygiene.

Book Notice.

Diseases of the Nose, Throat, and Ear and Their Accessory Cavities. By SETH SCOTT BISHOP, M. D., D. C. L., LL. D., Professor of Diseases of the Nose, Throat, and Ear, Illinois Medical College; Professor Chicago Post-Graduate Medical School and Hospital, etc. *Third Edition. Thoroughly Revised, Rearranged and Enlarged. Illustrated with 94 Colored Lithographs and 230 Additional Illustrations.*

564 pages. 8vo. Extra Cloth. \$4 net; Sheep or Half Russia, \$5 net. F. A. Davis Co., Publishers, Philadelphia.

This book is familiar as the adopted text book in a number of colleges. It deals with diseases of the organs named in the title in a thoroughly systematic manner, and in a style easy of comprehension. While, of course, of most use to the specialist, it is the book for the general practitioner who is more or less remote from him. This, as compared with the previous editions, is practically a new book—the introduction of new remedies, methods of treatment, and improved instruments and apparatus compelling the introduction of much new matter. We appreciate the frequent references the author makes to the work of American specialists, and from a sectional standpoint we are glad to see that the practices of Drs. Joseph A. White and John Dunn have been referred to approvingly. An appendix contains a long list of formulæ of remedies recommended. The index is good.

Editorial.

Surgeons, Physicians, Pharmacists, Hospital Internes and Trained Nurses Wanted.

The U. S. Civil Service Commission announces an examination on January 18, 1905, to be held simultaneously at certain places in each State, to secure eligibles to fill vacancies in the above named positions under the Isthmian Canal Commission on the Isthmus of Panama. Practical experience will count greatly in each of the branches named. Age limit for physicians and surgeons will be from 25 to 50 years, while the former will receive pay varying from \$150 to \$250, and the latter a fee of \$250 per month. Pharmacists, age limit 20 to 40 years, will be paid from \$75 to \$100 per month with board and quarters; hospital internes, age limit 20 to 30 years, \$50 per month with board and quarters, provided that if, retained after one year, they will be paid \$125 per month; and trained nurses (male and female), age limit 20 to 35 years, \$50 per month with board and quarters. Further information may be had by applying direct to the U. S. Civil Service Commission, Washington, D. C., or to the secretary of the board of examiners at the various places

where examinations will be held, which, in Virginia, will be at the post-offices at Richmond, Norfolk, Roanoke, Staunton and Lynchburg.

The Richmond Academy of Medicine and Surgery

At their meeting on December 13th instant elected the following officers for 1905: President, Dr. Edward McGuire; First Vice-President, Dr. Ramon D. Garcin; Second Vice-President, Dr. Clifton M. Miller; Third Vice-President, Dr. W. S. Beazley; Treasurer, Dr. Ennion G. Williams; Secretary, Dr. Mark W. Peyser; Assistant Secretary, Dr. W. Brownley Foster; Librarian, Dr. A. G. Brown, Jr.

The following Judiciary Committee was elected: Dr. William S. Gordon, Dr. Robert F. Williams, Dr. D. J. Coleman, Dr. Stuart McGuire, Dr. McGuire Newton, Dr. Hugh M. Taylor.

The Medical Examining Board of Virginia

Has just concluded its December session. The capitol building in which the meetings commonly occur being in the hands of the builders undergoing repair and annexation, the Board held the examinations in a large lecture hall of the Medical College of Virginia. For this season of the year, the class was large, numbering 101, of whom 17 were negroes. The results of the examination will not be known for probably a month, when the proceedings, etc., will appear in full as usual in this journal.

American Medicine,

Following in the footsteps of the *Medical Record*, has begun the plan of sending out a few days in advance to other medical journals of the country galley sheets of original abstracts of articles appearing in the first succeeding issue of their journal. We trust the plan will work so well that it will be continued regularly, since it will often serve to save much time to the editors of other medical publications, as well as be a benefit to the journal quoted.

The Wise County (Va.) Medical Society

Will meet at Norton, Va., December 21, 1904, at 1:30 P. M. Several subjects will be discussed: "Pneumonia," discussion opened by Dr. R. P. Carr, of Norton; "Shall the Physician Disclose the Medicine He is Using to the Pa-

tient?" by Dr. R. W. Holly, of Inman; "Obstetrics as Practiced in Wise County, with Report of Two Cases," by Dr. G. W. Tompkins, of Wise; and "Small-pox," by Dr. M. L. Stallard, of Norton. The annual election of officers for the ensuing year also takes place at this session. The present incumbents are Drs. M. L. Stallard, president, and T. M. Cherry, of Glamorgan, secretary. While the Wise County Medical Society is undoubtedly doing a good work, we trust that more doctors from that county will be persuaded to also join the Medical Society of Virginia.

Messrs. Lea Brothers & Co.,

Of 706-10 Sansom St., Philadelphia, Pa., publish, with annual revision, a *general catalogue* of all medical, surgical, pharmaceutical books, etc., including those of all medical publishers in the English language. It is arranged under subject classification. It will be a great convenience in many ways, and will be furnished gratis to each physician for the asking. Specify *general catalogue* when writing.

Childbirth at Eleven Years of Age.

Dr. W. W. Kerns, of Bloxom, Va., in a personal letter, tells us of the case of a negro girl, aged eleven years and seven months, from whom he delivered a seven pounds baby. She was taken in labor about 2 P. M., and was delivered without instruments, etc., at 7:15 P. M. The labor was perfectly normal, and there was no resulting trouble.

The Antikamnia Chemical Co.

Is sending out to their various professional friends a reproduction of Gatti's celebrated painting—"Sympathy"—exhibited at the St. Louis World's Fair, which has just closed. On the reverse side of the picture is a calendar for 1905. Any doctor failing to receive a copy would do well to write for one.

Dr. Lewis C. Boshier, Richmond, Va.,

Was elected president of the Southern Surgical and Gynecological Association during the recent session held at Birmingham, Ala. Dr. Boshier is an ex-president of the Richmond Academy of Medicine and Surgery; is now first vice-president of the Medical Society of Virginia, and we are glad to know that his merit

is appreciated elsewhere as it is in his native State and city.

The Pure Food and Drug Bill

Has been again recently discussed in the U. S. Senate with reference to the inadequacy of the protection accorded the people of this country against the many impure products used. Surely some legislation should be enacted along this line.

Dr. John M. Ropp,

Recently moved from Abingdon, Va., has been appointed a surgeon of the Norfolk and Western Railroad at his new home, Shenandoah, Va.

The Michigan College of Medicine and Surgery

Celebrated with appropriate ceremonies the laying of the corner-stone for their new building on December 13th, 1904.

Obituary Record.

Dr. B. L. Winston,

Of Hanover C. H., Va., died at his home December 11, 1904, after an illness of several months, aged forty-eight years. He was a man of considerable prominence in his neighborhood, and was well known by the profession of this State. His academic education was obtained at Randolph-Macon College, while his M. D. degree was from the University of the City of New York in 1884. Since that time he has practiced continuously near Hanover C. H. In 1895 he was elected to represent his section in the Virginia Legislature, where he served for two terms in the House of Delegates, after which he declined re-election. While a member of the legislative body, Dr. Winston never failed to use his utmost endeavors to further any bill which was to the interest of the profession of the State. He was elected member of the Medical Society of Virginia in 1885, and was leader of the discussion on "Croupous Pneumonia" in 1889. He was also at one time a member of the Medical Examining Board of Virginia.

THE Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

Vol. 9, No. 19.
Whole No. 211.

RICHMOND, VA., JANUARY 13, 1905.

\$2.00 a Year.
10 Cents a Copy.

Original Communications.

PNEUMONIA—FROM THE PRACTITIONER'S STANDPOINT.*

By WM. E. ANDERSON, M. D., Farmville, Va.,
First Vice-President Medical Society of Virginia, etc.

The aetiology, symptoms and pathology of pneumonia have been the subjects of extended study and discussion, both in text-books and numerous written papers. As the title of this paper would indicate, it is not my purpose to examine the subject from the standpoint of its aetiology or pathology, nor to undertake to describe the symptoms of the disease. Nor shall I attempt to differentiate between acute, lobar, lobular and broncho pneumonia. I take it that every physician who has had experience in general practice has seen and treated, and is able to correctly diagnose pneumonia. My purpose is to present to you some views as to the disease and its treatment, derived not alone from theory or laboratory study, but from practical experience at the bedside of the patient.

At the outset let me say that I believe that the percentage of deaths from pneumonia is much larger than it should be. We have made more progress, perhaps, in the management and treatment of nearly every other disease. The object of our profession is to alleviate human suffering and to stay the hand of death as often and as long as possible; and it is a source of satisfaction to know that, with the aid of modern scientific methods, we are becoming more successful each year in the accomplishment of this object. I do not feel, however, that the profession has reason to be satisfied with the results obtained in the treatment of the particular disease which is the subject of this paper.

The frightful ravages which this disease is making upon the human race may well be the

source of alarm. It is to-day causing more deaths in the United States than any other disease, with the single exception of tuberculosis. It is causing the medical profession more anxiety and disappointment in its treatment than any other disease which we undertake to manage. The unprecedented mortality from pneumonia during the last season was the cause of much concern, not only to the medical profession, but to the public generally, and the laity have just grounds, perhaps, to feel that a profession which is making such marked progress along other lines should be able to manage and treat this disease more successfully.

The mortality from pneumonia in this and all other countries where records are kept has steadily increased, as shown by the extensive and excellent Case Mortality Table prepared by Dr. Edward F. Wells, of Chicago, and incorporated in a valuable paper which I had the privilege of hearing read at Atlantic City during the last meeting of the American Medical Association. Mortality varies, as shown by this and other records, from 10 to 50, and in some instances even 60 per cent. The ranks of our own profession are being continually thinned by this seemingly uncontrollable disease, as will appear from the fact that during the last season pneumonia caused from 15 per cent. to 20 per cent. of the total deaths among physicians in the northern part of the United States, the percentage of deaths from pneumonia among physicians in the United States varying during that period from 5 per cent. in October to 24 per cent. in April.

With these facts before us, we may naturally inquire what is the reason for this comparative failure of the profession to meet the demands upon it with respect to the treatment of this disease. Have we been doing too much for our pneumonia patients? Or, have we been doing too little?

Even were I competent for the task, I would not undertake to review, or judge the value of,

* Read before the Medical Society of Virginia at its thirty-fifth annual meeting, at Richmond, October 18-21, 1904.

what has been accomplished by the many brilliant men in their study of this disease in the laboratory in the past few years. You are familiar with many of the theories which have been developed. Some have, no doubt, an intimate acquaintance with Friedlander's pneumococci, and others, like myself, give but little attention to their existence. We know they are found in the upper respiratory tracts of many healthy persons, and we also know that they have been so often discovered in the secretions from pneumonia patients that they are by many believed to be the cause of the disease.

This is an interesting theory, but I cannot concede that it is an established fact. I am by no means positive that the pneumococcus of Friedlander, the diplococcus of Franckel, or the pneumococcus lanceolatus of Sternberg bear an actual causal relation to lobar pneumonia, notwithstanding the weight of authorities to that effect.

The same may be said of the very excellent discussion of this subject by Dr. Wells in the paper to which I have referred. I am not entirely in accord with his opinions as to the cause of the increased prevalence of pneumonia. That it is infectious is well established, but I doubt if it is so contagious as is suggested by him. For his views upon this subject I can only refer you to his admirable discussion; but I fear we are destined to accomplish but little in our day and generation toward preventing pneumonia if we must rely upon inducing the rank and file of our profession, and the public generally, to adopt the prophylactic measures suggested by Dr. Wells. Should the medical profession promptly and heartily co-operate along this "reasonable and practical" prophylaxis, the pneumococci would have abundant time and opportunity to pass through numberless required stages of cultivation to increase certainly tenfold their virulence before the mind of the people could be brought to the point where each man, woman and child, well or sick, would keep constantly on hand the necessary supply of moist cloths to hold before their mouths in coughing or sneezing in order to prevent projecting into the surrounding atmosphere the probable pneumococci-bearing spray. It would require even more patience and perseverance to secure and maintain in all their throats, mouths and noses that scientifically aseptic condition suggested, and to keep their mouths shut while asleep.

All these are interesting theories, but their value can only be demonstrated when it is shown that they have reduced the death rate in pneumonia and have contributed something practical toward the solution of the problem of its treatment. I leave these theories for the test of time and practice, and shall undertake to give you briefly some of the results of my own experience. If, in what I have to say, the personal pronoun is too prominent, I trust it will be attributed to the character of this paper rather than to any undue egotism on my own part.

My first acquaintance with pneumonia began some twenty years ago, when I was reading medicine under my father—a physician then in active practice in Dinwiddie county, in this State. A graduate of the University of Pennsylvania in the year 1841, he had given, during more than forty years of his practice, special attention to the study of lung diseases, and taken peculiar interest in the treatment of pneumonia. When I accompanied him upon his visits to his patients he would often tell me that the diagnosis of pneumonia was easy; that when the patient—oftener a young man than otherwise—would give the history of having become suddenly ill, generally with a chill followed by a fever, was suffering from pain in the side and difficult breathing, looked anxious, with full bounding pulse, and often with free perspiration, coughing some and generally spitting mucus tinged with blood, or it might be the characteristic brickdust sputa, there was a case of pneumonia. He told me something of auscultation and percussion, and the probable condition of the lung; but as few of his patients went to the post-mortem stage he had not the opportunity of studying the morbid anatomy of the disease, as many of us have had since.

My father told me then that pneumonia was not difficult to cure. His general treatment was to give quinine, calomel or blue mass, and Dover's powder: quinine to brace up the nervous system and combat the shock of the chill, as well as to counteract any malarial element that might, and did frequently exist in the section of the country in which he practiced; the calomel or blue mass served as an active purgative, cleansing the system of impurities and helping to relieve the congestion or inflammation by reducing the amount of fluid in the body and giving a better opportunity for the equal distribution of the blood; the Dover's powder

was given to relieve pain, help the cough and procure much needed rest. If, under this treatment, the patient did not improve in a few days, the pain subside, and breathing improve, and the expectoration of blood cease, then he would put on a large blister over the pain, and the patient would invariably begin to improve. If later on he became weak, whiskey was given as a stimulant. If the pulse was feeble strychnine was administered in proper doses, and where the heart's action was too quick and weak he gave digitalis.

He also cautioned me to give freely milk, chicken broth, or other nourishing food, to sustain the patient well, and what was all-important, to give an abundance of water; if the pain shifted to the other side or higher up or lower down, not to hesitate to put on another blister, especially if the case seemed stubborn. He stated that in his early practice it had been the custom to bleed, in the first stages of pneumonia, but that had been discontinued.

Such, in general terms, was my earliest instruction in the treatment of pneumonia, and I have always been thankful that I was given the opportunity to study the subject in this way, and that this knowledge was imparted to me by my father from the rich store of his experience, for he always impressed me as knowing what he was talking about, and my admiration and respect for his teachings have increased with my years and my ability to appreciate his wisdom.

The best test of his methods was found in the results upon his patients, for during a period of twenty years with which I was familiar with his practice he lost only one patient from pneumonia, and in that case the patient succumbed to a third attack.

In my study of the subject at college, the instruction of my professor of the practice of medicine varied but little from that given by my father, except that he laid much stress upon finding the true crepident rale before making a diagnosis. It is very satisfactory to find this rale, I will admit, but I have not always been able to do so. He also dwelt much upon the benefit and advantage to be gained by percussion in diagnosis. With all due deference to his teachings, from which I have often derived much benefit, I must frankly admit that I think percussion of not so much importance in the diagnosis of pneumonia. It serves sometimes to confirm conclusions already reached from

other and more definite physical signs. It does enable us to outline the affected area.

In the sixteen years of my own practice I have undertaken to give some study to the subject of pneumonia and its treatment. I have observed, and to some slight degree taken part in its treatment in some of the leading institutions, both in this country and in Europe. I have read much upon the subject and listened to a great deal of discussion. I am frank to say that what little I know of the disease was not learned either from lectures or from observation in the hospitals. The place to investigate this disease of all others, and the place to learn its treatment, is at the bedside of your own patient, where you are called upon to meet varying conditions without the aid of consultation either to perfect the confidence of the family of the patient or to relieve you of responsibility and uncertainty. Experience is in all cases the best teacher, but especially is this true where you are called upon to combat disease under conditions more or less unfavorable, far removed from consultation or assistance, and from drug stores, hospitals and other modern conveniences.

In the study and treatment of pneumonia, as well as other diseases, it is essential, first, to ascertain clearly the exact conditions which we are called upon to meet.

In this disease there is acute inflammation of the lungs, due generally to unusual exposure, being chilled, abstinence from food, or some similar condition by which the vitality of the system is lowered, the resistance to disease lessened, and the circulation disturbed. I have found the symptoms to be local and general: Local, pain commonly in the mammary region, frequently stabbing or piercing in character, and increased by deep breathing or coughing; dyspnoea an early and prominent symptom; breathing abrupt and shallow; pulse-respiration ratio disturbed; respiration 30 to 60, occasionally as high as 80; cough coming on soon, short, hacking, spasmodic and repressed, with difficulty; expectoration soon commences, sputa discharged with difficulty, soon becoming rusty in color or showing various tints of red, changing gradually to yellow, and becoming bronchitic in character: generally high pyrexia, with depression and prostration; skin sometimes hot and dry—just as often profuse perspiration; temperature 102 to 103°, or even 105°; pulse usually frequent, 90 to 120, at first full and in-

compressible; later small, weak and yielding; headache and restlessness; urine highly febrile.

I have found the true crepident rale with inspiration, when it could be heard over the affected area of lung. Later on a blowing sound with expiration; vocal resonance and vocal fremitus exaggerated; percussion note usually dull, increasing in dullness until sometimes approaching flatness.

I am glad to say that the majority of my cases have ended in complete recovery by resolution and crisis.

In outlining the treatment the symptoms must be considered in the light of the peculiar physical characteristics of each patient, and the conditions with which the patient is surrounded. In other words, the strongest point in the treatment of pneumonia, even more than in most other diseases, is what might be termed individualization. When a case of pneumonia has been diagnosed it is a serious mistake to proceed to treat that particular case just as other cases have been treated because the patient has the same disease. It is not the disease—it is the patient which has to be treated. The environment, preceding condition, habits, constitution—in other words, the exact condition of the particular individual—should first be carefully considered before the delicate and serious task of adopting a line of treatment for the special case is undertaken.

Every physician understands how these things influence even the group of symptoms in pneumonia, and how they increase or decrease the patient's power of resisting and overcoming disease. If the patient is so situated that the physician can only visit him once in two or three days—if he is ten miles from a drug store or other conveniences, and will only receive poor nursing and insufficient and unsuitable food, he must have a different line of treatment from one who is visited twice a day by the physician, who has trained nurses and every convenience and luxury close at hand. One whose health has been more or less impaired by preceding diseases, by injurious habits or constitutional defect, must necessarily be treated in a very different manner from a young and vigorous man in splendid condition up to the very hour when the chill of pneumonia has surprised him with the knowledge of the fact that he was liable to be sick and in need of treatment. In this latter case I am apt to bleed, if the pulse is full and hard and I see the patient early in

the development of the disease; or I may probably bleed later, if the heart is tiring due to its effort to distribute the dammed up blood through the inflamed lung. If I do not bleed, then I purge actively and sweat the patient freely, stimulate excretion, secretion and elimination. The next patient may be weak from the beginning—weakly constituted—or else the pneumonia is secondary or complicated with some other disease. I then often use stimulants and heart tonics from the beginning of the treatment.

Physicians of ability tell us that strychnine is contra-indicated in pneumonia. I generally use it, and have never had occasion to regret having done so. Give 1-30 gr. of strychnine, nitrate or sulphate, and larger doses if indicated, every four to six hours, and a good effect will be obtained on both the heart and nervous system. I also use quinine in nearly every case of pneumonia, 5 to 60 grains a day, and have found it universally beneficial if not carried to the point of cinchonism. I have never used it in drachm doses, as I recently saw advocated by Dr. Galbraith, of Mexico, nor have I used tincture of iron regularly, which the same writer recommends. I have never used *veratrum viride* or *aconite*. *Aconite* I have tried, but obtained no satisfactory results. *Veratrum viride* I am glad I have never tried. *Digitalis* should be given when the pulse indicates its use.

I believe that in the treatment of pneumonia we should fortify the heart from the beginning, and do all that can be done to encourage peripheral circulation. I have often applied a good cantharidal or canthos plaster when there was much consolidation and slow resolution, and seen more direct benefit from its use than any one other thing that I have used in the treatment of this disease.

I often blister negroes, or patients at a distance from me, who cannot get my attention regularly and have indifferent nursing. Keep the patient well sustained by good concentrated liquid nourishment, and in the later stages give alcohol, whiskey or brandy, when needed. Give enough to accomplish what you have in view. I give it as a stimulant. Dr. Crothers and some others say that it is a sedative. I claim that it is both—first a stimulant and afterwards a sedative; consequently it gives me the effect I want in these cases just after the crisis.

I noticed somewhere recently the statement

that the use of alcohol in pneumonia would soon be as obsolete as the practice of bleeding. That I do not consider an argument against its use, because I claim that both alcohol and bleeding are useful in pneumonia, when indicated.

It is true that many good authorities insist that alcohol is sedative and not stimulant, and that it is more or less poisonous and injurious in any condition, but so long as I give it in pneumonia when the patient's pulse is small and thready, and observe that the pulse, as well as the general condition, is benefited by it, and that it materially helps to tide over the critical stage, I shall continue its use.

I entertain the same views as to strychnine and digitalis. I put the remedies to practical test and am governed by the results. When I get good results from the use of digitalis I do not abandon its use because it is supposed to increase peripheral resistance, add labor to the heart, and favor venous congestion by lessening the arterial capacity. I have never yet had to follow digitalis with sodium nitrate as an arterial dilator.

It is well to use oxygen inhalation when the respiration gets much above 40.

Another thing which I cannot too much emphasize is the importance of giving to the patient plenty of pure water, and as much salt in the food as can be relished. In almost all cases of pneumonia the deficiency of chlorides in the urine may be noted. The salt supplies this need of the system, adds relish to the food, and increases the desire of the patient for water, and pure water given in abundance tends to purify the system.

As I have already indicated, the environment of the patient must more or less control the treatment. It has fallen to my lot to treat pneumonia in the lonely negro cabin, with the snow drifting in through the cracks and laying in rows upon the floor, with a superabundance of that so much needed fresh air coming between the weather-boarding and through the half-inch open space between the planks in the floor; when there was a scant supply of wood in the open fireplace, and the patient was clad in filthy rags and covered with dirty quilts, without even the suspicion of a blanket. I have treated the disease in the homes of the poor and destitute, both white and black; in jails and almshouse, and in comfortable and luxurious homes, in both town and country; in Tidewater Virginia, where the malarial element had to be

taken into consideration in nearly every case; and for thirteen years past in Piedmont Virginia, under varying conditions; and my experience in all these cases and under all these conditions has but emphasized the immense importance of the study of the individual case rather than to attempt to apply the same rules and principles because it was the same disease.

I am unable to state the number of cases of pneumonia which I have treated in the past sixteen years, although it runs well up into the hundreds; and the length of this paper will not permit a detailed discussion of individual cases. I remember on one occasion to have had five cases in one house of two rooms—three in one room and two in the other—in the midst of poverty, and with no possibility of reasonable precautions against infection. I treated each case along the general lines which I have already indicated, but with special reference to the physical peculiarities of the patients, and am glad to say that all five made good recoveries.

I do not dread pneumonia, but would rather treat it than almost any other disease with which I come in contact. Although, as already stated, I have had several hundred cases of this disease, death has claimed only two pneumonia patients during my entire experience—a ratio of perhaps not exceeding one-half of one per cent. This is a bold statement, and one which might be questioned, but it is a fact, given for what it is worth. One of the patients who died developed a large abscess of the lung; and in the other case tuberculosis followed rapidly upon pneumonia, or probably existed prior thereto and developed during the period of the disease.

In its treatment the one thing which I would urge would be the careful study of the conditions of each case and the application of common-sense principles. Pneumonia may be technically self-limited, and it may not be susceptible of direct treatment with medicines, but it is equally certain that in battling with the disease you may be greatly aided by a careful study of the changing conditions, by strengthening the weak points in the system by proper remedies which are indicated by the symptoms of the patient, and by removing the obstructions to the efforts of nature to restore the system to a healthy condition. If more attention were given to the patient and less to the theory of the disease, I cannot but feel that the enormous death rate would be greatly diminished.

Some of what I have said may appear to be in conflict with many of the most accepted modern theories. If this be true I can only say that the methods of treatment which I have generally outlined in this paper have stood the successful test of experience. When these theories have proven that they are better, I shall be glad to adopt them.

CATARRH OF THE SEMINAL VESICLES.

By FERDINAND C. WALSH, M. D., Washington, D. C.

Occasionally it has doubtless been the unfortunate experience of most practitioners to meet with some obstinate cases of posterior gonorrhœa, which, in spite of, or on account of, vigorous treatment carried out over an extensive period of time, fail to yield to most recognized remedial agents, and are a source of annoyance to the patient as well as to the physician himself. Finally the unhappy patient, grown weary of the ever present "morning drop," or possibly "diurnal drop," and not without a sense of relief to his medical attendant, seeks succor elsewhere and drifts from office to office, or else falls an easy prey to the ever present charlatan.

It is in these cases that our efforts should be redoubled, and, always bearing in mind that success will, in the large majority of cases, be slow, we should encourage our patients by so informing them that they may not look forward to a too speedy alleviation from their sufferings.

In these long drawn out cases we often find the seat of trouble not solely due to prostatic infection, but in the seminal vesicles, and to their anatomical location, affording great difficulty to the application of ordinary medical measures, is due the failure of effecting positive results. Here it is that massage, judiciously practiced through the rectum, is our sheet anchor in promoting resolution and relieving the patient's mind of the belief that he is suffering from an incurable affection.

On examining these cases with the index finger in the rectum, firm pressure being exerted against the perineum, and with the disengaged hand pressing strongly downward and backward over the symphysis pubis, thus forcing the bladder down into the pubis, only in extremely obese patients should difficulty be experienced in exploring the vesicles and their nearby relations. The condition of the prostate in regard

to size, contour, and tenderness is first noted. In all cases of catarrh of the seminal vesicles we find the prostate and ejaculatory ducts more or less affected, indicating the necessity of directing our attention in this direction.

The prostate should first be carefully massaged. In this manner we express and expel into the urethra a large portion of its contained secretion, as well as that found in the proximal portion of the ejaculatory ducts, and which we find issuing from the meatus. Having stripped the urethra throughout and collected the fluid thus obtained, by passing the finger well up along the base of the bladder, and slightly to one side, we readily come in contact with the seminal vesicle and note the amount of inflammatory thickening, dependent upon the extent and duration of the inflammatory process. After carefully examining one vesicle the other should be palpated in the same manner. The vesicle should then be stripped and the fluid appearing on the meatus collected. The color will vary from a dark yellowish green to a light straw, and the consistency from that of glycerine to a thick jelly. Often it is found streaked with blood, which is due to ulceration of the walls of the vesicle or to hemorrhage caused by the massaging finger.

In extremely stout patients with a thick perineum, or where the length of the physician's finger forbids reaching the vesicles, the passing of a sound through the rectum to a distance corresponding to the top of the vesicle, then deflecting the beak from the mid-line of the body and carefully withdrawing until the angle is at a point over the apex of the prostate, will often insure the expression of the seminal fluid.

The discharge obtained from the prostate and seminal vesicles should in all cases be examined microscopically and the findings noted as a valuable aid in recognizing the progression in the case.

This stripping should be repeated at intervals of from two to ten days at the discretion of the physician, and should be accompanied by whatever urethral treatment may be found to be indicated.

It may often be noted that the daily amount of discharge seen by the patient is temporarily increased by the institution of the foregoing treatment; we are, however, more than recompensed for this remission by the gratifying results obtained.

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SOME SUGGESTIONS TO THE GENERAL PRACTITIONERS AS TO THE CARE OF CERTAIN EYE CASES.*

By JAMES L. KENT, M. D., Lynchburg, Va.

Before medical societies not divided into sections devoted to the consideration of particular branches of medicine I believe it is expedient for those of us who devote all of our time to special practice to read papers which should help and interest the majority of the society—the general practitioners. With this aim in view, I limit this paper to a brief consideration of some of those cases only which the family physician meets in his practice almost daily.

Probably you are most frequently called upon to remove *foreign bodies from the eye*, and, from faulty technique in performing this usually simple operation, I have seen great suffering follow and not infrequently the loss of vision. Do not consider any of your cases of injury to the eye by foreign bodies too trivial for the most careful attention, for what at first appears to be a very simple injury not infrequently becomes very serious. The eye is very responsive to good treatment and equally sensitive to bad. It will recover usually, even if very badly injured, if the parts are rendered aseptic promptly after the injury, and kept in that condition. Strict asepsis is the *sine qua non* in the subsequent treatment. Prompt action is all important, for a freshly cut surface is much more liable to infection than any other.

The following are a few cases showing the results from prompt action as compared with those where there was delay:

Case No. 85.—Thirty-two years of age; was struck in left eye two weeks before by a nail rebounding from the stroke of a hammer. When first seen he had a traumatic keratitis, which was excessively painful. He was not entirely well for five months, and had a slight scar on cornea.

Case No. 86.—Thirty-three years of age; came to my office the next day, having just received an identically similar injury, which I treated at once. He was entirely comfortable the next day, was discharged the third day, and has had no trouble with the eye, not even a scar, since.

Case No. 112.—Twelve years of age; was struck on cornea of the right eye by the rebound

of a nail also. Her mother bathed the eye immediately in a solution of boric acid, witch hazel and water, and put on a bandage. She was brought to me early next morning and I found a fracture of the cornea one-fourth of an inch long, which had emptied the anterior chamber and in which the iris was prolapsed and tightly held. I cleansed the eye thoroughly by flushing it with a 1 to 10,000 solution of bichloride of mercury, put on a sterile dressing, and ordered 1 per cent. solution atropine sulphate one minim every three hours, and a solution containing boric acid, witch hazel and distilled water to be used freely at the same intervals. At 5 P. M. the same day, as the atropine had failed to free the iris from the wound, I introduced a small eye spatula into the wound and liberated the iris and ordered the same treatment continued. Her recovery was uninterrupted, and she was discharged cured after eleven visits. To-day she has 20-20 vision in the eye and no trace of the injury. Contrast this case with the three following.

Case No. 243.—Fifty-seven years of age; was struck in his right eye with a small bit of stone which caused very slight pain at first. He poulticed his eye frequently for eleven days, then came to me for treatment when the whole globe was full of pus. I advised enucleation, which was refused, and I have not seen the case since.

Case No. 241.—Forty-one years of age; was injured in the same way. Some friend removed the foreign body with a pocket handkerchief. Four days after this he came to me with a badly infected corneal abrasion which had ulcerated through into the anterior chamber. After careful treatment in a hospital for two weeks I got the inflammation under temporary control, but the eye was useless and greatly disfigured, and I advised enucleation, but this was not consented to until seven months later, when the conditions became so serious that I demanded it. On examination of the globe, after enucleation, it was found to be a case of panophthalmitis from streptococcus pyogenes infection and the globe was almost entirely disorganized. The path of the infection was through the cornea, iris, ciliary body and choroid, through which latter the pus ruptured, detaching and destroying the retina. There was immediate relief from pain after the operation and very prompt and uneventful recovery.

Case No. 226.—Fifty-five years old; while

*Read during the thirty-fifth annual session of the Medical Society of Virginia, at Richmond, October 18 21, 1904.

plowing felt a little grit strike him in his eye, but suffered so little pain that he never stopped work. The pus from an old chronic dachryocystitis infected this slight scratch on the cornea. He came to me two weeks later with a large sloughing ulcer of the cornea where the grit scratched it, and the anterior chamber was half full of pus. This man was so indifferent about his eye that he would give it little or no care. I saw him a few times until I checked the ulceration, but the pupil was occluded, the cornea had a facet on it, and he, too, will go through life with only one useful eye.

The following case shows what the intelligent family physician can do to save his patient's eye:

Case No 70.—Was struck in the eye with the pointed end of a peach stone with so much force that it penetrated the cornea, the edge of the iris, and the capsule of the lens. Her family physician promptly gave her an antiseptic collyrium, which prevented any sepsis. I saw the case twenty days later and by the use of atropine succeeded in dilating the pupil, although the iris had adhered to the capsule of the lens. I used gentle massage daily and the cataractous lens was promptly and completely absorbed, and nine months later her vision in that eye was 20-20 with x14 D. S.

These are only a few of the cases coming to us daily, illustrating the joy and benefits that come to those who have been promptly treated aseptically or antiseptically as contrasted with the suffering and despair that usually follow an infected or neglected wound of the eye, and I believe neither the peritoneum nor the meninges are more easily infected than the cornea or conjunctiva. In treating these cases I make it a rule to sterilize *everything* which is to come in contact with the eye, boiling solutions and blunt instruments, and scrubbing edged instruments in alcohol; render the eye anæsthetic with 2 to 4 per cent. solution of cocaine, irrigate it with 1 to 10,000 solution bichloride, or solution acetozone gr. j to fʒij, or saturated solution of boric acid. Then remove the foreign body if present, or repair any damage done, flush the eye again and give one of the following prescriptions:

℞—Acetozone gr. j
Distilled water fʒij

M. Sig. Do *not* shake. Drop into the eye every 2 or 3 hours.

℞—Acidi borici ʒiiss
Aquæ hamamelis, vel aquæ camphoræ fʒj
Aquæ destillat fʒvij

M. Sig. Use in an eye cup as an eye bath every 3 or 4 hours.

Following this technique I have had no infections in cases treated promptly.

Upon the general practitioner rests a very great responsibility in the prompt detection and treatment of *conjunctivitis neonatorum*, and when you are told that 33 per cent. of all blindness is caused by this malady you should realize the important part you can take in saving sight to humanity and relieving innocent babes from a lifelong punishment which they do not deserve. This dread malady usually shows itself on the third day after birth and is as a rule easily recognized, but it should be prevented in nearly all cases by a very simple procedure. In 1882 or 1883 Crede suggested dropping into the eyes of all newborn babies a 2 per cent. solution of nitrate of silver. I would suggest as a substitute for the nitrate *protargol*, an albumose of silver, which is actively germicidal, is not precipitated like the nitrate by the sodium chloride in the tears, penetrates much deeper into the folds of conjunctiva, and is not in the least painful. I use it in the strength of 5 grs. to the dram of cold water. I also use argyrol in 50 per cent. strength with great satisfaction.

When the disease is well developed, with great swelling and congestion, I use adrenalin chloride solution, 1 to 3,000, to lessen the engorgement of the vessels and render the conjunctival surface better fit to receive other medication. I cleanse the eye myself thoroughly 2 to 3 times a day, drop in the solution of adrenalin chloride, evert the lids (if possible) and apply argyrol or protargol solution on cotton to all the palpebral conjunctiva. I direct the nurse to frequently flush the eyes with warm boric acid solution, drop in a few drops of solution of protargol or argyrol every hour or two, and use hot fomentations. This treatment causes little or no pain, does not indelibly stain the skin or clothing, and I believe is much more efficient than that with nitrate of silver solutions, which are very painful.

Not infrequently the mistake is made in *diagnosing glaucoma as iritis*. Not one per cent. of cases of glaucoma occurs before the twentieth year; but the greatest proportion of

them occur between the fiftieth and sixtieth, while iritis is most frequent among the young and middle aged. *In acute glaucoma* there is usually deep-seated, diffused pain in the eyeball, *slow steady failure of vision*, especially at the periphery or nasal side of the field of vision. *In iritis*, the pain is usually worse at night and on pressure on a point above and slightly to the nasal side of the eyeball, and vision is not, as a rule, diminished.

In glaucoma the eyeball is *harder* than normal or than its mate, and the pupil, unless bound down by old adhesions, is dilated. *In iritis* the tension is normal as a rule and the pupil is contracted and is responsive, but sluggishly, to light and shadow.

In glaucoma the cornea is anaesthetic and has a peculiar glassy green color. *In iritis* it is very sensitive and is not much changed in appearance.

In glaucoma the patient sees *rainbows* or colors about lights and there is no photophobia. *In iritis* intense photophobia is usually a prominent symptom and lights have their ordinary appearance.

In glaucoma the anterior chamber is usually very much shallower than normal, but the irides are of the same color. *In iritis* the iris is usually darker in the affected eye, but the two chambers are of the same depth.

I have gone rather into detail in contrasting these two diseases because if atropine is used in glaucoma it will usually destroy vision, while it is almost a specific cure for iritis, and relieves the symptoms very promptly. In glaucoma you should use eserine, if you cannot perform a broad iridectomy at once. In iritis use atropine to relieve the pain and to hinder the iris from becoming adherent to the capsule of the lens where the inflammatory lymph, thrown out on its posterior surface, would come in contact with the capsule.

To capitulate: Treat all your cases of injury of the eyes in accordance with modern surgical teachings, aseptically; use argyrol or protargol instead of nitrate of silver in your cases of conjunctivitis neonatorum; and be careful not to mistake glaucoma for iritis.

PAPILLOMA OF THE CONJUNCTIVA AND CORNEA.

By HUNTER H. MCGUIRE, M. D., Winchester, Va.,
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J. H. S., farmer, age 58, consulted me on October 3rd last with the following history: Three months previously, after being switched in the right eye by the tail of a horse, he noticed the beginning development of a growth on the upper outer area of the eyeball. This gradually increased in size until it began to encroach upon the cornea. The eye was painful at times and he resorted to the use of poultices for its relief.

Upon examination, a well defined conjunctival tumor was seen in the upper outer quadrant of the eyeball and extended about three millimeters beyond the limbus on the surface of the cornea. The growth presented an uneven surface, a broad base attached throughout to the conjunctiva and cornea, and was rather soft and friable to the touch.

Operation was advised and patient sent to hospital. Under cocaine anesthesia, the tumor was thoroughly removed and its base curetted. Owing to the large space it occupied, it was impossible to bring together the edges of the conjunctiva. The operation was accompanied by profuse hemorrhage, but this was readily controlled by the use of suprarenalin solution. The wound healed by first intention, leaving a smooth and normal conjunctiva, and up to this time there has been no sign of any recurrence.

The specimen was submitted to Dr. S. P. Latane, of this city, for microscopical examination, who made the accompanying drawing



of the section and returned the following report:

"The enclosed drawing represents the conjunctival growth you sent me. It appears to

be a pure papilloma. The body and central stalks consist of connective tissue and blood vessels. The surface is covered by several layers of epithelial cells—the lowest two being cuboidal and the remainder squamous. The drawing is of course diagrammatic in detail, but correct in form and outline. It is from the most characteristic portion of the growth. Unfortunately, in the main portion of the specimen the sections are cut transversely to the central stalk and give a mixed picture, but I have been unable to find anything which indicates malignancy."

Papilloma is one of the rare forms of growth met with on the conjunctiva, and unless thoroughly removed is very prone to recur. It develops usually in the region of the caruncle, but may occur on any portion of the conjunctival surface. In rare instances it undergoes carcinomatous degeneration, but as a rule is benign in character.

The case I have detailed is interesting, not only because of the rarity of the growth, but also because of its unusual position on the conjunctival surface.

USE OF BISULPHATE OF SODA IN THE TREATMENT OF TYPHOID FEVER—A REPORT OF CASES.*

By JOHN EGERTON CANNADAY, M. D., Paint Creek, W. Va.,
Surgeon in Charge Sheltering Arms Hospital.

In presenting this paper it is my purpose to give a resume of the conclusions arrived at and methods adopted in the treatment of eighty-five cases of typhoid fever in which the acid sulphate of soda has been used as a routine intestinal antiseptic, and to outline the other remedial measures used in this series of cases.

About a year ago my attention was called to the value of the chemically pure bisulphate of soda as an intestinal antiseptic by a paper written by Dr. H. G. McCormick, of Williamsport, Pa., who had tried this drug clinically in four or five cases. A short time after I began its use. I liked the results so well that up to the present I have treated eighty-five cases occurring in my

*Read before the Medical Society of Virginia at its thirty-fifth annual meeting, at Richmond, October 18-21, 1904.

service in the Sheltering Arms Hospital at Paint Creek, W. Va.

The treatments directed against typhoid have been many and varied—the long sought for ideal of the ages having never yet been found. Patients have been sweated and frozen, purged and constipated, stimulated and depressed. All we can hope to do is to steer the patient through the mazes of the disease, to help nature to make her best efforts, to avoid complications, and sequelæ which are often more grave in their consequences than the danger of the disease *per se*. It can be much prolonged by injudicious treatment. Notwithstanding the fallaciousness of attempting to jugulate the disease, every now and then one will read some cock and bull story in some so-called medical journal of the alkaloidal clinic or medical brief type, of the wonderful results that have followed the administration of so and so's tablet, granule or pill.

Some combination of nature's methods with at least some internal medication must subserve our purposes until the serum treatment that has been of so much promise under the untiring efforts of Chantemesse and others, has been brought to the high state of perfection that the diphtheria antitoxin has attained. Other methods than drugs must have their share of attention as well. An atmosphere of quiet and gentleness, a clean sweet airy room, a vase, a picture, a flower, a bright, thoughtful nurse will do vastly more good than over much medication with nauseous drugs. Instil patience in the minds of your patients. Try to make the journey through illness and invalidism serene and smooth.

The generality of the infection, its wholesale character, prevents any means of treatment limited to the confines of the intestinal tract from accomplishing more than limited results.

Bisulphate of soda—also known as monosodic sulphate, hydrosodic sulphate, or acid sodium sulphate (NaHSO_4 in contradistinction to Glauber's sodii sulphas or the disodic sulphate, Na_2SO_4) contains two molecules of water of crystallization and is deliquescent, crystallizes in long, four-sided prisms, is decomposed by air, water or alcohol after a sufficient lapse of time. It is a fairly stable compound. It is decomposed into H_2SO_4 and Na_2SO_4 , and is obtained by heating sodium nitrate, NaNO_3 , with H_2SO_4 , or by the action of warm H_2SO_4 on NaCl .

Dr. Weddigen, Pathologist and Microscopist

to the Williamsport Hospital of Pennsylvania, has made, under the direction of Dr. H. G. McCormick, extensive and careful laboratory experiments which go to prove that sodium bisulphate in a solution of one to fifteen hundred is antiseptic to typhoid bacilli, while a solution of one to two hundred is germicidal in five minutes to the bacillus typhosus. Further experiments made by Dr. Weddigen show that the solution of bisulphate of soda is a direct chemical antidote to the toxins of the bacillus typhosus. This chemical has been used hypodermatically on guinea pigs in a strength of 1 per cent. without producing any toxic effects.

The bisulphate is used in the strength of seven and one-half grains to the ounce of water, two ounces of this solution being given every three hours. It corresponds in acidity to the hydrochloric acid of the stomach and hence promotes digestion, which is at a very low ebb in this disease, especially if the temperature runs at all high. The solution is not at all nauseous and patients do not as a rule object to the taste.

In treating typhoid fever we must bear in mind: To not deplete the system, to not lower the vital powers, to do nothing calculated to add to the toxins already present in amounts that overtax the eliminative functions. I would especially inveigh against the indiscriminate use of quinine, Dover's powders and acetanilid; knocking out the patient generally, upsetting the stomach, locking up a lot of toxic excretions, depressing the heart—that organ on whose welfare so much depends during the long and toilsome course of this disease, disorganizing the blood, diminishing oxidation and decreasing the elimination of toxins. Their routine use is not for a moment worthy of consideration.

Sponge baths of tepid water, alcohol and water, cool water, ice water of varying temperatures as suited the needs of the case have been used. As a means of reducing high temperatures, the ice rub in skilled hands is superior to the bath of Brand and far more agreeable to the patient. In the main the cold sponge as recommended by Hare, rather than the tubbing of Brand has been practiced, the latter causing too much shock. The severe congestion of the internal organs caused by the cold tub is quite enough to cause hemorrhage in a case so predisposed. Tap water is often cool enough for sponge baths, a great deal of course depending on the idiosyncrasies and temperament of the patient.

In the typhoid dietary we have given the patients almost any kind of soups, animal or vegetable that have had the grease and particles of solid removed by skimming and straining, liquid peptone, beef extract, peptonoids, predigested beef, beef and wheat, sweet milk, malted milk, butter milk, gelatine, tea, coffee, cocoa and chocolate, during the course of the fever. When close supervision and skilled nursing cannot be had I am inclined to believe that a rigidly liquid dietary, given in specified amounts and at fixed hours, is best. When careful watch can be kept I would allow a more liberal diet, giving as great variety as possible, often, and in small amounts, always trying to discover just the right thing for the patient's stomach, and stopping immediately any article that disagrees with the patient.

When stimulants have been indicated we have used at times strychnine, in doses small enough and far enough apart to prevent the nervous system from being unduly irritated. The tincture of nux vomica I have often found to act better, the combined alkaloids acting more harmoniously than the one. Digitalis and adrenalin were used for lowered conditions of blood pressure.

In most cases in which there was delirium, brandy and whiskey were used in doses varying with the habits and idiosyncrasies of the patient. Hare has conducted an interesting series of experiments which go to prove that the administration of alcohol, at least to a certain extent, increases the bacteriolytic power of the blood.

Morphine has not been used in any case of hemorrhage. One or two pints of a 2 per cent. to 10 per cent. solution of gelatine in warm normal saline solution have been given subcutaneously or by rectum (sterilized by boiling when used in the former manner). Adrenalin administered hypodermatically every two or three hours in five minim doses will do much to constrict bleeding points. Calcium chloride in twenty grain doses every two or three hours will rapidly increase the coagulability of the blood. In all cases of bleeding from typhoid ulcers the patient has been kept quiet and all nourishment discontinued. It is highly advisable to use the physiologic saline solution subcutaneously in cases where the loss of blood has been considerable. These measures have sufficed to control all cases of hemorrhage occurring in a large series of cases.

Saline purgatives have been given in small doses for constipation regardless of the period

of the disease. The albuminate of tannic acid, known as protan, has acted well in most cases of diarrhœa. Colonic lavage with warm normal saline solution has been productive of excellent results in these cases.

In the mountains of West Virginia where water is scarce and the population dense, where sanitary measures are practically ignored, where the turbid waters of the Great Kanawha and New rivers, gathering filth in every mile of their course, furnish the sole supply of drinking and using water to the teeming thousands who dwell on their banks, disease is rife, and the hand of fever falls heavily on the brow of man, burning fiercely in the rugged frame of native and foreigner alike. The type of disease there seen is often peculiarly malignant in its course and frequently prostrates the individual as if by a great blow. The facilities for nursing and careful attention are often wanting, and the pestilence goes on its way unchecked.

Some of our cases arrive at the hospital in the first stages of the disease, but the majority later, when it has gotten well under way. Some are quite mild, but as a rule the mild case is treated at home and the bad cases sent to the hospital. A few cases are practically hopeless when received, occasionally one has had perforation and the consequent peritonitis.

Prior to entrance some of the cases had the best care and attention that doctor, friends and family could give. Most had been treated by their physicians with the greatest difficulty, owing to the lack of conveniences, to filthy surroundings and the unskilled attention of ignorant but well-meaning people, people to whom the first principles of hygiene and sanitation are unknown. Practically none of these cases had the services of a trained nurse. The manner in which many of the cases were transported to the hospital most certainly aggravated the subsequent course of the disease in some cases. At times brought sitting up, forty or fifty miles on crowded local trains or on a cot, being shaken and jostled about in a baggage car. On one occasion a man in the second week of the disease was carried by the hospital and walked back, a distance of five miles. Shorter distances were walked by several patients in varying stages of the disease.

The average stay in the hospital was 27.08 days. Average day of the disease on entrance, 9.06 days. Average duration of fever, 14.06 days. Average period of convalescence, 13.02

days. The diet was considerably but gradually increased as soon as the temperature reached normal. Patients were allowed to sit up in bed from the fifth to the sixth day of normal temperature in most cases, to sit in a chair a day or two after, and to go home about a week from that time.

Complications were rather infrequent. Two cases had facial erysipelas, one of them dying from the meningitis which followed its invasion of the internal ear, while the other made a recovery after having a recurrent attack of erysipelas of the face. Multiple furunculosis was noted in five cases.

One case of phlebitis of the internal saphenous vein was followed by thrombosis of the vessel. Nine had marked intestinal hemorrhage, but none were followed by fatal results. Diarrhœa and tympanites were uncommon. The mouths of those in which treatment was begun early in the course of the disease kept in excellent condition with an absence of sores.

Eight cases had well-marked relapses, one colored man having three distinct recurrences of the disease.

Most of the cases were adult males from twenty to thirty years old. The greatest number were blacks and whites, native to Virginia and West Virginia, with a sprinkling of foreigners, Italian, German, Slav, Greek and Macedonian.

In this series of eighty-five cases the percentage of deaths was 8.02. Two of the deaths were directly due to peritonitis from perforation, one from erysipelas as a complication, while the other fatal cases were evidently due to the exhaustion and depression of the vital powers due to the disease. One of the fatal cases was delirious and in a low typhoid state when entered. Two others were at the end of the second week of the disease when brought to the hospital.

Nose bleed was noticed in fifteen cases. The diazo reaction was present in sixty per cent. of cases examined. Rose spots were not frequently found.

At one time or another I have tried on different series of cases various intestinal antiseptics, including salol and zinc sulphocarbolate, tincture of iodine and carbolic acid, acetozone, and ichthyoforn. In one series of cases I avoided all medication save stimulants and laxatives (which have been used freely in all cases when indicated).

Withal, the results have been considerably better when intestinal antiseptics have been used, notwithstanding the pertinent question of an eminent friend as to the possibility of a few grains of a mild antiseptic to disinfect a number of feet of dirty intestine.

Conclusions: That the bisulphate of soda is a non-toxic intestinal antiseptic. That it keeps the mouth clean, promotes digestion by its acidity, prevents tympany and lessens diarrhœa.

VACCINATION—A FEW PRACTICAL REFLECTIONS.

By WM. J. INNES, M. D., Aspenwall, Va.

Small-pox is known to have existed in China for many centuries, but it is not known just in what part of the globe it originated. In India, before the Christian era, a goddess was worshipped as a protectress against it. The great pestilence mentioned by Galen, which occurred in the second century, from which Marcus Aurelius died, is thought to have been small-pox. It prevailed in the East in the sixth century and reached England about the ninth century.

Rhazes, an Arabian physician, in the tenth century, was the first to accurately describe the disease. After the Crusades it prevailed in most of the temperate countries of Europe, but did not reach the northern countries of Norway, Lapland, etc., for some time later.

It made its appearance on the American continent in the sixteenth century, where it spread with intense virulence. In Mexico alone some three and one-half millions of people died.

Sydenham's classic description of the disease appeared in the seventeenth century. During the eighteenth century from 1-12 to 1-6 of the total mortality of Europe was caused by small-pox. In 1707 it was introduced in Iceland, when more than one-fourth of the population fell victims to it, and reaching Greenland still later it almost depopulated that country. The North American Indian succumbed to it in great numbers.

The spread of small-pox among the civilized races received its first effectual check by the introduction of vaccination at the close of the eighteenth century, although inoculation had

been practiced to a limited extent in the early part of the century.

Lady Mary Whortley Montague, while resident in Turkey, observed the practice of inoculation in the city where she resided, and was the means of introducing the custom into Europe in the year 1718.

In 1776 Edward Jenner, an English physician, had his attention drawn to the fact that certain individuals, upon contracting an ulcer upon their hands from cows which had an eruption on their udders, were immune to small-pox. After a thorough, pains-taking investigation and careful experimentation, Jenner published his first paper in 1798, and in 1796 he made his first vaccination upon man.

For six years no physician received more ridicule and abuse. He was attacked by almost all the leading physicians and surgeons, and scoffed at by an entire populace; nevertheless he persistently maintained his position. At the end of the six years the profession were forced to acknowledge his great contribution to preventive medicine, and his discovery was hailed with joy throughout the civilized world.

Vaccination was first introduced into America in 1799 by Waterhouse, of Boston, and at once received the support and approbation of the leading men of the day. In 1800 it was first introduced in France. Since this time it has steadily increased in favor and has been generally adopted. Time has established, beyond the shadow of a doubt, to honest and intelligent minds, the truth of Jenner's dictum: "That vaccination insures perfect immunity to small-pox."

It is very interesting and instructive to observe that while Jenner's discovery must necessarily be considered to be then empirical, that it accords fully with subsequent developments as brought to light by modern bacteriologists and the serum therapist. One writer remarks:

"Had Jenner not existed, were small-pox a new plague suddenly brought to Europe from some remote part of the earth, modern bacteriologists, from their knowledge of other diseases, would be seeking for some means of producing immunity much on the lines of Jenner's empirical solution. The scientific discussion of vaccination as a biological process must be left to biologists, and especially to those biologists who make pathological bacteriology their especial subject."

The extreme value of vaccination as a

prophylactic measure has been attested to by years of accumulating testimony. One writer says: "In Westphalia (a province of Prussia, population 2,043,442) for the 31 years preceding the discovery of vaccination, the annual number of deaths to the million was 2,643. This has fallen to 114 each year following. In London there had been a mortality of 3,000 to 5,000 per million before the vaccination era; after the introduction of vaccination this fell to 304, then to 149, and to 132 in the year 1855.

In Sweden from 1774 to 1801 the annual number of deaths per million was 1,973, from 1802 to 1806 the number fell to 473, and from 1871 to 1877, when vaccination was made obligatory, the mortality was reduced to 189 per million. The status of other countries gives similar results.

After the introduction of vaccination for the first two decades of the nineteenth century, small-pox epidemics received a positive check, and seemed to be ceasing everywhere, but at the end of that time, they began to make their appearance again, though with modified features. Those who had been vaccinated were attacked, being more susceptible as the years rolled by. It was discovered that the protection of vaccination will decrease in time and that revaccination is essential to many.

"At the time of the great pandemic of 1870 the average death rates in four countries with compulsory vaccination, England, Scotland, Bavaria and Sweden, were as follows: 361, 314, 346 and 333. The average rates in four countries without compulsory vaccination, Prussia, Austria, Belgium and the Netherlands, were 953, 1,360, 1,293 and 958. The latter countries showing a mortality more than three times that of the first named countries."

Hunt says: "In Germany every child is vaccinated before it is two years of age and again vaccinated before it enters school. It would seem that if we were wise and prudent we would follow the German custom, for there were only 28 deaths from small-pox in Germany in 1900, which has a population of 54,000,000.

A good example of the value of vaccination is found in the French and German armies at the time of the Franco-German war. When Paris was besieged by the Germans in 1873 there were about 100,000 soldiers in the German army. Germany required of her soldiers compulsory vaccination, while France did not.

The French lost 23,000 men by small-pox, the Germans less than 100.

Compare the death rate from small-pox in Germany and Philadelphia. In Philadelphia they lose more in a month from small-pox than does Germany in a whole year."

"When the Spaniards left the island of Porto Rico in 1898 small-pox was endemic; in December it was epidemic; in January 1899, it had honey-combed the island, and by February there were 3,000 recent cases, and the disease was spreading at a gallop. In February systematic compulsory vaccination was begun, with fairly equal efficiency in all parts of the island. Vigorous persecution for four months, until July 1, resulted in 860,000 vaccinations out of a population of 960,000. The work then ceased, completed, and the disease had practically disappeared. In two and one-half years there have been but two per year as against a former yearly average of 621. The author well says:

"Can any honest, intelligent person doubt, in the face of these indisputable, easily verified facts what it was that in four short months drove small-pox from its wide and long-time reign on the island, and has since kept it out? Vaccination alone did it, and will effectively, wherever compulsory legislation properly enforced secures its benefits to all."

Hyde states: "Vaccination, however, while probably as near perfection as a preventative of small-pox as any means can be, is still not absolutely perfect, and its failures show most plainly in epidemics, when those ordinarily resistant to vaccina become amenable and vaccination may even apparently succeed, after or during the developed small-pox itself.

"These exceptional facts, however, prove nothing against the rule and the anti-vaccinationists overlook the signal victories over small-pox of which the general character of the present epidemic is itself an evidence. Hyde shows that were it necessary to appeal to statistics at this late day to prove the value of vaccination, the experience of Porto Rico alone, where small-pox has been practically stamped out in two years, would be sufficient. She "bombarded us with a filthy germ, and in revenge we made her clean."

His article concludes with the demand that "vaccination should be the seal on the passport of entrance to the public schools, to the voters' booth, to the box of the juryman, and to every

position of duty, privilege, profit and honor in the gift of either the nation or State."

Notwithstanding it is objected that vaccination does not confer immunity to the masses, as evidenced by the many who, being duly vaccinated, yet contract the disease, and some even die from it. To this objection we reply by calling attention to the well known fact that a person may be inoculated with vaccine virus and yet not be vaccinated. Unless the vaccination be successful as attested by the resulting typical scar, no immunity can be assured. It is a great mistake to inoculate a person, dismiss him and possibly give him a certificate of vaccination without waiting to be assured as to the successful issue, and how often is this not done? This is one of the abuses that we are surely responsible to correct.

Another objection is the occurrence of the sore arms and other annoying sequelæ to vaccination which so often follows the operation. To this we must say that many of these troubles are the result of secondary infection and it is not just to attribute the cause to the vaccination *per se*, for with pure virus, improved methods and careful after treatment the dangers of transmitting disease or of contracting infection may be quite eliminated.

A recent writer says: "The anti-vaccinationists are still using the Cleveland example as a noted instance of the failure of vaccination and of the advantages of disinfection against small-pox. It might be well to state the facts which seem to be quite lost sight of by the general public. The disinfection did not abate the small-pox, but was followed by an epidemic of over 1,200 cases of small-pox with 200 deaths, and then Cleveland made up for its laxity by a most vigorous vaccination crusade with the final result of stamping out the disease. If there is anything positive in medicine it is that vaccination will stamp out small-pox."

The London *Saturday Review* of October 5, 1901, has an especially acute criticism of the attitude of the scoffers and one or two opposite points are exceedingly well put. The writer of this article remarks that: "The details of a complex problem involving the activities of life, the attraction and repulsion of contending cells, the production and warfare of toxins and antitoxins, the nature of microbes and microbial poisons lie in a region closed and unprofitable to a layman. A special aptitude, and long training and a constant and assiduous devotion are requisites

of the modern bacteriologist, and it is only the bacteriologist who is in a position even to understand the evidence that has accumulated regarding the artificial reduction, or complete immunity to a disease. And this is the more so because the production of immunity by vaccination was for long an isolated empirical result, hit upon by what may be called a happy chance; and at its inception, out of line with what was then known of disease, has now by the vast growth of knowledge, taken its place as one particular problem exactly congruous with the problems raised by study of the vast majority of diseases." . . . "The truth undoubtedly is, that the ordinary individual has not the trained intelligence necessary to understand more than the rudiments of the matter and is consequently precluded from passing an opinion of any value.

"The opponents of vaccination, for the most part, are incapable, through their ignorance of bacteriological science, of judging of the merits or demerits of the method; but led away by their emotions, they play upon the feelings of the masses and create a prejudice against vaccination in the same way as they or their like, have stirred up an adverse sentiment against every form of medical study and investigation."

According to Osler a normal vaccination takes the following course: "At first there may be a little irritation at the site of inoculation which subsides. On the third day, as a rule, a papule is seen surrounded by a reddish zone. This gradually increases and on the fifth or sixth day shows a definite vesicle, the margins of which are raised while the centre is depressed. By the eighth day the vesicle has attained its maximum size. It is round and is distended with a limpid fluid, the margin hard and prominent and the umbilication is more distinct. By the tenth day the vesicle is still large and is surrounded by an extensive areola. The contents have now become purulent. The skin is also swollen, indurated and often painful. On the eleventh or twelfth day the hyperemia diminishes, the lymph becomes more opaque and begins to dry. By the end of the second week the vesicle is converted into a brownish scab which gradually becomes dry and hard, and in about a week (that is about the twenty-first to twenty-fifth day from the vaccination) separates and leaves a circular pitted scar. Constitutional symptoms of a more or less marked degree follow the vaccination. Usually on the third or fourth day the temperature rises, and may persist until the eighth or

ninth day. There is marked leucocytosis. In children it is common to have with the fever, restlessness, particularly at night, and irritability, but as a rule these symptoms are slight. If the inoculation is made on the arm the axillary glands become sore; if on the leg the inguinal glands."

Technic of Vaccination. The virus should be fresh and absolutely free from contamination. The skin of the patient at the site chosen for the inoculation should be sterilized as for any surgical operation; having a surface free from any antiseptic by rinsing off well with sterile water and allowing to dry under a piece of aseptic gauze. The hands of the operator should be scrubbed with soap and water and then wet with alcohol or corrosive sublimate. Use special scarifier, sterilize it by passing through the flame of an alcohol lamp. Choose a point near the insertion of the deltoid muscle, if the leg be preferred select a site just below the head of the fibula. Avoid scar tissue. Afterward protect with a celluloid shield which has been washed in an antiseptic fluid and dried, but this must be removed as soon as a special lesion has developed. The arm is then dressed with boric acid ointment and covered with aseptic gauze, bandaged so as to avoid compression. Instruct patient to avoid all friction over the wound, and on *no consideration to handle the part himself*; in other words let asepsis be the watchword in this as in all surgical operations.

Degree of immunity conferred. Immunity is said to be acquired by the time the areola is at its height, that is eight to ten days after vaccination.

Vaccination in a pregnant woman does not protect the child.

The duration of immunity is very variable and in the presence of an epidemic revaccination should be availed of to insure safe protection. A successful vaccination within five years will probably prevent the contracting of the disease, but will not be a certainty. It is conceded by most authorities that the period of immunity is not only extremely variable but it is probably short in most cases.

The protection of vaccination is in direct proportion to its excellence. The completeness is shown by the resulting scar. Vaccination protects against small-pox as freely as does an attack of the disease immunize against a subsequent attack.

The more successful vaccination a person has increases the degree of immunity.

Primary vaccination should be performed in infancy, and revaccination at the school age. In the immediate presence of an epidemic, however, revaccination should be performed, though the primary vaccination be but recent.

The French government has just promulgated a new code of sanitary regulations. The code, among other things, contains the proviso that for the future, three vaccinations instead of one shall be made obligatory upon every citizen. The first in infancy, the second at 11 years of age, and the third at the 21st year.

Complications and Anomalies of Vaccination. Could we induce or compel everybody to be vaccinated small-pox as a disease and particularly in epidemic form would simply be eliminated, but unfortunately with a great number of people, vaccination is in very ill repute. That this antipathy has some basis of warrant is only too true, in the too frequent occurrence of sore arms and grave constitutional disturbances which ensue upon the vaccination. But let us be sure to place the blame of such failures in the right place, and if we have been amiss in our practice let us frankly confess our fault.

McAllister says: "The cause is due to the lack of attention given to the patient's after treatment. An operating wound is kept sterile from first to last; an accidental wound is rendered antiseptic as soon as possible; but the vaccination wound is infected with specific germs and the patient is dismissed.

"The remedy for abnormal results is in using good virus, an aseptic technic and treatment of the case as an important one in minor surgery."

During the second week a large, painful areola is normal if bright red, and if the vesicle is of typical appearance; but if the vesicle is irregular, filled with greenish pus, and the areola be a dark, livid purplish hue, there is a mixed infection.

As soon as secondary infection is apparent the case should be under a physician's care.

Remember that the destruction of the vesicle does not impair the protective power of vaccination, and if signs of infection occur, cleanse the wound thoroughly at once and treat it on surgical principles and *never allow a deep excavating ulcer to develop.*

Vaccination should not be performed during the menstrual period nor in the case of an ecze-

matous eruption of the skin. As far as possible secure a healthy condition.

In the case of an epidemic of course the wisest course will be to avoid the greatest danger, though a lesser one may be incurred in avoiding the prevailing contagion.

It is the duty of the profession to urge the necessity for systematic and efficient vaccination and to remove every obstacle possibly that will tend to depreciate, in the eyes of the masses, one of the greatest blessings bestowed upon stricken humanity.

MANAGEMENT OF ACUTE GENERAL PERITONITIS.*

By D. GARLAND SHERRILL, A. M., M. D., Louisville, Ky.

The writer limits himself to consideration of two forms of infection; the first, acute septic peritonitis in which the poison is so intense that the patient dies from a profound toxemia before the local changes have progressed to the point of pus formation; the second, general suppurative peritonitis in which pus is found free in the peritoneal cavity without any localization of the process. The two forms result from infection following perforations of the alimentary canal, rupture of the urinary or gall bladder, ileus, abdominal operations, puerperal infection and disease of the ovaries and tubes. Many cases, especially of the septic type, result fatally regardless of the time at which they are seen or the treatment employed, while some respond to medical and more promptly to applied surgical measures.

With the best authorities at variance as to some reasonable plan of treatment of conditions of such importance, the average practitioner is left quite at sea.

The first question that presents itself is whether medical treatment or surgery offers most to these unfortunate individuals. Prior to 1843 when Volz advised the use of opium in these cases, the results were uniformly bad. This plan of treatment first urged upon the profession of this country by Alonzo Clark, showed a considerably lower rate of mortality than the former methods in use, and was almost exclusively followed until Tait urged the use of sa-

lines to drain the inflamed peritoneum and brought about another radical change in the treatment. More recently there has been a tendency to the rest treatment of inflammatory conditions within the abdomen largely as a result of the stand taken by Oschner upon the treatment of appendicitis. He claims to get a quiet intestine and the relief of pain by emptying the stomach, allowing nothing to be taken into it and avoiding the bad effects of opium such as meteorism, constipation and diminished kidney secretion. Others are using opium for the pain, salines to move the bowels and are giving some food by the mouth. Three distinct plans of treatment, therefore, have been advocated and it is difficult to determine which is the best in cases where surgery is not indicated, or will not be permitted.

Oschner's statistics seem to show the lowest rate of mortality when the disease follows appendicitis. My cases have usually been considered surgical; therefore I cannot deny his claim. One can see the advantage to be gained by relieving the stomach of the highly toxic fluids which are carried into it by reverse peristalsis, but can more readily see the benefit to be obtained by a brisk purge in non-perforative cases, and as well after a perforation has been closed by operation. It is generally admitted that this is a bacterial disease and various forms of organisms have been found in different cases. We are, therefore, justified in claiming that in the inception this is always a local infection, and in the large majority of cases its prompt recognition places it within the domain of surgery.

Medical treatment is then indicated only in those cases where surgical aid is refused by the patient, and in those in which the grave condition of the patient renders it likely that an operation will remove the slight chance remaining for recovery. In cases seen early where operation is refused, it is exceedingly important before medical treatment is commenced, to determine, if possible, the causative lesion. In many cases, this cannot be done, but careful attention to the history and symptomatology will, in a majority of the cases, enable the attendant to reach a conclusion upon which he may plan a logical course of treatment. In order to make clear this point, it will be necessary to distinguish, not only between perforative and non-perforative cases, but also between perforations of the stomach and those of the intestines.

We will, therefore, consider the *form due to*

* Read before the Mississippi Valley Medical Association at Cincinnati, November, 1904.

perforating ulcer of the stomach from a medical viewpoint. The first importance should be given to absolute rest of the stomach—no lavage no food, no medicine, no water, nor anything else being allowed. Enemata should be used to unload the lower bowel and relieve meteorism. Colon lavage can be safely employed if necessary, followed by nutrient enemata as indicated. If there is reason to believe that the rupture is posterior, the hips and the shoulders as well can be raised with a view to retain the process in the smaller sac of the peritoneum as recommended by Lennander. The employment of heat or cold locally can be tried here as in all other varieties. When the rupture is lower in the alimentary canal, and in cases of obstruction where there is danger or possibility of a rupture, gastric lavage can be safely employed, but purgation and even large enemata are very dangerous. One case coming under my care with rupture from a blow was lost probably because of injudicious efforts to cleanse the lower bowel, none of the fluid returning. Absolutely nothing should enter the stomach after it has been thoroughly cleansed. Small enemata of concentrated solution of magnesium sulphate with glycerine can be used to empty the rectum and small nutrient enemata administered at proper intervals. If opium has any place in the treatment of peritonitis, it is in a case of this kind and it can be given quite fearlessly.

In cases following puerperal infection, surgical operation, the rupture of an abscess and rupture of the appendix a very different plan of treatment should be employed. Rupture of the appendix has been included under this division because the appendix which ruptures is in the vast majority of cases one whose lumen has become to a great extent isolated from the bowel, owing to the great swelling of the lymphoid tissue, or on account of torsion of, or cicatricial tissue in the appendix. In favor of this view is the fact that one of the prominent factors in the production of inflammation of this organ is an admitted inability to empty itself. Therefore, the danger following a ruptured appendix is not from fecal extravasation, but from the contained bacterial flora. There being little danger, then, of further increase in the dosage of the poison, I believe we are justified in the use of purgatives in this condition and in ruptured abscess and post-operative cases as well. It appears to me to be good practice to obtain a clean alimentary tract in cases of this character,

because a prolific source of infection can be removed by elimination of the feces; also by causing a rapid osmosis from the peritoneal cavity without increased danger.

I do not mean to say that in all cases we can certainly exclude a leaking bowel, but when we can do so, this should be our plan. I would especially urge that in the management of these cases, routine treatment should be eliminated as nearly as possible. It is extremely doubtful whether in any of these forms of peritonitis, topical applications other than heat or cold ever do any good. Leeching is perhaps worthy of a trial. Careful stimulation should be given in all forms.

In considering the surgical treatment of this disease, much stress should be placed upon operation as a measure for the prevention of general peritonitis. In the largest number of cases, prompt interference for the relief of any of the causative conditions before the serosa is soiled, or while the peritonitis is still confined to a limited portion of the membrane, offers the best chance of recovery.

The outcome of a given case will depend upon the following factors, without reference to the special steps in the operation, or the subsequent care, viz: First, the virulence of the infection; second, the quantity of the infecting medium; third, the resistance of the patient; fourth, the activity of the organs of elimination; fifth, the time at which the patient comes to operation after the poison enters the cavity; sixth, the dexterity and a thoroughness of the surgical procedure—no matter what may be the special method of the operator in attempting to reach the desired end.

In the technique, again, we find a wide difference of opinion. Some operators rely upon sponging for the removal of the infectious material, while others use flushing and drainage, and still others who simply open and drain—doing nothing further. These views are apparently so different, that to reconcile them would seem impossible; yet the object of each is to free the patient of the noxious material and allow him to combat the poison already absorbed. By keeping this in mind, we can readily see that one operator reaches success by carefully sponging loop after loop of intestine and the spaces where fluids are so prone to collect; while the other uses water to remove the pus and bacteria believing that in this way he can best accomplish the end desired.

Personally, I feel that I can cleanse an abdomen which is the seat of this form of inflammation better by flushing than in any other way, and have found that my more recent results are better than former ones simply because I do my work in a more thorough and systematic manner.

The septic form of peritonitis, (acute peritoneal sepsis) of Mayo Robson, because of the extreme toxemia, demands very early operation. In other respects, it should be treated just as the suppurative type. After operation these cases are to be managed as any other abdominal section.

Analyses, Selections, Etc.

Stypticin in the Treatment of Uterine Bleeding.

Dr. H. J. Boldt, of New York, read a paper before the Southern Surgical and Gynecological Association, supplementing his former report on the use of stypticin—the name applied by its introducer, Dr. Martin Freund, to cotarnine hydrochlorate—in various cases of uterine hemorrhage—his opinion of the therapeutic value of this medicament being based on seven years' experience with it. He first briefly describes stypticin, which is a base obtained from narcotine by oxidation. It occurs as a microcrystalline yellow powder, is soluble in water, and has an intensely bitter taste.

The author cites a number of cases in which he used stypticin with marked effect, and gives also those in which it was ineffective. In 35 cases of fibromyomata, 11 were more or less benefited, while 24 were not. In one case of excessive menstruation, due to an interstitial fibroid, the relief was very marked.

In nine cases where hemorrhage was due to cancer of the uterus, the result was negative.

Complete cure followed in from two to six days in 5 cases of post-*puerperal* bleeding after removal of retained placenta particles.

In conjunction with curetting, stypticin was found effective in hyperplastic endometritis, but in the glandular form results were negative. In 1 case out of 5 of retroversion with endometritis, the menorrhagia was relieved without resort to surgical intervention. In chronic metrorrhagia 5 of 9 cases were more or less benefited.

In various forms of non-suppurative pelvic inflammation, only 3 out of 23 patients were not relieved by stypticin.

In irregular bleeding during pregnancy stypticin has been found very beneficial, and no unfavorable symptoms have been noted.

In profuse menstruation in virgins, without changes being found in pelvic organs, only 5 of 17 patients were not benefited.

In atypical bleeding during the climacteric period, if no pathological cause were found, stypticin usually gave a satisfactory result.

While stypticin is not a panacea for all cases of uterine bleeding, Dr. Boldt has found it better than any other remedy. In some instances it has practically served as a specific. If no effect at all is produced after three large doses (from $2\frac{1}{2}$ to 5 grains) have been given, it is useless to continue with the drug. Likewise, in fibroids, it is not recommended to continue its use if two hypodermic injections of 5 grains each at intervals of four to twelve hours do not cause a diminution of the hemorrhage.

An important fact is that the author has never noted any harmful result from stypticin, even when administered in such large doses as 5 grains every three hours. In some instances it also relieved the patients of pain associated with the profuse bleeding.

In instances of too profuse menstruation, the author found the best plan was to begin with 1 grain doses three times daily about one week before the expected flow, and as soon as the flow began, to let the patient take $2\frac{1}{2}$ grains every three hours, to be continued during the entire period. In instances of metrorrhagia, from $2\frac{1}{2}$ to 5 grains may be given at intervals of from two to three hours until the bleeding is lessened; then the dose may be decreased to from 1 to $2\frac{1}{2}$ grains at intervals of three to four hours. If a quick result is important, it is best to give 3 to 5 grains in a 10 per cent. solution subcutaneously into the buttocks, using the customary antiseptic precautions.

Because of the disagreeable taste of stypticin, it is best administered in the form of capsules, the pharmacist being ordered to put the powder dry into the capsules. It may, however, also be given in tablet form.

Operative Work in the Ureter Through Lewis' Catheterizing and Operative Cystoscopes.

At the October meeting, 1904, of the Mississippi Valley Medical Association, Cincinnati,

O., Dr. Bransford Lewis, St. Louis, Mo., considered this subject in its three relations: As a practical and reliable procedure; as a diagnostic, and as a therapeutic measure.

Under the first heading, during the past two years, he attempted ureter catheterizations in some 200 cases—male and female, normal and pathological, but failed about six times—about 3 per cent. of failures. Such success established the reliability of ureter catheterization by his air inflation method. He then passed to the diagnostic and therapeutic uses of his method.

The first case mentioned was a male, in whom the diagnosis established was a completely inactive left kidney, while the right one was not only carrying on all kidney functions, but contained numerous calculi of various sizes. Ureteral manipulations through the operative cystoscope removed a dozen or more little calculi, but could not secure the escape of the largest, which was removed by lumbar incision. The patient recovered, notwithstanding the fact that the only kidney functioning was opened and cleaned out.

The next case was one in whom small calculi had been removed by similar means, in two sittings, a year apart.

The third case was one in which there had been severe and exhaustive symptoms of ureter-calculus, of sixteen years duration, the oft-repeated attacks occasionally requiring prolonged administration of chloroform. This patient was finally relieved, and has had no recurrence of the pain for nearly a year. A blood-cast of the ureter, seven or eight inches in length, was assisted in its escape by ureter catheterization, at the office of the operator.

The great diagnostic value of the method in excluding suspected ureteral or kidney stone, was indicated by a case mentioned: Attacks of renal pain, severe and prolonged, had led to the suspicion by several consultants, of renal stone being present; but ureteral catheterization promptly dispelled this idea by giving absolutely non-purulent urines from the two kidneys, as well as establishing the patency of the two ureters.

The therapeutic efficacy of irrigating the kidney-pelves with medicated fluids, through the ureteral catheter, was indicated in the additional reports of several cases treated in this manner—some having been relieved for as long as three years. One case of extreme and persistent hematuria, treated in the same way and with

permanent relief, was especially mentioned as showing the gratifying results of these direct methods, in contra-distinction to the roundabout methods with internal therapy.

A case of severe stricture at the lower end of the ureter, had been completely relieved by dilating methods, carried out through the operative cystoscope, in successive sittings and without complaint on the part of the patient, a very nervous woman. Plugs of pus had formerly lodged against the stricture, occasionally, closing the outlet and causing all the classical symptoms of ureter stone. Since the re-establishment of the patency of the canal none of these attacks have occurred, and the patient has entirely recovered her general health, which had before been much debilitated.

While these methods had not yet reached a state of entire simplicity and ease, the progress already made in the past few years, marked one of the most valuable attainments of modern surgery.

Method of Uniting Intestines of Very Small or of Unequal Calibre.

Dr. J. Shelton Horsley, Richmond, Va., in a paper read at the Southern Surgical and Gynecological Association, December, 1904, said that the many modifications of sutures might be divided into two general classes—the continuous and the interrupted. Taking it for granted that each suture penetrates all coats of the intestines, he demonstrated experimentally that the continuous suture more nearly fulfills the ideal conditions for intestinal healing than the interrupted suture. Serous surfaces unite being sutured on account of the hyperemia of repair, and this is dependent upon some slight injury to the peritoneum. In the case of an interrupted suture, union is obtained *within the bite of the suture* by hyperemia caused by pressure of the suture, by the trauma of the needle, and by the presence of the thread. *Between the sutures* the pressure from thin intestinal tissue is practically nil. So union depends solely upon extension of this hyperemia, and if this process does not extend from one stitch to another, leakage will surely occur. If continuous and moderate pressure is made on two serous surfaces, sufficient injury will be done those surfaces to cause adhesions; this continuous pressure along the entire margin of an intestinal wound can be obtained only by the continuous suture, and not by the interrupted.

He described nine experiments in which an area of intestine was included between two lines of sutures. In only four of these did the whole area between the rows of sutures unite, thus demonstrating that something besides mere approximation of serous surfaces is necessary for satisfactory union.

The method of suture is difficult to describe without illustrations. The intestinal ends to be united are placed side by side with their convex borders in contact and clamped with a hemostatic forceps. Then he uses a suture that passes through the whole of the intestinal wall, sewing together with a continuous stitch a crescentic area excised; then changing the stitch to a Cushing right-angled continuous suture, he penetrates all the coats and invaginates the remaining margins of the wound. When the first knot is reached in the suture, it is invaginated and the suture continued by two or more insertions of the needle; with the last two insertions of the needle as secure a hold as possible is obtained without penetrating the mucosa. The very last insertion of the needle is in the reverse direction of the other insertions, so that when the knot is tied it is partly buried. The bowel is then returned to its natural position and the mesentery sewed up with continuous stitches.

A number of photographs of specimens from dogs were exhibited, demonstrating some of the advantages claimed for this method. These specimens had been filled with paraffin and then photographed; afterwards the intestine was removed and the paraffin model was also photographed, giving a very good idea of the large lumen at the site of the union.

X-Rays Curative of Eczema.

Dr. Harold E. Gamlen (*Archives of the Röntgen Ray*, September, 1904), writes that after considerable experience he is confident that all cases of chronic eczema, no matter how intractable, or of how long standing, can be entirely eradicated by means of the X-rays within a period of two months. He further ventures the opinion that equally successful results may be obtained in the acute forms, though his opportunity of treating the latter has been limited. He substantiates his views by a series of cases cured. After a period of fourteen months, which is the maximum time that has elapsed since the cessation of treatment in any of these cases, the cure to all appearances is permanent.

Editorial.

Proprietary Medicines.

The American Association of State Medical Journals last June, at Atlantic City, proclaimed the following: 1. No journal of this Association shall accept an advertisement of a medicine which is not ethical; and "ethical" shall mean that the product advertised shall have published with it not only the names of its constituent parts, but also the amount of such constituents, so that a definite dosage can be determined. Further, such product must not be advertised to the laity. 2. If a product is marketed under a copyright name, the manufacturer shall furnish with it the proper chemical name; and if not patented, then also the process of manufacture. 3. All advertisements not covered by the above paragraphs, or which contain extravagant or improbable claims shall be submitted to the executive committee for approval before they can be accepted.

Vote was taken on the above proclamation of principles, but the matter is held over until the Portland, Oregon, meeting, June 1905.

It is a well fixed principle in good government that the servant must not be above his master. As long as the *Journal of the American Medical Association* accepts such advertisements, it is idle foolishness for the smaller journals—the so-called State journals—to say that they will not. A law which is not sustained by popular approval soon becomes obsolete in its effect.

Nor should a law of an ethical character be enforced against a regular journal that is not enforced against the regular practitioner. Time and time again have the National, the several State and various local medical societies legislated on such matters; but in nearly every such instance the result has been in the greater advertisement, and the more popular professional use of the very class of preparations legislated against. Such increased professional use of such preparations can only be due to the fact that they have been tried and found useful—they suit the cases for which they were prescribed. Having been tried, and not denied their reputed effects, doctors are willing to try them again. Such a statement can be easily verified by the examination of the pharmacists' prescription files in almost every community.

A few years ago, it was common—it was fashionable—for the doctor to prescribe various pro-

proprietary articles of foreign manufacture. "It was English, you know," or "it was French," or "German," and therefore must have been the best. It was all right in those days to prescribe such things. But soon the American pharmacist took hold of the idea, and began to prepare equally neat, equally palatable and equally useful products—when all at once the prescribing of such things became all wrong! Now, where is the consistency? The statement of the pharmacist or manufacturing chemist is, to all intents and purposes, taken as a statement of the chief constituents of his proprietary preparation.

If the journals undertake to exclude all such preparations from their advertising columns, would it stop the evil—if evil it be? The ubiquitous "travelling man" would yet have to be contended with—and few are so rude as not to give him at least a few minutes audience. He is but pursuing a legitimate work in calling attention to the values of the preparations he is trying to introduce; and if he be a competent man he will call attention to their constituents. He leaves samples, and gives the doctor the privilege of calling for more "samples" if he wishes to try them in a given case. In a day or two afterwards, some poor fellow comes under the doctor's care unable to buy medicines that might otherwise be prescribed. The honest doctor must recognize that it is not the prescription, but the *medicine* prescribed that is expected to do the good. In few communities are provisions made for the free dispensing of medicines. But the doctor recalls the "sample" lately left, and he gives it to his patient, and both become mutually gratified at the result. This poor patient has been to the doctor a sort of experimental clinic. In a short time, a well to do patient comes in—having symptoms and disease like the poor fellow. Is it not natural that the prescription for the same preparation should be made? In consultations, or, it may be, in local society meetings he tells of the experience, and thus the preparation comes into common satisfactory use in that community.

And yet are journals to be denied the mention of such facts—either in their reading or advertising pages? Chemists and others have time and again analyzed such preparations—qualitatively and quantitatively—and published practically working formulas for such preparations that have been found equal to their claims. But who of the most ethical of the profession pays

attention to them? They are after results, and are satisfied with the preparation already made up and ready for sale or prescription.

The effect upon the home pharmacist would be bad if he did not carry the leading proprietary preparations in stock or else know where he could get them at a moment's notice. Go into a drug store nowadays with nothing but pure galenicals or the preparations of the U. S. Pharmacopœia, and see how long he would be able to keep his shop going in success. There is an increasing popular professional demand for preparations ready to dispense, and such popular wave must be overcome before the advertisements in regular journals of proper proprietary medicines are excluded. We caution the Association of State Medical Journals to move considerably at its Portland meeting next June.

The Medical and Surgical History of Virginia.

Some years ago, the late Dr. Hunter McGuire Dr. Herbert Nash, of Norfolk, Va., and Dr. Joseph Price, of Philadelphia, united their several contributions to the amount of \$500, to be awarded as prizes for a Medical and Surgical History of Virginia. The three successful contestants were Drs. Arthur Jordan, R. M. Slaughter, of Theological Seminary, Va., and Jesse Ewell, of Ruckersville, Va. The conjoined manuscripts cover about 2,000 type-written pages. These manuscripts have remained in the office of the Recording Secretary since the prizes were severally awarded. Too bulky for publication in the annual volume of *Transactions*, and especially as the essay of Dr. Jordan required much editorial work, because of much unarranged matter in the form of clippings, notes, etc., no use has as yet been made of the mass of matter collected.

During the session of the Medical Society of Virginia, held at Richmond, October 18-21, 1904, it was ordered that these several manuscripts, etc., be turned over to Dr. R. M. Slaughter, of Theological Seminary, Va., with authority to compile and combine them into one connected *Medical and Surgical History of Virginia*—adding such material of more recent interest to the profession as may be essential to make it an up-to-date *History*. He is allowed until the session of the Society, 1906, to complete this work, when the Society will decide upon the manner of its publication, and the compensation to be awarded the editor of this vast

work. Properly compiled and edited, and thoroughly indexed, as Dr. Slaughter is fully competent to do with the manuscripts in hand, the finished book will supply a long felt want—especially on the part of Virginia doctors—whether resident or non-resident of the State. We bespeak for Dr. Slaughter the ready and willing assistance of each Fellow of the Medical Society of Virginia in this effort to give permanent record of the contributions of Virginia doctors to American Medicine and Surgery.

U. S. Government Medical Representatives at Conventions.

The U. S. Public Health and Marine Hospital Service detailed Surgeons H. R. Carter and J. C. Perry, and Assistant Surgeon J. C. Pierce to represent the Service at the meeting of the Pan-American Medical Congress held at Panama, R. P., January 3-6, 1905. Surgeon C. P. Wertenbaker and Passed Assistant Surgeon J. F. Anderson were sent on like duty to Havana, Cuba, to the meeting of the American Public Health Association, January 9-13, 1905—the last mentioned to attend the Laboratory Section. Passed Assistant Surgeon M. J. Rosenau was detailed to represent the Service at the second annual Mosquito Exterminating Convention, which was held at New York, N. Y., December 16-17, and also to attend the annual meeting of the Society of American Bacteriologists at Philadelphia, Pa., December 27-28, 1904.

Assistant Surgeon-General Wm. C. Gorgas, and Surgeon L. A. La Garde represented the Medical Department of the Army at the Panama meeting, while Assistant Surgeon B. K. Ashford was sent to the Havana Association.

Southside Virginia Medical Society.

A very attractive and neatly gotten up program has just been sent out by the Secretary, Dr. E. T. Brady, of Abingdon, Va., for the sixth semi-annual meeting of the above mentioned Society—to be held at Bristol, Va.-Tenn., January 17-18, 1905. After an address of welcome, the President, Dr. R. W. Sanders, of Walton's Furnace, Va., will deliver his address, *Rambles in the Field of Experience*. The topic for general discussion will be somewhat comprehensive, six papers on medical and surgical subjects relating to the liver being announced for discussion collectively. Eleven other papers on

interesting subjects are also promised. All regular physicians are cordially invited.

The Southside Virginia Medical Association

Held its first quarterly meeting for 1905 at Wakefield, Va., on January 3rd. The session was interesting and profitable both from the standpoint of attendance and number of good papers presented. The Association was called to order by Dr. W. H. Wallace, first vice-president, who announced that the president, Dr. O. C. Wright, was unable to attend. Dr. J. E. White served as temporary secretary in the absence of the permanent secretary. Papers were read on *Diphtheria*, by Dr. E. F. Reese; *Case of Hernia with Operation*, and exhibit of specimen, by Dr. J. Shelton Horsley, who also reported the case of a child operated on for injury from a horse's kick; *Case of Depressed Fracture of the Skull Without External Sign of Injury*, by Dr. W. H. Wallace; *Belladonna as a Specific to Unpleasant Skin Symptoms Arising from Administration of Quinine*, by Dr. C. W. Astrop. After the election of new members, the following were elected officers: President, Dr. W. H. Wallace, Disputanta; Vice-Presidents—Drs. Joel Crawford, Yale; W. L. Devaney, Dendron; H. B. Mahood, Emporia; and J. F. Bryant, Franklin; Treasurer, Dr. R. H. Sims, Powellton; and Drs. J. E. White, Wakefield, and R. T. McNair, Emporia, respectively, Recording and Corresponding Secretaries. The next meeting will be at Emporia, Va.

The Patrick-Henry Medical Society

Met at Stuart, Va., January 9, 1905. Papers were read by Drs. L. G. Pedigo, of Leatherwood, on *Pneumonia*; J. M. Shackelford, of Martinsville, on *Surgery*; and J. Beverly DeShazo, of Ridgeway, on *Scarlet Fever*. A special order of business was the election of officers for 1905, but the names have not been sent us. The officers for the past term were: President, Dr. W. B. Moore, Smith, N. C., (just over State boundary line), and Secretary, Dr. B. F. Tatun, Stuart, Va. Drs. R. S. Martin and G. W. McNeil, both of Stuart, were committee of arrangements.

Eastern State Hospital, Williamsburg, Va.

A partition wall in one of the buildings of this old institution for insane was recently found to be settling, and being deemed unsafe for occu-

pancy, the inmates were removed to another building. Immediate steps were taken for repair. With Dr. L. S. Foster, the able superintendent, at the helm, there is every assurance that all interests of the patients will be looked after, and that the institution will retain its present high standing.

Colorado Springs, Annual Report, 1904.

We call attention to this report because of the lessons that may well be learned by other cities, if the same public spirit prevailed. With an estimated population of 30,000 in the 4,856 acres of area of the city, during the fiscal year ended February 28, 1904, there were 447 deaths—168 of which were due to tuberculosis. When it is remembered that this city is a favorite health resort for consumptives from all parts of the United States, one cannot fail to be impressed with the small death rate from all other causes—about 9 per 1,000 population. In addition to such statistics, this report tells of public improvements and other facts that help wonderfully in the advertisement of the place, and of adjacent points. The report is too full of detail to undertake even a resume; but a copy will be sent any inquirer by addressing the Health Commissioner, Dr. Peter Oliver Hanford, Colorado Springs, Col.

The Medical Examining Board of Virginia

Will hold its next meeting in Richmond, June 20, 21, 22, 23, 1905. Registration will begin 10 A. M. June 20th; examinations, 9 A. M. June 21st. The Board meets in executive session at 8 P. M. June 20th. Owing to the length of time required to examine the large number of papers submitted during this—the doctors'—busy season, the results of the December examination will not be ready for publication for a few weeks yet. The members of the Board are working hard, however, so as not to keep the applicants waiting unduly for their reports.

Dr. Henry R. Winfree.

If any acquaintance knows his post-office address, he would confer a favor by letting us have it.

Peter Bent Brigham Hospital.

Under the will of Peter Bent Brigham, \$5,000,000 has been given for the purpose of

founding a hospital for people in indigent circumstances in the city of Boston, Mass.

The Tri-State Medical Association of the Carolinas and Virginia

Will hold its sixth annual session during the latter part of February at Greensboro, N. C. The Secretary, Dr. Rolfe E. Hughes, of Laurens, S. C., informs us that the exact date has not yet been set, though it will probably be about the 23d proximo. Dr. Davis Furman, of Greenville, S. C., is President.

The Transactions of the Medical Society of Virginia.

This volume, containing papers, discussions, etc., during the session at Richmond last October is nearly ready for the binder.

Obituary Record.

Col. Thomas F. Goode,

Of Boydton, Va., well known to the medical profession as the proprietor of Buffalo Lithia Springs, philanthropist, lawyer, and noted Confederate officer, after a life of goodness and usefulness, has gone to his reward in the great beyond. Although naturally expecting the end to be not afar off—owing to his advanced age of nearly ninety years—the announcement of his death on January 6, 1905, came as quite a shock. Col. Goode was one of the highest type of a Southern Christian gentleman and his name where he was known was a symbol for benevolence and fairness. Because of his many kindnesses for years past, we shall feel keenly the loss of this grand old man.

Dr. A. H. Lilliston

Died from pneumonia December 20, 1904, at his home at Accomac C. H., Va., where he was born thirty years ago. His academic education was obtained at Margaret Academy; while the degree of M. D. was received from the University of Virginia in 1898. He passed the Medical Examining Board of Virginia the same year. Dr. Lilliston was physician to the Accomac County Almshouse, and a member of the Medical Society of Virginia.

THE Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

Vol. 9, No. 20.
Whole No. 212.

RICHMOND, VA., JANUARY 27, 1905.

\$2.00 a Year.
10 Cents a Copy.

Original Communications.

THE ACCURATE ESTIMATION OF PULSE TENSION IN LIFE INSURANCE EXAMINATION.*

By HENRY WIREMAN COOK, M. D. Richmond, Va.,

Visiting Physician Senior Staff, Memorial Hospital Richmond Va.; Vice-President American Association of Life Insurance Examining Surgeons.

In this paper it is my object to present more directly to the attention of those physicians interested in insurance work a physical symptom which has for years been closely studied by physiologists and of late, by new methods, has been open to accurate estimation by the practitioner for general clinical usage. So far I have been able to find no reference or notice in the medical literature of insurance treating of this new development in clinical methods—the accurate estimation of pulse tension, the most important element in the functioning of the cardiovascular system—though I am aware that such observations are being made at least in the home offices of several large companies.

There is no more positive evidence of the value of any clinical method for detection of organic disease than its acceptance in insurance examination. The aggregate experience is so enormous, the data are so carefully collaborated and deductions so severely tested by rigid system and shrewd financial considerations, that any development which receives the endorsement of an application to insurance examining must have a real value above the influence of individual experience or personal equation. It is in the belief that the time is not far distant when insurance judgments in certain cases will depend largely upon the correct estimation of the degree of pulse tension that I present the question here.

Necessarily previous to the past few years

*Read at the annual meeting of the American Association of Life Insurance Examining Surgeons Atlantic City, June, 1904.

which have given us methods for estimating abnormalities in pulse tension which were applicable to clinical use, and at the same time accurate, this symptom has been neglected in comparison to those for which accurate methods were discovered earlier. As long as the degree of an increase in pulse tension could be recognized and measured only by such indefinite means as the tactile impressions from palpating the artery, by variations of intensity in heart sounds, by presence and quantity of diffused albumen in the urine, by development of sclerosis, or presence of severe headache, naturally its relative importance rated after signs which could be definitely demonstrated and accurately determined. Thus while we were compelled to be satisfied by a statement that the tension seems normal to the examiner, we wish him to definitely state the rate is not above 90 and that delicate tests give no trace of albumen. Further, we must admit that the ordinary statement of the examiner as to pulse tension means nothing; hence practically this symptom is disregarded in an ordinary examination. The more one uses methods of mechanically estimating pulse tension, the more he is convinced of the inaccuracy of palpation judgments, and the more he recognizes the futility of attempting any nicety of quantitative discrimination. Most physicians can usually recognize a very weak or a very hard pulse, but no touch is so delicate and no hearing so sensitive as to discover the variations in pulse tension, which frequently should decide the applicant's eligibility. The question then resolves itself into the two phases:

1st—Is pulse tension possible of accurate determination?

2nd—Is its estimation of such slight relative importance in measuring risk as to permit practically its neglect?

The answer to the first is too well known now to need remark here. Recent literature abounds in experiments, observations and deductions on this subject and the accurate estimation of pulse

tension has already taken its place as one of the most important elements in any careful physical examination. Several instruments are in use, all applying practically the same principle—of measuring mechanically the amount of external pressure necessary to overcome the arterial pressure, and so obliterate the pulse. The form of this principle most made use of is that first devised by the Italian, Riva Rocci. I shall take the liberty of showing you a modification, which I made, of his original instrument, and which I trust, in its simple portable form might prove convenient.

The pressure is applied around the upper arm by an encircling rubber band, and registered by a mercury manometer. When the pressure in the constricting band is sufficient to obliterate the pulse at the wrist, the equivalent of the arterial pressure is represented by the height of the mercury column. By then holding the second bulb, the pressure can be quickly varied above and below the point of obliteration, which is thus more exactly determined. An observation should not require more than a minute. This gives the tension at systole, or the maximum blood pressure.

Is the possibility of measuring blood pressure accurately, quickly and conveniently, a useless acquisition to medicine as far as any practical application in life insurance, or does it throw any additional light upon the physical condition of the patient with regard to longevity?

First of all in considering pulse tension from the point of view of insurance examinations we may omit any regard to abnormally low tensions. Such a condition only occurs in those individuals who would be too ill to be written by even the most energetic of agents; such for instance as in severe febrile conditions, advanced phthisis, traumatic or surgical shock, after severe hemorrhage, certain forms of cardiac dilatation, etc.

We will only consider here the bearing of abnormally high tension upon longevity.

In the first place, we find hypertension associated with certain forms of well defined diseases, which are diagnosed by other signs and symptoms as "nephritis," cardiac hypertrophy and myocarditis, compensated valvular lesions, artero-sclerosis, apoplexy, vertigo, gout, diabetes, etc. These diseases represent what may be termed the natural method of exodus in distinction to those accidental affections, which de-

stroy through an external agent for which the *modus vivendi* of the individual attacked may in no wise be responsible—for example, trauma, typhoid fever, tuberculosis, the acute contagious diseases, etc. No matter how careful of an unnecessary expenditure of energy, any one may acquire typhoid fever from the water he drinks, or tuberculosis from the air he breathes, or may be burned to death in his dwelling. Gradually, however, modern methods of sanitation and civil protection will eliminate more and more these extraneous sources of danger, and the time when a man will die will be determined by the way he has lived. Modern fire departments, casualty inspection, and health departments prevent thousands of premature deaths each year, and fifty years from now the various anti-tubercular measures will be saving thousands more. The time must come when spitting of blood will no longer occur in the personal history; parents, sisters and brothers, will not have died of consumption, so stated, or thinly disguised as bronchitis, throat trouble, child birth, dyspepsia, decline, etc., nor will light weight and small expansion suggest such alarming probabilities. As the infectious communicable diseases become more and more under sanitary control, rates must be lowered and increased responsibility will fall upon the present physical findings rather than upon expectation statistics. This is our present attitude towards applicants who have passed the period of greatest incidence of acute contagious diseases, typhoid, appendicitis and tuberculosis. We are principally concerned with discovering in them some flaw which shall show that the wear and tear of life, the actual usage of daily routine has proved too much for the capacity of the individual, and so shortened his chances.

Each case presents a new problem as to how much of the average period of expectation has been encroached upon by extravagance in physical economy and how much remains. We so frequently see such instances as two active business men apparently still in their prime at fifty or fifty-five and two years later find one quite unchanged, the other water-logged, a wreck. Too often the latter man passes easily for insurance; perhaps at the end of a successful business career he takes out \$100,000, or more, and an apoplexy, or acute dilatation, after dinner surprises the family physician and brings discredit on the medical staff of the company.

It is in this connection particularly that I wish to emphasize the value of an accurate estimation of pulse tension. For the ordinary examiner, considering the haste he is frequently in, and impossibilities of making a very thorough physical examination, the chances of detecting the threatened breakdown in these cases, depend upon discovering the evident symptoms, or signs of advanced organic disease, such as: a history of shortness of breath, or swelling of the feet, rapid pulse or respiration, cardiac murmur, or albumen or sugar in the urine, or enlarged gouty joints. Frequently in this class of cases after these evident signs once appear, the downward progress is very rapid, and it is all-important to detect the first indication of danger before the actual breakdown has occurred. A more careful examination may detect an accentuated second aortic, or cardiac hypertrophy, but in the fleshy deep chests which these individuals frequently present, clear judgment from such indications is not easy even for the most experienced.

What is the reason, with two men apparently equally healthy, and both organically sound, that the heart of one will serve him several decades, and that of the other not as many years?

After the break comes, and the heart dilates, a cerebral vessel ruptures, or kidney passes albumen, the family physician may well say to the wrecked man you have worked too hard, have lived at too high a tension, you need rest, you must diet, you must stop using tobacco, but it is then too late, and all this and more, will not make the wrecked organ whole, nor long delay the maturing of the policy.

Answers to questions of the examining blank can seldom give data for determining how hard a man has lived. Sometimes the occupations may give a clue.

For instance, prize fighters and professional athletes are known to use up their vitality early in life, and make poor risks. Also forebears who have died out at fifty to sixty of cardiovascular and renal diseases frequently transmit the tendency, but this makes a very vague criterion. We have seen the difficulty of detecting the tendency by physical examination.

An increase in arterial tension accompanies all these conditions *pari passu* with their development, and furthermore and most important antedates them in many instances, because it is the immediate causal factor, both in their production and in their ultimate termination.

While some men die of uræmia, and others of endocarditis, many more die not from the immediate effect of such organic disease but from the direct result of the continued strain of hyper-tension. This hyper-tension may be either a complicating symptom of the organic disease, or a causal factor in its production, but in either case it constitutes the most important element to recognize and estimate.

Under this head come a large proportion of the deaths among business and professional men between the ages of forty and sixty, in which the terminal manifestations are variously diagnosed, heart failure, vertigo, apoplexy, Bright's disease, arterio-sclerosis, etc.

It might be naturally expected, other things being equal, that a heart pumping against a tension of 200 m.m. H.g. would wear itself out sooner than one pumping against a pressure of 130 m.m. H.g., and further the machine which does the least work will in direct proportion last the longest. Hence the great value in insurance risks of determining the degree of this strain, of recognizing its early onset, and for the patient of correcting its tendencies. Many of the causes of this early increase in tension, besides organic diseases, are well known and I have attempted to classify them elsewhere. Here I shall merely enumerate, heredity, over-eating, hard work, worry, some infectious diseases, lead and various auto-intoxications.

Two men, say at fifty, organically sound, one with pressure of 130 m.m. H.g., and the other with pressure of 200 m.m. H.g., present great difference in chance for living out the term of expectation, yet they might both be accepted on the same terms. Few physicians in fleshy individuals examined at separate times would take special note of this difference in tension, and, of course, no one could be so expert as to gauge their degree. As the clinical estimation of pulse tension is but a few years' old, the exact gauging of its indications must be for a while tentative. My observations have inclined me to regard the significance about as follows, though, of course, further investigation will draw closer lines.

The normal limits of pulse tension are about 120 m. m. H. g. to 130 m. m. H. g. before 30 years of age, and 125 m. m. H. g. to 140 m. m. H. g. after 30 years of age. Over 150 m. m. H. g. the case becomes questionable, and over 180 m. m. H. g. bad.

Thus a knowledge of the degree in pulse ten-

sion should afford an opportunity to avoid certain poor risks which would pass in an ordinary examination.

In the classification of sub-standard risks, with cordio-vascular and renal diseases, an estimation of pulse tension is of equal importance. In the question of albuminuria I believe observations of pulse tension will give a most valuable gauge of the threatened danger.

In the beginning, I should like to emphasize two kinds of albuminuria which I am inclined to recognize as distinct forms:

1st—That due to fault in function of the excretory cells, and

2nd—That due to hyper-tension causing exudation of albumen through the capillaries.

No question in life insurance work has been more discussed or given rise to more variance of opinion, or at present is in a more unsettled condition, than how to regard the presence of slight albumen, especially when it is intermittent. It is well known albumen may appear after the hyper-tension of violent physical exercise. Dr. Julius Schreiber was able by mechanical compression of the thorax so raising blood pressure to induce albuminuria in twenty out of twenty-six persons of different ages, and in young persons with compressible thorax in nearly every case. In one boy the albumen appeared in one and one-half minutes. In cerebral hemorrhage when the pulse tension rises rapidly, albumen soon appears in the urine. I have, as yet, never observed over 210 m. m. H. g. that was not accompanied by albuminuria.

It is not a satisfactory diagnosis to denominate all patients with albuminuria as cases of nephritis. A large proportion, it is true, are passing some albumen and casts, the kidneys are perhaps enlarged, red and show some increase in fibrous tissue, but on the other hand the heart is also enlarged and may show fibrous degeneration, the face is bloated and florid, the brain is hyperæmic, the stomach is congested and catarrhal, the spleen and liver are enlarged and red—why should we say the case is one of nephritis any more than myocarditis, tellangiectasis, gastritis or hepatitis? The kidneys are merely presenting one indication of the condition which is that of chronic arterial hyper-tension. When we stop the tension we stop the exudation of albumen. We could not thus cure a case of true nephritis. Such a man is not as liable to die of uræmia as he is of apoplexy or cardiac dilatation or pulmonary œdema.

An example of this class might only pass a trace of albumen occasionally when the tension from exercise, over-eating or other temporary cause should go above the point of capillary resistance to exudation.

Another case may have suffered from parenchymatous inflammation of the kidneys, which may have only healed in part, leaving areas which continually pass albumen in considerable quantity. This may be a purely local lesion, the remainder of the kidney substances may be able to satisfactorily dispose of the waste products in the blood so that there is no toxæmia and no hyper-tension. These are the cases which live for years with marked albuminuria and no apparent discomfort. The other man only showing a trace now and then as his pressure varies between 180 m. m. H. g. and 200 m. m. H. g., is liable to die any night of apoplexy, œdema of the lungs, or heart failure.

Thus, though as is generally admitted, that the amount of albumen exclusive of the acute disease, is no gauge of the term of life, on the other hand there is considerable evidence that the pulse tension is a very excellent gauge.

I do not think too much stress can be laid on the importance of distinguishing between albuminuria with hyper-tension and albuminuria without hyper-tension. The former indicates one of two conditions:

1st—If the albumen is in large amount there is probably extensive parenchymatous disease with renal insufficiency, therefore toxæmia and the liability to uræmia. It is the toxæmia which causes the hyper-tension, or

2nd—If albumen is in traces only, and perhaps intermittent, the renal condition is probably only one manifestation of the underlying causative factor: hyper-tension, and that the kidney has good chances of continuing serviceable till the heart wears out or a vessel ruptures. The prognosis is very bad in both of these classes!

The latter of the albuminuria without hyper-tension, indicates one of three conditions:

1st—A trivial temporary affection which quickly clears, leaving the kidney substance as before, and, of course, functions unimpaired, as for instance, in acute febrile diseases, over exercise, over-eating, etc. Such a spell of albuminuria would, of course, no more indicate a chronic nephritis than a vomiting spell in childhood would indicate catarrhal dyspepsia.

2nd—An actual subacute, or chronic nephri-

tis, which, however, leaves sufficient normal tissue to carry on the excretory function. If such albuminuria clears up the prognosis should be good.

3rd—If there has been an attack of acute nephritis with complete recovery, though a small trace of albumen persists but no increase in tension, we may think of a small residual lesion in the kidney, which remained after the rest of the organ had recovered its normal condition. Such a case should have good prognosis.

Thus albuminuria, persistent or intermittent, when accompanied by hyper-tension indicates a grave condition, either in the form of extensive destruction of kidney substances, or else a sufficient degree of hyper-tension to be in itself a source of imminent danger. Whereas albuminuria without hyper-tension is found in the more favorable forms of renal affections.

Dr. Lambert, of The Equitable, says that for longevity, the habits of the individual, his customs, especially with regard to highly spiced food, alcohol and tobacco, and the intensity of his application to business, with the time given to sleep, are factors of much more significance than the presence of a small amount of albumen.

In other words, it is the rate at which a man is living, rather than a small local affection, that will determine his length of life, and if he has run his heart constantly to the full limit of its capacity he cannot expect it to last as long. The result is exactly comparable as in valvular stenosis, the heart must do additional work to overcome the increased resistance and similar to insufficiency when the waste is in back flow.

The cases reported by Dr. Schroeder (*Med. Record*, July 18th, 1903), typically represent several of these classes, and some of them strikingly illustrate the difficulty of forming judgment from the urine analysis and chest examination.

Case No. V is so typical that I venture to reproduce it here in full:

“Capitalist and railroad president, born 1840. Applied May, 1891. Rejected on account of a trace of albumen with a few hyaline casts. The application was for a large amount in several companies, and consequently examinations were made by a number of physicians, who agreed as to the condition of the urine and the normal state of the arteries. There was, however, a division of opinion regarding the heart, some holding that there was an almost inappreciable

enlargement. In December, 1895, the urine was found to contain hyaline and granular casts, but the reaction was doubtful in regard to albumen. Another company had issued insurance to this man just previous to this last examination, the applicant assuring the medical directors that he was leading a much less strenuous life and intended to continue doing so. It may be added that at this time the heart and blood vessels were found to be normal in all respects. In May, 1900, the urine was examined mechanically and albumen was found. No further examination was made at this time, as there was no formal application. During the summer of 1902 the applicant was reported in the newspapers to be a very sick man, and death occurred in January from chronic nephritis with heart complications.”

My experience has thus far been that cases similar to this invariably show marked degree of hyper-tension.

The sentence, “There was, however, a division of opinion regarding the heart, some holding that there was an almost inappreciable enlargement,” is especially significant. With chronic hyper-tension, hypertrophy is the necessary result of physiological law, and where there is no hyper-tension there is no hypertrophy.

The word “apparent” in a part of the summary calls special attention to the frequency of grave kidney disease without apparent disturbance of the circulation, leaves room for the question as to whether an accurate estimation of pulse tension would not have disclosed in many of these cases a very marked disturbance of the circulation.

In valvular insufficiency also pulse tension will furnish another valuable clue to the amount of additional work necessary to overcome the lesion, whereas the increase of the systolic pressure must be a very exact indication of the amount of additional force necessary.

If the lesion is slight the increase in systolic pressure will be proportionally slight and the case may live for years without inconvenience. Dr. Osler cites a man who is still leading a comfortable active life at 43 and had had aortic insufficiency for 27 years. It requires a very good clinician and considerable time to make an accurate determination of the size of the heart, yet any student or nurse can take a reading of pulse tension in a minute, and the latter simple observation will be a better guide to amount of

hypertrophy than the former elaborate examination.

I have not endeavored to apply the question of sphygmometric observation on blood pressure to insurance work with any great definiteness or nicety of detail. This must be left for the collaborated statistics of thousands of cases. I merely wish to present the rather new clinical method as a valuable and practical aid to diagnostic and prognostic investigation, broadly outlining a few of its applications to life insurance, with the idea that what has proven so serviceable in practice will prove equally serviceable here.

I believe its adoption will prevent the acceptance of certain cases where heart failure, apoplexy or "nephritis" may be imminent, and will admit the more intelligent rating of certain sub-standard risks.

208 West Grace Street.

THE EFFECT OF SUSPENSIO-UTERI ON PREGNANCY AND LABOR.*

By JOS. TABER JOHNSON, A. M., M. D., Washington, D. C.,
Professor of Gynecology, Medical Department Georgetown University; Honorary Fellow Medical Society, Va., etc.

It will be impossible in this brief paper to consider in detail the various operations which have been proposed for the surgical treatment of retro-displacements of the uterus. Their great number—somewhat over fifty—very clearly indicate a lack of unanimity on the part of the profession as to what is the best method of treatment.

Operations for holding the uterus in a fixed position or suspended by artificial ligaments or adhesions or by shortening existing ligaments are advocated with equal force and persistency by some, through the vaginal route; and still other equally good and conscientious surgeons advocate in the most emphatic language the relegation of these procedures to the limbo of innocuous desuetude, opposing the opening of the abdominal cavity by any route, and teaching that the retroverted uterus should be drawn up into its normal position by pulling upon its

round ligaments through an opening in either groin.

When so many doctors disagree, who among us is to decide? The middle ground will probably be selected by the conscientious and conservative operator, who will be bound by no rule, but will aim to suit each particular need which presents, especially if he is fortunately not an inventor or modifier of some of the half hundred operations above referred to for the cure of this condition.

The error, I have no doubt, is very often made of considering the displacement of the uterus the whole trouble, and an operation honestly commenced with its replacement and retention only in view, when the fact is, in the great majority of cases, coexisting pathological conditions are crying more loudly for relief than the uterine malposition.

Adhesions very difficult or impossible to successfully deal with by the Alexander or vaginal route, are too frequently met with, after a diagnosis, even, that none existed; chronic inflammatory and suppurative disease of the uterine appendages often coexist with bound down retroversions, which could never be cured by the Adams Alexander operation, and which only an expert like Dr. Goeffe or the lamented Pryor could successfully treat through a vaginal entrance into the abdomen.

In a recent Presidential address Dr. Dorsett, of St. Louis, in speaking of 212 operations for retroflexio-uteri in a clinic for female diseases in Berlin, states that 98 were ventral fixations, 90 vaginal operations, and 24 Alexander operations. Of these 212 operations 155 were done in connection with other operations and 57 for retroflexio-uteri only.

In regard to this subject Penrose, whose book on *Diseases of Women* is endorsed by many medical colleges, says in his last edition, published this year, page 143, that "many cases of retro-version of the uterus that require operative treatment are complicated by salpingitis and pelvic adhesions, though these extra uterine conditions are very often not recognized by bi-manual examination before the abdomen is opened." And again: "The two operations that have deservedly met with the greatest favor are ventro-suspension and Alexander's operation;" and after some further discussion of the subject declares that "the field for Alexander's operation is very limited," not being applicable when there are adhesions or disease of the tubes

*Read at the meeting of the Southern Surgical and Gynecological Association in Birmingham, Alabama, Dec. 14, 1904.

or ovaries requiring operation treatment, and that the operation that at present seems to possess most advantages for the cure of these cases of retroversion of the uterus that cannot be cured by the pessary is the operation of ventro-suspension.

Dr. E. C. Dudley, who is president of the American Gynecological Society, says, in the last edition of his *Gynecology*, published this year, on page 670, that "Alexander's operation is only permissible when the operation is not complicated by a tumor, inflammation of the uterine appendages, adhesions or other impediments to replacement;" and further, on page 683, when speaking of the relative merits of abdominal hysterorrhaphy and Alexander's operation, says, "shortening the round ligaments is limited to those cases of slight descent with retroversion or retro-flexion in which the uterus is replacable, free from troublesome adhesions and not complicated by tumors or diseased appendages. The indication is restricted still further by the exclusion of cases which can be treated satisfactorily by mechanical support or other less radical measures. The field, therefore, for the operation is not very great."

He also states that the contra-indications of Alexander's operation become at once the indications for abdominal section and hysterophomy. Hence the field for this operation is much wider than the round ligament operation.

Dudley also says it would be unprofitable to detail the innumerable operations which have been devised and performed in the treatment of posterior mal-positions of the uterus—some of those being not without merit, some useless, and many injurious.

Garrugues, on page 477 of his *Diseases of Women*, 3rd edition, after speaking of the many methods of treating this condition, says "shortening of the sacro-uterine and the infundibulopelvic ligaments has also been attempted for the correction of retro-flexion but without success."

I have been somewhat surprised recently to hear in medical society discussions, and to read in medical journals very severe and what has seemed to me quite unreasonable denunciations of the suspensio-uteri operation.

Of course those surgeons who have invented operations, or those who think they have improved those operations by some slight modification, might be reasonably expected to advocate the more general adoption of the work of their fertile brains and dextrous hands. But when our most recent and most approved authors de-

clare that ventral suspension is the best operation for the radical cure of *most* of the cases of retro-displacements of the uterus, it is a little difficult to understand the opposition to what has appeared to me, to be the most simple and at the same time the most perfect in its results, of all the operations proposed for the cure of this condition. When I say *most* of the cases, of course I admit that many of the other proposed surgical procedures have their appropriate but more limited field of usefulness than ventro-suspension.

The two principal objections made to the suspensio-uteri operations, are its supposed effect upon pregnancy and parturition, and also that the suspensory ligament which finally holds the uterus in an approximately normal position, is liable to entangle the intestines in a fatal obstruction or inflammation.

Among the thousands of suspensio-uteri operations which have been successfully performed I have heard of only three such accidents and these may have been the result of imperfect or inexperienced work.

Few major operations are always successful in the early work of the inexperienced, and probably no department of surgery has so many devotees who think they know it all, and many of whom lack the training necessary to universal success.

But admit, for the sake of argument, that these two or three cases of fatal obstruction of the bowels followed the operation of our most expert surgeons, what would become of all the great abdominal operations, and many other of the proudest achievements of modern surgery if a similar test of their preservation were applied?

It strikes me that it would be wiser to try our best to perfect so authoritatively approved an operation as suspensio-uteri than to try to replace it with one of those "innumerable substitutes" of which Dudley says some of them are not without merit, some are useless, many are injurious."

I come now to consider the chief objection to this operation which is mentioned as the title to this paper, "the effect of suspensio-uteri on subsequent pregnancy and labor."

My contention will be that very few if any such injurious effects need be feared as have been frequently charged against the operation. That it sometimes fails to cure is true, but that is not the charge.

By ventral suspension I do not mean ventral

fixation. I am free to admit that the uterus should not be securely fixed into the abdominal wound, or to the abdominal wall in women likely to become pregnant. It is quite certain that some of the pains of pregnancy and difficulties of labor which have been charged against suspension were really the result of fixation. The operation of suspension in this country and largely abroad is known as "Kelly's operation"; and it is fair, therefore, that he should be quoted as to the result of his own operations upon pregnancy and labor.

He says on page 157 of his *Operative Gynecology*, "I have heard from 49 married women upon whom I have performed my suspensory operation at a date sufficiently remote, to form a judgment as to the result. They reported 14 cases of pregnancy, and in only one of these was there any complications attributable to the suspensory operation. In that case the uterus was suspended not by the fundus but by the ovarian ligaments. The womb became infected, the ligatures were discharged and the uterus was bound to the abdominal wall by *broad dense adhesion*. This woman had an instrumental delivery, puerperal fever followed, an exudate was removed from the left side of her abdomen; she, however, recovered. This is the only case of dystocia following Dr. Kelly's suspensio-uteri operation reported in his book, and this he says was one of his first Baltimore operations in which the uterus was suspended by the ovarian ligaments instead of the fundus.

Penrose, in a note following his chapter on this subject on page 147, states that in the seven years between 1893 and 1901 he and his assistants performed ventro-suspension 310 times.

Of the 30 women who reported that they subsequently became pregnant and went to full term the course of pregnancy was normal and the children were all born alive. One woman had a prolonged and difficult labor, though forceps were not used. The operation of ventro-suspension seems to have had nothing whatever to do with producing the eight miscarriages reported. The fact the number of miscarriages is small for any series of 310 women, most of whom were of the dispensary class.

In a second note Penrose says, "Since collecting the statistics in the preceding note, we have continued to perform this operation in all cases of retroversion suitable for operation with equally satisfactory results."

In the face of such testimony from King and

Penrose it is difficult for me, at least, to understand how a prominent writer on this subject, in the last number of the *American Journal of Obstetrics*, can say in his last paragraph: "While ventro-suspension and ventro-fixation have been condemned as unjustifiable," etc. He says near the end of his paper, however, when speaking of the multiplicity of operations, "we certainly are at a loss as to the choice of operations."

He continues: "In my opinion we should not consider any operation which does not contemplate the possibility of a thorough inspection of the adnexa from above the pubic bone." "I would discard the entire class of operations that contemplate vaginal incision either anteriorly or posteriorly," etc.

Recently my friend, Dr. I. S. Stone, of Washington, read a paper on this subject in which he collected and summarized 733 ventro-suspensions done by Washington surgeons. Of this number 49 subsequently became pregnant.

It is proper to state that most of the surgeons furnishing these statistics included a certain number of fixations with their report of suspensions. Indeed the majority of operators do. It is not at all unusual to find in medical journal articles the words "fixation and suspension" used synonymously. The difficulty is, therefore, greatly increased when we try to differentiate, and to accurately ascertain from medical reports, the definite responsibility of either operation in the causation of dystocia.

In one of these cases Dr. Fry, who is also a member of this Society, suspended an adherent, retroflexed incarcerated uterus during pregnancy, and thus prevented complications, and the patient went to term. Dr. Howard Kelly reports a similar case, who, though an epileptic, went on to term. Instead of these suspensio operations interfering with their pregnancies, they presented the varied conditions charged against the operation. In Dr. Stone's report three other suspensio operations were performed during pregnancy.

In over 100 suspensions done by myself I only know of two pregnancies. They were both normal. In one case the labor was so rapid that the child was born before the doctor's arrival, and I know from recent examinations that there has been no return of the retro-version. The other case I delivered in November last after a five hour normal labor without chloroform or forceps.

In 1896 Dr. Noble, of Philadelphia, collected the history of 1,016 cases of suspensio-uteri operations done in this country with the object of determining the effect of this operation upon pregnancy and labor. Of this number both ovaries were removed in 198 cases. In 808 cases at least one ovary remained so that pregnancy was possible. Among the 808 cases of suspensio-uteri there were 56 pregnancies. There were 6 abortions. Seven women remained undelivered at the date of Dr. Noble's paper and 43 were delivered at full term.

There was "only one death attributed to the operation," and that followed a Poro operation done by Dr. Noble on a woman who was septic when the operation was performed. She died of septicaemia.

Of the *complications* reported as occurring during these 56 pregnancies there were 3 forceps deliveries, 1 Porro operation, 1 retained placenta, 2 uncontrollable vomiting in which labor was produced.

It is not perfectly certain so far as I can see, from a careful re-reading of Dr. Noble's excellent and timely paper in 1896, that all the troubles reported were of necessity due to suspensio-uteri. In fact it is not clear that they should not be charged against fixation of the uterus to the abdominal wall instead of to the operation we are considering, namely: "Kelly's Operation," which is distinctly not fixation but suspension of the uterus.

Indeed, it is perfectly certain that many of the cases reported in the paper on suspensio-uteri just referred to were actually fixations and not suspensions. I would also suggest that it is quite possible that some of the above complications in the 56 pregnancies reported, following 1,016 operations, might have occurred with something like the same ratio if no operation whatever had been performed, for the relief of the existing retro-version of the uterus, and the coexisting pelvic conditions.

In Dr. Noble's collection of foreign cases there were 175 pregnancies. He does not state, however, the number of operations performed as the table is headed, "Table of labors following ventro-fixation of the uterus collected from foreign sources." The consideration of these figures evidently would be out of place in a paper on ventro-suspension.

A curious fact seems to have been established by the statistics quoted, to-wit: That pregnancy, the great bug bear of suspensio-uteri, occurs so

infrequently one could almost regard it in the nature of cause and effect. Thus following the 310 operations reported by Penrose we have only 20 cases of pregnancy; after Kelly's operation only 14; after 733 operations collected in Washington by Stone only 49; after my own operations only 2, and after Dr. Noble's collected cases amounting to 1,016 in this country only 56.

In Dr. Suddarth's case where great trouble was anticipated, partly on account of these broadcast statements of probable difficulty and the need of obstetric surgery, no trouble whatever occurred and a woman was quietly delivered on her left side, without any instrumental aid. Dr. Bowen recently had a similar case.

Perhaps I have said enough to indicate my preference out of the great number of operations devised for the surgical relief of retro-displacements of the uterus, and my unwillingness to believe all the terrible prognostications of evil which we so frequently hear of the ill effects of suspensio-uteri on pregnancy and labor.

When the retro-displaced or prolapsed uterus is *suspended*—not fixed—according to the technique of the author of the operation, it appears to me to be the best operation yet devised for the great majority of women, suffering with this displacement, irrespective of the fact that they *may* subsequently become pregnant.

Farragut Square.

INTUSSUSCEPTION—A CLINICAL REPORT, WITH A FEW GENERAL REMARKS.

By J. HAMILTON BROWNING, M. D., Charlottesville, Va.,
Instructor in Clinical Surgery University of Virginia, etc.

The great frequency of this form of intestinal obstruction in infancy—three-fourths of all cases—and the danger of it resulting from dysentery, colitis, and on it being diagnosed as such, is obvious, if we but consider for a moment the predisposing and exciting causes.

The great length of the mesentery at this age, the mobility of the caecum and ascending colon, the improper feeding of children, which is greatest about the ninth month—when child is being weaned—and the frequency of intestinal disorders which follow, such as colic, enterocolitis and dysentery are at their heights, should

cause the family physician to ever be on the alert, and look carefully into every case that does not respond promptly to treatment, as the following case will illustrate:

On February 1st, Dr. R. K. Flanagan was called to see the infant son of R. B. Poet, a previously healthy child eight months old, who had been suddenly taken with a convulsion, accompanied by vomiting and straining with passage of bloody stools. The child had been breast fed until a few days before, when mother had added some bean soup to his diet. Curds, undigested beans, with much mucous were present in the stools for several days. A calomel purge and the interdiction of all food but his mother's milk soon relieved all unpleasant symptoms.

The child remained well until March 10th, when his mother gave him a large piece of corn bread. In a few hours after this indiscretion child had a convulsion, followed by retching and vomiting, which were more violent than in the first attack, and were accompanied by a more continuous passage of bloody mucous and undigested food.

On following day, March 11th, child had another convulsion, followed by greater prostration and intensification of general symptoms. The doctor again tried to impress upon the mother the importance of restricting the child's diet. The same line of treatment was ordered. The child's temperature and pulse were not recorded, and no abdominal examination made. After a few days of unappreciated work and worry, Dr. F. discontinued his visits, as the mother totally disregarded his orders.

During the following ten days child's condition remained about same.

On evening of March 20th, Dr. Jas. B. Bullett was called to see child, and diagnosed the case—at that time—as one of intussusception, and at once 'phoned for Dr. F. and I to meet him in consultation. We responded, and found on examination the following conditions: Tenesmus intense and almost constant passages of bloody mucous, with small amount of dark fecal matter. The child had not vomited during the day, but had refused all food. Temperature slightly elevated, pulse 145, expression was one of pain and exhaustion, and position was approaching opisthotonos. On palpation, abdomen was found relaxed and empty on right side: in left side was found a large elastic mass, very much like a distended bladder, freely movable.

and apparently not very tender to touch. About one and a half inches of bowel was protruding from anus, and looked like inverted ileo-cæcal junction; it was easily pushed up beyond sphincter, but would soon return, due to great tenesmus.

I concurred in diagnosis, and advised placing child in knee-chest position and giving large enemas of normal salt solution, which the doctor did repeatedly during the night without the desired result. The following morning Drs. Bullett and Flanagan found the ileo-cæcal valve and the appendix protruding from the anus.

The little patient was removed at once to University of Virginia Hospital, and hurriedly prepared for a laparotomy. I operated before the medical class at noon on day of admission. Made the median incision, which readily brought the large mass into view. After reducing several feet of small intestines, and some of the large, the ileo-cæcal valve, which formed the apex of the intussusceptum was delivered. The bowels were congested, but fortunately there were no adhesions, the appendix was free, about five inches long, but not inflamed, so was not removed, as time was valuable. The abdomen was closed with three layers of sutures, catgut for peritoneum, chrome gut for fascia, and silk worm gut for skin. A liberal dressing applied, covered with oil silk to prevent soiling, and the little patient returned to bed in thirty-five minutes in good condition.

No nausea or vomiting after chloroform. Gave 1-100 gr. morphine hypodermically, and ordered it repeated if child became restless, or if there was any tenesmus.

The bowels acted unsolicited on second day, and for next few days there was a tendency to diarrhœa—the only complication that occurred—and that responded promptly to treatment.

Profiting by experience of the family physician, the mother was not allowed to visit child, so diet was restricted to albumen water, peptonized milk and peptonoids. First dressing and stitches removed on ninth day; primary union; recovery uneventful.

Patient discharged on the fifteenth day; appetite good: bowels in normal condition, and had increased in weight, due to the efficient care of the nurses.

A man's character is what God knows of him.

ADENOIDS: THE HARM THEY DO AND WHAT TO DO WITH THEM.*

By F. M. Hanger M. D., Staunton, Va.,

It is strange that the pharyngeal or third tonsil, which has caused so much suffering to the human family, should have remained so long in obscurity. The anatomist had not discovered it, neither had the pathologist mentioned it, until 1859-'60, when both Kolliker and Czermak describes it as a mass of glandular tissue occupying the vault of the pharynx, and extending thence around the mouth of the Eustachian tubes and on the posterior aspect of the soft palate, with an average thickness of 7 m. m. In 1868. Luschka, whose name has been given to the tonsil, furnished a more elaborate description, entering more fully into its structure and histological formation, and indentified its tissue as the same that constitutes the two faucial tonsils. These three, along with the lingual, or fourth tonsil, make up the tonsillar ring of the pharynx.

In 1864, Sir Andrew Clark reported cases of disease of the naso-palatine gland, and in 1867, Lowenberg described three cases of deafness complicated with growths in the naso-pharynx. But it remained for Dr. Wilhelm Meyer, of Copenhagen, to grasp the true pathological significance of these growths. In 1886 he gave a full description of them: their diseases, progress, microscopical character, and method of surgical treatment. Since then, little has been left for other writers, so exhaustive was his treatise. He ascertained, by examining nearly 3,000 children, of various schools, that from 1 to 2 per cent. had the dead pronunciation, due to pharyngeal growths; and out of 175 children thus affected 130 suffered from ear troubles.

Although much praise is due him, for his invaluable research, he gave these growths the misleading term "Adenoids"; believing that they were made up of true glandular tissue, as the name implies. An adenoid growth is purely a hypertrophy of the already existing pharyngeal tonsil, and is in no sense an adventitious deposit. The tissue that forms it is lymphoid in nature, and not glandular; hence the common name *adenoid* is unfortunate, misleading, and histologically incorrect. It contains no true secreting glands, and has no excretory duct. It

bears the same relation to the lymphatic system as the solitary glands of the intestinal tract and the other blood manufactories of the body. It is covered with ciliated columnar epithelium, which becomes squamous, as it descends into the pharyngeal wall. The tonsil is deeply furrowed, which gives it a lobulated appearance; is made up of lymphoid cells, held together by a low grade of connective tissue; the density of its stroma being in proportion to the amount of this connective tissue. As it is protected by its situation from those mechanical irritations which are conducive to connective tissue formation, its stroma is more friable than all the other segments of the tonsillar ring. As I have before mentioned an adenoid growth is only an enlargement of the third tonsil, so it now behooves us to see if we can determine the cause of this hyperplasia.

Causes: The condition is essentially a disease of childhood between the ages of 4 and 10 years. It may be congenital or developed in adult life. I have never seen it in a person past the age of 40 years. It occurs in all climates, and some authors believe that it is more prevalent in damp sections. No race escapes, yet I agree with a few who claim that the negro is peculiarly exempt. Sex gives no security. Syphilis and tuberculosis are thought to be predisposing causes. It is more common with the puny and anæmic; yet I have known the most perfect type of ruddy childhood to be affected. At times in order to assign a cause we are compelled to get behind that convenient bush, which some astute pathologist has grown and called "lymphatism," or that peculiar diathesis of youth where there is a tendency to the excessive development of lymphatic tissue. Be the cause what it may it is with us and has come to stay.

Symptoms: If the patient is old enough to speak for himself, he will tell you that his chief trouble is his inability to breath conveniently through the nose, necessitating his keeping the mouth open, more or less all the time, especially when he has taken cold. There is much mucus in the back of the throat which he gets away, but claims that there is some obstruction there which he cannot dislodge, and that he is unable to blow the nose properly in consequence. He furthermore complains of dryness of the throat on waking in the morning, deafness, earache, ringing in the ears and aprosopia—a word coined by Dr. Guye, of Amsterdam, meaning inability to fix the attention on any subject for

*Read before the Augusta County, Va., Medical Society, Nov. 9, 1904.

any length of time. It is thought to be due to the retention of the products of metabolism in the cerebrum, produced by structural changes in the nasal mucosa which retards the current of lymph from the brain cavity, thus interfering with the functions of the higher centers. It has been shown that there is a close anatomical connection between the lymph channels of the nasal fossæ and the naso-pharynx, and those at the base of the brain.

The objective symptoms are usually marked and it is indeed a stupid physician who does not at least suspect adenoids when a stupid, dull, open-mouthed child is brought into his office. The facial expression is so characteristic in a pronounced case that it alone is sufficient to make a diagnosis. The prominent and expressionless lips, narrow nostrils, and ill-developed nasal fossæ, and the alæ, of the nose depressed at the junction of the superior and inferior cartilages will assist in making a diagnosis. In the very young, mucus dribbles constantly from the nostrils, and the child cannot blow the nose; it sleeps with the mouth open and snores. It is more or less deaf, and may or may not have purulent discharge from one or both ears, and has had repeated attacks of earache. If there is no perforation of the drumheads they are dull, indrawn, the light spot absent or diffused and the handle of the malleus shortened and broadened in appearance. I have seen a case where scarcely a bubble of air could be gotten in or out of the nose, so completely were the posterior nares occluded. In such cases deafness is usually profound as the Eustachian tubes are equally occluded. Aside from this these tubes become closed by any extension of inflammation from the growth by contiguity of structure and the inflammation travels easily to the middle ear. Then again, the drum and labarynth readily partake of any congestion in the vault of the pharynx, because of their intimate vascular circulation. The child cannot articulate properly. The vocal resonance of the voice is lost, because the sounding board property of the pharyngeal vault is interfered with; the letter B is substituted for the letter P, and D for T. Nasal sounds cannot be pronounced. This is due to the closure of the nose, the diminished post-nasal space and the thickened and œdematous condition of the velum palati.

On inspection of the throat the faucial tonsils may or may not be enlarged, but generally are; the uvula is œdematous and frequently

twisted to one side, and the fauces throughout have a deeper color than is commonly seen. Small nodules of lymphoid tissue are found scattered irregularly over the posterior pharyngeal wall, especially near the posterior fold. Tough stringy mucus hangs from the post-nasal space. The hard palate is often too highly arched. Some have thought this due to the impact of the air during mouth respiration, but I am inclined to think it is because of the lack of development of the vomer along with the rest of the bones of the nasal fossæ, while the superior alveolar processes grow downward unobstructed. Of course the nose does not develop because it is not used. The child is generally anæmic, often suffers night terrors, nocturnal enuresis and cough, which last may be reflex or caused by mucus irritating the larynx. Often in severe cases we meet with that deformity known as 'pigeon breast.' This is characterized by a circular depression of the thorax at the junction of the lower and middle thirds. The chest looks as if it had been compressed by a band, which gives the appearance of bulging of the upper part. The constriction corresponds with the attachment of the diaphragm, and is due to the action of that muscle to overcome the obstacle to free respiration, the soft bones of childhood yielding easily to such an influence.

I have attempted to present a typical case of adenoids; but frequently we have cases where the only symptom is earache with more or less dullness of hearing with each attack. At times the only symptom is cough, very pronounced in character, which recurs with every cold that the child takes, and lasts for several weeks. The cough does not yield to the usual remedies, but finally wears itself out. There is usually some earache and deafness with each recurrence.

Diagnosis is made by noting the before mentioned symptoms, seeing the growth and feeling it. It can sometimes be seen through the nostrils, but this is rare. With adults you can, with the use of cocaine and the palate retractor, always inspect the growth with a mirror. This can often be done with a tractable child, but, as a rule, you are forced to feel the growth with the finger, protected by a metal, rubber, or leather shield. If you have no shield a cork or gag must be used to prevent the finger being bitten. The child is held on the lap of the nurse and the arms are pinioned. The surgeon stands on the right and passes the right forefinger behind the posterior pillar of the fauces,

on the same side on which he is standing, thence slips the finger upward into the post-nasal space, following the space between it and the posterior pharyngeal wall. This little precaution will prevent the soft palate folding up on the finger if the attempt is made in the median line. The growth is felt as a soft, pulpy lobulated mass which breaks down easily under the finger, which is invariably covered with blood on its removal.

An adenoid can only be confounded with nasal polypi, fibrous growths and retro-pharyngeal abscess. I will not enter into the differential diagnosis, but with care such a mistake should be impossible.

Prognosis: What is the outlook if nothing is done for the child? At the age of puberty, or shortly thereafter, there is a stage of retrogression that begins in all lymphoid tissue, and if the child lives long enough the adenoid growth will surely atrophy; but during its hypertrophic stage the child is subjected to the risk of deafness, or impairment of hearing, permanent aural suppuration, with a possible mastoiditis. If it escapes these it may be subject to defective mental and physical development, to say nothing of the increased dangers to life if such diseases as scarlet fever or diphtheria should intervene.

Treatment of adenoids is their immediate and thorough removal, preferably under ether anaesthesia. This is not necessary for adults, as cocaine is quite sufficient. Some operators prefer the patient held in the upright position; others prefer the supine position, with the head hanging over the edge of the table, while others require an assistant to stand on the table and suspend the patient by the feet, head down, while the operator sits on the floor under the table. The only thing that can be said in favor of this method is that blood cannot enter the windpipe, and the position of the patient will counteract any depressing influence of the anaesthetic. However, it is awkward, unnecessary and undignified. The chief dangers are death on the table and post-operative hemorrhage.

In a careful review of the literature on the subject I find, since 1880, 35 deaths have been reported as the result of adenoid operations, either alone or combined with the removal of the faucial tonsils. Of this number 24 died on the table as the result of chloroform anaesthesia, one from the A. C. E. mixture, and none from ether, nine died of hemorrhage and one of sep-

sis and exhaustion. Of the 9 dying of hemorrhage ether was used in 5, chloroform in 2, no anaesthetic was mentioned in one case, and in one case no anaesthetic was used.

In view of the facts here presented there is no doubt that death occurs with alarming frequency from the use of chloroform in patients who suffer lymphatism, and they are peculiarly susceptible to chloroform narcosis. I believe that statistics show that more deaths occur during this operation under chloroform anaesthesia than any other of childhood. Some think it is due to shock, caused by the sudden abstraction of blood from the brain tissue, combined with the depression of the anaesthetic. I am disposed to think that many die as a result of blood entering the lungs under a too profound anaesthesia, or to detached pieces of the growth lodging in the larynx and causing spasm of the glottis, or to the surgeon permitting his patient to bleed to death because of a too slow or prolonged technique. The hemorrhage is as a rule profuse and the operator should work fast. Post-operative hemorrhage should be met with ice to the back of the neck and over the carotids and the use of local styptics, such as adrenalin, persulphate of iron, tannic acid, etc. Plugging the post-nasal space and anterior nares must not be forgotten and the administration of ergot, gallic acid and other remote astringents. In desperate cases compression or ligation of one or both of the carotids should be done.

The gag, forceps and curette are all the instruments that are needed. The finger never; I have tried it. I don't think it possible to thoroughly remove an adenoid with the finger.

Do these growths ever recur? Yes, as often as four times, but, as a rule, a thorough operation cures your patient. If the faucial tonsils are enlarged they should be removed first, either at a prior operation or just before the adenoids, should it be deemed necessary to do both operations at once. As a routine practice I give syrup of iodide of iron and cod liver oil after these operations, and I have always thought with good effect. I know of no operation that is followed by a more uniform and brilliant result and will reflect more credit on the surgeon.

The puny, anaemic, stupid, deformed, deaf and almost dumb child will be metamorphosed into a fat, rosy, alert and prattling cherub. The dull mentality will vanish, the bright eye will gladden the hearts of grateful parents, whose gratitude will be for a benediction on the head

of the lowly surgeon who, although he possesses none of the attributes of the Creator, has to all appearances made a new *creature*.

Proceedings of Societies, Etc.

The Medical Examining Board of Virginia, December, 1904.

The Medical Examining Board of Virginia met at Murphy's Hotel, Richmond, Va., December 13th, 8:30 P. M., 1904. Dr. R. W. Martin, Lynchburg, President, called the meeting to order. Dr. R. S. Martin, Stuart, Secretary-Treasurer, recorded.

On roll call the following other members were present: Drs. Sam'l Lile, Lynchburg; R. M. Slaughter, Theological Seminary; H. M. Nash, Norfolk; E. T. Brady, Abingdon; O. C. Wright, Jarratts, and E. C. Williams, Hot Springs. Dr. C. W. Rodgers, Staunton, was present during the last day of examination.

Minutes of the last meeting were read and adopted.

The Secretary, Dr. R. S. Martin, read several letters from different State Boards in regard to reciprocity and reported that arrangements had been entered into with the Maryland Board and South Carolina Board for reciprocity, beginning June, 1904.

The terms of reciprocity with New Jersey were read and Dr. Lile introduced a resolution which was adopted; that we reciprocate with New Jersey on same terms that they propose.

Dr. R. M. Slaughter introduced the following resolution, which was adopted:

Resolved, That the Legislative Committee be instructed to submit to the Attorney-General our medical law for his opinion as to whether or not the Board can require certain general educational qualifications of applicants."

Dr. Lile, as suggested by Dr. E. C. Williams, introduced the following resolution, which according to our by-laws will be voted on at our next regular meeting:

Resolved, That in future, any applicant under the reciprocity clause asking recognition, must show certificate of boni fide residence as practitioner of medicine in State from which certificate is granted for at least two years after date of certificate."

The resolution introduced at June, 1904, meeting by Dr. Priddy in regard to repealing certain by-laws was laid over by order of the President, owing to the absence of Dr. Priddy.

Questions on anatomy, physiology, chemistry, materia medica and therapeutics, histology, pathology and bacteriology, practice, obstetrics and gynæcology, hygiene and medical jurisprudence and surgery were read and adopted.

The order of examinations was as follows:

Wednesday—Chemistry, obstetrics and gynæcology, surgery.

Thursday—Histology, pathology and bacteriology, practice, materia medica and therapeutics.

Friday—Anatomy, hygiene and medical jurisprudence, physiology.

The President appointed Drs. R. M. Slaughter, Sam'l Lile and E. T. Brady oral committee.

At the suggestion of Dr. R. M. Slaughter the Secretary was instructed to get a legal opinion from the Attorney-General in regard to the legality of fees in cases of reciprocity with other State Boards.

Board adjourned.

Board met at Medical College of Virginia, Faculty Room, December 14th, at 12 M. Present: Dr. R. W. Martin, President; Dr. R. S. Martin, Secretary; Drs. Lile, Brady, Nash and Williams.

It was decided that the next meeting of the Board be held in Richmond, June 20-23, 1905.

It was further decided that No. 69 be required to take oral examination on all subjects except practice and materia medica and therapeutics—this proposition being made in person by the President to No. 69 and in the presence of the above members of the Board. No. 69 declined to take the examination, saying he was not prepared, and accordingly withdrew and his fee was returned.

The by-law, which reads as follows: "The Medical Examining Board of Virginia will in future decline to recognize the diploma of any college which does not conform to the requirements of the Association of Medical Colleges," be and is, hereby repealed, as the Attorney-General says we are required to register for examination any applicants holding a diploma from a medical college legally constituted by any State or Territory.

Resolved, That the Medical Examining Board of Virginia returns thanks to the faculty of the

Medical College of Virginia for the use of the chemistry room, faculty room and other courtesies during the examination of applicants to practice medicine and surgery, at the fall meeting, 1904.

There being no further business the Board adjourned.

R. W. MARTIN, M. D., *President*.

R. S. MARTIN, M. D., *Secretary-Treasurer*.

ALPHABETICALLY ARRANGED LIST OF APPLICANTS FOR LICENSE TO PRACTICE MEDICINE, SURGERY, ETC., WHO PASSED SATISFACTORY EXAMINATIONS BEFORE THE MEDICAL EXAMINING BOARD OF VIRGINIA DURING ITS SESSION DECEMBER 13-16, 1904, HELD AT RICHMOND, VA.

Banner, E. C., Isis, Va., Louisville Med. Col., 1896.
 Bicknell, G. C., Colvin Run, Va., Baltimore Med. Col., 1904.
 Cobbs, H. C., Gordonsville, Va., Leonard Medical College, 1903.
 Culbertson, Wm. R., Coeburn, Va., Baltimore Univ., 1904.
 Campbell, R. S., Hoop, Tenn., Univ. of Tenn., 1886.
 Donohoe, S. R., Jr., Fairfax, Va., Univ. of Md., 1902.
 Davidson, J. J., Hicksville, Va., Med. Col. of Va., 1904.
 Drake, W. A., Norfolk, Va., Leonard Med. Col., 1901.
 Ford, S. M., Cleveland, Va., Ky. School of Med., 1904.
 Forbes, H. O., Buckingham, Va., Med. Col. of Va., 1904.
 Fisher, Samuel, Portsmouth, Va., Col. Phys. and Surg., Boston, 1903.
 Frost, W. H., Marshall, Va., Univ. of Va., 1903.
 Gilmer, J. A., Baltimore, Md., Md. Med. Col., 1904.
 Horton, L. B., Gates City, Va., Louisville Med. Col., 1890.
 Lewis, A. C., Cismont, Va., Geo. Washington Univ., 1905.
 McGuire, W. P., Houston, Va., Baltimore Med. Col., 1903.
 Morrison, F. J., Chuckatuck, Va., Univ. of the South, 1903.
 Mercer, C. W., Richmond, Va., Med. Col. of Va., 1904.
 McNeil, C. E., Hoop, Tenn., Ky. School of Med., 1904.
 Miller, W. J., ———, Med. Dept., Vanderbilt's Univ., 1877.
 Powell, Lewellyn, Washington, D. C., Columbian Univ., 1904.
 Peters, N. S., Bristol, Tenn., Hosp. Col. of Med., Louisville, 1900.
 Pierce, D. E., Boone's Path, Va., Univ. of the South, 1904.
 Ruedy, Robert C., Washington, D. C., Columbian Univ., 1904.
 Rucker, C. N., Forest Depot, Va., Med. Col. of Va., 1903.
 Scott, McClure, Richmond, Va., Univ. of the South, 1904.
 Sartorius, N. E., Pocomoke, Md., Univ. of Md., 1904.
 Sinclair, F. A., Messick, Va., Med. Col. of Va., 1904.
 Thomas, Geo. H., Romney, W. Va., Univ. of N. Y., 1891.
 Tennant, A. A., Richmond, Va., Leonard Med. Col., 1904.
 Taylor, H. B., Norfolk, Va., Univ. of Va., 1904.
 Wagner, I. R., New Hampden, Va., Univ. of Va., 1905.
 Williman, S. F., Richmond, Va., Leonard Med. Col., 1903.
 Wyatt, G. L., Hinton, W. Va., Col. Phys. and Surg., Baltimore, 1903.
 Young, B. T., Stickleysville, Va., Louisville Med. Col., 1892.

Questions for Examinations.

SECTION ON CHEMISTRY.

Dr. O. C. Wright, Jarratts, Va., Examiner.

Block I.

- (a) What is dialysis? (b) What substances are most apt to dialyze? (c) Define cohesion and adhesion.

Block II.

- (a) What are crystals, amorphous, dimorphous and polymorphous substances? (b) What is an alloy and what an amalgam? (c) How is silver obtained from oxide of silver?

Block III.

- (a) Give process of making nitrate of silver. (b) What is the chemical antidote for nitrate of silver? (c) Show its reaction with its antidote and tell why it so acts.

Block IV.

- (a) Give physical properties of calomel and corrosive sublimate. (b) How is mercury generally found in nature? (c) What substance is produced by mixing lime water and calomel?

Block V.

- (a) Define an acid. (b) Define a base. (c) What is an acid salt?

Block VI.

- (a) Define organic chemistry. (b) Of what elements are organic compounds composed? (c) What are antitoxins and what ptomaines?

Block VII.

- (a) How much urine is voided in 24 hours by healthy adult male? (b) What per cent. of it is solids? (c) What are the principal chemical substances found in the solids of urine?

Block VIII.

- (a) Give a chemical test for uric acid in urine. (b) Give a chemical test for pus in urine. (c) Give two reliable tests for albumen in urine. Pledge. Answer any six of the above blocks.

SECTION ON OBSTETRICS.

Dr. Herbert M. Nash, Norfolk, Va., Examiner.

- (1) What is the latest teaching as to the etiology of gestational toxemia, noting the symptoms most frequently preceding other signs of toxemia?
- (2) Treatment of an incarcerated, retroflexed, gravid uterus?
- (3) Describe the various modes of artificial dilatation of the cervix, in accouchment force?
- (4) What are the dangers attending breech presentation?
- (5) What injuries may result from the unskillful performance of Crede's method of expression of the uterus?

SECTION ON GYNECOLOGY.

Dr. Wm. L. Robinson, Danville, Va., Examiner.

- (1) Give causes, diagnostic symptoms and treatment, palliative and curative, of dysmenorrhea.
- (2) By manual examination, how would you differentiate pus tubes from prolapsed ovaries and pelvic abscess? Describe technique of operation for pus tubes.
- (3) Describe in detail operation for recto-vaginal fistula.
- (4) What are the symptoms of laceration of cervix uteri?
- (5) Give preparatory treatment and post-operation management in trachelorrhaphy?

SECTION ON SURGERY.

Drs. S. Lile, Lynchburg, Va., Regular, and H. M. Allen, Homeopath, Norfolk, Va., Examiners.

Ques. I.—(a) Name the different traumatic fevers and define each. (b) What causes dry gangrene and what the moist variety? (c) What is shock and how treated?

Ques. II.—What is syphilis, how diagnosed in first stage and when should treatment be begun? Give prognosis and treatment, stating how long the latter should be continued.

Ques. III.—(a) Give etiology, pathology and early symptoms of hip joint disease. (b) Give differential diagnosis between inguinal hernia and hydrocele.

Ques. IV.—(a) What dangers are common to all surgical operations? (b) Define asepsis, antiseptics and disinfectant. (c) State how asepsis and antiseptics are obtained, and name best method of disinfection.

Ques. V.—(a) Differentiate between backward dislocation of ulna and fracture of humerus near the condyles. (b) Give the symptoms common to all dislocations of the shoulder joint.

Ques. VI.—(a) Give causes, symptoms, diagnosis and treatment of chronic seminal vesiculitis. (b) Give differential diagnosis between chronic gonorrhœa and chronic prostaticorrhœa.

The required pledge to be written out in full.

QUESTIONS ON HISTOLOGY, PATHOLOGY AND BACTERIOLOGY.

Dr. R. M. Slaughter, Theological Seminary, Examiner.

I.—Give the histology of bone.

II.—(a) Describe (i. e., give biological and morphological characteristics and pathogenesis of) the bacillus of tetanus. (b) Describe pus and pus formation.

III.—(a) Describe and illustrate the difference between degeneration and infiltration. (b) What is caseation, and in what disease does it occur?

IV.—(a) Define leucocytosis and give its two varieties. (b) What does a leucocytosis with a predominance of polymorphonuclear leucocytes indicate? (c) What condition of the blood is found in chlorosis?

V.—(a) Name the physiological prototype of adenocarcinoma, neuroma, sarcoma and chondroma. (b) To what variety of tumor does the common wart belong? (c) Name the tumor of greatest malignancy.

VI.—(a) Name the infective granulomata, and state why so called. (b) Name the conditions that give rise to hypertrophy of the heart and explain how they act in so doing. (c) What is the lesion in cerebral embolism, and where located?

VII.—(a) Give the avenue of entrance of infection in typhoid fever, pneumonia, tetanus and furunculosis. (b) Explain the mode of infection in malaria. (c) What is the usual condition of the coronary arteries in angina pectoris? (d) Pathologically, what is the condition known as poison oak or ivy poisoning?

Pledge.

Answer six questions.

SECTION ON PRACTICE.

Drs. E. T. Brady, Abingdon, Va., Regular, and E. C. Williams, Hot Springs, Va., Homeopathic, Examiner.

I.—(a) Give causes, symptoms, dangers and management of acute nephritis. (b) Distinguish between retention and suppression of urine.

II.—Differentiate cardiac dilatation and hypertrophy

(physical and clinical symptoms), and give treatment for each.

III.—How do you distinguish between follicular tonsillitis and diphtheria?

IV.—Differentiate acute bronchitis, pneumonia and pleuritis.

V.—With what conditions are functional heart troubles most frequently associated?

VI.—Give causes of malaria—varieties of organism found in each form, and state how the disease is most likely conveyed.

Answer all questions. Sign pledge. Please write the word Practice on outside of paper with number below it.

SECTION ON MATERIA MEDICA AND THERAPEUTICS.

Regular School, Dr. W. B. Robinson, Tappahannock, Va., Examiner.

I.—(a) From what source is cocaine derived, and what is its physiological effects? (b) What conditions modify the action of medicines and affect their dosage? (c) Name the incompatibles with the preparations of iron, and give the dose of the tincture of the chloride.

II.—(a) Give the source and physiological action of ergot. (b) Mention the composition and dose of Dover's powder. (c) State the action of belladonna on the circulation, mention its preparations, and give dose of its chief alkaloid.

III.—(a) Give the preparations of strophanthus and its physiological action. (b) Mention the official salts of bismuth. (c) Indicate the physiological properties of cannabis indica and state the dose of its preparations.

IV.—(a) Give earliest signs of poisoning by carbolic acid, state effects when locally applied and give antidotes. (b) Name the mineral acids and differentiate their escharotic effects. (c) Outline the physiological action of potassium iodide.

V.—(a) Name the principal alkaloid of cinchona, and give its physiological action. (b) Mention the incompatibles with and give the dose of spirit of nitrous ether. (c) Describe the effects of a toxic dose gelsemium; name its preparations and give dose of each.

Answer only four blocks. Pledge.

QUESTIONS ON THERAPEUTICS.

Dr. J. E. Warinner, Brook Hill, Va., Examiner.

Block I.

(a) What is meant by incompatibility in prescription writing and give example? (b) Why are antagonistic remedies sometimes combined? Give examples. (c) What are anti-periodics and name most important? (d) What conditions contraindicate the use of quinine?

Block II.

(a) Give briefly the dietary and medicinal treatment for chronic constipation. (b) What changes are necessary to be made in cows' milk when it is substituted for human milk as a diet for infants and children? (c) Give names and doses of most important urinary antiseptics. (d) What are the uses of potassium permanganate?

Block III.

(a) What drugs acidify the urine? Give doses. (b) How would you alkalize the urine? (c) Name in order of activity the four best cholagogues and doses of each. (d) How do the three principal mineral acids differ in action when given internally?

Block IV.

- (a) Give the chemical antidotes for opium, carbolic acid, corrosive sublimate. (b) Give mode and interval of administration and dose of diphtheritic antitoxin. (c) What is normal saline solution and what are its therapeutic uses? (d) Give the strength of the following solutions: Nitrate of silver for ophthalmia neonatorum, cocaine hydrochlorate for local anesthesia, sulphate of zinc for conjunctivitis, bichloride of mercury for an uterine douche.

Write pledge and sign number only.

SECTION ON MATERIA MEDICA.

Dr. E. C. Williams, Hot Springs, Va., Homeopathic Examiner.

Block I.

- (a) Give the abdominal symptoms of colocynth and dioscorea. (b) What is meant by the decimal and the centesimal scale?

Block II.

- (a) Give the characteristic tongue symptoms of antimonium crudum, rhus toxicodendron, mercurius solubius and nux vomica. (b) Describe the physiological action of mercurius.

Block III.

- (a) Mention the organs or tissues especially acted upon by (one) sabina; (two) petroleum; (three) spigelia; and (four) iris. (b) Give the physiological action of opium and two characteristics.

Block IV.

- (a) Give the throat symptoms of (1) kali by chromicum; (2) belladonna; and (3) hepar sulfuris calcis. (b) Give the physiological action and two characteristic symptoms of cinchona.

Block V.

- (a) State three characteristic symptoms of (1) aconite; (2) apis mellifica; and (3) arsenicum album. (b) State the symptoms peculiar to women characteristic of (1) pulsatilla; and (2) sepia.

Answer four blocks of questions.

SECTION ON THERAPEUTICS.

Dr. E. C. Williams, Hot Springs, Va., Homeopathic Examiner.

Block I.

- (a) Differentiate hepar sulfuris calcis and silica in suppurations (b) Give indications for cinchona and for natrum muriaticum in intermittent fever. (c) State the principal clinical uses of glonoine and hellebore. (d) Give the indications for the use of graphites in eczema.

Block II.

- (a) Differentiate iodine and mercurius in glandular affections. (b) Give the indications for the use of rhus toxicodendron in typhoid fever. (c) Give the principal clinical uses of platinum and ignatia. (d) Mention two remedies useful in the treatment of acute nephritis and two indications for each.

Block III.

- (a) Give three characteristic indications for cimicifuga in diseases of the female sexual organs. (b) Differentiate pulsatilla and kali bichromicum in bronchitis. (c) Describe the headache for which belladonna and spigelia are indicated. (d) Give the general treatment and diet for a case of gout and three remedies for use in the disease.

Block IV.

- (a) Give the symptoms for the use of æsculus and of aloes in a case of hemorrhoids. (b) Differentiate chamomilla from calcarea carbonica in the diarrhea of children. (c) State the principal clinical uses of alumina and apocynum. (d) Mention four characteristic symptoms for the use of lycopodium in digestive troubles.

Block V.

- (a) Differentiate belladonna from calcarea carbonica in menorrhagia. (b) Give the indications for the use of nux vomica in constipation and in dysentery. (c) Mention two remedies useful in the first stage of pneumonia and give three indications for each. (d) Mention three symptoms characteristic of lachesis in throat troubles.

Answer four blocks of questions.

QUESTIONS ON ANATOMY.

Dr. C. W. Rodgers, Staunton, Va.

I.—Describe the elbow joint.

II.—Describe the internal iliac artery.

III.—Describe the pneumogastric nerve.

IV.—Describe the orifices and valves of the heart.

V.—Give a short description of the lungs, including outline, location in chest, differences between right and left, and description of root.

VI.—Describe the pelvis of the kidney, and the ureter, including course, relations and termination of the latter.

QUESTIONS IN HYGIENE.

Dr. A. S. Priddy, Bristol, Va., Examiner.

I.—What is understood by the term "hard water," and how can the condition be corrected?

II.—What restrictive measures should be adopted in an outbreak of small-pox? After attending a case of small-pox what precautions should the physician take to prevent carrying the disease to other persons?

III.—Describe the proper hygienic measures for the infant during the first three months of life.

IV.—Name four diseases requiring quarantine regulations, and state the time necessary for each.

QUESTIONS IN MEDICAL JURISPRUDENCE.

I.—In what respects does insanity differ from idiocy?

II.—What is your understanding of the term civil malpractice? What of criminal malpractice?

III.—Define hermaphroditism; into what two classes divided? Explain each class.

IV.—What organ of the human body longest resists decomposition?

N. B.—Select and answer any three in each branch. Erase those not answered, and pin this printed list of questions to answers turned in. Should it be necessary to write Examiner on any matter concerning examination, enclose stamp for reply.

SECTION ON PHYSIOLOGY.

Robert C. Randolph, M. D., Boyce, Va., Examiner.

Block I.

- (a) What are the uses of the blood? (b) What is the difference between arterial and venous blood? (c) Describe the structure of the arteries.

Block II.

- (a) Describe the characteristics of the veins. (b) What is the effect of the pneumogastric nerve upon the heart? (c) How is the heart nourished?

Block III.

- (a) What is meant by the term vesicular murmur?
- (b) What is tidal air? (c) What is the composition of atmospheric air?

Block IV.

- (a) At what age do the salivary glands become active? (b) Describe the act of deglutition. (c) What are the characteristics of peptones?

Block V.

- (a) What is chyme? (b) What are the glands peculiar to the small intestine? (c) Name the pancreatic ferments and describe the action of each.

Block VI.

- (a) What is dialysis? (b) What are the villi? (c) What is lymph?

Nos. of examination papers.	INSTITUTIONS Whose Graduates were Rejected by the Medical Examining Board of Va., at Regular Fall Meeting, December 13-16, 1904 With Percentage Marks of each.	Hygiene and Med. Jurisprudence.	Chemistry.	Anatomy.	Physiology.	Histology, Pathology, Bacteriology.	Obstetrics and Gynecology.	Materia Medica and Therapeutics.	Practice.	Surgery.	Total.	Average.
	COLLEGE OF GRADUATION.											
8	Royal University, Rome, Italy.	55	68	36	63	60	75	36	50	25	468	52
10	Kentucky School of Medicine.	82	45	73	72	60	75	73 $\frac{3}{4}$	77	45	602 $\frac{1}{2}$	66+
27	University of the South.	86	78	78	59	68	67 $\frac{1}{2}$	72 $\frac{1}{2}$	75	25	601	66
30	University of the South.	90	70	79	77	60	66 $\frac{1}{2}$	71 $\frac{1}{2}$	72	50	636	70
31	Boston University	93	70	68	69	55	71	75	70	50	621	69
33	University of the South.	84	60	68	40	58	50	54 $\frac{1}{2}$	74	30	518 $\frac{1}{2}$	57+
39	Leonard Medical College	84	93	53	79	68	40	66 $\frac{1}{2}$	75	70	628 $\frac{1}{2}$	69
40	Leonard Medical College.	75	60	65	88	50	53	76	73	60	600	66
41	Leonard Medical College.	76	91	68	65	65	68	77 $\frac{1}{2}$	73	75	658 $\frac{1}{2}$	73
42	Leonard Medical College	80	55	78	78	68	79	72 $\frac{1}{2}$	65	75	650 $\frac{1}{2}$	72
43	Howard University.	90	75	65	77	55	70	78	60	60	630	70
44	Leonard Medical College.	92	76	56	85	60	49	55	70	40	583	64+
49	Leonard Medical College.	88	76	73	86	50	49	69	65	70	626	69
51	Leonard Medical College.	82	72	64	82	60	55	70 $\frac{1}{2}$	60	70	615 $\frac{1}{2}$	68
53	Leonard Medical College.	80	82	72	78	62	65	75	72	77 $\frac{1}{2}$	663 $\frac{1}{2}$	73
54	Howard University.	88	75	64	73	65	62 $\frac{1}{2}$	73	70	65	635 $\frac{1}{2}$	70
56	University of the South	88	90	76	71 $\frac{1}{2}$	68	66 $\frac{1}{2}$	67 $\frac{1}{2}$	55	60	642 $\frac{1}{2}$	71
61	University College of Medicine.	90	73	90	70	65	72	67 $\frac{1}{2}$	77	60	664 $\frac{1}{2}$	73
64	University of the South	80	79	82	73	50	72 $\frac{1}{2}$	72 $\frac{1}{2}$	65	65	639	71
83	Leonard Medical College	86	78	75	76	65	69 $\frac{1}{2}$	75	70	40	632 $\frac{1}{2}$	70+
84	Tennessee Medical College	85	55	75	66	60	67	54	78	50	590	65
86	Leonard Medical College.	80	60	45	73	55	61	49 $\frac{1}{2}$	75	65	563 $\frac{1}{2}$	63
91	Maryland Medical College	74	68	68	60	65	60	64	68	50	577	64
92	Maryland Medical College.	75	83	81	78	70	65	75	75	60	662	73
97	University College of Medicine	95	80	76	65	70	74	67 $\frac{1}{2}$	73	65	665 $\frac{1}{2}$	73
98	Maryland Medical College.	85	70	73	70	60	73	77 $\frac{1}{2}$	78	70	656 $\frac{1}{2}$	72
99	Maryland Medical College.	85	70	73	70	60	73	77 $\frac{1}{2}$	78	70	656 $\frac{1}{2}$	72
63	Jefferson College of Medicine.	55	68	36	63	60	75	36	50	25	468	52
	Oral examination.											50
	Oral examination.											60

INSTITUTIONS REPRESENTED BY APPLICANTS WHO CAME BEFORE THE MEDICAL EXAMINING BOARD OF VIRGINIA, WINTER SESSION, AT RICHMOND, VA., December 13-16, 1904.	Total Number of Applicants from each College.	Total Number of Applicants Licensed from each College.	Total Number of Applicants Rejected from each College.	Partial Examination.	Withdrawn.
University of Maryland	2	2	0		
Kentucky School of Medicine.	3	2	1		
University of Virginia	3	3	0		
University of New York	1	1	0		
Baltimore Medical College	2	2	0		
University of the South	8	3	5		
Medical College of Virginia	5	5	0		
Maryland Medical College	5	1	4		
College of Physicians and Surgeons, Boston.	1	1	0		
Boston University.	1	0	1		
Leonard Medical College	14	4	10		
Howard University.	2	0	2		
University College of Medicine, Richmond, Va.	2	0	2		
College of Physicians and Surgeons, Baltimore.	1	1	0		
Jefferson Medical College	1	0	1		
American School of Osteopathy	1	0	0		
Baltimore University	1	0	0		1
Louisville Medical College	3	1	0		
Tennessee Medical College	1	3	1		
Columbia University	2	0	0		
George Washington University	1	2	0		
Hospital College of Medicine, Louisville	1	1	0		
University of Tennessee	1	1	0		
Medical Department Vanderbilt University	1	1	0		
Royal University Medicine and Surgery, Rome	1	1	1		
Non-graduates taking partial examination	44	..	..	44	
Total	108	35	28	44	1

INSTITUTIONS REPRESENTED BY THE APPLICANTS
BEFORE THE
MEDICAL EXAMINING BOARD OF VIRGINIA,
FROM THE ORGANIZATION OF THE BOARD,
JANUARY 1, 1885, TO DEC. 13-16, 1904.

	Total Number from each Institution.	Total Number Licensed First Examination.	Total Number Rejected First Examination.	Licensed on Second Examination.	Rejected Second Examination.	Licensed Third Examination.	Rejected Third Examination.	Licensed Fourth Examination.	Rejected Fourth Examination.	Licensed Fifth Examination.	Rejected Fifth Examination.	Incomplete or Withdrew.	Partial examination.
Total number before Board from organization to Dec. 13-16, 1904.	2562	1526	535	172	83	30	29	2	21	1	..	38	355
University College of Medicine, Richmond, Va.....	2	..	..	..	..	..	2	..	..	..	..	..	..
Medical College of Virginia	5	3	..	2	..	..	..	..	..	..	..	..	..
University of the South	8	2	4	1	1	..	..	..	..	..	..	..	..
Jefferson Medical College	1	..	1	..	..	..	..	..	..	..	..	..	..
Baltimore University	1	1	..	..	..	..	..	..	..	..	..	..	..
Baltimore Medical College	2	1	..	1	..	..	..	..	..	..	..	..	..
University of Virginia	3	3	..	..	..	..	..	..	..	..	..	..	..
Maryland Medical College	5	1	1	..	2	..	..	..	1	..	..	..	..
Leonard Medical College	14	1	4	3	5	..	..	..	1	..	..	..	..
University of Maryland	2	2	..	..	..	..	..	..	..	..	..	..	..
Physicians and Surgeons, Boston.....	1	..	..	..	..	1	..	..	..	..	..	..	..
Columbian University.....	2	2	..	..	..	..	..	..	..	..	..	..	..
Kentucky School of Medicine.....	3	..	1	..	..	..	..	..	..	..	..	..	..
Louisville Medical College	3	3	..	..	..	..	..	..	..	..	..	..	..
Hospital College of Medicine, Louisville.....	1	1	..	..	..	..	..	..	..	..	..	..	..
College of Physicians and Surgeons, Baltimore	1	..	..	1	..	..	..	..	..	..	..	..	..
Tennessee Medical College.....	1	..	1	..	..	..	..	..	..	..	..	..	..
Medical Department Vanderbilt's University, Nashville.....	1	1	..	..	..	..	..	..	..	..	..	..	..
University of Tennessee.....	1	1	..	..	..	..	..	..	..	..	..	..	..
University of New York	1	1	..	..	..	..	..	..	..	..	..	..	..
Howard University.....	2	..	2	..	..	..	..	..	..	..	..	..	..
Alabama School of Osteopathy.....	1	..	..	..	..	..	..	..	..	..	..	..	..
George Washington University.....	1	1	..	..	..	..	..	..	..	..	..	1	..
Royal University, Rome, Italy.....	1	..	1	..	..	..	..	..	..	..	..	..	..
Boston University.....	1	..	1	..	..	..	..	..	..	..	..	..	..
Non-Graduates taking partial examination	44	..	..	..	..	..	..	..	..	..	..	..	44
Totals.....	2670	1552	551	180	91	31	31	2	23	1	..	39	399

Analyses, Selections, Etc.

Raising of Drug Plants in U. S.

The following article from the *Scientific American*, December 17, 1904, may prove of practical utility to a number of our country doctors and their patrons:

The United States raises a good many of its medicinal plants, but it is so addicted to the drug habit that it pays an annual bill of some \$16,000,000 to other countries for importations. If these drugs must be used, it is only natural to ask if the patient cannot save some of the money by encouraging home industry. A good many drug plants are products of the tropics, and cannot be raised here; but expert authorities inform us that some four or five million dollars' worth of the others could readily be produced in the back-yards of our suburban homes.

The early pioneers in this country considered their herb and medicinal gardens of prime importance; but with the development of medicine, and particularly in the establishment of the ubiquitous drug store, this practice fell into disuse. There was no need to raise your own medicinal plants. They could be obtained much easier, and at little expense, at the apothecary.

There has been a steadily increasing short-

age in the common *golden seal*, or *hydrastis canadensis*. At one time golden seal was so abundant in the East that it was torn up and burnt by farmers to keep it from overrunning their fields. In the Ohio valley it was considered a pest. But to-day it is worth about 75 cents per pound wholesale in the market, and it is eagerly hunted for by drug plant collectors. There are scarcely 150,000 pounds collected annually in this country, and the actual demand is several times this amount.

Golden seal will grow easily on rich, loose garden soil. The soil should be made to imitate that of the woods or forest as nearly as possible. The plants are put in rows six inches from each other, with a foot between each row. It takes about three years from planting before harvesting, and after that an annual supply of roots should be had. In two seasons the original plants should increase four times by dividing the rhizomes, which can be cut up in the fall. After the second year the increase should be much faster, for the rhizomes can be cut into small pieces, and each one bearing a bud will form a new plant. The original plant can either be obtained from the woods or from nurseries. In either case they should be planted in late summer, and carefully protected the first winter.

The cultivation of *seneca root*, or *snakeroot* (*polygala senega*), has also been undertaken in this country. Like golden seal it was at one time very abundant in this country, and it was gathered by collectors of drug plants in the South. The annual shortage has sent the price for it soaring. *Cascara sagrada*, *rhamnus purshiana*, and the *coneflower*, or *echinacea angustifolia*, are also running short in this country, and their cultivation could be undertaken with a sure knowledge that prices would be maintained for years to come. Plantations of these drug plants should yield a good income after the second year, and if the propagation increased by cuttings, the supply should be satisfactory.

A curious fact in regard to the drug trade is that we are to-day importing in considerable quantities ordinary medicinal plants which are found growing wild in this country, and are largely neglected. In some cases these wild plants are destroyed by farmers as noxious weeds, and their very presence on the farm is an eyesore to them. In this class of despised drug plants we have the *common dandelion*, *burdock*, *couch grass*, and *curly dock*. The poor Italians of our towns and cities are apparently the only ones to appreciate the value of these common medicinal plants. In the spring and summer of the year they go forth to dig the roots of the dandelion and dock in gardens, lanes, and by the roadsides. In speaking to one of these Italian collectors, the writer ascertained that he made nearly a hundred dollars a year in this way. Only a small fraction of his time was given to collecting.

Fair prices are quoted in the drug trade for dock and dandelion roots, and the cultivated sorts are so much superior to the wild that there is money in them. All that the farmer or householder needs to do is to start a rich piece of damp ground with the roots of the dandelion or burdock, and then by transplanting cuttings each year a large supply could be raised. The plants take possession of the soil, but the small ones should be thinned out to give the better growths more room. To cultivate dandelions, burdock, and couch grass seems like an absurdity to some, but we have it upon the authority of the Department of Agriculture that many tons of these roots are imported annually into this country for the drug trade.

Experiments have been made to introduce the camphor and cork trees in the Southern

States, and some little success has been attained; but it would seem much more to the point if farmers would attempt the cultivation of wild native plants that we now have to import to meet the ordinary drug trade demand. There is common *sage*, which we raise in such small quantities that we have to depend upon Italy for our needs. The prices for sage are small, and this fact has discouraged many from undertaking to raise it. But the plant is easily cultivated, requiring practically no great attention, and its annual crop of leaves is large. Five or ten acres devoted to sage growing yields excellent returns on the money and labor invested. It will grow in soil that is not very rich, and once the plantation is started, it continues to yield an income for the simple work of harvesting it. To make it profitable, it should be raised on a fairly liberal scale—not less than five or ten acres. In the South in particular it can be raised at little cost. It can be started from seed, and then increased rapidly by cuttings, so that within two or three years a plantation should be in full growth. The leaves are simply stripped from the bushes and dried out of doors on wooden racks, after which they are baled for market.

Belladonna, *henbane*, and *stramonium* grow in this country under cultivation, so that good crops can be harvested, and they all occur here as wild plants or weeds. We import quantities of all three from middle and southern Europe, and pay a good price for them. All of these are susceptible to culture in small gardens, their roots growing rapidly, and their leaves furnishing an abundance of medicinal material for drug purposes. *Stramonium* is an annual, and must be planted from seed each year, but *belladonna* and *henbane* are biennials, and can be increased by root division. The leaves are collected and dried in warm, airy places for market.

Prices for these drugs are moderately good, and an acre of land devoted to their culture should yield fair profits. The labor of cultivating is small, the chief item of expense being harvesting and drying of the leaves. In the case of *belladonna* the roots are also collected and sold for medicinal purposes. The work is all light, interesting, and profitable for man or woman.

While *caraway*, *anise*, and *coriander* seeds are not usually classed among drugs in the eyes of the average person, they are thus classified by

dealers. They are imported in large quantities from other countries. The value of imported anise-seed oil alone is nearly one hundred thousand dollars. All three of these plants can be successfully raised in the average well-drained garden. The seeds are gathered just before they are ripened, and when dried they have a steady market at nearly all seasons of the year. Unlike many garden products, they are not subject to violent fluctuations in price, nor are they perishable goods if held for some time, or shipped to a distant market.

We import nearly three million dollars' worth of crude opium for smoking purposes or in the form of alkaloids derived from the opium poppy. In many parts of the South the true opium poppy grows successfully, and the products are of the highest commercial value.

There is needed a well-drained, rich soil for the opium poppy, and the small seeds are drilled or sown into rows. There is more skill required for this plant than most of the others mentioned. When the capsules appear on the plant they are gently scraped or scored with a knife, and through this slight incision the milk of the plant oozes. This quickly coagulates, hardens, and turns black. It is collected then for medicinal purposes, and refined by various processes. The incision on the capsule is not deep enough to injure the maturing of the seeds, which later are shaken out, and the oil is expressed from them. Southern California, Texas, Florida, and other Southern States appear adapted to the culture of the opium poppy for commercial purposes.

We import some 40,000 pounds of *thyme* oil, which is made from the ordinary thyme of our old New England gardens, while great quantities of the leaves are used for culinary purposes. The commercial growing of thyme on a small scale should prove a profitable industry, especially as a side issue in gardening or farming where land is cheap and plentiful.

Lavender oil is of medicinal value, and lavender seeds and leaves of great toilet value. Our total importations of this oil and leaves amounts in value to over one hundred thousand dollars. The lavender of commerce is raised in this country for private uses, and it should find a place in the ordinary garden of drugs that one starts for profit. Its sweet odor should add materially to the pleasure of cultivating the plants.

Chamomile flowers, *senna* leaves, and the leaves and flowers of *saffron* and *safflower* are

imported for the drug trade to a total valuation of about \$170,000. They are all plants that thrive in this country, and in the early New England days, when drug stores were scarce, they were found in nearly every herb or medicinal-plant garden. They are found growing wild in some parts of this country, especially in the neighborhood of old gardens, where they were probably at one time cultivated.

The roots of *sarsaparilla* grow wild in the Carolinas, and they have been cultivated to some extent in other parts of the country, while *orris*, *gentian* and *ginger* roots have been experimented with in the warm Southern States.

Diagnosis of Tubercular Hip-Joint Disease.

In a paper by Dr. Thos. H. Manley, New York, N. Y., read before the Mississippi Valley Medical Association last summer, published in the *Toledo Med. Compound* for October 1905, he notes that *tubercular coxitis* is an affection of childhood. Neuralgic and hysterical conditions are common in the female; rheumatic in the adult.

Localized *tuberculosis of the coxo-femoral joint* (or hip-joint disease) appears in various degrees of intensity, seizing on the peri-articular and osseous structures, and has destructive tendencies. Though sometimes taking on a chronic course, and leaving a distorted shortened limb, it is, nevertheless, under proper treatment generally a very docile malady.

Questions of heredity, environments, the general condition of the patient, etc., materially help an early diagnosis. The child perhaps sustains a fall, and at a considerable interval afterwards, pain and limp are noticed. Perhaps in other cases, there was some weakness noticed beforehand. As a rule, in cases of joint tuberculosis, the child is precocious, but is pale and anæmic, has poor digestion and a strenuous habit.

In *chronic* cases, onset is gradual—marked early by slight rheumatic pains, aggravated by any sudden jar. In *acute* cases, onset is sudden. Perhaps the patient is first seized at night, or fulminating symptoms set in after a twist or a fall, and the child continues to limp. But soon he takes to bed. Periodical exacerbations sometimes occur—there being but little pain or weakness in the limb before. Undue exertion or change of weather intensifies distress.

Rheumatism or traumatic arthritis may mimic genuine tubercular hip-joint disease. The

therapeutic test is diagnostic. Antirheumatic or antimalarial remedies will determine whether it is rheumatic or not; if simple traumatic inflammation, that will yield under the same principles of treatment as in other regions of the body. Such is not the history of tubercular coxitis—although we must not forget that spontaneous arrest may occur, as sometimes happens in tubercular infection of other organs. The stage of breaking down and suppuration of course establishes the diagnosis.

On examination, the knee is flexed, the calf muscles are contracted, with the heel raised, and the whole limb tends to eversion and abduction. Muscular rigidity at the hip-joint firmly fixes the head of the femur.

Muscular atrophy is conspicuous in all serious joint affections—casual inspection making it ever appear that the articular structures had undergone hypertrophy.

Widespread intumescence occurs in tissues overlapping the cervix-femoris. Anteriorly, immediately over the capsule, fullness and rigidity are often so marked that on rotary movement, the articular head will quite completely elude the sense of touch on deep pressure. The gluteo-femoral fold disappears, and, laterally, the trochanter major stands out unusually prominent. Spontaneous luxation of the femoral head sometimes results. Spinal curvature is an almost invariable consequence of the use of only the sound limb.

Persistent spasmodic rigidity of the joint—almost perfect immobilization—is a prominent characteristic of tubercular invasion—more or less pronounced even under pulmonary narcosis. Place the patient flat on his back on a table. On attempting to flex the thigh on the abdomen, the pelvis will rise and fall with each effort. Areas of hyperesthesia are especially variable; so that pain in itself is an unreliable guide.

Thus we will note as *diagnostic of tubercular hip-joint disease*:

1. Obliterated gluteo-femoral fold.
2. Permanent muscular atrophy.
3. Flexure of the hip, knee and foot.
4. Spontaneous luxation.
5. Curvature of the spine.
6. Persistent spasmodic rigidity of joint.

Book Notices.

Pneumonia and Pneumococcus Infections. By ROBERT B. PREBLE, A. B., M. D., Professor of Medicine, Northwestern University. *Illustrated.* Chicago: Cloyd J. Head & Co. 1905. Large 12mo. Pp. 211. Cloth. Price, \$1 net.

This is a timely book, embodying the most recent of practical facts about pneumonia which seems in many sections of the United States to be more prevalent than usual. While chapters on the various points, such as pathology, etiology, symptomatology, etc., are given, it is the general bedside clinical description of the disease and practical advice as to treatment that makes the book specially valuable to practitioners. While there is no index, the fulness of the table of contents makes amends.

How to Study Literature. By BENJAMIN A. HEYDRICK, A. B. (Harv.), Professor of English Literature, State Normal School, Millersville, Pa. *Third Edition, Revised and Enlarged.* Hinds, Noble & Eldredge, 31-35 W. 15th street, New York city. Cloth. 12mo. Pp. 151-vii. Price, 75 cents.

Such "a guide to the intensive study of literary masterpieces" should prove of interest to doctors as well as other persons of culture. It helps to facilitate the appreciative study of literature as literature. It tells how to read intelligently the standard works, and shows how the study of a few books may open the way to the appreciation of many. Analyses of quotations of all kinds of standard literature are made, and definitions of terms used by the literary student are given. It adds a list of recommended reading, which is very serviceable to one who seeks to pursue the study of English and American authors. The book may be read in a few hours, but it furnishes material for years of study.

In the Year 1800.—Vol. III of *The Doctor's Recreation Series.* Charles Wells Moulton, General Editor. By SAMUEL WALTER KELLEY, M. D. 1904. The Saalfeld Publishing Co., Chicago, Akron, O., New York. 8vo. Pp. 421. Gilt top, Cloth, \$2.50; half Morocco, \$4.

In the year 1800 is the title of the third book of twelve to be issued for the "Doctor's Recreation Series." It is the relation of sundry events occurring in the life of Dr. Jonathan Brush during that year, written by him-

Tears are the showers that fertilize the world.—Dean Ingelow.

self, the manuscript of which finally fell into the hands of Dr. S. W. Kelley, a well-known pediatrician of Cleveland of the present day. Dr. Kelley has acted solely in the role of editor in presenting this publication, supplying words, phrases, etc., that were illegible, and adding a few items where necessary. The book is undoubtedly an authentic narration of the times in which Dr. Brush lived. It is a most interesting manuscript, reading like a novel, making mention of well known historical events, personages, noting correspondence with such eminent medical men of that period as Dr. Rush, of Philadelphia, etc. We heartily commend this volume as both entertaining and instructive.

Editorial.

The Tri-State Medical Association of the Carolinas and Virginia

Will meet for its seventh annual session in Bembow Hotel at Greensboro, N. C., February 22-23, 1905. The subject for General Discussion will be "*Gall-Stones, Diagnosis, and How to Deal with Them Medically and Surgically.*" The leaders of the discussion will be Drs. George Ben. Johnston, Richmond, Va.; H. A. Royster, Raleigh, N. C., and Manning Simons, Charleston, S. C. The following have also promised papers: Drs. J. E. Stokes, Salisbury, N. C.; S. M. Crowell, Charlotte, N. C.; G. E. Chinn, Norfolk, Va.; Julian M. Robinson, Danville, Va.; Wm. Eggleston, Hartsville, S. C.; J. W. Jervy, Greenville, S. C.; W. L. Robinson, Danville, Va.; J. W. Long, Greensboro, N. C.; Edward McGuire, Richmond, Va.; R. W. Martin, Lynchburg, Va.; J. S. Irvin, Danville, Va.; H. A. Royster, Raleigh, N. C.; C. A. Julian, Thomasville, N. C.; J. T. J. Battle, Greensboro, N. C.; J. M. Baker, Tarboro, N. C.; Stuart McGuire, Richmond, Va.; Southgate Leigh, Norfolk, Va.; R. C. Bryan, Richmond, Va.; Isadore Schoyer, Laurens, S. C., and J. Shelton Horsley, Richmond, Va.

The Committee of Arrangements—consisting of Drs. J. W. Long, chairman, J. T. J. Battle, J. A. Turner, J. E. Brooks and C. S. Gilmer—has issued a circular letter stating that

the Tri-State Association will be the guest of the Guilford County Medical Society. This of itself should be sufficient guarantee of a most excellent session, or as the Secretary, Dr. Rolfe E. Hughes, of Laurens, S. C., puts it: "This is going to be a tremendous meeting." Reduced rates have been secured of the hotels, and the committee hopes to obtain like concessions of the various railroads. Preliminary programs went to press on the 25th of this month. Dr. Wm. L. Robinson, of Danville, Va., is President, and not Dr. Davis Furman, of Greenville, S. C., as was stated in the last issue of this journal. Dr. Furman was President the year before.

Birmingham Legislation for Consumptives.

In a recent letter from Dr. E. H. Sholl, of Birmingham, Ala., he says: "Here in this city we are thoroughly up to sanitation, and our County Board of Health recently passed an ordinance which we will enforce to require all cases of consumption to be reported to our Health Officer, name, color, location. This law is strictly enforced in only two other cities in the U. S., New York and Boston." The Doctor does not state what action is taken following such a report, though if nothing further was done than to bring to the public notice the prevalence of a disease with which so much can be done by prophylactic measures to limit its spread, it would at least start the people to thinking, and legislation would undoubtedly become just that much easier. Let several of the leading cities of other States follow the example set, and in time State laws will be secured for the wise control of this unrelenting and widely scattered disease—commonly known as the "Great White Plague."

A Glyco-Thymoline Substitutor Convicted.

On December 9, 1904, the police court of Toronto, Canada (*Can. Jour. Med. and Surg.*, January, 1905), registered conviction against Thos. Cruttenden, Jr., a druggist of that city, for infringement of the trade-mark of *Glyco-Thymoline*, owned by Kress & Owen, New York. Cruttenden had put up a preparation under the name of "Glyco-thymol" in bottles like those of Kress & Owen, and with labels worded identically as the New York house. Cruttenden, in addition to paying the fine imposed, promised to manufacture no more "glyco-thymol," and to

destroy all labels, bottles, etc., connected with its sale. Kress & Owen had every reason for prosecuting Cruttenden, as it was nothing short of dishonest, and contrary to law, for him to stoop to such practices. Kress & Owen, by ethical advertising to the profession, and expending about \$175,000 per annum, have secured a large demand for "Glyco-Thymoline," which has been found valuable in catarrhal conditions of the mucous membranes.

Richmond Roentgen Ray Society.

At a meeting of the X-ray operators of this city, in the offices of Dr. A. L. Gray, on January 17, 1905, the above mentioned society was organized, its object being for the study, practical application and advancement of the X-ray and its uses. A constitution and by-laws were adopted, and the following officers elected: President, Dr. E. G. Williams; First Vice-President, Dr. Stuart McGuire; Second Vice-President, Dr. F. H. Beadles; Secretary and Treasurer, Dr. A. L. Gray; Recorder, Dr. M. Benmosche.

The charter members of the Society are Drs. E. G. Williams, Stuart McGuire, A. L. Gray, A. E. Turman, W. L. Peple, W. H. Parker, Truman A. Parker, J. Allison Hodges, L. T. Price, J. M. Whitfield, Robert L. Kern, F. H. Beadles and M. Benmosche. Meetings will be held the first Tuesday in each month at the offices of one of the members.

The Virginia State Board of Health

Will have its next annual meeting at the Jefferson Hotel, Richmond, Va., January 31, 1905, at 8 P. M., instead of on January 26th, as was at first scheduled. This is the first meeting of the new Board lately appointed by the Governor. Dr. Rawley W. Martin, of Lynchburg, is President, and Dr. Paulus A. Irving, of Richmond, is Secretary.

Obituary Record.

Dr. Cyrus McCormick,

After an illness of several months, died at his home at Berryville, Va., on January 12, 1905,

aged fifty-nine years. His wife, with a son and daughter survive him. He graduated from the University of Maryland in 1868, since which time he practiced medicine in Clarke county, in which section he was regarded as a leading physician. He joined the Medical Society of Virginia in 1894, and attended several of its sessions.

Dr. Thomas P. Mathews

Died at his home in Manchester, Va., January 12, 1905. He was born in Appomattox county, Va., August 27, 1835, and was, therefore, at the time of his death rounding up the allotted three-score and ten years of age. After graduating from the Virginia Military Institute he studied medicine at the Medical College of Virginia and Jefferson Medical College, from both of which institutions he received degrees. He first practiced at Pamplin City, but in 1875 removed to Manchester, where he has lived continuously since. He has been a member of the Medical Society of Virginia since 1878. When the Civil War began he organized a military company in Appomattox county, known as Company F, of the Eighteenth Virginia Regiment, and was chosen captain. Later he was appointed surgeon on the staff of General A. P. Hill, and served until the death of that General. He was wounded three times.

Dr. Mathews was a member of the board of trustees of the Medical College of Virginia, and of the Woman's College, Richmond, Va. He was also a member of the Foreign Mission Board of the Southern Baptist Convention. His life was full of activity as a physician and worthy of emulation in the considerable amount of Church work that he did. A wife, two daughters, and four sons—among whom is Dr. Wm. P. Mathews, of this city—survive him.

Dr. John Wiley Young,

Of Kinsale, Westmoreland county, Va., died at Bellevue Hospital, New York city, January 19, 1905, as the result of injuries received from falling on the ice several weeks previously. He had gone to New York to take a special course in medicine. Dr. Young graduated from the University College of Medicine in 1901, passed the Medical Examining Board that summer, and joined the Medical Society of Virginia at its last session in Richmond.

THE Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

Vol. 9, No. 21.
Whole No. 213.

RICHMOND, VA., FEBRUARY 10, 1905.

\$2.00 a Year.
10 Cents a Copy.

Original Communications.

CASE NOTES—DISEASES OF THE EYE, EAR, THROAT AND NOSE.

- I.—*Note on Pollantin.*
- II.—*Common Wood Tick Attached to the Membrana Tympani.*
- III.—*A Note on the Examination of the Secretions from Ulcerations Suspected of Being Tubercular.*
- IV.—*A Case of Apparently Primary Tuberculosis of the Fauces—Care—Treatment.*
- V.—*A Case in which Shrapnell's Membrane Could Be Seen to Bulge Outwards with Each Normal Expiration and Retract with Each Inspiration.*

By JOHN DUNN, M. D., Richmond, Va.

Professor of Diseases of Ear, Throat and Nose, and Associate Professor of Diseases of the Eye, University College of Medicine, Richmond, etc.

NOTE 10. *Notes on Pollantin.*

Prof. Dunbar's account of the series of experiments which resulted in the discovery in the gramineæ pollen of an albuminous substance poisonous to hay fever patients is most interesting, turning, as it does, one of the pages in the book of exact chemical analysis to show us another illustrated by the never-lapsing steel in nature's hand. The importance of this discovery in the treatment of hay fever is not yet determined. The object of this note is not to review Dr. Dunbar's work, which appears to be a beautiful example of the results of exactness and patience, nor is it to affirm or deny the claims for the therapeutic value of pollantin; it is merely to report the results obtained from the use of Prof. Dunbar's preparation in six cases of hay fever. A considerable supply of pollantin, both serum and powder, was placed at my disposal for experimental purposes.

In only one of these six cases did the turbinated membranes show any polypoid degeneration. None of the patients upon whom pollan-

tin was tried came to me before the hay fever season began; so in none of my cases had the mucous membranes of the nose or eyes been fortified by the daily use of this agent against the pollen poison.

My first case was that of Mr. L., aged 42. He used both serum and powder—used them intelligently and abundantly, and for a considerable length of time. He received nothing whatever in the way of benefit. Applying the powder plentifully to both sides of the nose before arising in the morning and continuing its use throughout the day in no way served to render his sufferings more bearable; it seemed is no way to lessen the discharge or the intense irritation accompanying it. The effect of the the pollantin, if it had any, seemed to be far inferior to that of many other local applications. Indeed, he wondered whether the use of the pollantin was not in a measure responsible for the severity of the worst attack of hay fever he had ever had.

The second case was that of Mrs. C., whom in previous years I had been able to relieve rather promptly by internal medication and treatment of the nose. After using the pollantin powder freely for one whole day and finding from its use not the slightest relief in the severe attack then present, she refused to continue it, saying a bottle of Mellin's Food would have done as much good.

Case 3 was that of Mr. E. He at first thought the pollantin lessened to some extent the irritation accompanying his hay fever. After he had been using this remedy for several days I met him one afternoon returning home from his place of business. The pollantin tube was in his vest pocket. In one hand was a huge handkerchief, which he was applying vigorously to his nose. In the other hand was a bottle of Crown Lavender Salts. Both eyes were red and running. The amount of benefit he had received was apparent! After trying pollantin for several days he would not even send

his boy to my office to get it, although it was being supplied to him without cost.

Case 4.—Miss H., aged 23, vernal hay fever. Free use of pollantin, powder and serum, in no way lessened the swelling of the turbinates, or the discharge, or the itching.

Case 5.—Mr. P. thought its use had done him "some good," but although a great sufferer he did not find the relief sufficient for him to be willing to pay for another tube. He was a man of considerable means.

Case 6.—Mrs. R. found pollantin to be entirely without appreciable beneficial effect and quit its use after two or three days.

Such has been my experience with the use of pollantin. Whether its daily application to the nasal and ocular mucous membranes for a week or two before the hay fever season begins would render its use during the season more efficacious I do not know. I do not believe that it would. The price of the product is considerable, and yet the average sufferer from hay fever would not hesitate to purchase it if the claims made for it can be substantiated. In not one of the six cases where the pollantin was used after the hay fever season had set in could there be demonstrated even the slightest beneficial effect; nor did its use at night before retiring and again before rising in the morning seem in any way to lessen the attack coming on later in the day.

I can as yet see no escape from the belief that internal disturbances of the normal processes of tissue metabolism are, in the production of hay fever, a far more potent cause than any external irritant, however much external irritants may be responsible for the continuance and severity of the attack. It is, however, not the purpose of this note to discuss the nature of hay fever, but merely to report my experiences with the use of Pollantin, which I regret do not lead me to believe the enthusiastic claims made for it by some who have used it.

Perhaps the first question which arises when a new local remedy for hay fever is brought to the attention of the medical world is: How is it to be applied? Of the innumerable preparations which have found their way into use none with which I am acquainted are apparently so boldly incapable of accomplishing the desired result as pollantin powder and serum. If hay fever be the result of the impact in the mucous membrane of a pollen containing an albumi-

nous poison, then it is rational to suppose that this poison acts by contact and at the point where contact takes place. The pollen reaches the nose and post-nasal spaces with the inspired air and is naturally distributed over a generous proportion of their mucous membranes. How two or three drops of pollantin serum drawn along the floor of the nose is to combat the pollen poison along the roof and sides of the nose it is hard to see. The nose is intolerant of the presence of any powder on its mucous membrane and does its best to dislodge it; to this the pollantin powder, the greater part of which is distributed from its quill receptacle to the anterior part of the nasal cavity, is no exception. Again, the pollen is being constantly drawn into the nose during the hay fever season; the pollantin serum or powder are used only infrequently. If the pollantin acts not by destroying the activity of the albuminous poison by contact with it and the production of chemical changes, then, if it have any effect, we should expect it to be in one of two ways—either by so changing the surface of the mucous membranes as to render them insensitive to the action of the pollen poison, or act by the systemic effects of absorption. If the former, then we should surely expect results from its use even though the hay fever season had begun; if the latter, then the hypodermic syringe, or the mouth, and not the nose and ocular conjunctiva, are the proper channels of administration.

In considering the value of Professor Dunbar's preparation and the claims made for it we must bear in mind that the albuminous poison was found only in the pollen of certain grasses and in the pollen of lilies-of-the-valley—a specific poison for which Professor Dunbar set out to find a specific antitoxin. We must then be prepared to expect that this antitoxin might not prove efficacious against the pollen poisons of other species of plant life. So far as I know in America no series of experiments similar to those of Professor Dunbar have been undertaken, viz.: to determine the nature of the poison in plants here supposed to be hay fever active. It is, of course, possible that the pollen poison of American plants may differ from those examined by Professor Dunbar. If so, we need not expect his antitoxin to be of value in American hay fever cases.

Again, the term hay fever has been and re-

mains very elastic and embraces not only the cases whose symptoms are confined to fairly definite periods of the year, but also cases such as the following, where during the hay fever season the sufferers seem to have true hay fever, but in whom, under certain conditions, all the symptoms of a hay fever attack can be brought on at any time, and in whom further, the attacks occurring during the hay fever season can be greatly increased in severity by super-adding the conditions which bring on the attack out of season.

Let us take the following examples: Case 11. I have seen in the hay fever season in one patient a violent attack of so-called hay fever, lasting for hours, follow immediately the ingestion of a glass of vin ordinaire.* In the same patient during other seasons of the year a glass of wine produces nearly always a mild diarrhœa. Case 12—In another patient the use of vinegar on any article of food would immediately bring on an attack of "hay fever," causing the nose to swell, itch and run water for hours; the attack ending in a distressing shortness of breath. Case 13—Another patient could use no soap in washing her face, for as soon as the lather reached the region of her nose she had hay fever for hours. Case 14—In another hay fever patient, a countryman, violent attacks of hay fever almost invariably followed a drive behind or the currying of a horse.

The therapeutic value of Professor Dunbar's pollantin has for American hay fever patients not been definitely ascertained—the definite indications for its use have not been pointed out. In the six cases I have reported—five of them pure forms of autumnal hay fever—one a pure form of vernal hay fever—pollantin used after the hay fever season set in proved to have no demonstrable therapeutic value whatever.

CASE 15. *In which a Common Wood Tick Entered the External Auditory Canal and Attached Itself to the Drum Membrane, Where it Remained Nearly Three Days.*

On the evening of August 6th, 1904, Mr. M., while in the country, felt something "got into" his left ear. On August 9th he came for examination. He had suffered no pain, but was conscious of something in the ear which, at times, "caused a fluttering." Examination of the ex-

ternal auditory canal revealed, attached to the upper posterior part of the drum membrane, a common wood tick, comfortably full of blood. It was seized with a pair of forceps and pulled away, bringing with it a small oval piece of the drum membrane. There was no after trouble.

The case is reported not only as a medical curiosity, but because it shows that the wood tick can attach itself to so sensitive a tissue as the tympanic membrane without causing even the slightest pain. The disagreeable sensations experienced by the patient were due, in all likelihood, to the movements of the tick's legs over the drum membrane.

NOTE 16. *Note on the Examination of the Secretions from Mucous Ulcerated Surfaces Suspected of Being Tuberculous.*

No matter how well trained the eye, from time to time ulcerations of the pharyngeal region are seen, where the diagnosis between syphilis and tuberculosis cannot be made positively without the aid of the microscope, and where the microscopist, obtaining the specimen by the usual method, viz.: from the sputum or by swabbing off the ulcerated surface, can only say, "This specimen contains no tubercular bacilli." The following two cases, under care at the same time, serve to exemplify this:

The first case, Miss A., presented ulcerations of both tonsils, of the epiglottis and of the false cords. Most aspects of the case so closely resembled tuberculosis that this diagnosis was made and the patient treated accordingly. Examination of the lungs, however, revealed no definite lesion. Absence of pallor in the palatal region, absence of the characteristic œdema of the arytenoids, the character of the ulcerations on the epiglottis—and here the process had destroyed a large V-shaped area centrally along its free margin—the slight amount of the secretion, the slight expectoration, the slow progress of the disease, which had existed for months before the patient came under observation—these things taken together left a doubt in my mind as to whether or not the case was one of simple tubercular process, especially inasmuch as repeated examinations of both sputum and swabbings from the ulcerated surfaces failed to reveal the existence of a single tubercular bacillus. As a result of these failures on the part of the microscope the patient was put upon specific treatment, local applications being in the meanwhile continued.

*In the same patient during other seasons of the year a glass of wine produces nearly always a mild diarrhœa.

While this case was under observation I had occasion to see Miss L., aged 19. This young lady had been suffering for some months with her throat and had received at the hands of several physicians different treatments. Only four days before Miss L. came under my care she had visited a specialist who had pronounced her case one of pharyngeal tuberculosis and had burned with the electric cautery the ulcerations in the soft palate. The day following she had consulted a second specialist, who had pronounced the case one of gummatous ulcerations of the pharynx, in part probably basing his diagnosis on the fact that no tubercular bacilli were found to be present in the sputum which he had had examined. Two days later I examined her throat. The soft palate presented on its anterior surface an ulcerated area as large as a ten-cent piece. This ulceration was deepest centrally; the outlines were irregular; it lay over deeply infiltrated tissues. Surrounding the ulcer were several shallow ulcerated spots varying in size from one to five m. m. in diameter; the smallest seemed to lie just beneath the mucous membrane. These were covered with a thin, whitish exudate. The main body of the ulcer was covered with a dirty whitish secretion. The uvula was intensely congested, and the seat before and behind, of several shallow small ulcerated spots each was covered with a thin, white exudate or secretion. The posterior pillar of the fauces on the left side was, like the uvula, intensely red and infiltrated. The left side of the nose was filled with a watery mucus, the inferior turbinate being much swollen. No evidences of any infiltration of the septum or turbinates could be made out, the intranasal conditions being due to the infiltration and ulcerations of the soft palate. The upper portion of the right lung gave possibly some roughened breathing, but I could find nothing more definite. The examination of the sputum and swabbings from the ulcerated surfaces revealed the presence of nothing save the microscopic organisms found commonly in the oral cavity. On the following day the secretion from the ulcers, both of the palate and posterior pillar, were collected by swabbing them off with cotton on a probe and examined, the microscope failing again to reveal the presence of tubercular bacilli. On the third day I carefully swabbed the secretion from the ulcerated surface and with a blunt curette scraped off

some superficial tissue, which was examined as the other specimens had been. This time tubercular bacilli were found in great numbers. I was able to count as many as a hundred in one field. On the same day I obtained in the above manner scrapings from the tonsils of Miss A. Here, again, numerous tubercular bacilli were found. Within three days I had opportunity to examine a specimen of sputum from a case of advanced laryngeal tuberculosis, and here, too, while innumerable other micro-organisms were seen, not one tubercle bacillus could I find, although I looked carefully through two slides.

The most striking point of the above cases is the long and well known fact that the failure to find tubercle bacilli by the microscope in the sputum or the swabbing of the ulcerated mucous surfaces, even after repeated examinations, does not preclude the possibility of the disease being tubercular. *The point I wish to make is, that the proper way to obtain for examination specimens of ulcerated areas on any mucous membrane whenever it can be done is as indicated above—viz., wipe off carefully all secretion until the surface is as dry as possible, and then with a blunt curette scrape away some of the ulcerated tissue.* By so doing we shall greatly increase the value of the microscope findings.

Miss A. has since died of tuberculosis. Miss L., whom I saw last in August, 1904—nearly two years later—had not had the slightest evidence of a return of the faucial tuberculosis. She has since enjoyed excellent health and examination of the lungs lately revealed nothing more definite than was present at the time of the first examination. The method of treatment is mentioned in the following note:

CASE 17. *A Case of Apparently Primary Tubercular Ulcerations of the Fauces—Care—Treatment.*

It has been my fortune to see a considerable number of cases of laryngeal, but only a very few cases of faucial tuberculosis; and these few, save the one to be reported, were coexistent with such extensive pulmonary involvement that nothing in the way of a cure was to be expected from any method of treatment.

A description of the appearances present in the case of Miss L. is given in case just reported.

Apparently we had to do with a case of primary tuberculosis of the fauces, for there were

present no demonstrable pulmonary lesions or tubercular lesions elsewhere in the body, such as enlarged cervical glands, mesenteric disturbances, etc. There was no cough, no expectoration after the ulcerations had healed, nor had any developed nearly two years later. The treatment consisted in the application twice daily of pure carbolic acid, followed immediately by applications of alcohol and then of olive oil.

CASE 18. *A Case in which Schrapnell's Membrane Could be Seen to Bulge Out with Each Normal Expiration and Retract with Each Inspiration.*

One of the well known ways of determining the patency of the Eustachian tubes and at the same time of watching the movement of the tympanic membrane is to throw on the drum through a speculum a good light, and then get the patient to make the Valsalvan experiment. The bulging of the drum and the changes in its outward contour, in part or whole, often give much valuable information in regard to its condition. These movements of the drum are the result of forcible driving of the air into the drum cavity.

Mr. L., aged 45, came for treatment because of an annoying tinnitus in his left ear. While examining the appearance of the drum Schrapnell's membrane was seen to gradually bulge outward into the canal and assume the appearance of a small transparent bladder. It remained distended only a moment and then was seen to gradually collapse. After remaining in this collapsed state for a moment it was seen to again become distended. Examination revealed the fact that the distension and retraction were the result of the expiratory and inspiratory acts. There were no evidences of acute irritation of the drum. The post-nasal space was apparently normal, although Mr. L. claimed that he had some head cold. The patient remained under treatment about a week, during all of which time the phenomenon above described remained. Mr. L.'s nasal cavities were the seat of a moderately severe hypertrophic rhinitis.

In this case Schrapnell's membrane was abnormally thin and elastic. The undue patency of the tubes was probably owing to the "head cold." The case suggests that the aeration of the middle ear cavities may be more carefully

regulated by the normal inspiratory and expiratory acts than is generally recognized.

314 East Franklin St.

A PLEA FOR THE CLINICAL STUDY OF PSYCHIATRY.*

By EDWARD N. BRUSH, M. D., Towson, Md.,

Physician in Chief and Superintendent Sheppard and Enoch Pratt Hospital, etc.; Invited Guest of Medical Society of Virginia.

To make a plea for the clinical study of insanity should be as unnecessary as to make a suggestion that in the wards of a hospital or in general practice the evidences of a careful physical examination of each patient, after the most approved methods of modern scientific medicine, should be the guide in diagnosis. The teachings of common sense show us that in insanity, as in all other conditions coming under medical care, these things should be done. It was Victor Hugo, I believe, who said common sense is a very uncommon *thing*; he might have well put it, common sense is a very uncommon *sense*.

We in psychiatry have hardly thrown off the trammels of the bad teaching and worse practice of the ages. We have neither in our terminology nor in our clinical work wholly escaped from the unfortunate and hampering influences of metaphysical speculation. We have been too content with scholastic reasoning upon the nature of things and the phenomena of nature or mind rather than busying ourselves with a painstaking and accurate analysis of the nature and cause of phenomena based upon a careful record and analysis of all the observable details of these phenomena, be they mental or material.

Griesinger, whose lectures on psychiatry, whose writings in the journal which he established in 1868, the *Archiv fur Psychiatrie*, which still continues, and more especially in his work on *Insanity*, was the apostle and prophet of the new psychiatry which has made German schools and clinics famous. Griesinger's teachings and example did not readily find accept-

* Read before the Medical Society of Virginia at its thirty-fifth annual meeting, at Richmond, October 18-21, 1904.

ance in Germany or elsewhere. He was derided and his views scoffed at, but this did not deter him from his purpose, nor did it lessen the force and vigor of his words, but the contrary. Eventually those who went to scoff at his teachings remained to learn, and the psychiatric clinic at Berlin became the centre of attraction to students. His work on insanity was translated into English, and found among a few in England and this country ready acceptance.

In England and in America, however, the painstaking clinical methods characteristic of the Berlin clinic and of others which have since sprung up in Germany did not find ready imitation. To our disgrace be it said that those who were engaged in the care of the insane permitted their brethren who were working in general hospitals to far outrun them in carrying forward the standard of general medicine and surgery. While this country has supported since 1844 a quarterly journal devoted to insanity, its pages, until recently, were too often filled with discussions upon the details of hospital construction and management, the questions of public policy in the care of the insane, the report of important medico-legal cases, and the occasional recital of clinical cases, in which the histories were badly taken and the clinical details lacking in essential features. The material contained in the journal to which I have referred was much of it of importance and value, and should not have been neglected, but these could have been published without the loss of the more weighty and important articles comprising the notes of carefully studied cases had such notes been available.

Unfortunately, as I have pointed out, under the influence of the metaphysical or philosophical teachings of the day, which regarded mental phenomena as entities to be made the subject of contemplation and discussion rather than careful analysis, as the result of antecedent physical phenomena, psychiatry in its struggle to keep pace with other departments of medicine has been terribly handicapped. In consequence, too many physicians have turned from its study in disgust to follow more inviting paths.

Our conceptions of insanity have too often been of a kind which led many to look upon the symptom as the disease. Imagine a general clinician lecturing to his class upon fever, I mean now the mere symptoms of elevation of

temperature, and giving his students a classification of disease based upon the number of degrees this or that fever rose above the normal; and yet that is what has been done, and is what is still being done in psychiatry; and we talk of melancholia or depression and mania or excitement and dementia, or loss of diminution of mental power, as if these were the all-important points. Then in some minds there still remain the old teachings which divided the mind up into a certain number of rooms and put the will in one, the emotions in another, the judgment in another, and so on, and we are told of emotional insanity and intellectual insanity (whatever that may be), and last, and by no means the least common, religious insanity, and moral insanity.

Insanity is, after all, in its various manifestations, but a symptom, and as a symptom should be studied, analyzed and interpreted just as other symptoms are.

The majority of the insane in this country, as elsewhere, are cared for at public expense, in hospitals founded and maintained by States or municipalities. This is necessarily so, for the reason that no condition so decidedly demands special care and special means for applying that care, and no condition resulting from disease is so crippling to the wage-earning capacity, and consequently more pauperizing.

Unfortunately resulting from this condition in too many of our States, the control of hospitals or asylums for the insane has been under political power, the means for their maintenance too often regulated and sometimes expended by favorites of those in political power. Where this has not been true, and I am happy to say that it has not always been true, the applications of those in direct charge of the institutions, for better buildings, more and better paid nurses, improved and more liberal dietary, enlarged medical staffs, books, instruments, apparatus, and what not, have of necessity been made to legislative bodies ignorant of the true necessities of the situation or indifferent to the appeals of those in responsible charge.

With such conditions, what could be expected, what has resulted? The insane have been housed, cared for as well as circumstances would permit, and their physical ills ministered to as far as they have been observed or understood.

The vast majority of our hospital physicians

have entered upon the work with absolutely no training in psychiatry or neurology, but in that respect, as far as psychiatry at least is concerned, they have been no worse off than ninety-nine one-hundredths of my audience to-day. How many of you ever heard a course of lectures on insanity or attended a series of clinics in psychiatry? And yet you have these unfortunates in your care before they are sent to the hospitals; you see the early and recoverable stages of the malady; you must decide as to the wisdom and safety of home care or the necessity of sequestration.

Once a member of a hospital staff engaged in the care of the insane, the ordinary course of events for the young physician is to be left to work out his own salvation. His chief and the senior assistants go through the wards with him in the ordinary routine of hospital service, and he hears that this case is one of melancholia, that one of mania, the other has that interesting but fatal disease, paresis.

He has few books in the hospital library, and fewer of the special journals of neurology and psychiatry to consult, and no one sufficiently interested or at leisure to direct his reading or instruct him in methods of examination and diagnosis. In consequence he soon falls into a rut, content with doing his daily round of duty, satisfied if his patients sleep and eat well, and in certain proportion of cases recover.

I am not criticising these men; I am criticising the community—be it here or elsewhere—which holds out to them so few inducements for better work, which takes no pains to arouse in them an ambition to do something for scientific medicine. What can be expected when four to five men have to look after eleven or twelve hundred patients? How many minutes, much less hours, can they spend in a critical examination of a case; how full and valuable, think you, are the notes which they can make of the physical symptoms and mental manifestations in each case, as these vary from day to day?

They do these things better in France; they do them very much better in Germany, with the recent completion of the clinic at Munich. Every university town in Germany has a psychiatric clinic of from eighty to two hundred beds. These clinics are in charge of men of scientific training, and in most instances scientific enthusiasm.

I have referred to the work and teachings of

Griesinger. His pupils, Westphal, Meynert, Gudden, Mendel, Jolly and others, carried on the work after his untimely death, and for some years Germany has been the Mecca of those ambitious to study psychiatry. Within a little more than two decades two men, Wernicke and Kræpelin, have by their work given an impetus to work in clinical psychiatry which is being felt all over the medical world.

It is of the work of the second of the two, Kræpelin, that I wish to speak briefly. A pupil of Wundt, he was well trained in the newer psychology, and soon adapted its methods to the study of psychiatry. He early pointed out that what was necessary in the study of all forms of insanity was to investigate their origin or evolution, to follow their course, and to observe their outcome. Remember, please, these terms—origin, course, outcome.

By this method it soon became easy to demonstrate that essential differences exist between cases which have hitherto been regarded as identical, and that conditions which to a hasty inspection appear diametrically opposite are in their origin, course and outcome the same, and are really one psychosis.

For a long time cases of so-called mania or of melancholia have been recorded which terminated in dementia or mental weakness, and there has been and is still recognized by many a terminal dementia. A careful study of a long series of such cases has shown that they have certain striking similarities, that the etiology of a large proportion of them is essentially the same, the methods of mental and physical activity or excitement are similar; that in some there are certain physical phenomena, katatonic or stereotyped in character; that in others there are symptoms resembling paranoia, but unlike true paranoia terminating rapidly in dementia; and we are able to take out the group of acute manias or melancholias, a distinct type of cases called dementia præcox, of which, as the course and outcome of the cases constituting it, we are able to speak with a certain degree of positiveness.

The constant recurrence of attack of excitement or depression in the same patient has attracted attention for years, and has been the cause of casting doubt upon the occurrence of actual recovery from insanity. Here clinical investigation has again enabled us to point out another group, the maniac-depressive, of which

we are also able to speak as to the course and outcome with a fair amount of positiveness.

Concerning paranoia, we are by reason of more careful study of alleged cases rapidly coming to the conclusion that it is a much more rare condition than has been supposed.

I might refer, did time permit or your patience warrant, to certain forms clearly due to toxic conditions, to myxœdematous insanity, which yields so readily to thyroid medication, to paresis, but I am constrained to bring these somewhat discursive remarks to a close, content if I have aroused sufficient interest to cause some of my hearers to look into what is being done and what remains to be done in the clinical study of psychiatry.

We have seen that thus far we have been able to isolate certain fairly well defined groups of mental disturbance of whose origin we have a fairly definite conception, whose course is well defined, and whose outcome we can predict with a certain degree of positiveness.

When shall we be able to think of those conditions not in terms expressed by their symptoms, but as definite pathological states? Of paresis we are already beginning to think in that way. The old classical conception is passing away, and when one now speaks of the disease he has in mind the entire symptom complex with its pathological basis.

When the psychiatric physician is a well trained clinician and has a conception of psychology based not on speculation, but upon studies in physiological psychology—for psychology and anatomy is the basis of all true psychology—then, and not until then, may we hope for clinical studies in psychiatry which shall be worthy the name; and these made, we shall be on the high road to the goal of established pathology of insanity, and then it will be found that psychiatry is, after all, general medicine in its highest application and best conception.

DISCUSSION.

Honorary Fellow Dr. Robert J. Preston, Marion, Va.: I wish to thank Dr. Brush and to express my appreciation of the paper just presented. It is a subject too seldom presented to the general profession, and it is a subject which the general profession too often ignore and get away from in the best way they can. From my own experience as a general practitioner for fifteen years before I came in charge of one of

these hospitals, I felt as I think the general practitioner feels, that when they are called in to see one of these cases their first idea is to get rid of it as soon as possible. There are many reasons for this. One very important one is the difficulty of treating such cases in private houses. I am very glad that Dr. Brush has presented this subject, and there are one or two points which I wish he had brought out more fully. One especially is how little attention is given to this subject in medical schools. Our medical schools here in Richmond should give more attention to it, and the nearness to Williamsburg would furnish abundant clinical material. In the same way, the University could make use of the asylum at Staunton. I am glad to hear that other States are making efforts along this line, and I hope we shall often have the pleasure of hearing papers on this subject by such men as Dr. Brush and others who are so situated as to be able to do so.

Honorary Fellow Dr. George Tucker Harrison, New York, N. Y.: Just one question. Dr. Brush has thrown overboard our old word paranoia. I would like to know what he is going to give us in the place of it.

Dr. E. T. Brady, Abingdon, Va., emphasized the importance of being on the lookout for weak points in patients that would be liable to cause them to get off balance. He said in part: "I think we physicians often neglect until too late tendencies that often lead to insanity, but which if treated in time would save the patient. After they become insane it is too late then to do anything for them. But there are many tendencies which, if exaggerated, may terminate in insanity. For instance, all of us have among our clientele young men of the presumably highly conscientious sort who, in order to satisfy the cravings of nature, resort to masturbation. Fortunately the terrors of masturbation have been exaggerated. I have within the last four months (?) seen reported (?) three cases of attempted suicide—all young married men, who, probably thinking they were incapable of performing the marital right and had betrayed the women they had married, found death preferable to life under such conditions. Here is where the family physician should get in good work by advising young men of the evils of masturbation, quieting the minds of the excessively nervous young married men by telling them just to wait a few days and they will be all

right, encouraging those of a peculiarly melancholic temperament—in short, by being on the watch for and counteracting these tendencies to insanity. It is our duty whether we are asked to do so or not.

Dr. Brush, in closing the discussion, said that he desired to express his thanks for the very kind way in which his remarks had been received. In answering the question of *Dr. Harrison*, he would say that he was not inclined to entirely throw over the term paranoia, but to limit its application to those cases of slow developing insanity originating commonly in ideas of persecution with a gradually evolved set of systematized delusions. The condition was one essentially chronic in form, but rarely resulting in marked mental deterioration until years have passed. It has become too common, he said, to apply the term paranoia to all forms of insanity with ideas of persecution associated with delusions of changed personality. It would be found, however, that these symptoms were observed in a form of dementia præcox, to which the term dementia præcox paranoides had been applied; that the essential difference between this form of insanity and true paranoia was that the paranoid form of dementia præcox shows rather rapid mental deterioration. It was, however, from this form of disease that the cases were drawn, in many instances, who committed overt acts of violence, sometimes due to their delusions, sometimes not readily traced to their delusions, but apparently the outcome of impulsive tendencies incident to this form of dementia.

He agreed fully with what *Dr. Preston* had said as regards the crying necessity for more and better instruction in psychiatry in our medical schools, and pointed out again the fact to which he had briefly alluded in his paper, that in Germany at present there were psychiatric clinics in every university town, and that instruction in psychiatry, both by didactic lectures, and, what was of much more importance, by clinical teaching, was part of the regular medical curriculum. There were few schools, he said, in America where any attention was paid to instruction in psychiatry, and comparatively few institutions for the insane where young men could be received as internes as in general hospitals for a period of sufficient length to give them instruction in the care and treatment of the insane and opportunity for laboratory work,

both clinical and pathological, such as was now given in the best general hospitals. He was very glad of the suggestion made by *Dr. Preston* of the opportunities afforded by the State hospitals of Virginia for this kind of work, and hoped that the profession, as well as the lawmakers of the State, would realize not only the importance, but the absolute necessity of affording means in these large institutions for clinical study and teaching. He felt that the medical officers of these hospitals would gladly welcome an opportunity, as would also those further removed from the centres of medical teaching, for receiving into their wards a limited number of graduates in medicine for a year or more at a time who desired to avail themselves of the opportunities which these institutions would afford for clinical investigation in psychiatry.

MEDICAL SUPERVISION OF MATRIMONY.*

By A. B. GREINER, M. D., Rural Retreat, Va.

Before entering into discussion of this important subject let me observe here that I am fully aware that some of the utterances which are to follow may not be thoroughly in accord with the ideas of every one of the profession regarding medicine and matrimony, and certainly not in harmony with the views entertained by many intelligent people outside of the profession. On no subject, perhaps, can the ideas of people be more accurately judged than by their actions, or else sentiment effectually pulls over their eyes the hood of disregard. Medical supervision of matrimony theoretically is not an old idea, and practically is a new one, an idea that has not yet attracted in any quarter the attention it merits.

Just five years ago, as far as can be determined, the subject was for the first time considered in a serious way, and then by one only of the States of the American union through its Legislature in official capacity. In the same year a health officer of another State recommended such a measure, but the storm of unfavorable comment defeated the suggestion before it could be discussed and acted upon in an

*Read before the Southwest Virginia Medical Society at Bristol, Va.-Tenn., January 17-18, 1904.

impartial way. Since that time several medical bodies and a few of the States have been agitating the subject; the medical bodies by recommending useful measures, and the State legislatures by passing acts designed to a greater or less degree to control marriage and place it under medical supervision. In the past, few have written upon this subject, I suppose because of the futility of such writing and the thought that the people were not yet prepared for an unprejudiced discussion of it, much less show a submissive spirit to legal enactment. This conjectured opposition to the medical control of marriage has been demonstrated by the opposition stirred up wherever the idea has been advanced.

When in matrimony's mad rush we stop long enough to reflect, we can call to mind a great many diseased individuals who have been permitted to marry and bring forth children which are likewise diseased, and it may be incurably so.

Before there was felt the importance of the prevention of diseases medical men were content to cure them after they had appeared, provided they were curable. But we must ever keep in mind that there are certain mental or physical disorders not amenable to treatment and that are caused by errors in matrimony.

But prophylaxis dates back to the thirteenth century, and during all the intervening centuries no decided effort has been made by which to control diseases and improve the race by controlling marriage. No doubt prophylaxis in all essential known details properly carried out would revolutionize the practice of medicine in the future. Of a necessity the practice of preventive medicine in such a manner would diminish the amount of sickness and debility among the people, and I know of no more important preventive measure than the one under discussion. The laws that have been enacted have not been in force long enough for us to judge accurately what will be the outcome. The people seem disposed to place no obstacle in the way of affection and sentiment, and that is just the reason why such a measure has been so violently opposed. They do not, in many instances, seem to consider that a transmissible disease or imbecility are foundation sufficient for the refusal of a marriage license; naturally so, for the public mind has not been made to comprehend the real gravity of the situation.

The opinion of the family physician is usually accepted without the least hesitation as final when his judgment is given relative to other matters of health, but I have known such an opinion to be rejected when given about marriage, over which sentiment still exercises supreme control; and the only reason given was that no dire results were in sight and that nothing should interfere with sentiment as the guiding star. Whenever there is no serious physical infirmity to interfere let sentiment still control, for such is eminently proper, but on account of its proverbial blindness let it be restrained for the good of posterity.

A great deal of future happiness and prosperity depends upon the health of those who may then be living and able to contribute to the general well being; but you can plainly see that if indiscriminate marriage of those who have hereditary diseases is permitted to continue unchecked, there is little hope of an ideal healthy community. No race, country or community can, in the true sense of the word, prosper when affliction stamps its individuals. Just in this connection it would not be amiss for us to remember that affliction according to divine revelation may be visited upon offspring unto the third and fourth generations. Every one is sufficiently familiar with instances where just such has occurred, and our scientific deductions in medicine lead us to believe that the like is apt to occur *ad infinitum* so long as no united effort is made to curtail it.

The wisdom of measures to control the marriage of diseased persons cannot be doubted when we look at it from a medical point of view, but blinded sentiment is already endeavoring to annul those measures that have been legalized; and unless all communities and States can and will work in perfect harmony to make legal such provisions, we cannot ever hope to accomplish the most good that would undoubtedly arise from such enactments. So far, in America such few States have made legal such provisions that it causes the law to be of little or no avail. I speak of the necessity of preventive measures being legalized because no matter how desirable it is for marriage to be controlled by medicine, the people will not submit, and therefore the necessity of law. People who desire to marry solely on account of sentiment, and whose physical condition really renders them unfit, do not stop to consider their

own health nor do they display any great amount of regard for their probable progeny. Such people in a State where preventive measures are in operation will be declared physically unfit to be legally and morally joined together. All that is now necessary to be done, and no second thought is required in the mind of even the dullest, is to travel from one State to another until some State is entered whose inhabitants have not been aroused to the importance of restriction in such matters, will there be joined together according to law, although there are staring them in the face all the possible dire results of such union.

If, then, such measures are to be made effective they should prevail everywhere. Some writer has said that the marriage of the insane, of idiots and degenerates is but slightly impeded in spite of laws enacted in many countries to govern such cases, largely through the inability of priests and magistrates to determine the mental condition of candidates for wedlock. Surely if such decisions are to be left to the clergy and to magistrates we can understand why inadvisable marriages have not been impeded, not because these men are not capable of judging wisely, but that they are not proficient in matters pertaining to medicine. A commission composed of intelligent, conscientious, non-partisan physicians should render the verdict, and a decision thus carefully rendered should not be subject to appeal. Necessarily the commission should have at hand and consider all data that have any bearing whatsoever on each individual case. Perhaps a commission for each county would be most advisable and most convenient. When properly used the power of such a commission would prevent a number of projected marriages, would control the propagation of many hereditary and loathsome diseases, and hold in check the procreation of diseased and degenerate progeny. Those diseases that are known to be hereditary in their nature certainly could not be transmitted to children who are of a healthy parentage, for the offspring of such a marriage cannot possibly be tainted. In the dim vista of the future the word congenital would become a misnomer, and the word hereditary erased from our medical vocabulary. Stop and consider the ravages of those widespread scourges, syphilis, gonorrhœa, tuberculosis and cancer, all of which diseases in parents can be either transmitted directly from

them to their progeny or can so influence the bodies of their children that they easily succumb to the devastation of these diseases. Nor are the diseases enumerated all that have so destructive an effect. But intermarriage of persons giving a history of some such disorder, or it may be at the time themselves suffering, are permitted to marry, and apparently little thought is taken of it. Their own sentimental wishes are attained; farther than that not a trifle do they care. Let some of us who are healthy assume ourselves in the realm of those who are afflicted with some incurable or disgusting malady, and who would dare question that the ultimatum would be for the medical control of marriage? It is quite clear that children who have been imbued indefensively with hereditary diseases or frail constitutions, in a manner at present sanctioned by the civil law, are in no way to be censured. It is equally as clear under these circumstances that the parents are responsible for their children being physical and social lepers in the community; and let us emphasize the fact that civil law is *particeps criminis* so long as it does not enact preventive measures.

Medical supervision of matrimonial matters when parties about to enter into the contract are diseased, coupled with an earnest, energetic application of principles of bacterial disinfection, would ere long confer upon us freedom from not a few diseases; at least this is what we may reasonably and definitely expect.

Now for the most important, perhaps, of the facts in this connection; one that has not altogether escaped attention at the hands of the public, and that is the too frequent finding of a history of consanguinity. The attitude that has been assumed by many intelligent people is worthy of imitation and the baneful effects of consanguinity should be promulgated, for until such is done many will not become acquainted with them. From a medical standpoint there is not the least doubt that such marriages are decidedly productive of harm, for this has been conclusively demonstrated; yet there may be and are some instances where no bad results are noticed. The number of idiots, imbeciles and criminals that to-day can be found throughout the length and breadth of the land, in many instances the direct result of inadvisable marriages, is an everlasting evidence of what may be expected if blood relations are permitted to

enter into the marriage contract. One writer that I know of has gone so far as to deny that consanguinity has been or is productive of the evils attributed to it. But if the deductions from careful observation are correct we must admit that pedigree in humanity, just as in the lower animals, is a factor of vital importance. From this we can but conclude that a family or a nation will certainly progress or degenerate as the issue of heredity. All that is necessary is to repress the procreation of the better and higher and to multiply the number of the lower and less fit for two or three generations to make national degeneration perceptible and terribly real. The economic features of regulations to prevent the production of defective issue should not be overlooked. At present the defective and pauper progeny has to be cared for, in many cases, as a public expense. Eliminate the defectives by denying the marriage privilege to those who, for obvious reasons, should not be permitted to marry and propagate their species, and an essential step will have been taken toward genealogic improvement. The heir of transmitted disease, or the imbecile, can in no way be held responsible for his sore affliction, nor could he control it; he is only the recipient of the malady from those whose indiscretion makes his parents alone responsible. But this parental responsibility is seemingly shared by the strong arm of civil government, which does not prevent the union of those mentally or physically defective.

It would be quite hard as yet to determine just what degree of relationship between man and woman would not have a tendency toward the production of defective offspring. Until this is more definitely understood let marriage not be nearer than the fourth degree in collateral descendants. The sad duty of sitting on commissions of lincency has fallen to my lot only three times, and in two cases the history of close relationship has been elicited. Just in this connection, and in closing, permit me to give you the following opinion recently issued on application by a worthy and respected superintendent of one of our State hospitals for the insane, an opinion which merits consideration on account of its source and truth. In response to my inquiry he wrote as follows:

"Consanguinity, undoubtedly, in married couples tends to enhance the family traits and tendencies. If these tendencies be toward de-

generacy or disease of any organ this tendency is increased markedly in the off-spring. If these family tendencies or traits be toward higher development these, too, are increased; but unfortunately the former preponderate, and the defectives and the degenerates are readily manifest. Heredity as a cause of insanity is given in something over one-third of the cases, but this is considerably below the true facts, which are hard to obtain. Of course where consanguinity obtains as an added cause the percentage would be largely increased. Inbreeding in the human race, as in all the animal kingdom, invariably tends to degeneracy."

In the face of the facts of this opinion can we endorse consanguineous marriages, and then ask that blest may be the tie that binds our hearts in Christian love?

SOME ADVANCES IN MODERN MEDICINE, AND THE BENEFITS OF ORGANIZED EFFORT.*

By J. S. DEJARNETTE, M. D., Staunton, Va.

The object of this organization is to bring together the physicians of the county and town for the purpose of better acquaintance; for the exchange of ideas; for the stimulation to higher aims and more thorough work, and so to advance in a solid phalanx against our common enemy—death and disease.

The Esculapians are the only class of men who give their greatest talents to decrease their business, and the most depraved doctor of to-day could but feel the lashings of conscience if he did not follow the laws of prophylaxis, even though he knows it will diminish his revenue and force the wolf to his door. We should be bound together with hooks of steel. "United we stand, divided we fall." All our strength is in our union, and all our danger is in discord.

The physiology of our Society should be studied as faithfully as Yeo, Dalton, and Landois and Sterling; and he who of us that is not constantly endeavoring to increase our common stock of knowledge should be deemed a drone in the hive of nature and unworthy of our association and respect.

*President's address before the Augusta County (Va.) Medical Society, November 9, 1904.

Our battle-cry against disease should be "onward," and our feet ever on the road of advancement. All of us know things which each of us should know, but do not; therefore, let us reason together, exchange views, and let knowledge flow freely as the water from the rock which Moses smote. Some of us are afraid to talk lest we show our ignorance, but this is false pride and a foe to progress. By discussion we learn, for in the multitude of counsel there is wisdom. Science is the classification of facts with logical deductions therefrom, and the knowledge we have is not from the observations of one man, but the accumulations of truths from the beginning—every man adding his quota to the common stock. It is like a brook from some distant hillside. When it starts on its journey to the sea it is so weak that the smallest leaf of the forest will strand in its current; the track of a wild beast will divert it from its course; the very pebbles in its bottom will make it hesitate, but it ever flows onward, until it is joined by another and another, when the mighty river is formed, teaming with life and bearing the burdens of the commerce of the world on its bosom. On it goes in its irresistible course, sometimes striking an obstacle which hurls it back and almost makes it retrace its steps; but onward it flows to the ocean of truth, which must endure forever. So our individual efforts, added to the work of each other, will form a mighty force, which may trace its origin to this Society, and we may be the nucleus of great things.

Medical science has been advancing hand in hand with other sciences, and in the fullness of time, long expected, long delayed, she has at last poured upon man from the horn of Amalthea blessings too numerous to be enumerated—blessings which have made the past century memorable, and which have followed each other with a rapidity so bewildering that we know not what next to expect. What satisfaction to us, whose lives are devoted to the relief of pain and suffering, to watch the spreading branches of this great tree of science, and to know that its leaves are for the healing of the nations! Let us note some of its benefits:

"The great white plague," so much to be dreaded, and which carries one-seventh of the world's dead to the graveyard, is being attacked with a fierceness and persistency which augurs well. Through the good work of the physi-

cians laymen begin to realize the necessity of waging war against this deadly enemy which the consumptive is continuously incubating in his lungs, and as continuously scattering broadcast over the land. Through the influence of our noble profession, laws are being enacted for the control of these unfortunate patients, who up to this time have been allowed to live side by side with their fellow beings, unconsciously disseminating the dreaded poison. This grand old Commonwealth of Virginia, slow to adopt new ideas, has already instituted the "tent treatment" for the tuberculous, and I am glad to say this good work first began systematically in Virginia in one of her hospitals for the insane, inaugurated by Dr. Wm. F. Drewry, of Petersburg, superintendent of the Central State Hospital.

The discovery of the nature and life history of tetanus-bacillus, is of comparatively recent date. We now know that the toxin of its bacillus is carried to the central nervous system through the axis cylinders of the motor nerves, and if treatment is instituted early enough, by cutting the nerve trunk before the poison reaches the cord we can stop the ravages of the disease. It is said that even bruising the nerve trunk severely will stop the disease in its course. Surgery has invaded the skull and spinal canal, and among the many delicate operations has taken out the Gasserian ganglion with success. Aspiration of the spinal canal is constantly being practiced for diagnosis and cure of diseases. Intraspinal injections are now used with considerable success in the treatment of melancholia, sexual weakness, and spinal neurasthenia.

Talma's operation is enabling us now to fight ascites with some chance for success, and the same principle is being used in hydro-thorax. Prostatectomy has robbed the old man of one of his heaviest burdens. Decortication of the kidney is now done to remove the pressure from the parenchyma, and wonderful results are claimed for this operation. Antiseptic washings and plugging of the nose and ears, in fractures of the base of the skull, are giving us results little dreamed of ten years ago. Jonesea's operation is said to cure exophthalmos. The mosquito has been found to be the chief intermediate host in transmitting malaria, yellow fever, and filaria. Removing the cervical sympathetic is claimed to cure glaucoma. Red-

light baths are said to give the best results in small-pox. Medication by means of fluorescent substances is now almost in our reach. Quinine and other substances, when bathed in X-ray or Finsen light, have the power to absorb the rays, and when taken into the body will give it out to the tissues.

The physician with the microscope, X-ray and chemical test can often stay the hand of death for a time, and will feel the gratification of having fought a good fight, and hope to win a crown.

Fifty men bound together for good and bent on a common purpose must necessarily make the progress. Our hearts should be with one another, and all against evil only. Let peace be our banner, for "behold how good and how pleasant it is for brethren to dwell together in unity." To the call of the watchers on the towers of progress there has been the one answer since Adam's fall: "The people sit in darkness and in the shadow of death." By constant worship at the shrine of the Goddess of Health we may yet attain the Promethean gift, and man's life be extended to its natural limit; so when the Destroyer comes he will be ready and ripe for the sickle.

We must remember that death is a physiological process, and if it were extended to its physiological limit, we would be ready and willing when called; but until that end is reached, we must know that some of our years have been cut off. We can see the signs of a great awakening before us now, for the spirit of science is brooding on the waters.

We are beaten back in many a fray,
But yet new strength we borrow;
For where the vanguard rests to-day,
The rear will rest to-morrow.

Analyses, Selections, Etc.

The Bottini Operation.

Dr. Francis R. Hagner, M. D., Clinical Professor of Genito-Urinary Surgery at the George Washington University (formerly Columbian), Washington, D. C., in a paper read before the American Urological Society at Atlantic City, June 9, 1904, said:

I believe that no operation would ever be as

successful as a prostatectomy if the patient's physical condition is such as would warrant this procedure; but there are so many prostatitis who are in feeble health, with diseased kidneys, bladder and vascular system, that I am of the opinion that in this class of cases the Bottini operation should be tried, although it may bring the mortality of this operation higher than it deserves.

In my twenty cases all the patients except three were in poor physical condition at the time of the operation, having some or all of the complications mentioned previously.

It is a popular idea among surgeons that only the small varieties of prostatic hypertrophies are benefited by the Bottini operation; some of the most successful cases have been of the larger and softer varieties.

The success of the Bottini operation depends more upon the pre-operative examination than any other prostatic procedure. The majority of surgeons who unqualifiedly condemn it know nothing about cystoscopy, and attempt the operation without cystoscopic examination; hence they can form no definite idea where the cuts should be placed. I feel sure that no Bottini operation should be attempted before a thorough cystoscopic examination is made. Before the cystoscopic examination is made it is very important to note the size, shape and consistency of the prostate on rectal examination, the amount of residual urine, what micro-organisms are present, and the muscular force of the bladder. If there is absolutely no bladder power it is useless to perform the Bottini operation.

The method devised by Dr. Young, of Baltimore, is an excellent one in obtaining the outline of the intra-vesical prostate, as by this procedure an accurate idea of the position to place the cuts can be obtained. I have had an instrument constructed for measuring the antero-posterior diameter of the prostate, which is of importance in determining the length of the incision. It is a sound shaped like a Nitz cystoscope, with a series of depressions one cm. apart. This is introduced into the urethra and the depressions noted by a finger in the rectum. In this way an accurate idea of the antero-posterior diameter is obtained. The cuts made by a Bottini instrument are made so they will not come any nearer than one cm. to the anterior capsule; in all my cases the hemorrhage has been very slight. A general anæsthetic was

used in only three of my series of cases. An instillation of 4 per cent. cocaine solution was made into the posterior urethra and allowed to remain in five minutes, the solution withdrawn and the bladder filled with sterile water. Pain was slight in most of the cases. It is of the utmost importance to have the knife heated to a white heat so as to cause a sufficient tissue destruction. The cuts should be accurately timed, cutting one cm. per minute. The index finger should be kept in the rectum during the entire cutting operation, as by so doing the beak can be felt and the possibility of the instrument slipping avoided.

In all my successful cases but two the patients were never catheterized but once after the operation, and a considerable number commenced to pass urine naturally at once. I feel sure that if patients have a history of bleeding before operation, or if there is much bleeding during the cystoscopic examination, it is better to do a perineal section than do a Bottini operation through the perineal wound and put in a catheter of large size for drainage. I have had one or two cases that had hemorrhage before operation, and these cases are the ones that are not able to pass urine voluntarily, immediately after the operation, and if catheterization has to be resorted to for several days the clots close the catheter and cause great inconvenience. This is entirely done away with if the perineal operation is done as in the last two cases reported. Of my twenty cases reported, sixteen have been successful; that is, the patients have been relieved of urinary obstruction, previous cystitis, or have no troublesome symptoms from the slight inflammation of the bladder remaining. Residual urine is entirely absent, or, if present, in very small amount. Of the remaining four cases, in one no result was obtained from the Bottini operation because the bladder tone had been lost, the result of over-distension; subsequently he was relieved by a prostatectomy as the continued drainage had caused a return of muscular power. The three fatal cases were all in poor physical condition, and I do not feel that death can be attributed to the operation in more than one of these. This patient had a prostatic abscess following operation; death was due to septicemia; streptococci were in his urine before operation. Another patient died thirty-six hours after operation from suppression of

urine; patient was practically moribund when operated upon. Autopsy showed pus kidney. The third death occurred in a diabetic ten days after operation, apparently from an acute exacerbation of diabetic symptoms.

Best results are not obtained until four weeks after operation, for by this time the sloughs have separated and the inflammation has disappeared.

The effects of this operation are two-fold: (1) It undoubtedly causes a diminution in the size of the gland. I have noticed this shrinkage in nearly every case operated upon. (2) The cuts tend to open more widely as time elapses. This is explained by the contraction which takes place in the connective tissue, which radiates from the capsule toward the urethra.

I would urge the general practitioner, when the symptoms of obstruction of the hypertrophied prostate appear, to consider at once the advisability of an operation for the relief of the condition, and not to wait, as some of the older authorities recommend, until the patient can no longer pass his catheter. When this time arrives he is almost certain to have a severe cystitis and probably kidney involvement. If these operations are done before the complications referred to are present the danger is reduced to a minimum.

Stovaine—A Valuable Analgesic.

According to *Med. Times*, Feb., 1905, Stovaine marks an epoch in local anesthesia, and is destined to occupy a field not heretofore filled by any other known substance used for this purpose. Compared with cocaine, it is very much less toxic, while *its analgesic properties are greater*. It has a transitory vaso-dilatory action on the blood vessels, permitting the performance of many operations upon patients in the sitting posture. It acts on the heart as a tonic. It is specially useful in the field of local anesthetics, both surgical and dental. Stovaine is a synthetic chemical product obtained from certain amino-alcohols. Its solutions are permanent, and can be sterilized at temperatures as high as 240°F. without fear of decomposition, which is a property of very decided advantage. Stovaine has a marked bactericidal action, which feature warrants close attention from the operating surgeon.

Proceedings of Societies, Etc.

Baltimore Medical and Surgical Association.

Nov. 14, 1904. Vice-President, Dr. W. B. Perry, in chair; Dr. Eugene Lee Crutchfield, Secretary.

Direct Inguinal Hernia—Injury to Bladder. Treatment.

Dr. Randolph Winslow said: The general division of inguinal hernia is into *direct* and *indirect*, and these bear a definite relation to a particular anatomical structure, namely, the epigastric artery. We have in the indirect hernia the internal abdominal ring and lower down the external ring, and the epigastric vessels running up towards the umbilicus. *Oblique inguinal hernia* emerges at the internal abdominal ring, passes along the inguinal canal, until finally it gets larger and larger and protrudes as a scrotal or external hernia at the external abdominal ring. The indirect, or oblique hernia, is sometimes called external hernia because it is to the outer side of the epigastric vessels. This is the common form of inguinal hernia.

The *direct form*, on the other hand, is a much less common hernia, and it also has a direct relation to the epigastric artery. The direct hernia emerges from the abdomen immediately behind the external abdominal ring. It does not pass through the internal abdominal ring, but pushes through the abdominal wall to the inner side of the epigastric artery: so that it is sometimes called the internal, in contrast to the external variety. It is never a congenital but always an acquired hernia, due to some strain, or to some condition of the abdominal wall, a weakness, or absence of the conjoined tendon of the transversalis, allowing the intestine to push the conjoined tendon in front of it so that it protrudes at the external abdominal ring causing a swelling there. It lies to the inner side of the epigastric vessels, and that is the proof positive that it is a direct hernia. If it lies to the inner side it is a direct hernia; if to the outer side, an indirect or oblique hernia.

One would suppose there would be but little difficulty in making the distinction, and in most cases that is so. In the first place, the oblique form is a very common one, while the direct form is comparatively uncommon. *Oblique hernia* appears first as a protrusion mid-

way between the anterior superior spine and the spine of the ilium above Poupart's ligament. Coming out through the external abdominal ring it expands in an ovoid mass. The *direct form* protrudes directly at the external abdominal ring immediately to the outer side of the spine of the pubes and above Poupart's ligament, or the outer pillar of the external abdominal ring.

The coverings of the direct will differ from those of the indirect; skin, superficial fascia, inter-columnar fascia and then the conjoined tendon, preperitoneal tissue and peritoneum. Its relation to the spermatic cord is also different from that of the oblique variety. In the indirect form we have the cremasteric and infundibuliform fascias. The relation of the oblique hernia to the cord is in front of it; the sac is in front of the cord. In the direct form the hernia sac is behind the cord.

My remarks on this subject apply to a case that recently came to my notice: The patient was a colored man, of middle age, first seen by my son, Dr. Nathan Winslow, and sent to the hospital—the diagnosis having been made by him of direct inguinal hernia. At the time he was first seen the hernia was incarcerated, if not strangulated. It was difficult to reduce, and would at any rate have been strangulated if not reduced at once. It was more or less globular, situated close to the pubes and bore such near marks as to suggest to Dr. Winslow that it must be a direct inguinal hernia. I operated and found that the hernia emerged from the abdomen behind the external abdominal ring and to the inner side of the epigastric vessels, proving positively that it was a direct inguinal hernia. The radical operation was done.

Now I come to the second point of interest, which is an important one. After exposing by incision the hernial sac and seeing positively that it was a direct hernia, I found that it was very difficult to separate the sac from the mass of tissue that occupied its inner aspect. To the inner side of the sac was a mass from which with great difficulty could the sac be separated, and when separated there was what appeared to be a considerable mass of connective tissue. Moreover, I found, after having separated the sac and tied it off, that to the inner side about the cord was a translucent area which evidently contained fluid; and thinking it was a cyst of the cord, perhaps an encysted hydrocele, I made an incision and a lot of amber colored fluid es-

aped. Upon saturating a piece of gauze with this fluid and bringing it towards my nose the odor of urine was apparent. A finger passed into the opening made in this sac, dipped down behind the pubes, felt the internal urinary meatus; I had without doubt opened the bladder. That is the point I particularly wanted to say something about this evening—injury of the bladder in operations for hernia. It is the first time that such an experience has occurred to me, and in this case I was not at all acquainted with the history of the man. So far as I know or have been able to find in the literature up to this time there is not another case of protrusion of the bladder; that is, a hernia of the bladder in a case of direct inguinal hernia. It may have occurred, but I haven't seen any report. It is not, however, such a unique thing as one might suppose to find a hernial protrusion of the bladder both in inguinal and femoral hernia as the result of the dragging of the hernia; and if it can occur in oblique hernia how much more apt should it be to occur in the direct form? There is a tendency to drag the bladder into the hernial sac, and it seems to me this would be especially so in the direct inguinal hernia. It may also take place in some of the more remote forms of hernia, as in the obturator form. The bladder may protrude through the anterior part not covered by peritoneum or its posterior wall, where it is so covered, so that we may find in the sac the peritoneal portion of the other. Most frequently it is the anterior wall of the bladder where the peritoneum is not present that is found in the hernial sac, and that was the case in this operation.

One would think that the tissues of the bladder would be so characteristic that there would be no difficulty in discovering at once its nature. As a matter of fact, the tissue becomes so changed in most cases as to escape recognition. It has a fatty appearance, that the French have called *lipocèle*. In some cases it looks equally as much like serous tissue. In this case I did not suspect that the mass of tissue was bladder tissue; and when I saw a translucent, thin-walled cyst in connection with the cord I presumed that it was an encysted hydrocele of the cord.

Perhaps the first American article on this subject was a paper by Curtis in 1895, in which he collected fifty-one cases of injury to the bladder during hernia operations. In some of these

cases the bladder protruded, as in my case, without any especial symptoms; that is, without any appearance of a pedicle. In some cases there was a distinct pedicle as if the bladder had been caught in a ring and gradually pulled out. When one finds this to the inner side of the sac, and the hernial sac is difficult to separate from the mass, one should suspect, particularly if he detects fluid, the condition of protrusion or hernia of the bladder along with the hernia of the intestine and should be on the watch for it. The injuries to the bladder in this way have been numerous and varied. Some of them have been small openings produced by needles; some of them have been torn through in separating the sac from the bladder, so that Curtis had fifty-one cases to report nine years ago, and doubtless many other cases have occurred since. In some the bladder has been recognized previous to incision and the hernia treated as if the bladder complication did not exist. In other cases the bladder has been lacerated or torn without being recognized at all, until some days afterwards, when a flow of urine took place from the wound. At other times it has been recognized and the wound in the bladder treated in one way or another. The mortality is not great if the hernia is treated properly. It was 25 per cent. in Curtis's cases.

Wounds of the bladder may be treated in various ways. The best, perhaps, is to sew up the wound with about three rows of sutures. It has been proposed not to include the mucous membrane of the bladder in the sutures. If it is included it should be of course with cat-gut. In my case cat-gut was used for the inner row of sutures and the other two rows not passing through the mucous membrane were silk. At least three rows of sutures of the Lembert kind should be used. Then the bladder may be dropped back, though in my case I fastened it to the lower angle of the hernial wound. It is recommended, however, to drop the wounded bladder and drain.

This man had some pain, some blood in the urine and increased frequency of micturition. At first I introduced a catheter with the idea of draining the bladder, but that could not be done. Then there was an attempt made to catheterize him at certain intervals, but that also gave great pain, and we simply instructed him to pass his urine every two hours, which he did. He ran practically an afebrile course and with the exception of a certain amount of

painful micturition he got along all right and made a good recovery.

DISCUSSION.

Dr. Sydney M. Cone: About two months ago I operated on a case of hernia in which the bladder was adherent to the sac in this manner. In another case the bladder was unusually thick so that I did not recognize it at first, the thickened condition being probably due to the adhesions that had formed at the site.

Dr. Herbert Harlan: The differentiation between direct and indirect inguinal hernia is important in order to avoid the epigastric artery.

Dr. Winslow: The incision should be made upwards towards the umbilicus and parallel with the artery.

Enormous Hernia.

Dr. G. Lane Taneyhill: I should like to exhibit some photographs of a hernia I came across last year, which is the most enormous hernia I have ever seen. It was 18 inches long and 33 in circumference. He was a soldier in the Fourth Regiment, U. S. Artillery. He was operated on but it was found impossible to return the protrusion on account of the enlargement and adhesion.

Amoebic Dysentery—Cold Water and Antiseptic Treatment.

Dr. Samuel T. Earle called attention to a report on amoebic dysentery by *Dr. Tuttle*, of New York, in the October number of the *Journal*. I want to emphasize what *Dr. Tuttle* has said because in reading the paper myself I overlooked this particular point that I want to speak of; that is, that the ulcers found in amoebic dysentery are, as we might readily expect, a mixed infection; in other words, you do not have simply an amoebic ulcer, but a condition of mixed infection.

The treatment suggested by him for the destruction of the amoeba was the injection of cold water. We have all observed the difficulty in preserving the motility of the amoeba in looking for them under the microscope, and it was this fact that suggested to him the idea that if you reduce the temperature of the injections of water below 70°, it would kill the amoeba; that after that no amount of warmth will make them regain their motility. While those on the surface may be destroyed by medicated injections, it is difficult to go below the surface of the mucous membrane. Even with the quinine

solution in the strength of 1-500 it requires prolonged saturation of the mucous membrane to kill them. Hence the recurrence of these cases after cessation of treatment; you have only destroyed the amoeba on the surface of the mucous membrane.

Following *Dr. Tuttle's* suggestion, I began treating these cases with injections of cold water. He recommends the knee-chest position, the fountain syringe and the reduction of the temperature of the water as low as 40°. This is kept up as long as the patient can stand it and repeated two or three times a day. The first patient bore the treatment very well and I gave them four times a day, using a quart of ice water, but to my disgust at the end of three weeks I still found ulcers in the rectum. I then resorted to antiseptic solutions of a rather mild nature, and in the course of ten days the ulcers had all healed.

I wrote to *Dr. Tuttle* about my failure and he told me that I had overlooked what he had particularly stated, that the condition was a mixed infection and that the treatment must therefore not be restricted to the use of the cold water, but used in connection with antiseptics. I had used nitrate of silver previous to the employment of the ice water, but had not used them together. After the ulcers had all disappeared under this treatment I still found some amoeba. On using the cold water treatment, supplemented with an antiseptic solution, the ulcers disappeared in a short time. The cold water destroys the amoeba, but an antiseptic must also be employed to get rid of the mixed infection.

This condition of amoebic dysentery may occur in any part of the country. The year round I have always two or three cases under treatment. I treat them entirely by local means and with excellent results. *Tuttle* reports 73 cases treated in this manner, with 70 cures.

DISCUSSION.

Dr. Randolph Winslow: Would not the amoeba be higher up than you could reach with the injections of cold water?

Dr. Earle: *Tuttle* speaks of that particularly. *Fletcher* reports a number of cases and in almost all of them they were in the caecum and ascending colon. These he got at post-mortem, while *Tuttle's* were with the proctoscope. It has been my experience and it was *Tuttle's* that the higher up you go, with the proctoscope, the fewer ulcers are discovered.

Dr. David Streett: I have had very good results in the treatment of these cases by solutions of quinine 1-1000. I have a patient with amoebic dysentery, who is a painter by trade and has not been out of Baltimore for five years. Most of the cases I have seen have occurred in persons who have not been out of the city. I had one patient who had not been out of the city for ten years, except on one occasion, when he visited Homestead and drank water from an old well there. It is questionable whether the amoeba could live in the cold water of these wells, and I have thought that this might be only a coincidence.

Dr. C. Urban Smith: I had one experience with Dr. Tuttle's cold water treatment. I employed it in a case of a woman coming from Virginia and who was five feet ten inches in height and weighed but ninety pounds; greatly emaciated. The feces were full of amoeba. I started with the water at 70 and gradually lowered the temperature, getting down to 50, when the woman went into a state of collapse and her temperature dropped to 97, causing us considerable alarm. After using some hot salt solution she came around all right. The next day I tried again, starting with the water at 80 and bringing it down to 60, when she again started to show signs of collapse, and I gave up the treatment. The argument, however, is good, and perhaps in cases that can stand it would be very valuable.

Dr. Charles O'Donovan: The main trouble in treating amoebic dysentery has been that it will not stay cured. You can cure them beautifully temporarily, but they will not remain so. That is the reason so many specifics have been recommended. It gets up high in the intestinal tract, too, even getting into the liver and setting up liver abscess.

Dr. Streett: I should like to emphasize what has been said about the frequency of the disease. I believe Dr. Osler has said that about 35 per cent. of all cases of dysentery are amoebic in origin. I think if the cases were examined more carefully a great many more cases would be discovered.

Dr. Arthur Hebb: Examination of the stools is not sufficient in these cases; the proctoscope should be used, for often they are not found in the stools when they can be discovered in the ulcerations. It is difficult to preserve the amoeba, and I believe a media of hay infusion

is the only one upon which it can be grown outside of its normal habitat.

Dr. Earle: The experience of every one who has used the quinine solution is that the trouble will recur. My only object in calling attention to the subject to-night was to emphasize the point made by Dr. Tuttle and which I had overlooked in trying to follow out his instructions. The majority of these cases can be cured and remain so. As to Dr. Smith's case, I do not think that the ice water treatment should be used in a person in such an asthenic condition. As to the frequency of amoebic dysentery, nearly every case I see is amoebic. They are not at all infrequent, and as I have said I have them under treatment continuously. The history of the amoeba as found in the intestinal tract has really never been traced. That it is different from the amoeba found in drinking water goes without saying. There is a considerable difference in the temperature they are able to stand. Those found in the intestinal canal die at 70 degrees and it is impossible to revive them. Those found in the water can resist a lower degree of temperature. We cannot distinguish any morphological difference in the two forms, but there is the distinct difference that the one dies at 70 degrees while the other can survive a much lower temperature. The cold will certainly destroy them in the intestine, but it has been found that the amoeba multiply by the formation of spores, and it may be that these spores are able to resist this temperature, but that has not been Tuttle's experience. The method of only examining the stools for the amoeba is not reliable; the proctoscope must be used.

Southwest Virginia Medical Society.

Pursuant to adjournment, this Society met in the hall of the Bristol Medical Society at 3:30 P. M., on Monday, January 17, 1905. The president and both vice-presidents being absent, the society re-elected Dr. A. S. Priddy as chairman, and he called the society to order.

Present: Drs. A. J. Roller, A. S. Priddy, E. T. Brady, W. K. Vance, C. K. Kernan, C. W. Fleenor, J. T. Green, W. M. Copenhaver, M. M. Pearson, T. D. Hutton, G. M. Peavler, ——— Cowan, T. F. Staley, W. H. Blamblett, R. J. Preston, H. L. Pippin, A. F. Horne, H. B. Edmondson, A. B. Greiner, A. McG. Wallace, G. G. Painter, W. B. St.

John, L. H. Gammon, J. T. Graham, Geo. E. Wiley, W. R. Rogers, E. M. Lent, N. H. Reeve, J. S. Bachman, D. L. Kingsolver, T. D. McKee, Frank Pyott, Ed. King, J. W. Broyles, E. E. Hunter, Dr. C. W. Booker, Camm Anderson, J. T. Martin, Robert B. Preston, G. M. Reeves, W. W. Widener, A. D. Miller, Mat. B. St. John, Geo. L. St. John and invited guests, Drs. F. W. Samuels, of Louisville, Ky.; Dr. Samuel Lile, of Lynchburg, Va.; Dr. J. M. Masters, of Newport, and Rev. W. S. Neighbors, and Rev. Mr. Cochran, of Bristol.

The session opened with prayer by Rev. Mr. Cochran. An address of welcome was delivered by Rev. W. S. Neighbors. The secretary reported the serious illness of the president, Dr. R. W. Sanders, and a committee, consisting of Drs. Brady, Graham and St. John, was appointed to present appropriate resolutions.

Dr. T. D. Hutton presented a case for diagnosis, and after examination and a presentation of the clinical history by the patient, Drs. Samuels, Lile and Hutton were appointed a committee to consult privately, and after doing so, agreed that it was a case of tuberculosis. The general topic for discussion, *Gall-Stones and Allied Troubles*, was then taken up, and Dr. Samuels read an essay upon "*Cholelithiasis*," followed by Dr. W. R. Rogers, upon "*Surgery of the Gall Bladder*"; Dr. W. B. St. John, "*Jaundice*"; Dr. Samuel Lile, on "*Talman's Operation for Cirrhosis of Liver and Other Hepatic Entanglements*"; Dr. R. J. Preston followed with a paper on "*Cholæmia—Its Relation to Insanity*"; Dr. T. D. Hutton reported *28 Cases of Catarrhal Jaundice Occurring in a Small Locality, Almost Simultaneously, and by its Progress Simulating Contagion*; and Dr. C. W. Fleenor read a paper upon "*Appendicitis*."

The Society adjourned at 6:30, and resumed at 8 P. M. The above papers were then discussed collectively, Drs. Bramblett, Pearson, Brady, Bachman, Samuels and Lile taking part.

Dr. Masters addressed the Society upon "*How Shall the Profession Care for Tubercular Patients?*" Discussed by Drs. Pearson, Peavler, Vance, Graham and Masters.

The Committee on Nominations reported favorably upon the applications of Drs. L. B. Horton, Gate City; C. A. Burwell, Salem; Jno. A. Tipton, Carroll; L. G. Pedigo, Leatherwood; C. T. St. Clair, Tazewell; R. B. Gillespie, Tazewell; C. G. Cannaday, Roanoke; Robert B. Preston, Glade Springs; Daniel Trigg, Marion;

Jos. A. Gale, Roanoke; J. H. Dunkley, Saltville; R. M. Wiley, Salem; E. L. Lawrence, Floyd; C. W. Fleenor, Holston Valley; G. M. Reeves, Church Hill; L. B. McCreary, Bloomingdale; A. D. Miller, Lovedale; J. T. Martin, Mendota; Cam. Anderson, Gate City; Mat. B. St. John, Bristol, and Frank Pyott, of Tip Top. All were elected. The committee referred another application to the Society without recommendation. It was rejected. Drs. F. W. Samuels and Samuel Lile and J. M. Masters were elected honorary members. Society at 11 P. M. adjourned. Reconvened at 9 A. M., when proceedings began with a paper on "*Tetanus*," by Dr. A. McG. Wallace, of Gate City, discussed by Drs. Lile, Broyles, McVee, Bramblett, Pearson, Brady, Martin, Greiner, Samuels, Priddy and Wallace. Dr. Geo. M. Peavler followed with a paper entitled "*Tonsillotomy*," discussed by Drs. Masters, Greiner, Samuels, Brady and Pearson. Dr. Pearson's paper upon "*Digitalis in Heart Disease*" was next read, and discussed by Drs. Masters, Greiner, St. John, Brady and Pearson.

Society adjourned to 2:30 P. M., when it opened with a talk on *Feeding Tubercular Patients*, by Dr. J. M. Masters. Dr. A. B. Greiner then read a paper on "*Medical Supervision of Marriage*," discussed by Drs. Preston, Peavler, Rev. W. S. Neighbors and Drs. Priddy, Brady and Greiner. Dr. J. T. Graham followed with "*Some of My Mistakes in Obstetric Practice*," which was discussed by Drs. Reeves, Brady, Priddy and Graham.

The Committee on Resolutions reported the following:

"Whereas we learn that our revered and much beloved president, Dr. R. W. Sanders, is deterred by serious illness from being with us, be it resolved, That with the hope for his rapid restoration, we tender him our hearty sympathy, and desire to express to him sincere regret at his absence from the meeting." Adopted by a rising vote, and the secretary instructed to forward a copy to Dr. Sanders.

Upon motion, the thanks of the Society were voted to the Bristol profession for the many courtesies extended the members and guests. The secretary was instructed to pay the janitor of the hall two dollars for services.

Upon suggestion of Dr. Painter, Pulaski was selected as the next place of meeting, and the Executive Committee decided upon July 4th and 5th as the date.

Book Notices.

Compend of Diseases of the Eye and Refraction, Including Treatment and Surgery. By GEORGE M. GOULD, A. M., M. D., Formerly Ophthalmologist to Philadelphia Hospital, etc., and WALTER L. PYLE, A. M., M. D., Assistant Surgeon to Wills Eye Hospital, Philadelphia, etc. *Third Edition, Revised and Corrected.* 109 Illustrations, several in Colors. Philadelphia: P. Blakiston's Sons & Co. 1904. Cloth. 12mo. Pp. 295. Price, \$1 net.

This one of "Blakiston's Quiz Compend" is useful to the general practitioner as well as to the beginning student of ophthalmology. For the general physician, attention is given to the principles and practice of refraction, to muscular anomalies, the diagnosis and differentiation of common eye diseases, and to local therapeutics. For the novice, simple, concise descriptions are given of the most important subjects in ophthalmology necessary for an intelligent comprehension of exhaustive treatises.

Text-Book of Insanity Based on Clinical Observations. For Practitioners and Students of Medicine. By DR. R. VON KRAFFT-EBING, late Professor of Psychiatry and Nervous Diseases in the University of Vienna. Authorized Translation from the Latest German Edition by CHARLES GILBERT CRADDOCK, M. D., Professor of Diseases of the Nervous System in the Marion-Sims-Beaumont College of Medicine, Medical Department of St. Louis University, St. Louis, Mo., etc. With an Introduction by FREDERICK PETERSON, M. D., President of the New York State Commission in Lunacy. Pages xvi-638. Royal Octavo. Price, Extra Cloth, \$4 net; Half-Russia, \$5 net. F. A. Davis Company, Publishers, 1914-16 Cherry street, Philadelphia.

No psychiatric authority is higher than that of von Kraft-Ebing, whose latest work has been well translated by Dr. Chaddock. To the general reader the introductory of about 45 pages is full of interest, giving a general idea of the nature of mental diseases, and a number of elementary facts; then comes a running history of the science of psychiatry up to the more recent times. The second division of the work takes up the general pathology and therapy of insanity, its causes, the course, duration, termination and prognosis of mental diseases, general diagnosis and general therapy. A careful reading of these 225 or more pages would be a

great help to the general practitioner when called upon to testify as to the sanity or insanity of an individual. The third division of the book is taken up with special pathology and therapy. These pages are devoted to consideration of special conditions, such as the various psychoneuroses, especially in their primary curable states, such as melancholia, mania, dementia, etc. The psychic degenerations are next studied, such as constitutional affective insanity, paranoia, periodic insanity, including that of sympathetic origin. The next part discusses mental disease developing out of constitutional neuroses. Chronic intoxications are next described; then brain diseases with predominating psychic symptoms, and the work concludes with some chapters on arrest of psychic development. A good index is appended.

We have given this running sketch of the contents of this book in the hope of stimulating a desire on the part of the general doctor to pay some attention to the subject of psychiatry, and to recommend this work to him as one of the very best of text books in this line of study.

Medical Directory of New York, New Jersey and Connecticut. Published by The New York State Medical Association. Vol. V. 1903. Small 8vo. Pp. 1030. Cloth.

This Directory—as nicely gotten up as it is, and as useful to advertisers, etc., in the three States named—gives unfortunate facts as to the success of the present system of organization of the American Medical Association. The total number of names given as practicing in New York State is 11,350, whereas the total number of members in all the county and city associations in affiliation with the National Association is only 1,638—a proportion of only about 14.4 per cent., while outside of Greater New York there are 5,761 doctors, with a total membership of only 635 for all the other counties, cities, etc.—a percentage of just over 11. In New Jersey, about 30 per cent. are members of the State Association, with all of its county societies, etc., while in Connecticut not over 29 per cent. of doctors are members of the county societies or members of the State Association. These figures do not compare favorably with the Virginia Society, which is not dependent on county societies, and yet it thoroughly ethical, where the percentage of members

to the active medical population of the State is about 64.

Twenty-First and Twenty-Second Annual Reports of the Bureau of American Ethnology, 1899-1900 and 1900-1901. By J. W. POWELL, Director of Smithsonian Institution. Washington: Government Printing Office, 1903 and 1904. Cloth. 4to. Pp. of 21st Report, 360; of 22d Report, 320.

While these volumes contain nothing of medical history, they are of as much interest to doctors as to others who wish to know something of the tribes that inhabited the American continent before its discovery by Columbus. Nearly all such tribes are now extinct, but much of their habits and surroundings are made known by discoveries of ruins, etc. The volumes before us are full of information as to American ethnology, and furnish pages of intensely interesting reading.

International Clinics—A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles. Edited by A. D. J. KELLY, A. M., M. D., Philadelphia. Volume IV, Fourteenth Series, 1905. Philadelphia and London: J. B. Lippincott Co. Cloth. 8vo. Pp. 314.

How any practitioner of medicine can satisfy himself to practice medicine or surgery in these days of great and rapid discoveries and important clinical suggestions without keeping himself informed as to the contents of such a book as that now before us is incomprehensible. There are none of us "that knowse it all"; and the doctor makes himself ridiculous who affirms that he has not time to read. This volume of the *International Clinics* is very valuable—containing new articles, practical suggestions and pointing out useful lessons in the description of diseases, their diagnosis, treatment, etc.—medical, surgical, gynecological, neurological, etc. Our space is too limited for a statement of the contents in detail, but an excellent index of the volume, as also an index of the Fourteenth Series, completed with this volume, are appended to it.

Editorial.

Popularity of Homeopathy.

From something of a survey of the field, we are persuaded that much of the popularity of homeopathy is due to the methods adopted. They are more business-like than professionals. Some questions are asked as to a few symptoms, a non-scientific examination is made as to the conditions, a technical diagnosis is pronounced, and a package of pellets is dispensed by the practitioner with instructions to take one or two with water at certain definite times. Technicalities are so used as to confound the patient, and but little of scientific discovery or advancement is ever announced by followers of that school.

When statistics are examined, the success of those adhering strictly to the homeopathic faith are not equal to those of the scientific school of medicine—that is, when conditions of equal gravity are considered. The most trifling affections are oftentimes dubbed with the names of the most serious maladies, but for which, in reality, ordinary reliance upon the *vis medicatrix natura* would be the best treatment. And when, forsooth, some almost surely fatal disease confronts, after the order of "the artful dodger," the patient is permitted to seek the advice of one of the regular school to add to his mortality list. Let one living in a community where there are homeopathic practitioners, and see for himself how true to life this picture is.

And yet, in certain communities, homeopaths are popular practitioners. They have learned the art of giving pellets—of dispensing them themselves—so that prescriptions for them do not go to the drug store. They have learned that most of the ailments for which relief is solicited are self-limited, and therefore the most impotent of harmless medicines are as good as anything else; or if, perchance, potencies of more powerful drugs are given, they are administered in the most palatable of forms.

The regular practitioner ought to learn some lessons from the practices which make the homeopath popular. Unless very positive effects are required from the use of such drugs as cannot well be disguised in taste, or given in minute doses, it would be well for the regular practitioner to conform to the wishes of the patient as to the palatability of medicines pre-

Don't get into anybody's way with your naturalness, but try to be yourself wherever you go.

scribed. And if the pharmacist does not keep such in stock, or if he seeks to "substitute something just as good," the physician should stock his own shelves with such things.

As a rule, the plan of using the alkaloids or their soluble salts commend itself. They are of definite potency, while galenicals, as ordinarily found in the shops, vary greatly in strength. Thus, while all know the virtues of yellow jasmine, or of monkshood, or of green hellebore, etc., their strength of the crude drugs differ widely as found in different drug stores. But gelseminine, aconitine, veratrine, hyoseyamine, morphine, strychnine, etc., as they come from reputable manufacturing chemists, are stable products, and have assayed potencies. The taste of these preparations are easily concealed when administered in gelatin coatings, and their effects are definite. Let the regular be wise in his day, and learn a lesson from the line of suggestions herein made.

Mississippi and Osteopathy.

The *Jour. Miss. State Med. Ass'n*, February, 1905, is out in strong terms for a suitable law "for the suppression of osteopathy in that State. Although the Mississippi Medical Association has been for some time "reorganized" under the popular "reorganization plan," it is worse off than some State that adhere to the old democratic principles. In its fully 75 counties it has no medical organizations (and this means but few, if any, members) in about 23 counties. Virginia has not "reorganized," and yet its State Society has an active membership in every one of the 100 counties of the State. The *Journal* of the Mississippi Association very properly urges, for the securing of the desired legislation, "a long pull, a strong pull, a pull all together." But just as we have anticipated with reference to the committees of the so-called "House of Delegates" of "reorganized State Medical Societies," the *Journal* above referred to adds: "The minutes of the Association for the past two years (*the period of reorganization*) record *little or nothing done* by our various standing committees. They leave one under the impression that the chief reason for having these committees is to give particular prominence to a few members of the Association each year." However glad we would be to hear that the proposed legislation may succeed, it does not seem that the "reorganization plan" in

Mississippi is accomplishing enough in that State to recommend its adoption by the few which are still as they were, and successful.

The Tri-State Medical Association of Virginia and the Carolinas

Has changed its dates of meeting at Greensboro, N. C., to Tuesday, February 28, and Wednesday, March 1, 1905, because of a large political meeting at Greensboro at the time formerly appointed. The sessions will be in the Hall of Benbow Hotel. The notice of change of date is issued by the local Committee of Arrangements, of which Dr. J. W. Long is chairman, with the approval of the President, Dr. Wm. B. Robinson, Danville, Va., and the Secretary, Dr. Rolfe E. Hughes, of Laurens, S. C.

No More Poulticing in the U. S. Army.

In a recent notification by the Surgeon-General of the U. S. Army, it is asserted that all the good results from poultices can be obtained in a more cleanly way by the use of wet hot compresses. Hence the order to the army surgeons to drop linseed and linseed meal from army medical requisitions. We are not yet prepared to approve of this order, for there are conditions in which it is safer to depend on poultices, unless a faithful nurse is always on hand to attend to the frequent reapplications of wet hot compresses.

The Transactions of the Medical Society of Virginia

Will have been issued before the next issue of this journal. It is a matter of congratulation that the Virginia Society is the largest of all State Medical Societies with reference to the medical population of the State. Every one of the one hundred counties in Virginia is represented by personal membership in the Virginia Society. No State of anything like size can give any such record as this. The excellence of such an organization, without the red tape of a so-called House of Delegates, is that each individual member must have and feel his personal responsibility in the securing of such measures as will promote the good of the profession. In a short while, active work will be begun in an effort to persuade the Legislature of Virginia to repeal the iniquitous specific *license* taxes on doctors. Each individual member of the So-

ciety will be expected to do his part in securing the desired repeal of the existing law on the subject. As to the volume of *Transactions*, it will be found rich in scientific and practically useful papers and discussions. A number of the authors are men of distinction throughout the United States, while most of the others are no less worthy, if not of such wide reputation. A distinctive and popular feature of the Virginia *Transactions* consists in the full biographical register of all of the Fellows.

Treatment of Ingrowing Toe-Nail.

Paint a concentrated solution of perfectly fresh tannic acid (one ounce dissolved in six drachms of pure water, with the aid of gentle heat) on the soft parts about the ingrowing toe nail. After about three weeks of this treatment the nail grows to its proper length and breadth. No other treatment of any kind appears necessary. The beauty of this plan is that the patient can go about while it is being carried out—most cases being able to go about immediately after treatment is begun.—*Ex.*

To Protect and Remove Rust from Steel Instruments.

Med. World, Nov., 1904, gives these directions:

1. Place instruments over night in a saturator solution of zinc chlorid; the rust vanishes through reaction. Next morning, remove instruments from solution and wash well in clear water, place in hot soda and soap solution for a few moments, and remove and dry. Polish with prepared chalk and absolute alcohol.

2. Dissolve one part of paraffin oil in 200 parts benzine. Wash instruments and dry by warming. Dip in the solution and lay away in a warm place to dry.

3. Instruments of polished steel, iron, nickel, etc., will remain indefinitely free from rust or corrosion if kept in a 2 per cent. solution of either carbonate, bicarbonate, benzoate or borate of sodium.

Obituary Record.

Dr. Timothy Henry Brenneman,

Of Virginia Beach, Va., died at Norfolk, Va., January 28, 1905, as the result of blood

poisoning due to infection of an abrasion of the hand while operating only a short time before. Dr. Brenneman, who was born at Lima, Ohio, July 14, 1871, graduated at the University of Virginia in 1900, passed the Medical Examining Board of Virginia in June, 1901, and was elected a member of the Medical Society of Virginia in 1902. He was formerly one of the house physicians at St. Vincent's Hospital, Norfolk, but recently was physician at the Princess Anne Hotel, at Virginia Beach. He was also a registered pharmacist. He was unmarried, and leaves a mother. His remains were interred at Harrisonburg, Va.

Dr. C. M. Stigleman

Died at his home, at Floyd C. H., Va., January 30, 1905. He was born in Floyd county, Va., March 24, 1833, and had, therefore, reached the ripe age of nearly 72 years. His academic education was obtained at Jacksonville Academy and University of New York, while he graduated in medicine at the Medical College of Virginia with the class of 1857. Dr. Stigleman was one of the ninety-two charter members of the Medical Society of Virginia, who met in this city November 2, 1870. During the Civil War he was captain of Company A, Twenty-fourth Virginia Volunteers. Although prominent as a physician, he found time for much outside work, and was for many years first superintendent of public schools in his county.

Dr. Wm. A. Mitchell,

Of Mangohick, Va., died at his home, February 1, 1905, after an illness of several weeks. Dr. Mitchell was born in King and Queen county sixty years ago. During the Civil War he enlisted in the Confederate army, in Company II, of the Fifty-third Virginia Regiment. He was taken prisoner at Suffolk, Va., and carried to Lookout, Md., but soon escaped, and came back and joined the army again, serving until Lee surrendered at Appomattox. Dr. Mitchell graduated in medicine at the Medical College of Virginia in 1873. He joined the Medical Society of Virginia in Richmond at the meeting this past October. He is survived by one daughter and three sons.

THE Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

Vol. 9, No. 22.
Whole No. 214.

RICHMOND, VA., FEBRUARY 24, 1905.

\$2.00 a Year.
10 Cents a Copy.

Original Communications.

MASTOIDITIS.*

- I. *Chronic Bright's Disease—Cholesteatoma—Mastoiditis—Operation.*
- II. *Chronic Suppurative Otitis—Repeated External Infection—Mastoiditis—Operation, Apparent Superficial Gangrene—Recovery.*

By WM. F. MERCER, M. D., Richmond, Va.,

Instructor in Otolaryngology, Rhinology and Laryngology, University College of Medicine; Ex-President Richmond Academy of Medicine and Surgery.

The title of my paper as given in the program is somewhat misleading. Instead of attempting to discuss the broad subject of mastoiditis I wish rather to relate two exceedingly interesting and unusual cases.

CASE I. *Chronic Bright's Disease, Cholesteatoma, Mastoiditis Operation.*

Henry C., eleven years old, was first seen by me some two and a half years ago, with chronic discharge from the left ear, with progressive deafness. The history given then was not very clear, and I only saw the patient one visit. In February, 1904, he was again brought to me with a history that some days previously he had had bad cold and something like grippe, and the discharge from the ear had ceased; he complained of considerable pain back of the ear. The external auditory canal was found filled with granulations, some slight offensive discharge, slight redness and some swelling of the whole mastoid region, and pain on pressure over the tip of the mastoid. The patient appeared to be fairly well nourished, but his skin was pale and waxy-looking. A diagnosis of chronic suppurative otitis media, with acute mastoid involvement, was made and the patient sent to the Virginia hospital for operation.

Urinalysis at the Virginia hospital revealed a large quantity of albumen—hyaline and gran-

ular casts, epithelium tissue, blood cells, etc.; the amount of urine passed in twenty-four hours only six and one-half ounces. Careful questioning now elicited the history of a severe attack of scarlet fever at three and one-half years of age, with chronic suppuration of middle ear practically ever since.

The operation was postponed and the case seen by Dr. Wm. S. Gordon, who concurred in the diagnosis of chronic Bright's disease with probable acute exacerbation. It was therefore determined, if possible, not to subject the patient to the risk of an anaesthetic and the shock of operation with his kidneys in such a condition. Under cocaine anaesthesia the granulations were removed from the external auditory canal; hot boracic acid douche every three or four hours and hot bag constantly kept over the mastoid. He was put on strictly milk diet and tinct. chlorid iron, and wet packs used twice a day, and was given an abundance of water.

Under this treatment he improved rapidly, mastoid symptoms subsiding and the temperature becoming normal; the urine cleared rapidly of the casts, the albumen diminishing to about 1 per cent., and the quantity of the urine increasing to 26-30 ozs. in twenty-four hours. The boy's whole general condition improved greatly, his color becoming more normal, and he gained in weight. At the end of two weeks, all mastoid symptoms having entirely disappeared and there being very little discharge from the middle ear, he was allowed to return home. Explicit directions in regard to diet, baths, etc., and also as to local treatment of the ear were given the boy's father and he was told to bring the patient back on the slightest return of any mastoid symptoms. This he did at the end of ten days but with the mastoid terribly swollen and inflamed; on which he had been applying some nasty ointment "to bring it to a head." Examination of urine now showed a small per cent. of albumen, very few granular casts and amount nearly normal. It was de-

* Read by title before the Medical Society of Virginia, October 20, 1904; manuscript received too late for incorporation in *Transactions* of the session.

terminated in view of the improved condition of his kidneys to risk the administration of chloroform and at least make an explanatory opening over the mastoid. On March 5, 1904, assisted by Dr. John Dunn, the anæsthetic chloroform being administered by Dr. W. W. Dunn, with all aseptic precautions the mastoid was opened. In making the skin incision close up to the attachment of the auricle, the knife at once entered a large cavity in the bone. The soft parts being rapidly pushed back, it was found that the whole posterior bony wall of the external auditory canal had necrosed away and that the whole mastoid process had been converted into one large cavity, covered externally by a layer of hard bone. This was rapidly cut away, showing a perfectly smooth cavity, taking the place of the mastoid antrum and the body of the mastoid process, almost perfectly round and filled with a compact mass of cholesteatoma, measuring approximately 3-4 of an inch in diameter. On account of alarming symptoms, the chloroform had to be stopped—the cholesteatomatous mass was scooped out, showing a perfectly smooth cavity about the size of a pigeon's egg. The cavity was rapidly flushed out with bichloride solution and packed and dressed, and the patient gotten to bed. He reacted well and with very little nausea. With such a large cavity to fill and with a patient in such a condition as his kidneys indicated, the healing was necessarily exceedingly slow. There was little or no pain or temperature after the operation, and in two weeks' time he was up; there was some slight infection of the wound. There was little or no filling of the cavity from below, as the bone was perfectly smooth and showed no blood vessels, but slowly the granulations from the edges of the skin wound above began filling in the cavity, and after five months' constant and careful attention by me the skin wound healed. There was still some slight discharge from the middle ear.

This case has been one exceedingly instructive and interesting to me. That he should have had such an extensive destructive process going on in the middle ear and mastoid for so long a time and with the formation of such a large cholesteatomatous mass, not to have shown local symptoms earlier, is, I think, very unusual, and that he has made so good a recovery is to me very gratifying.

II. *Chronic Suppurative Otitis—Repeated*

External Infection—Mastoiditis—Operation—Apparent Superficial Gangrene—Recovery.

Miss May T., 20 years old. Seen first on August 3, at our-door clinic of Eye and Ear Infirmary, with history of chronic suppurative otitis media since childhood, with total deafness in right ear; hear watch on pressure.

Repeated attacks of pain and supuration, and within the past two months almost constant severe boring pain over the mastoid region and the side of her head, during which time she had lost thirty pounds in weight. Her previous history also is that of Pott's disease in lower part of vertebra at 2 1-2 years—large abscess rupturing in right inguinal region and discharging for one year's time. She was under treatment with plaster jackets, etc., for nine years. Examination of spine at present shows marked anterior curvature in lower dorsal region—the whole spinal column being shortened probably two or three inches. For the past two weeks the pain had been practically constant and so severe that she had slept little or none, and then only when she would take some opiate. Four days ago the external auditory canal and also the external ear had become swollen and exceedingly tender, with a chain of enlarged lymphatics running down the posterior border of the sterno-mastoid muscle. Free discharge from external auditory canal. On account of the swelling no satisfactory examination could be made. Pressure over the tip of the mastoid elicited some pain. Temperature 99.8. The eye grounds were normal. A diagnosis of chronic mastoiditis was made, and on account of the history of such great loss of weight, the continued severe localized pain, and the low temperature, it was suspected that there might possibly be some intracranial complication, either sinus thrombosis or brain abscess; so it was determined to watch the case for a day or two.

Admitted to the Virginia hospital August 4th, temperature 99.4, pulse 88.

Complained constantly of the severe pain over the whole side of the head. The external auditory canal was frequently flushed with hot boracic solution and a hot bag constantly kept applied over the mastoid. She passed a very bad night. It is probable that a great deal of the pain was due to the inflamed and swollen condition of the external auditory canal and the glands at the angle of the jaw and down the

neck. Although no view of the interior of the canal or tympanum could be gotten, the probe revealed roughened necrosed bone in the middle ear. So in view of her intense suffering it was decided to operate at once. Assisted by Dr. John Dunn, the anæsthetic ether administered by Dr. Briggs (the patient being unable to take chloroform, the respiration stopping each time after several attempts), a radical mastoid operation was done. The incision through the soft tissues was followed by little or no bleeding. The bone was found to be exceedingly hard and dry, showing a chronic and long standing otitis. On removing the cortex, the vertical pneumatic cells were found to have coalesced into two narrow channels about the size of a goose quill and one-half inch long. These contained a thin, purplish, shiny fluid. Some of this fluid under the microscope showed cholesterine crystals. The antrum was then opened, the bone being very hard, and pus and granulations found; the whole posterior bony wall of external auditory canal was cut away, the antrum and middle ear thoroughly curttted; the antrum and middle ear cavity being thrown into one. The lateral sinus was exposed for a space of about one cm. in diameter. The sinus appeared to be perfectly healthy. The patient reacted well and slept fairly well that night and complained very much less of pain over side of head, but still suffered much from the inflamed glands.

Two days after operation the dressing was removed. There was still considerable discharge from the external auditory canal. On removing the drain the wound looked very pale and dry, so very different from what is ordinarily seen. The external auditory canal was cleaned and the wound dressed; her temperature was still 99.4—the severe boring pain in side of head having almost ceased. The next day there was noticed some odor about the dressing, and on removing it the wound was found to be covered with a dark grayish secretion, and emitting a disagreeable, penetrating odor. This condition caused me considerable alarm, as the whole wound surface seemed to be undergoing a superficial gangrene, and, in view of the fact that the dura had been exposed at the operation, deep infection was feared. The temperature and pulse still remained about the same. The fourth day after the operation the whole surface of the wound

was found of a dark, dirty green color, and the cavity in the bone filled with filthy pus, the odor being most intense, but the tissue around was not much swollen or reddened—the lower edge of the transverse incision being slightly swollen. Dr. Dunn and I were now fully certain that we had a case of severe superficial gangrene to deal with, and in a patient so badly run down and with the dura exposed, the prognosis appeared grave indeed. The stitches were removed and the entire cavity was cleansed as thoroughly as possible, and the wound surface was thoroughly swabbed with pure spirits of turpentine; the packing was also soaked with it, and the dressing applied. Considerable pain followed this dressing for about four hours. We were induced to make use of the turpentine on account of the many favorable reports of its action in gangrenous conditions and the splendid effect it had fully warranted the application of so severe a remedy. A sample of the pus, taken at this time, was submitted to Dr. E. G. Hopkins, pathologist to the Virginia hospital, for bacteriological examination. His report, made to me a few hours later—"Pus cells; staphylococci a few; enormous number bacilli aerogenes capsulati"; completely changed the clinical picture and greatly relieved my anxiety. This latter—the bacillus aerogenes capsulatus, Dr. Hopkins assured us, is a non-pathogenic germ, and in the presence of the other germs was the cause of the fearful odor and the dirty green secretion, and, instead of a case of severe gangrene, we had a very mild infection to deal with, which would probably not have taken place at all except for the poor physical condition of the patient. The patient passed a fairly good night and next morning the temperature was normal, but my gratification was far more complete when the wound was opened next day and found to be in a more healthy condition; all of the apparently gangrenous tissue having come away, and after cleaning thoroughly with alcohol, healthy pink granulations showed, but still with some odor. Next day very little secretion from the wound, surriace looked healthy, odor all gone. The wound filled fairly well and five weeks later was entirely healed. There is still some slight discharge from external auditory canal—no improvement in hearing—patient's general condition better than for months and she has gained some six pounds in weight.

I have taken the liberty of reporting these two cases because of the unusual complications met with, and, to the members interested in this line of work. I feel sure that they will be, not only interesting, but also instructive.

313 W. *Grace St.*

SARCOMA OF CERVIX UTERI.*

By JOHN E. PHILLIPS, M. D., Suffolk, Va.

Miss T., age 15 years, well grown, more than the average amount of flesh, apparently strong and healthy, called me hurriedly during May 1903. She had a small, quick pulse of 140. Her mother stated that she had just passed at a single gush a quart or more of blood from the womb, and that she had been bleeding some before. I had the foot of bed raised, cold cloths placed over lower abdomen, gave ergot in full doses, and under this treatment hemorrhage checked. I found upon inquiry that patient suffered from habitual constipation. I used enemata and oil by mouth and as a result large quantities of feces, containing many hard lumps, came away. I kept her quiet in bed until she had regained her strength, which she did very quickly, and then I gave her an aperient to take regularly.

She returned to her place in school and had no more trouble until September 3, when she began to have hemorrhages, which were, between this time and November 11th, rather profuse at times. On November 11th there was an alarming hemorrhage, and I was called hurriedly again. Gave viburnum compound and ergot in full doses. Elevated foot of bed and hemorrhage checked. She stated she had movements from bowels every day, but I was not satisfied about conditions and as soon as hemorrhage stopped I made examination.

The pelvis was completely choked by a large fecal mass. The rectum was of course dilated to accommodate this mass, and the uterus was so lifted out of its position that an examination could not be made at that time. I ordered four ounces of warm castor oil to be injected in the mass every six hours and one ounce to be given

by the mouth at same intervals. Result: About 5 or 6 quarts of feces were passed. Treatment was accordingly modified, but continued, and heavy evacuations containing lumps passed for three or four days more. I now hoped that my patient would improve, but was doomed to disappointment.

On November 21st an alarming hemorrhage occurred and I now made a vaginal examination and found lying in the vagina several large blood clots, which I removed. The cervix was large, soft and in the external os could be felt a small, soft pulpy mass. I immediately used very hot irrigation and packed with 10 per cent. boric gauze. I removed packing next morning, and found a large soft mass filling the vagina, hanging from the cervix by pedicle. I removed a portion of this growth with the hand for purpose of inspection. Free hemorrhage started at once, and the patient's condition being bad I packed again and prepared to remove the entire mass, which I did that afternoon. Patient rallied quickly, considering the amount of loss of blood, and in less than a month looked well and so continued until late in January, 1904.

I saw her about the middle of February and found that there was a return of the growth, and her mother reported that pain in the small of the back started about this date and was soon followed by a bloody discharge large enough to weaken the patient very much. I removed the growth and thought I did it thoroughly; packed with iodoform gauze, which was removed every other day, and its removal was followed by irrigation and inspection of wound, and all suspicious looking granulations destroyed. This was kept up until the cervix was entirely healed. Patient now improved rapidly in flesh and strength; her cheeks became rosy, and the mucous membranes red; in fact, one noticing her on the streets two months afterwards would have regarded her as enjoying excellent health.

In July she was reported as having a return of symptoms. Hemorrhage, while not so free this time, was constant. The vagina was completely filled with a mass which had to be removed in order to control hemorrhage. New growth now appeared in the wound before it healed and I advised that the young lady be taken to a hospital. Before leaving for the hospital there was evidence of metastatic growth in the left side of pelvis.

* Read at the meeting of the Seaboard Medical Association, at Washington, N. C., December 6-8, 1904.

Patient on 16th or 17th of September, was removed to the Church Home in Baltimore and referred to Dr. Thos. S. Cullen. The tumor, first removal November 21st, 1902, was attached to the mucous surface the entire length of cervical canal and beyond internal os, apparently by a thin broad pedicle. Macroscopic appearance: A mass easily broken up with fingers which on close inspection looked in some portions like many soft polypoid growths bound together by frail web like fibers. There were also whitish looking empty sacks with apparently no blood supply; they were very soft, and could be easily mashed between the fingers. There was also a portion that looked like a hollow whitish cockscomb. Histologic report made by Dr. Taliaferro, of Norfolk, Va., who examined it, declared it myxoma.

At second removal, February 15, 1903, the neck of the growth was stouter, the attachment stronger and dipped somewhat deeper in the tissue, and involved a greater portion of the right side of the cervical lip. The greater portion of the growth was easily removed with the hand, and parts of it looked like brain tissue and others like partly organized or embryonic tissue. Removal was compulsory on account of hemorrhage. No microscopic examination of growth was made. Five months after this, when the growth was removed for the third time, the whole mass looked like brain tissue. The growth at this time extended deep in the body of the cervix, reminding one of the description given by old writers of encephaloid cancer. By request, Dr. Cullen very kindly made the following report:

"Baltimore, October 31, 1904.

"Dear Dr. Phillips:

"Your kind letter of the 26th just received and I gladly comply with your request. I examined Miss T. at the Church Home on September 19th, and on account of the marked tendency toward hemorrhage did nothing until she was under anæsthesia. On vaginal examination the vagina was found to be markedly distended by a cauliflower shaped growth involving the entire cervix. This growth broke down under the finger and was removed with the utmost ease. Its removal was not accompanied by much bleeding. The growth had the consistence of brain tissue, and even with the naked eye one could render a diagnosis of sarcoma. The uterus was small. In the left

broad ligament there was considerable thickening; so we did an exploratory operation, immediately opening up the left broad ligament. Here we found a very dark melanotic looking growth attached to the iliac vessels. We examined carefully to see whether liberation was possible, but were soon convinced that the removal was out of question as the walls of the blood vessels were infiltrated. The mass in the left broad ligament was fully six inches long, four inches broad. The uterus was freely movable. Both ovaries were twice the natural size due to the many Graffian follicles. We made an opening in the left inguinal region, pushed back the peritoneum until we reached the pelvis, where the nodule was situated. Here we inserted a drain of iodoform gauze and closed the peritoneum over the growth. The patient lost no blood, but at the end of the operation her pulse was 150 and the pupils were much dilated. On histological examination the growth proved to be a spindle-cell sarcoma. Sarcoma of the cervix is exceedingly rare. We have had only three cases in the last twelve years at the Johns Hopkins Hospital. Sarcoma may be present in the young, as in this instance. Chances of recovery nil.

"Yours truly,

(Signed)

"THOS. S. CULLEN."

When above report was made the patient was at home and failing rapidly. Cervical growth had again filled the vagina and large masses were sloughing away. Tumor in left pelvis now prominent. When death relieved her, on November 29th, the whole pelvis was filled to brim and very prominent.

POINTS OF INTEREST.

1st. The absence of metastasis or general symptoms for 14 or 15 months and the phenomenal growth and progress of the case after metastatic growth appeared—death occurring in 75 or 80 days.

2nd. When one thinks of findings described, and the almost fatal hemorrhage that occurred in this case November 21, 1903, it does not take a very great stretch of imagination to see that a medico-legal question of grave importance might arise in some future case should death occur as the result of hemorrhage and before diagnosis was made.

I report this case because of the interest that naturally attaches to such a rare condition. I have reported the very first symptoms of the

uterine trouble the young lady ever had and the most important features from that time until death closed the case because I hope it may be of service to others.

It seems to me probable that this was myxoma in the beginning, but that it was in the end a most malignant type of sarcoma no one can doubt.

The opinion that in the beginning the growth probably was myxoma seems sustained somewhat by—first, the slow progress of the disease in the beginning; second, the shape and appearance of the growth; third, lack of general symptoms or metastases; fourth, the histologic examination and report of Dr. Taliaferro. The first hemorrhage (in May, 1903) was almost surely due to the presence of the growth in the cervical canal, and its origin must have been high up in the canal so that contractions on growth, probably assisted by the treatment, forced the body of the mass in the uterine cavity (instead of out, as is usual). There the mass grew until thrown off November 22nd. This would help to account for the pedunculated character of the growth and lack of symptoms from May until September.

Sarcoma seems in some cases to start from injury. Could the fecal mass constantly pressing against the uterus have been responsible in this case?

SOME OF MY MISTAKES IN OBSTETRIC PRACTICE.*

By J. T. GRAHAM, M. D., Wytheville, Va.

"Nothing succeeds like success" is a bright, catchy phrase, very popular with the casual observer; but those who delve deep into the philosophy of human endeavor and reason from cause to effect, find it is often a perversion of truth. "The man who never makes a mistake rarely makes anything" is absolutely true; and we always find the temple of success built upon a foundation whose chief stones are mistakes and failures.

You will notice in the rather unusual title of this paper that my modesty forbids recording all my mistakes, lest you might conclude that

* Read before the Southwest [Va.] Medical Society during its semi-annual session at Bristol, Tenn., December, 1904.

the foundation of my success is out of proportion to the superstructure.

Do we ever forget the first case of labor we attended?

We were so top heavy with knowledge that it made us weak in the knees to carry it; at least my knees were weak and trembling when I attended my first case. It was the most difficult case, I then thought, that I would ever be called on to manage. The woman was about a 12 para and knew much more about labor than I did. Yet I went prepared for trouble and found it. About two hours after my first examination, in which I couldn't make out anything definite, I yet assured the mother and numerous neighbors that everything was all right, the bag of waters broke with such a rushing sound that I jumped clear out of my chair. By the time I had recovered my senses and regained my equilibrium the pains were coming hard and fast. I was sure that woman was going to die, but just before the end came the child was born, and the sound of many waters followed it. I called for hot water, vinegar, ice, and ergot all in one breath, to check that awful hemorrhage. On closer examination, I found a few blood clots and the bedding well soaked with liquor amni. Then I took a long breath, my heart went back to its usual position, I finished the operation, and the patient made a good recovery.

The next three cases I attended had eclampsia. I have sometimes thought what nerve I must have had to keep on practicing after such a record. Puerperal convulsions cannot be described; they must be seen to be appreciated, and once seen are never forgotten. No physician ever wants a second case, yet I had the misfortune to see three cases during the first six months after beginning practice. The first case was attended by an ignorant midwife, who told the family that the convulsions were very hard pains and would stop as soon as the child was born. In this she was mistaken, and I was called in to see the patient after she had a dozen spasms and was in a state of coma. Venesection and chloroform had no influence on the severity or frequency of the convulsions. Hypodermics of morphine masked the symptoms for a while, but the spasms continued every half to two hours until the patient died, just 24 hours after I first saw her. I had consultation in this case, but all our efforts were futile.

In three weeks after this experience, I was called to see another woman, a near neighbor of the first, who had severe headache, very nervous, and some slight jerking of muscles, which I regarded due more to fear or suggestion, on account of having seen the case just described, than to toxemia. Her symptoms improved under diuretics and sedatives. She was in six weeks of full term. I was not with her in her confinement, but I learned afterwards she had convulsions for several hours and died. The mistake I made here was in letting her go on to term. Labor should have been terminated, and the life of the mother and child would have probably been saved, but both perished. It is often easy to see some better course to pursue after it is too late. The third case of eclampsia I saw, and I hope the last, was three months after the second. I was called in to administer chloroform while the attending physicians dilated the uterus and delivered the woman with instruments. She was under the influence of chloroform for nearly two hours, and had four severe convulsions during that time. She died twelve hours after delivery. I was taught that chloroform would control puerperal convulsions. In the two cases in which I have given it the failure was complete. Venesection did no good. Morphine seemed to relieve for a while.

The fearful experience I had in these cases caused me to study eclampsia more thoroughly. I compiled a very learned article, as I thought, on the subject, in which I tabulated nearly one hundred cases in such a way as to prove my theories. I worked out on paper the cause, showed how it produced its effect, and evolved a treatment that to my mind was a specific. Strange as it may seem, this article did not set the medical world on fire, and has even been overlooked by the authors of our text books on obstetrics. My treatment for eclampsia now is preventive rather than curative. Keep the excretory organs of every pregnant woman in good condition, and we will rarely have a case to treat. If we do meet with such a misfortune, elimination of the poison by any and every means possible is the best we can do.

Another case of labor in which a mistake came very near costing the patient's life will never be forgotten. The woman was a delicate primipara, whose labor progressed normally in every respect up to the end of the second stage. Before the cord was tied and child handed to the nurse, I noticed my patient breathing badly,

face and lips colorless, pulse rapid and feeble; in fact, she was in a state of profound shock. I at once thought of hemorrhage, but found no flow from the vagina. Placing my hand over the abdomen I felt a soft uterus almost as large as before labor. The short cord had detached the placenta, which plugged the cervix, and the uterus was rapidly filling with blood. I grasped the uterus firmly with no uncertain grip and delivered that placenta, which was followed by an enormous quantity of blood. I found this concealed hemorrhage not a minute too soon, for it was by the most heroic and persistent treatment that her life was saved. The lack of pulsation in the cord, together with the marked symptoms of shock, ought to have called my attention to the true state of her condition sooner.

I had another case of hemorrhage which was anything but concealed, and that was bad enough, but of all the enemies we have to contend with, we fear the most the one that fights in the dark.

Another case in which I made a mistake was a young primipara 17 years of age, very large and apparently well developed, but whose pelvic capacity was below the normal. The head of the child, which was large, refused to enter the pelvic strait. I insisted on chloroform and delivery with forceps. This was refused at first, but after 36 hours of tedious, inefficient labor, I sent for assistance, and proceeded to deliver with long forceps. The operation was very difficult, requiring the combined efforts of myself and assistant for three hours in the hardest task of this character I ever tackled. The effect was a badly bruised parturient canal, a lacerated perineum, and a still born child; which, although it received no blood from the mother after birth, weighed 17 3-4 pounds. This was clearly a case where craniotomy should have been performed, and the injury to the mother prevented; but the family objected to the operation so strenuously, that I yielded with the consequences already described.

Now, gentlemen, if you agree with me that our success is built upon our mistakes and failures, you will discuss this paper and tell us of similar cases in your experience, or what you would have done, had these cases fallen in to your hands; for by not discussing it you will give tacit acknowledgment to the fact that your success is without foundation.

CONDUM USED TO STOP BLEEDING NOSE.

By WM. W. WILKINSON, M. D., LaCrosse, Va.

I was recently called in consultation to assist in stopping an obstinate nasal hemorrhage, in a man suffering with cirrhosis of the liver. He was about 37 years of age; had been a hard drinker; and for the past ten months has been confined to his room; during which time he had suffered with gastric catarrh, nausea, abdominal dropsy, jaundice, diarrhea with intestinal hemorrhage, and alcoholic neuritis. For the past two months his condition has improved very much, and he has been able to get about in his room without assistance. A few nights ago his nose commenced bleeding profusely at 3 A. M., and his physician being unable to stop the hemorrhage, called me in to assist him. It was 9 A. M. when I first saw the patient and the hemorrhage was alarming. Pressure at the root of the nose and about the nasal region of the face, applications of ice to the back of the neck, nasal douches of solutions of alum, tannin and antipyrin had been resorted to without result. The first thing we did was to arm a catheter with a string and proceed to plug the posterior nares, then the anterior. When this was done the nose could be seen to dilate on that side as it would become distended with blood. After becoming very much distended it would begin to escape either anteriorly or posteriorly. The plugging was attempted twice, each time stopping the flow of blood for a while, then it would break by the packing. The blood coagulated very poorly, which explained why we could not get any better results from the plugging. We then packed the nasal cavity with a strip of lint which had been immersed in a saturated solution of tannic acid in water. This did no good, but not knowing what to do next we let it remain until 10 P. M., when his nose had then been bleeding nineteen hours; the hemorrhage continued as profuse as ever, and the outlook seemed very serious. We came to the conclusion that if we had something after the order of a Barnes' bag and inserted it in the nose and then dilate it that we would be able to arrest the hemorrhage.

Forthwith we procured a large rubber male catheter and a condum. The catheter was put in the condum and the lower end of the condum tied by wrapping a string around it and the catheter. This apparatus was inserted into the

nose for about four inches and a bulb syringe attached to the end of the catheter. Ice water was then pumped through the catheter to distend the condum. This stopped the flow of blood, but the patient complained of its giving him considerable pain; hence we made a leak in the condum so as to diminish the tension; then we continued to pump ice water through the catheter slowly, keeping the condum moderately distended. This treatment was kept up for thirty minutes, after which there was no further hemorrhage. The catheter was cut off at the nose, and the other portion was allowed to remain until the next day, when it was removed without recurrence of hemorrhage.

A PLEA FOR THE EARLY TREATMENT OF STRABISMUS.*

By OSCAR WILKINSON, A. M., M. D., Washington. D. C.

The treatment of squint has been revolutionized within the past two decades. The works of some of modern oculists have so modified our ideas of strabismus and so revolutionized its treatment that to-day we enter upon its treatment with the same confidence, in cases seen early, as the surgeon goes to a case of simple fracture.

There are two methods of treating strabismus; one is scientific, which consists of the optical correction of the error of refraction, development of the acuteness of vision, the training of the fusion centres, and muscular exercise. This method applies itself to the cause. The other is operative and empirical, and seeks only to relieve a deformity. The scientific method, which was introduced by Donders and Helmholtz in 1860 and brought to a greater perfection by the aid of such men as Landolt, Wecker, Javal, Maddox, Stevens, Duane, Reber, Savage, Worth, and Browne, has been steadily gaining ground, and it is to be hoped that it will be so perfected that it will do away with the necessity of the operative method.

Since the time of the itinerant oculist, Taylor (*Annals Ophthal.*, July, '04), or at least, since the time that the operation was suggested

* Read before the Medical Society of the District of Columbia, November 16, 1904.

by Prof. Stromeyer, and put into execution by Prof. Dieffenbach, in 1839, the operation of tenotomy has been in vogue. During the balmy days of Duffin, Calder, and Critchett it was performed on most all cases without regard to condition, duration, or age. This operation, as all other fads, had its age of popularity and suffered a reaction until a time came when the treatment of strabismus was under such ill repute that the general practitioner was slow to advise treatment for same, or even advised against treatment, telling them to "wait and the child will outgrow it." Such pernicious advice could not fail to have its evil results, and to this day it exerts its influence on the laity, and, I regret to say it, some few of the profession. It is not uncommon to see these cases coming to the oculist at the age of six years or more, with a history of strabismus from almost infancy, stating that the family physician had advised them to defer treatment until they were old enough to go to school. We hope that the day for such advice has passed and that these cases will be sent to the specialist at the very beginning of their trouble.

To-day the early treatment of strabismus is so successful and so void of evil results, that the man who advises his patients to neglect treatment does them an everlasting and irreparable injury, and hinders medical progress. If these cases are not seen until they are eight to ten years old, as a rule they are more or less amblyopic in the deviating eye, and that often without the power of central fixation. It is just as true that the early and preventive treatment of these cases gives the most flattering and gratifying results, as it is with cases of tuberculosis. It is in the early cases that we are able to get absolutely perfect results, both as to function and cosmetics, and that, too, without an operation. With the correction of the errors of refraction, development of the acuteness of vision, training of the fusion centers, and judicious muscular exercise we see these defects clear away never to return. It is a delight to treat these cases when we can see them early—i. e., before any permanent damage has been done, but there is nothing more sad to the ophthalmologist than to have one of these cases come to him at the age of ten, twelve or more years, with a history of strabismus from infancy, with almost total blindness of the deviating eye from non-use. In these cases we expect nothing from

treatment except a cosmetic result, and that is to be obtained after one or more operations, while if the case had been seen sooner the eye would have been both useful and straight, and that without an operation.

Blindness from disuse is due to gross neglect on the part of the child's parents or of the physician, or gross ignorance on the part of the oculist in charge. If a child is seen early there is no excuse for blindness from non-use, and when it is present some one is to blame. These are the cases that deviate after tenotomies, and have thus brought that operation into disrepute. The early treatment of these cases insures good vision in both eyes, insures a developed fusion center, and useful binocular vision. After the central fixation is secured, and the fusion faculty is developed to a normal state, there will be but slight tendency to deviation. This is proven from the fact that cases of esophoria that are operated on after the fusion faculty and central fixation are developed seldom ever deviate.

This waiting from year to year before the treatment is begun is throwing golden opportunities away and increasing our difficulties. What is the result of waiting? Granting that the deviation does at times decrease as the child advances in age, it is the experience of such men as Worth, Valk, Browne, Stevenson, Reber, Maddox, and Jackson that perfect results as to function are seldom possible to be obtained—i. e., cures are not possible in delayed cases. In children of eight to ten years and older, there is not much to be expected from fusion training. Mr. Worth is of the opinion that fusion training is not possible after six or eight years. As to this we may not all agree, but we all do know that fusion training in children older than this is exceedingly difficult and what little is gained is dearly paid for. By waiting the treatment resolves itself largely into that of an operation, while the function of the eye is lost.

If the family physician will make it clear to the mothers of these little sufferers that if they will see their oculist early that an operation will probably be avoided, and that the child's eye will be far more apt to be restored to usefulness, I feel sure that we will see these cases much sooner than we have been seeing them, and the operation of tenotomy will almost disappear. It is as much the duty of the family physician to see that these cases are brought early as it is to send in cases of glaucoma early. You do not

advise your patients with talipes to wait till they are ten to fifteen years old before seeking relief, but you send them early to the surgeon while he is yet able to get more perfect results and at a less sacrifice on the part of the patient. The delay in cases of squint is just as fatal in its results.

Dr. Browne says, in his admirable treatise on squint (Browne & Stevenson), that squint would be a very rare occurrence, except from remote country districts, if they could be seen soon after the "first glide of the eye." Holthouse found that 92 per cent. of cases seen early were improved, and that 60 per cent. were cured by glasses alone. Reber says (New York Medical Journal, November 5, 1904): "In the child (under seven years) series, 88 per cent. of the whole number were benefited by glasses and 72 per cent. were cured. In the adult series but 22 per cent. of the whole number were benefited by glasses, 16 per cent. were cured, and 64 per cent. were absolutely uninfluenced by glasses." Dr. St. John Roossa says (N. Y. Post Grad., 1897, p. 721): "I believe convergent squint depends almost entirely, with an exception that does not reach one per cent., on a condition of the eyeballs * * called hypermetropia. I believe that squint depends upon just what Donders said it did—upon an abnormally short antero-posterior eyeball." The only relief for hypermetropia is the use of glasses, and the early application of them in these cases will be far more apt to bring about a cure than if they are deferred until a habit is formed or the muscles have undergone a change in their relative strengths due to an abnormal position.

I heartily endorse the sentiment expressed by Dr. Hale (Journal A. M. A., Feb. 20, '04.) when he says: "Squint ought to be made an annually discussed subject at mothers' meetings." It is only through the family physicians and the mothers that we hope to see these cases before some serious damage has been done. We look to the physician to educate the laity out of the false and injurious idea that these cases should be allowed to go untreated until they are old enough to go to school. Reber's statistics (l. c.) show that the average age at which the squint begins is about 3 years, while the average age at which they apply for treatment is 7 years in private practice, and much later in hospital practice. These children, as

here shown, are allowed to wander about for four years without treatment, increasing yearly the difficulty of a cure. The advice that these mothers have heretofore been too often receiving is, "Let the child go, it may grow out of it; if it does not, after it gets older, you can send it to your oculist and he can clip a tiny little muscle and the child will be all right." Such advice is doubly wrong. In the first place, there is no set of operations that require such delicacy, discretion, and judgment in their execution as those on the extra ocular muscles, and instead of being a simple matter, it is one that is fraught with many complications. In the second place, the child is passed along until an age is reached when a cure is impossible, or is attained with the greatest patience and diligence, both on the part of the surgeon in charge and the patient. I always do a tenotomy with some misgivings. It is always with regrets, that I do a tenotomy or an enucleation. I feel that if our therapeutics were what they should be, and we could see these cases early enough, we could avoid these two operations in the majority of instances.

There is an early tendency to squint in a great number of children. Babies roll their eyes about aimlessly, and fixation is acquired by practice. After fixation is developed fusion of the two images follows naturally. Anything that will interfere with the acuteness of vision will throw the burden of the work on the good eye and permit the weaker one to wander more at will, until the stronger internal rectus muscle pulls the eye inward, being assisted by the natural stimulus of accommodation. If one eye has a greater amount of hypermetropia, or of astigmatism, or if there happens to be a slight opacity of the cornea from an old phlyctenular ulcer, central fixation and fusion are made more difficult and the child is far more apt to squint. To prevent this we must see these cases early and remove the exciting cause, and then the child is able to develop in a normal manner. In some children there is an inherent weak fusion faculty. Mr. Worth has shown that out of 1373 cases of squint a hereditary tendency was manifested in 711, or 51 per cent. Jensen gives this percentage as high as 70. In squint the education of the vision has not been sufficiently dwelt upon. The younger the organ is the greater will be the influence of judicious exercise. If the acuity of vision in these eyes were properly developed at

an age when we could get the greatest results from exercise, amblyopia ex anopsia would be such a rarity that few would ever see it. There is no reason why the vision of these deviating eyes should not be brought to normal. In the young the sight can be developed as well as the function of any other organ. With the proper care of the deviating eye we expect its sight to be as good as that of its fellow. Delay here means a failure. The older the child the slower the progress, and when it is too old the vision can seldom be brought to normal.

I will say just a word as to the spontaneous cures of squint. That there is such a thing as spontaneous correction of the deviation, no one can doubt, but we know that it is exceedingly rare. As to this Dr. Browne (1. c.) has the following interesting and appropriate remarks to make:

"To the ophthalmic surgeon these cases are rather like ghosts—never seen by first-hand but always heard of by second-hand reports." Granting that we do see one of these cases once in a great while it fails to be any argument for the delay of treatment, as it is the experience of every oculist that these eyes are more or less amblyopic, and do not, as a rule, functionate with their fellow. The eye is as a blind eye from any other cause, and the so-called spontaneous cure of squint is no cure at all, but only a relief of an abnormal position of the eye.

We are often asked "when should the treatment of strabismus begin?" There ought to be but one answer to that question. The day that the deviation is noticed is the best time to begin treatment. We have already seen the baneful results of delays, and I can assure you that the early treatment is as certain and harmless as the later is uncertain and often injurious. The pernicious custom of having these cases wait till they are old enough to go to school is so common that I am constrained to bring its evil results to your notice with as much force as possible. I heartily agree with the remarks of Dr. Browne (1. c.) when he says: "If the general practitioner will recognize the fact that all children are liable to squint, and that squints in the periodic stage are very curable, whereas those in the habitual stage are very difficult to cure, and that treatment should be begun, no matter how young the patient may be, immediately after the first 'glide of the eye' has been observed, squint will almost vanish." Such

opinions from competent men ought to be kept so constantly before the minds of the general practitioner that he would feel that he was not doing his duty by his patrons until he had not only advised these patients to take treatment, but had urged them to do so.

TREATMENT.—The simplicity of the early treatment of these cases forces me to make some general remarks on that line. The indications for the early treatment are the correction of the error of refraction, the building up of the general health, the improvement of the visual power of the deviating eye, the development of the fusion centres, and muscular exercise.

The first thing that should be done in all cases is to paralyze the accommodation thoroughly by the use of atropine for several days, and the correction of the errors of refraction as determined under the influence the mydriatic. Almost or full correction should be given for constant use. The second step is to attend to the child's general health. I think that this phase of the treatment of squint is too much neglected in practice, and too little attention is given to it in the works on the treatment of strabismus. Gross impairment of the child's general health is sufficient to cause an unbalanced condition of the muscular equilibrium in cases that are already predisposed that way by errors of refraction, anisometropia, or a slight opacity of the cornea.

Improvement of the vision of the deviating eye is to be obtained by the use of atropine in the good eye and thus forcing the use of the deviating eye for near. If this fails it may become necessary to tie up the good eye for several hours at a time each day and make them use the defective eye for everything. In recent cases the vision will greatly improve and that in little time. This should be kept up until the vision of the originally deviating eye is as good as that of the other, where this is possible. The development of the fusion centres is of no less importance. To Mr. Worth, of London, we are indebted for bringing this part of the treatment to special prominence. His amblyoscope is one of the most valuable instruments for the development of the fusion faculty. Muscular exercise is best given by this instrument, and at the same time that the fusion training is being given. With me the fusion training and muscular exercises are inseparable. This use of the Worth instrument is not recommended by

Mr. Worth probably because he is not an over-warm advocate of muscular training. If the images are made to separate as the exercise is being given we will get an exercise of the weaker external rectus muscle and at the same time exercise the fusion centers.

1404 L. St., N. W.

SYMPTOMS AND DIAGNOSIS OF CANCER OF THE STOMACH.*

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In order to save time and facilitate the general discussion for the evening, I have avoided any extended mention of the symptoms of gastric cancer and laboratory methods for diagnosis and considered only those points which are of especial interest because of the possibility of confusion arising therefrom. The disheartening fact in cases of gastric cancer is that the positive diagnosis is made at a time when it must almost invariably be coupled with an unfavorable prognosis. On account of the inaccessibility of the organ and the more or less indefinite nature of the symptoms preceding the detection of a tumor, the results of all forms of treatment are perhaps more uniformly unfavorable than in cancer in many other locations. This only serves to emphasize the necessity for the earliest possible recognition of the disease or even of the probability of its existence. Theoretically, at least, there is a stage in the development of cancer of the stomach, when, if detected, it would be amenable to surgical intervention, or, it is to be hoped, in the future, to some therapeutic measure.

One of the most suggestive points is a history of protracted gastric disturbance, from which the various remedies have afforded only temporary, if any, relief. The possibility of incipient cancer should be borne in mind in cases presenting a train of symptoms such as intractable epigastric oppression, flatulence, belching of food which has undergone little or no change, constipation (found in 75 per cent. of the cases of gastric cancer), continuous, indefinite pain

*Read before the Richmond Academy of Medicine and Surgery, October 11, 1904.

about the epigastrium, behind the sternum and over the left thoracic region, with a view of anticipating the diagnosis, rather than of simply rounding out the clinical history. It is frequently the case that such patients are persistently treated on empirical lines until the emaciation, vomiting, hemorrhage and presence of a decided tumor absolutely force the diagnosis.

The disease in its incipiency so closely resembles many of the simpler stomach disorders that subjective will invariably mislead. Yet we may gather from these, together with a careful study of the gastric contents, a train of symptoms which can at least be considered suspicious. When this has been done and appropriate remedies for the relief of the innocent diseases which might produce them have failed, we then have an additional and strong ground for considering a diagnosis of malignancy and ample justification for radical treatment.

The question might be raised as to the practical value of an effort to anticipate the diagnosis of gastric cancer. This point will no doubt be covered in the paper on the subject of treatment, but I would say in passing that there are recorded cases of cures and many instances of material relief following operation to the credit of early diagnosis, and even if this were not the case it would seem to indicate simply that the means of diagnosis were not worked out sufficiently to allow of the attainment of this object.

We are forced to start with the unfortunate premise that we have to deal with a disease which presents very few clear cut and distinctive symptoms. The pain, anorexia, nausea and vomiting, hemorrhage, emaciation, etc., are all referable to other diseases, as ulcer, chronic catarrh, benign stenosis of the pylorus. Further, the location of the growth alters the symptomatology. About 65 per cent. of all cases of gastric cancer are located at or near the pyloric orifice, 6 per cent. are located at the cardia, and the balance at different points on the two curvatures, or back or front. In cancer of the cardiac orifice there is a marked sense of obstruction, the food seeming to lie heavily at a point behind the zyphoid cartilage. Unaltered food is regurgitated immediately or shortly after being swallowed, it contains much mucus and no hydrochloric acid or digestive ferments, the emaciation is especially rapid.

This differs from cancer of other portions chiefly in the location of the pain and discom-

fort, the time vomiting occurs, the large amount of mucus, and the fact that lactic acid may be regularly absent.

The important symptoms are—First, progressive emaciation; second, gastric dilatation and loss of motility; third, presence of lactic acid; fourth, absence of hydrochloric acid and digestive ferments; fifth, presence of Boas-Oppler bacillus; sixth, presence of pieces of cancerous tissue; seventh, presence of a tumor; eighth, hematemesis and blood in the stools; ninth, vomiting some time after the ingestion of food.

Clinical methods have contributed very much to the early recognition of gastric cancer, and, indeed, affording as they do the clew to most of the symptoms enumerated above, they are necessary in order to make an accurate diagnosis. Four of these symptoms merit special reference.

1. Presence of an increased amount of lactic acid. This substance is the product of bacterial fermentation, and per se, is simply an indication of stagnation of the gastric contents. It may occur in a stomach dilated from any one of numerous causes or in a case of pyloric obstruction from any cause. A hydrochloric acid in the proportion of one per thousand will prevent the formation of lactic acid, it follows that lactic acid formation on the stomach is dependent on the absence or reduction in the proportion of hydrochloric acid. Lactic acid may be present in the food or test meal, therefore this point should be made clear before any deductions are drawn from a positive analysis.

It will be seen that this symptom is not characteristic of cancer, therefore, but of the absence or reduction of hydrochloric acid. Finally it is wise to repeat the test several times, to demonstrate that the presence or absence of this organic acid is not temporary.

2. Absence of hydrochloric acid and digestive ferments. Hydrochloric acid is almost always absent in cases of cancer of the stomach. It has been reported as present in certain cases where the tumor is suspected of having developed at the site of a gastric ulcer, but here the previous history will aid in making the point clear. It may also continue to appear in cases of circumscribed cancers of rapid growth. The absence of hydrochloric acid in gastric cancer is supposed to be due to the involvement of the acid forming glandular structure by the extension of the disease. This symptom may occur in severe cases of chronic gastritis or in those forms

of nervous dyspepsia in which no gastric juice is secreted. Other symptoms usually render the differentiation of diminished hydrochloric acid of cancer from that of other diseases easy. In like manner the presence of pepsin or pepsinogen may be ascertained by appropriate tests. The pepsin forming substance may be present without being converted into pepsin or both may be absent. In cancer both are usually absent. The test for hydrochloric acid like that for lactic acid, should be repeated several times.

3. Presence of Boas-Oppler bacilli.—No etiological connection is claimed for these bacilli with cancer, and they seem to be uniformly present in gastric contents showing diminished hydrochloric acid or increased lactic acid. Possibly they are concerned in the production of the latter. When found constantly in connection with these other symptoms they are considered strong confirmatory evidence of cancer.

4. Presence of cancerous tissue. It is considered somewhat rare to find such shreds in cases of gastric cancer, but as has been pointed out by Hemmeter and others, this is really because they are not carefully searched for. Cancer is one of the few conditions producing sloughing and breaking down of the mucous membrane of the stomach, which would give rise to the presence of such tissue fragment, and it should be a routine matter to allow the wash water from a suspected stomach to settle for a number of hours in suitable vessel, when examination of the sediment may show tissue fragments. These should be examined in the fresh state under the microscope, or, if sufficiently large, should be hardened and sections made, which will show the typical cells if the specimen is from a disintegrating cancerous mass. With care they will be found more frequently than has formerly been believed, and there is no reason why they should not be found regularly in cases where we have sloughing as evidenced by hematemesis. This is, of course, absolutely diagnostic.

When any or all of the first three conditions are found—i. e., increased lactic acid, diminution or absence of hydrochloric acid and ferments, and Boas-Oppler bacilli—all other possible conditions which might give rise to these should be carefully weighed and absolutely and speedily excluded, either by absence of corroborative symptoms or by the failure of proper remedies. In cases of gastric dilatation due to

chronic catarrh and atony the dilatation is not so marked except in long continued cases, hence the lactic acid is not so commonly absent. Further, the presence of a tumor can be demonstrated if the pyloric obstruction is so great as to induce marked stagnation and dilatation. A tumor of the pyloric orifice will not be found at the normal site of this portion of the stomach, the dilatation and increase weight of the organ dragging the pylorus down in the region of the umbilicus. The pylorus may be attached to the liver by adhesions, however, and thus render the palpation of a tumor located at this point impossible.

Regarding the hemorrhage, it is not abundant as a rule, differing from ulcer, where the clean cut destruction of tissue may at any time eat through a vessel of considerable size. The hemorrhage in cancer comes from the sloughing mass, and usually is little more than an oozing of venous blood. This small amount of blood remains in the stomach some time, and is acted upon by the juices and changed into hematin, resulting, when vomited, in "coffee ground" material, or if not vomited, in black stools.

Loss of appetite in cancer is peculiar in that it is apt to appear very abruptly—so much so that the patient will comment on it. This symptom will appear very early, and is of especial importance for this reason. It is present in over 90 per cent. of all cases.

A tumor in the upper abdomen will be found in over 80 per cent. of the cases of gastric cancer. Hemmeter states that 20 per cent. of cases do not show a tumor at any time of the disease. Whenever, in a suspicious case, a tumor is found which can be shown to be connected with the stomach, it may be taken for granted that the case is one of gastric cancer. Care should be taken in this differentiation, as tumors or enlargements connected with the spleen, liver, gall bladder, pancreas, duodenum, mesentery and omentum are to be excluded. With some the differentiation is almost impossible, as in carcinoma of the gall bladder, pressing on the pylorus (Hemmeter), or of the omentum in the upper abdomen. In tumors of the spleen and liver they move with respiration; in pancreatic tumors there is apt to be jaundice or cholemia due to the interference with the common duct, and the gastric symptoms are absent. Care should be taken to avoid confounding hard fecal concretions in the transverse colon with gastric

cancer. Preparatory to palpation of the abdomen the bowels should be emptied by a cathartic and an enema. Distention of the stomach with air or fluid is of assistance in determining the location of the tumor. It is most desirable that a possible diagnosis be made before a tumor can be made out, as a well defined or prominent tumor is apt to be inoperable by reason of its size or its metastatic deposits.

In conclusion, I would make the following suggestions: Be on the alert to suspect malignancy in cases of intractable "indigestion" in patients over 30 years of age.

Palpate the abdomen freely and frequently in these cases.

Remember that a tumor in the epigastrium warrants surgical intervention if the condition of the patient justifies it.

A case presenting symptoms such as nausea and "coffee ground" vomit, absence of free hydrochloric acid, presence of lactic acid, dilatation of the stomach, dull and more or less continuous pain, followed by no relief from remedies, *without the presence of a tumor*, justifies an exploratory laparotomy in the hope that a provisional diagnosis may have been made at a sufficiently early date to anticipate an inoperable condition.

WATER—ITS USES AND ITS DANGERS IN MEDICINE.*

By W. H. WALLACE, M. D., Disputanta, Va.,
President Southside Virginia Medical Association, etc.

If tradition be believed, brandy would be a more popular subject for discussion; but when you recall that brandy itself is about 55 per cent. water, you may possibly bear with me while I point out some of the characteristics, uses and abuses and dangers of this greatest necessity for man.

Water is liquefied gas. Chemists call it monoxide of hydrogen. One volume of oxygen and two of hydrogen when combined will make water or an explosion or both.

Water modifies the heat of summer and the cold of winter. It enters into the composition of everything that lives. Its sudden withdrawal

* Read before the Southside Virginia Medical Association and the public, at the quarterly meeting, Wakefield, Va., January, 1905.

from our planet would mean the extinction of all life—vegetable and animal. If the body of a man weighing 150 pounds were so thoroughly baked that no moisture was left, the residue would not be over 45 pounds.

Water is a generic term that includes a variety of substances, all of which have the common property of being more or less wet. The ocean is its chief source. Continuous moisture arises from its surface, and this evaporation, wafted by the breezes, becomes condensed into clouds and returns to field and ocean alike as rain, snow, etc. The saturated soil for the most part returns by means of springs, brooks, rivers, etc., to the ocean.

Rain water is spoken of as a pure, soft water. But that the first part of a rain may bring down impurities that have risen in the air, and therefore may itself be impure, is unquestionable. The danger may be remote, but rain water may thus be a bearer of infections when used for drinking purposes. As a washing water, however, it is practically free from the salts of lime and magnesium, and is without a peer. Lake waters are relatively pure unless the basins are contaminated by soluble salts, as the various salt lakes, or by decaying animals and vegetation. Of course, they may be contaminated also by sewerage from cities and towns, or farms along their shores, or along the banks of inflowing rivers or creeks.

It does not follow, however, that all clear waters are pure, for they may dissolve impurities or poisons along their sources, as well as hold them in solution or suspension. No water is cleaner, for instance, than lime or alum waters. Disease germs may be abundant in clear, sparkling springs, without their presence being detectable except by the chemist and bacteriologist.

In Tidewater Virginia, a special danger confronts us, in that the land is so low, the soil so porous, and the underground streams so near the surface that the water does not get proper filtration before it supplies the wells for our homes. It is not uncommon in this section to find wells not more than twelve feet deep. The water from all such wells should be boiled before being used as drinking water. That eminent authority, Parks, claims that all wells less than fifty feet deep are shallow and dangerous. Certainly, if his rule had no exceptions, we in

this section would fare badly unless precautions were taken.

We pay too little attention to the location of wells or family water supply. A well ordinarily drains an area of level land the shape of an inverted cone covering an area four or five times the depth of the well. Thus, a well twenty feet deep drains a piece of land about 100 feet in every direction from it. This should be remembered in locating wells or in the adoption of those already dug. Water closets, hen houses, cattle barns, and the like should not be allowed so near the rim of the circumference of the area supplying the spring. House or kitchen slops or other waste should not be allowed to be thrown out on the area of this circumference. A well in our section should be bricked up and cemented down to at least two feet of the bottom to keep out the upper surface water. Family burying grounds are often located improperly in too close proximity.

In considering the conditions of small towns that have no water works or efficient drainage system, even greater care is demanded, as the risk of contamination of wells is much greater.

Wood curbing of wells rot and set free organic matter in the water—giving a fruitful breeding home for water bugs and unsightly crawling things that drop into the well, where they die and decompose.

A well should have plenty of sunlight, which is the great destroyer of disease germs. Pumps that aerate the water by pumping pure air through it should be generally adopted.

As to filters, authorities say none are perfect. While in the Barbadoes, I saw a filter (which I have not seen described), made of three different size pans of what looked like limestone. The capacity of the largest was probably 20 gallons, which was set on a rock. Under it, about eight inches below, was set the pan next in size, and below this the smallest pan. The upper one was filled with water, which percolated through the porous limestone (?) and dripped to the next, and then again to the bottom vessel. The water coming from these filters was cold and clear. Unfortunately I do not know what these filters were made of.

Another method of purifying rain water (of which I find no mention in books) is in general use by sailors to-day. Rain water is caught and stored in wooden casks, and allowed to rot. The

time required depends on the temperature. After a while, the water becomes clear and as sweet as when caught; but it decomposes a second time, again clears, and after going through this process a third time it may be kept indefinitely, and from personal experience and observation I can testify to its wholesomeness.

A common fallacy is that almost any sort of water is good enough for ice ponds. "Purification by freezing," as it is called, does not kill many disease germs. Many cases of typhoid fever, for example, are clearly traceable to the use of such ice. Never cut ice from a pond from which it is unsafe to drink water.

Good water should be colorless, practically tasteless and odorless, and even then, if there should be a suspicion as to the purity of its source, it should be boiled before used for drinking purposes.

There is no doubt that physicians of the sixteenth or seventeenth century had better knowledge of water as a therapeutic agent than we have to-day—if we may judge from the teachings of such men as Floyer, Wilson, Gully, Johnson, Bernardo, Priesnitz, etc. Dr. Baruch, of York, a graduate of a Virginia college, is about the only man in America who to-day is doing good work along this line, but he has an extensive following.

Hydrophathy has suffered much at the hands of its friends. Enthusiasts claimed such extraordinary and unreasonable things for it that it soon fell into disuse. Even cold baths is but the practice of former years once more brought into prominence by Brand, of Berlin.

The theory of hydrophathy is broad enough to cover most diseases. Whatever is intended by it, is not to alter physiological processes, but to assist natural functions to resist and throw off disease. Most cases of convulsions in children, for instance, are due to acute indigestion and the toxins resulting therefrom. Plainly an indication for the treatment is to get rid of the irritant and relieve the congestion. The water cure man puts the little one in tub of hot mustard water, which opens the pores, and drains blood from the brain and vital centres. He assists the action of hot body bath by putting ice to the head. He administers tepid water to cause vomiting—thus unloading the stomach, and gives high enemata to rid the bowel of offending fecal matter, and in a day or so the child is restored to apparent health.

Not all the good of cold water bathing in fevers comes from lowering the temperature. It acts also as a stimulant to the vaso-motor system and the general circulation, and in this way relieves visceral congestion. Tepid water baths may be more pleasant, but are not so stimulating. When cold water is applied to the whole body, it should be done rapidly, with brisk rubbing to induce reaction. If mothers, after bathing their babies, would douche them well with water of about the temperature 70°F., they would seldom be called on to walk the floors at night with croupy children. In fact, towels wrung out in cold water and applied for a few moments at a time will frequently relieve an attack of stridulous or children's croup.

A warm bath followed by a cold shower or plunge bath is the best sort of a tonic, provided you rub off briskly with a soft towel immediately afterwards.

In cases of sunstroke, nothing so well reduces the high temperature or acts better as an ice pack or putting the patient in tub of ice water for a while—using brisk friction till the fever drops within reasonable bounds. In recent sprains the most grateful application and a most useful one is ice water. Ice *promptly* applied to a contused eye will prevent its turning black. One of the very best treatments for insomnia is a warm bath followed by alcoholic sponging. For hiccoughs, take a mouthful of cold water and hold the nose for a moment, and see how soon the hiccough disappears. Every one in these days of gorging knows the value of a cup of hot water taken half hour before meals. But what is not so generally known is that the drinking of large quantities of cold water during meals is responsible for much of the "biliousness" and dyspepsias we hear so much about. As a matter of fact, ice cold water is a bad habit too generally adopted at meals. One of the best applications for the relief of colic, from whatever cause, is a piece of heavy flannel wrung out in boiling water and liberally sprinkled with turpentine. For the relief of painful hemorrhoids, few things are better or prompter than applications of cold water or ice. The same may be said of prunitus ani. Thousands of lives have been saved by the timely hypodermolysis of normal saline solution. Wherever practicable, general bathing should be done by 1 P. M. Never think of bathing soon after a hearty meal or after drinking wine. Ordi-

narily, a general bath of five minutes duration is long enough.

Thus we might go on indefinitely in speaking of water—its uses and abuses—but the limit of time for such a paper admonishes me to leave unsaid much more that might be said on this subject.

Analyses, Selections, Etc.

Rupture of Gall Bladder—Spontaneous and Traumatic, Operative and Non-Operative.

Dr Benjamin Merrill Ricketts, Cincinnati, O., publishes in the *St. Louis Medical Review*, Feb. 18, 1905, an historic review of 203 cases of rupture of the gall bladder. The object of his paper is to present as briefly as possible the more important points of all available cases of spontaneous and traumatic rupture of the gall-bladder which have been reported to date (1905) in the hope that the comparison of the results of operative and non-operative methods of treatment thus afforded may be of use to the physician and surgeon alike.

To facilitate this comparison he has divided the 203 cases mentioned into two classes: the spontaneous and the traumatic rupture, and each of these classes in turn into four divisions, each of which he treats in a separate chapter.

In chapter I, under the heading of spontaneous rupture, he mentions 37 cases of spontaneous rupture of the gall bladder which have been operated on successfully, and shows that 80 per cent. of these have been females; that one or more concretions have been found in 72 per cent. of them, and that 80 per cent. of these successful operations have been cholecystomies.

In chapter II, he mentions 27 cases which have been operated on successfully, and shows that they were equally distributed between males and females; that concretions have been found in about 60 per cent. of them, and that 80 per cent. of these unsuccessful operations have been abdominal sections.

In Chapter III, he mentions six cases which have recovered without operation, and in chapter IV, 89 cases which have died without operation, showing that sex has been equally in-

involved in these cases, and that concretions have been found in about 60 per cent. of them.

A final comparison shows the recovery of 58 per cent. of those operated on as against the recovery of only 6 per cent. of those not operated on.

In chapter I, under the heading of traumatic rupture, he mentions 23 cases which have been operated on successfully, and in chapter II 3 cases which have been operated on unsuccessfully—death having been due to shock, infection and hemorrhage. In chapter III, 14 cases in which death resulted without operation, showing peritonitis to have been the ruling cause of death, and in chapter IV, 4 cases which have recovered without operation, recovery having probably been due to drainage. Comparison of all traumatic ruptures shows the recovery of 88 per cent. of those operated on as against the recovery of only 22 per cent. of those not operated on.

Epinephrin Hypodermically for Asthmatic Attacks.

Epinephrin is the active principle of the dried suprarenal gland of the sheep found only in the medulla of the gland, and is an unstable alkaloid. It has come to be generally known as adrenal extract or adrenalin. Only freshly prepared solutions should be used, as adrenalin undergoes oxidation and is converted into oxyadrenalin. Adrenalin has been used for years for bronchial asthma, but its use in this connection does not seem to have become generally known. Hence the value of the following notes from an article by Dr. Robert Leeper Doig, of San Diego, California (*Cal. State Journal Med.*, Feb. 1905), which added to the general fund of clinical observations on this subject helps to impart a useful lesson in the hour of need.

The first case reported by Dr. Doig was a female, age 25, who had her first attack when four years of age. There was gradual development of asthma in winter and hay fever in summer. In recent years she has had frequent severe attacks of asthma, when she suffered severe pain in the region of the sixth dorsal nerve. On April 1, 1904, she had a severe attack. Other remedies having failed, he thought that if adrenalin relieved an edematous membrane, its hypodermic use would relieve asthma. Hence he gave her 12 drops hypodermically of

an undiluted 1 to 1,000 solution. In less than two minutes, a relieved expression came into the face, and she remarked—thinking it was morphine that had been used: "I never had morphine relieve me so quickly." Each attack was afterwards promptly relieved in the same manner, but the doses did not exceed 10 drops of the solution. Eight to ten minutes after each such hypodermic a general tremor developed, which passed off in ten to fifteen minutes and left a feeling of general weakness. She was not cold, and it seemed much like fibrillary tremor of fear or excitement. Five grain capsules of suprarenal extract, as also 20 drop doses of solution of 1 to 1,000, given by the mouth, were tried, but did not relieve the attacks. Hypodermics of from 8 to 10 drops, however, always proved successful. Practically, the same experience was had in the second case—a man. It is proper to add that in a brochure on the subject by Messrs. Parke, Davis & Co., gangrene and subsequent sloughing have been known to follow the hypodermic use of solutions even much more dilute than 1 to 2,000; but Dr. Doig has never witnessed any such effect, even when ten or twelve drops of a 1 to 1,000 fresh solution was used. He thinks probably that when there has been sloughing the injections have been into the skin itself instead of through the skin into looser tissue.

Wounds in the Russian Army.

Medical Press, February 8, 1905, remarks: As all surgeons who served in South Africa are aware, the experience in that war has made a revolution in the treatment of bullet wounds. At the beginning of that war, it was the custom to treat perforating wounds as if they were septic, and to operate in nearly every case; but a short experience showed that those cases did best which were left alone, and, on the whole, the mortality of bullet wounds proved unexpectedly low. From a letter of Professor von Manteuffel, who was attached to General Kuropatkin's army, it will be found that a similar state of things is observed among the wounded Russians in the Far East. The Japanese use a bullet of unusually small bore, which produces wounds of but little gravity. Perforating wounds of the abdomen, thorax and cranium in most instances heal readily, unless where immediately fatal. Indeed the bullet very often has but little "stopping power." It was not

uncommon to apply a bit of plaster to a perforating wound before and behind, and allow the wounded man to continue on duty. Officers, too, continued to command after suffering bullet wounds in the leg, abdomen, thorax or neck. The lack of "stopping power" of the Japanese bullets is to be attributed not only to their small size, but to their extreme hardness, which prevents "spreading." Professor von Manteuffel mentions an interesting point with regard to shells in common use by the Japanese. They are filled with an explosive of such high power that when they explode they are reduced to fragments of mere powder, and are therefore comparatively harmless. In fact, the only injuries from such explosions are rupture of the tympanic membrane and irritation of the mucous membrane of the nose.

Symptomatology and Course of Gastric Ulcer.

In a paper read last year before the American Gastro-Enterological Association, Dr. Max Einhorn, professor of Medicine in the New York Post-Graduate Medical School, in speaking of the symptoms, said that we are not warranted in subdividing clinically a group of acute ulcer of the stomach. The symptoms ordinarily met with are the following—first, pain, especially in epigastrium; second, vomiting; third, hemorrhage. Dr. E. lays special stress upon the necessity of examining the stools for blood, chemically, if necessary, by means of Weber's test, which is executed as follows: Mix the suspected substance (fæces, stomach contents) with a few cc. of glacial acetic acid and thoroughly shake with sulphuric ether. The ethereal extract presents a Tokay wine color if blood be present. If the color is not distinct add to the ethereal extract equal parts of freshly prepared tinct. of guaiacum and ozonized oil of turpentine, which produce a blue color in the presence of hæmoglobin; fourth, appetite is but slightly diminished, there exists fear of food; fifth, cachexia.

The examination of the gastric functions usually reveals hyperchlorhydria and normal motility.

Regarding the course of the disease, Dr. Einhorn thinks that Russell's statistics, who reports a recovery of only 42.6 per cent. of patients with gastric ulcer, are rather discouraging, and does not coincide with his own experience, which is decidedly more favorable.

As to the American Medical Association.

The *American Journal of Surgery and Gynecology*, February, 1905, editorially says:

(1) The American Medical Association is all right; some of its manipulators are all wrong, and using the Association merely to further their own ends. The "House of Delegates" is their work, and gives control of the Association to a mob of medical politicians of the various States. There are many excellent men in every House of Delegates, but the plan gives too much opportunity to the men who make up the "rule-or-ruin" crowd in every medical society. It is undemocratic and will be abandoned sooner or later.

(2) The county society (or the district society in sparsely populated regions) is all right; and every doctor should belong to his local society. But to make every doctor who belongs to his county society a member of his State society, and pay dues thereto (whether or not he so desires), is radically wrong, and the rule must sooner or later be rescinded. It is abominable—as any fair-minded man will agree, if he but stop to put himself in the place of the man to be coerced; eventually the attempt will be made (unless the "system" is changed) to force every member of each State society to be a member of the National society—and thus the "subscribers" to the *Journal of the American Medical Association* be enormously increased.

(3) On the other hand, making membership in a certain local society obligatory upon all who desire to be members of the State and National medical societies, is correct in theory, but damnable bad in practice. Take New York city for example. To become a member of the State Medical Society a man must be a member of one medical society in a city which has more than 6,000 doctors! Suppose all belonged to the county society and all should happen to want to go the same evening! Worse—suppose a gentleman of international reputation removes from New York to St. Louis; mayhap he is president of the American Medical Association, and has incurred the dislike of six or eight members of the St. Louis Medical Society. He applies for membership and through the influence of these disgruntled ones he is rejected. The American Medical Association does not say to the St. Louis Medical Society: "Six or eight men cannot dictate as to whom membership shall be de-

nied, the majority must rule"—but calmly votes that "there shall not be two local societies in any city or county"; and so the great one, president of the American Medical Association though he be, cannot become a member of the society of which he is president! This is no idle dream of a poet—it is a stern description of a condition which actually exists; New York, St. Louis and Spokane are three cities which I know, personally, to be so dominated by an inside clique that any one objectionable to the select few cannot become members of the one "recognized" society, and hence are debarred from the benefits of the State and National societies. Is this right?

Book Notices.

The Diseases of Society. By G. FRANK LYDSTON, M. D., Professor of Genito-Urinary Surgery, State University of Illinois; Professor of Criminal Anthropology, Chicago; Kent College of Law, etc. Philadelphia and London: J. B. Lippincott Co. 1904. Small 8vo. Pp. 626. Cloth. \$3 net; 17 cents extra for postage.

This book is a strong presentation of the subject of the control of vice and crime, and should interest every one at all concerned in the study of how best to correct the evils of the day which are fast making criminals of even the society class of people. It is profusely illustrated from photographs of the features of criminals and those depraved in moral habits. It portrays the life character of breakers of moral and social laws that courts at present cannot reach, and points out in strong relief how such characters could have been saved from their depravity. Pulpits and moralists fail to reach such cases, nor is fear of the law any deterrent. There is no murderer, nor rapist, nor burglar, or incendiary, nor even pickpocket that does not know his fate under the laws of the land; and yet such crimes and vices are, according to statistics in America at least, surely on the increase. Anarchists and assassins are still more frequent—at least, in thought and desire of opportunity to display their propensities. It traces back much of such deviltries to heredity, to the lack of proper concern in, and care of such cast-off individuals by proper social so-

cieties. It points out the sensible remedy in better provisions for the health and comfort of the poor, the giving of work and compensative wages to men and women, and elevating that class by social relationships. Public baths, gymnasia under prudent direction, libraries and proper public amusements are among the means advocated to keep up health of body and of mind; and then the moral influences of conscience and of religion, etc., can find a fertile soil for their seed. From this class of cast-offs remove the temptations of the bar, of the bawdy houses, of the gambling saloon; and in short, adopt the principle that a sane mind dwells in a sound body. The author strikes boldly at the oppressions of wealth, and points out how often a temptation to vicious life may be averted by a kindly, helping hand, and without fear or favor he tells of the wrongs of so-called "society life," of the abuses of those in power in making more beggarly those already of necessity beggars. It is a book that should be read by those who have a desire to be benefactors of the human race, as well as by ministers, professional people, etc. Such reading must result in the leaving of lasting impressions, which would lead to earnest, urgent efforts to improve the home life, the surroundings, the health of the pauper class, or those whose hereditary inclinations are already depraved. A notice even of this length cannot give a clear idea of this volume, which, if made popular reading, would help in the proper inculcation of lessons of morality, and would help to save those who are now simply tempted by force of circumstances, of poverty, of lack of proper business employment, etc., to viciousness of thought and action. As far as possible, place this book in every house of affluence, in public and private libraries.

Progressive Medicine, December 1, 1904. Edited by HOBART AMORY HARE, M. D., Professor of Therapeutics and Materia Medica, Jefferson Medical College, Philadelphia. Assisted by H. R. M. LANDIS, M. D., Assistant Physician Out Patient Department of Jefferson Medical College Hospital. Lea Brothers & Co., Philadelphia and New York. Paper. 8vo. \$6 per annum.

This number of the "Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Societies" devotes about 110 pages to advances in diseases of the diges-

tive tract and allied organs—the liver, pancreas and peritoneum—compiled by Dr. J. Dutton Steele. Dr. Jos. C. Bloodgood edits the notes on advances in anesthetics, fractures, dislocations, amputations, surgery of the extremities and orthopedics, covering about 110 pages. Dr. Wm. T. Belfield reviews the literature of genitourinary diseases in about 24 pages. Diseases of the kidneys are reviewed by Dr. John Rose Bradford in 22 pages. A practical therapeutic referendium is given by Dr. H. R. M. Landis in about 80 pages. A good index is appended. We have so frequently referred to the scope and excellence of successive issues of *Progressive Medicine* that we would be glad to know that the advice to become annual subscribers has been properly taken.

Practical Dietetics. By A. L. BENEDICT, A. M., M. D., of Buffalo, N. Y. Chicago: G. P. Engelhard & Co. 1904. Large 12mo. Pp. 383.

This is a plain, practical book on the subject named—presenting underlying principles and facts upon which nourishment of body in health and disease depends. It deals with the dietary requirements of health, and of diseases in general—as well as for a number of specific conditions. It takes a sensible view of the uses of tobacco, coffee, etc.—so unlike the general run of books on dietetics that goes to extremes. The advices given as to dietetics of the period of growth, etc., are the embodiment of good, common sense. We most cordially commend this book to the general practitioner, who will often find that advice as to the proper selections of foods for the sick is equal to the best of medicinal prescriptions. The completeness of the index, which so materially helps in ready reference to a subject, is shown by the fact that nearly 50 pages are devoted to it.

Practical Treatise on Nervous Exhaustion (Neurasthenia). By GEORGE M. BEARD, A. M., M. D., Edited with *Notes and Additions* by A. D. ROCKWELL, A. M., M. D., Professor of Electro-Therapeutics, New York Post-Graduate Medical School and Hospital, etc. *Fifth Edition. Enlarged*. New York: E. B. Treat & Co. 1905. Cloth. Small 8vo. Pp. 288. Price, \$2.

The late Dr. Beard designed that this work should be exclusively practical. It deals with the symptoms, nature, sequences and treatment

of neurasthenia, without, however, giving any special consideration to the causes of the condition. Beside retention of the notes by the editor contained in the Fourth Edition, he adds in the edition now under notice a chapter on "The Neuron Theory" which, if it prove to be true, will compel a radical revision of the physiology of nervous activity. This theory involves the idea that "the nerve cell, with its multifarious prolongations, is an anatomical entity, and is in association with its fellows by contiguity only, and not by continuity." The editor adds a concluding chapter on this theory, which appears to him very plausible. To the neurologist, this work is already familiar, with the exception of this concluding chapter. For the general practitioner who has to deal with such cases without the help of special consultants, many practical suggestions are given, which will help him greatly in the management of such cases.

Editorial.

An Example in Municipal Sanitary Water Analysis.

While we of Virginia and the South have every reason to feel proud of the ability of our physicians and surgeons in general and the special eminence of a goodly proportion of them, still in another direction, that of sanitary science, it must be admitted that we are distinctly behind the times. When we compare the work done along these lines in the South with what is accomplished in most northern States, and even in many of the newer States of the West, the contrast is little to our credit.

The usual reply to this is to say that it is impossible to arouse our legislators into granting adequate appropriations for this work, and there most of us are content to let the subject rest. As a matter of fact, in those communities where proper appropriations have been secured it has not been through any voluntary donation of funds by the legislatures, but because they have been made to see by an enlightened and insistent profession, which in turn has given rise to an enlightened and insistent public, the wisdom of taking measures for the protection of the public health. That the case

is most promising for us can be illustrated by an instance which goes far to showing the justice of this position.

Up to 1898, the city of Richmond, noted for the easy going way in which its citizens submit to many minor ills, went on with a water supply which for long seasons of every year was a thick suspension of Albemarle clay, content with the occasional chemical analyses which led to the belief that, in spite of appearances, it was still not unwholesome. In that year a preliminary investigation was made by Dr. J. W. Mallet, of the University of Virginia, and Dr. Ernest C. Levy, then professor of bacteriology in the Medical College of Virginia, looking to the adoption of some measure of relief. Following this, recommendations were made for the settling basin and other plans now nearing completion.

Last June Dr. Levy was again employed to carry on a three months' investigation in order to decide some further points in relation to the operation of this system of purification. Dr. Levy, in the mean time, after a further course of study at the Massachusetts Institute of Technology, had decided to go entirely into this line of work and had already been employed in important cases in the North. During the three months' investigation, in addition to the regular work for which he was engaged, he was able to render important aid to the water department along entirely unforeseen lines and to point out the necessity of having the public water supply under regular expert sanitary supervision. Owing largely to his individual efforts, backed by those of Mr. C. E. Bolling, Superintendent of Water Works, who all along had taken a most advanced stand in the matter, and by the medical profession, who appreciated the situation when once its importance had been clearly shown, our city council unanimously passed a resolution establishing a laboratory in connection with the water department and engaging Dr. Levy to assume regular sanitary supervision of our water supply, as well as to continue the experiments in connection with clarification. This laboratory has now been in operation since the first of the year, thus placing Richmond in an advanced position in the matter of her water supply. Not only this, but, showing the power of example, we understand, from a personal talk with Dr. Levy, that he has already received applications from several

neighboring places seeking advice along the same lines.

In this special matter the general practitioner can hardly be expected to keep thoroughly posted (beyond the mere knowledge of the importance to every community of having a pure water supply and the danger of not having such), since the specialty itself demands a knowledge of chemistry, bacteriology, some engineering, and, most important, a long course of special training in the work. But there are other matters of public hygiene more intimately and directly associated with the medical profession, the vital importance of which is daily borne in upon every practicing physician. We are fortunate in having among us a man thoroughly equipped, both by training and the proper laboratory facilities, for the investigation of water supply problems. So far as a vast number of other problems of public sanitation are concerned, if all of us would only do our part we could soon create an amount of public sentiment which would force our legislative bodies, local and State, into seeing the wisdom of giving the people the protection which modern sanitary science knows how to bestow if the wherewithal to pay the bills is forthcoming.

The University of Virginia Hospital

Was opened February 15. In 1900, the administration building, with rooms for officers, nurses, etc., was opened and provision made for 25 beds. The building opened last week is one of the wing buildings according to the original design, and will accommodate about 60 additional beds for patients. This new wing presents all the latest ideas in hospital construction, and will give a long needed but very complete clinical feature to the education of medical students at the University.

Good Roads.

The season of the year everywhere presents practical illustration of the importance of good country roads. Leaving out of consideration the snows, the sleets, the freezes, the present season, which makes traveling anywhere—even on boats, cars or in cities an irksome and dangerous task—we cannot fail to know what will be the special trials of the country doctor when the thaws begin. We cannot understand why, in this day of progression, the countryman does

not see his need for better roads, and insist upon them as matters of economy in hauling produce to depots as well as for general comfort and pleasure. Doctors should aid in public movements everywhere in earnest, urgent advocacy of good roads in the counties. It is not necessary to argue the question—simply calling attention to the matter should be sufficient to inaugurate a system of good roads in the country, and few are more influential in their several communities than the country doctor.

Our attention has been especially called to this subject by a subscriber who sends us the accompanying lines, but the author of which is unknown:

'Twas on a rainy winter's night
I left my blazing fire
To carry cheer and mercy bright
By my old lantern's pale, dim light,
On muddy roads.

The messenger rode on ahead
A hundred yards or more;
Oft' coming back, then riding up,
With many a pleading "Hurry up!"
On muddy roads.

But I—long used to such as he—
Listened, but that was all;
The same old gait I'd gone for years
Could not be quickened by sighs or tears
On muddy roads.

The gate—the house, at last we reached,
And soon were safe inside,
Where anxious faces soon 'came bright,
And I forgot the dismal night
On muddy roads.

An hour passed by—another yet—
And then was heard a cry
So faint, so mournful, yet so sweet,
It's every tone a plaintive greet
On muddy roads.

That mother's careworn, gentle, loving face
As a benediction in my memory dwells;
And I sallied forth that night with hope anew,
My never-ending journey to pursue
On muddy roads.

A COUNTRY DOCTOR.

Change of Date of Meeting

Of the Tri-State Medical Association of the Carolinas and Virginia was noted in our last issue, but for fear it may have been overlooked it may be well to remind those contemplating the trip that the seventh annual session will be held at Greensboro, N. C., February 28th, and March 1, 1905, instead of February 22nd, as was advertised some time ago. Railroads have granted a reduced rate of one and a third fare for the round trip upon the certificate plan. The

Associations will be entertained by the Guilford County Medical Society, and the chairman of the local committee of arrangements, Dr. J. W. Long, promises a rattling good time to those who attend. Hotel rates will be: Benbow-Guilford, \$2.50; McAdoo, \$2.00. The meetings will be held in the Benbow Hotel. Dr. Wm. L. Robinson, of Danville, Va., is president, and Dr. Ralfe E. Hughes, of Laurens, S. C., is secretary and treasurer. Send in your application for membership with initiation fee of \$2.00 to the latter office; annual dues, \$3.00.

Insane Asylums as Fire Traps.

In a special message sent to the General Assembly of North Carolina on February 6, 1905, Governor Gleen urged that provision be made at once for such changes in the State hospitals for the insane at Raleigh, Morganton and Goldsboro as would make it possible to get the inmates out without loss of life in the event of fire. He declared that in his opinion and that of the State Insurance Commissioner, as well as of other authorities, the buildings, especially those of the hospital at Raleigh, were veritable fire traps, and the most horrible results would certainly follow the breaking out of fire.

Considering the class of persons to be managed in the event of necessity for getting the inmates out of buildings on fire, especially at night, it appears to us incredible how considerable loss of life could be averted in case of a sudden, rapid conflagration, even though the arrangements of such buildings were adapted for quick exit, etc. As these patients are especially liable to uncontrollable uproar, excitement and panic on the slightest provocation, the majority of them without an idea as to how to save themselves, and are necessarily dependent upon the State for protection, undoubtedly every safeguard should be provided that is possible, and any change necessary to the desired end should be made with least possible delay. The cost need not necessarily be great in most instances. Other asylums or hospitals might well look into this matter.

Bacteriological Work of Virginia State Board of Health.

The annual meeting of the State Board of Health was held in Richmond on January 31st. Dr. Rawley W. Martin, of Lynchburg, was elected president; Dr. P. A. Irving, secretary, and Dr. M. D. Hoge, Jr., bacteriologist. From

52 points in the State 189 specimens were sent to the Board for examination. There seems to be some misapprehension among the physicians as to the scope of this work. It is intended primarily as an aid to physicians in cases of doubtful diagnosis for patients who are too poor to pay a specialist to do this work. Any patient who is pecuniarily able to pay the attending physician would be expected to pay for the examination. But all of us have a charity list of good and worthy patrons who are not able to stand the expense of such a consultation, and for just such as these the Board freely and cheerfully undertakes to do this work. Physicians should always be careful to give as complete a history of the case as possible, and state plainly what is to be looked for when sending the specimen to the secretary. An observance of this rule not only facilitates a prompt report, but also helps the examiner in forming his judgment. Printed directions for collecting, preserving and forwarding different specimens will be furnished on application.

Osteopathy in North Carolina.

The *Carolina Medical Journal*, February, 1905, states that a movement is on foot before the North Carolina Legislature to create an examining board in osteopathy. "In a judicial inquiry into the claims of osteopathy as a system of medicine, Judge Sterling B. Toney, of Kentucky, characterizes it as nothing but a complete system of charlatany, empiricism and quackery, calculated and designed to impose upon the credulous, superstitious and ignorant." If such a judicial opinion and ruling are sustained by other courts, can it be possible that our friends of the good "Old North State" are going to put themselves in the ludicrous position of establishing a State Board of Examiners for that class simply to disclose the most adroit charlatans, to extol the empiric and to license the most approved of quacks, as tested by the proposed examining board?

Anti-Tuberculosis League.

The next session of this "League" of American and European physicians for the study of the prevention and treatment of consumption will be held in the Hall of the House of Representatives of Georgia, at Atlanta, April 17-19, 1905. Dr. George Brown, of Atlanta, is president and executive officer. Reduced railroad and hotel rates have been promised. Over

1,000 delegates, most of the leading national and State medical societies, are enrolled in the membership. Drs. J. Riviere and Guillian Livet have promised papers for this meeting; Dr. Livet's paper detailing a new treatment for consumption which has been tested in his clinic for the past two years and has never before been published. It is earnestly desired that all members of the medical profession of the United States interested in the subject, and who have the good of humanity at heart, will contribute as far as possible to the success of this meeting, and it is hoped that valuable practical lessons may be impressed upon the memories of those who may participate. The mayor of Richmond, at the request of the Association and after conference with several physicians, appointed the following delegates from this place: Drs. M. D. Hoge, Jr., W. T. Oppenheimer and Robert C. Bryan.

The Georgia Practician

Is the latest aspirant for honors in the field of medical journalism. Number one, dated January 15, 1905, comes out with an air of prosperity that looks convincing as to what the publishers can do; the editorials are on timely subjects, and have food for thought. The journal is published at Savannah, with Dr. Martin Cooley as editor, and Dr. John S. Hawkins as business editor. This first issue has no advertisements.

The Fifteenth International Congress of Medicine

Is slated to meet in Lisbon, Portugal, April 19-26, 1906, and judging by the partial program in the fourth number of the Official Bulletin, now before us, the success of the Congress is assured. Several prominent Americans are mentioned as having promised papers.

The Board of Health of Richmond

Is to be commended for its energy and determination to enforce the city ordinance which provides for the inspection of milk, meat and food supplies. The inspector is enforcing the ordinance strictly, and the Board has issued instructions for the public guidance with especial reference to furnishing samples of milk considered unsatisfactory by persons who wish an examination made. These examinations will be made free of charge in the laboratory of the Board. While we believe that the majority of

the dairies of Richmond have been furnishing a pure article, it is a fact that the sale of some decidedly impure milk has been prevented in two or three quarters, thus impressing the necessity and wisdom of the ordinance.

Installation of President at University of Virginia.

The Board of Visitors and Faculty of this time-honored institution have just issued invitations to the exercises incident to the installation of their first president, Edwin Anderson Alderman, D. C. L. LL. D., in the public hall, at the University of Virginia, on Thursday, April 13, 1905, at 4 o'clock.

Obituary Record.

Dr. John D. Butler,

Born in Hanover county, Va., May 14, 1819, died at his home at Sparta, Caroline county, Va., February 9, 1905. He graduated from Jefferson Medical College, Philadelphia, 1843, entered the Confederate service as a member of the Ninth Virginia Cavalry, but later was detailed for hospital services. Since the war he has practiced continuously in Caroline county. Before the war he served two terms in the Virginia Legislature. During the recent session of the Medical Society of Virginia, in Richmond, he was elected third vice-president, and notwithstanding his age, he appeared vigorous and took an active part in Society work.

Dr. Richard Walton Sanders

Died at his home in Wythe county, Va., February 13. He was born in that county November 17, 1826. He studied medicine at the University of Virginia 1849-50, and graduated as doctor of medicine from the Medical Department of the University of Pennsylvania in 1851. Since he joined the Medical Society of Virginia, 1892, he had shown a continuous active interest in the organization, and attended most of the sessions since. He was present during the Richmond session, 1904. At the time of his death he was president of the Southwest Virginia Medical Society. During the Newport News session of the Medical Society of Virginia, 1902, he was elected second vice-president.

THE Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

Vol. 9, No. 23.
Whole No. 215.

RICHMOND, VA., MARCH 10, 1905.

\$2.00 a Year.
10 Cents a Copy.

Original Communications.

VACCINATION.*

By LLEWELLYN ELIOT, M. D., Washington, D. C.,
Medical Inspector Health Department.

Vaccination is the accidental or the intentional inoculation of an animal or an individual with the specific germ of an infectious disease, having as a result the reproduction of the disease in an attenuated form, or an immunity from the disease. The diseases in which intentional inoculation are made are plague and variola. Whether the hypodermic introduction into the system of the various sera, against tetanus, diphtheria, puerperal peritonitis, cholera, and variola, are entitled to a broad interpretation of the term vaccination is a matter to be settled according to individual views. The term vaccination has, however, been generally restricted to the introduction of vaccine virus for the prevention of variola, and it will therefore be employed in that sense in what I shall write.

A tradition prevailed in England more than a century ago among the dairy-farming people that cow-pox would confer an immunity against smallpox. At this time variolous inoculations direct from the smallpox patient to the applicant were made, but the remedy oftentimes proved as fatal as the disease, since true smallpox of a very virulent type occasionally resulted. This tradition was studied by Edward Jenner, then a medical practitioner about Berkeley, England, and after a series of observations he reached the conclusion that the tradition was founded on fact, and that the inoculation of cow-pox rendered the individual insusceptible to smallpox. Notwithstanding his conclusions had withstood the test of experiment, his confreres ridiculed him and refused to accept them.

A boy, eight years of age, was his first subject. Jenner took the virus from a vesicle on the hand of a milkmaid; the result of this inoculation was cow-pox. At the expiration of two months he attempted to inoculate the boy with smallpox, using matter taken directly from a smallpox patient, but he was unsuccessful. Several times the experiment with the smallpox matter was tried on this boy, but each time he failed to produce the disease. His second conclusion was, that one successful vaccination produced a life-long immunity against smallpox.

A communication setting forth the protective power of the "new inoculation" against smallpox sent by him to the Royal Society of London, was returned to him without having been presented, as the committee to whom it had been referred reported adversely upon it.

A paper, "An Inquiry Into the Causes and Effects of the Variola Vaccinae, a Disease Discovered in some of the Western Counties of England, Particularly Gloucestershire, and known by the name of Cowpox," was published by him. This paper resulted in the adoption of vaccination by many physicians, and universal attention to the subject was attracted. So great an impression did it make, the clergy, rather than officiate at smallpox funerals, joined hands with the physicians and practiced the "new inoculation." William M. Welch, of Philadelphia, the most experienced man in this country in the management of smallpox, in a recent paper, writing of this influence upon the clergy, states "an eminent divine who vaccinated a large number of his congregation after preaching an eloquent sermon, in which he spoke in terms of great praise of Jenner and his discovery, having taken as his text, "And he stood between the dead and the living, and the plague was stayed." (Numbers xvi, verse 48.)

The spirited and malignant opposition encountered in the early days of the "new inoculation" finally melted away and it has been succeeded by its almost universal adoption.

* Read at a meeting of the Medical and Surgical Society of the District of Columbia, November 3, 1904.

Ignorance and carelessness in the collection and preservation of the virus, together with the improper methods of performing the operation, caused then, as they do now, unsuccessful and untoward results.

The "new inoculation" reached the United States, and Dr. Benjamin Waterhouse, Professor of the Theory and Practice of Medicine in Harvard College, in July 1800, vaccinated his own family. After two months had elapsed since the successful inoculation, he exposed his children directly to smallpox, thereby proving the efficiency of the process.

The physician who practiced medicine forty years ago usually kept in his glass plates, 3x2, the scab from a healthy child's vaccination, and his lancet always ready for use. A vaccination was part of his duty in a confinement, just as the piercing of a child's ears, in some countries, was essential before the payment of the fee. A small piece of the scab was rubbed up with a few drops of water and several scarifications were made on the spot selected. The dissolved scab was then applied upon the side of the lancet and the child required to keep the arm exposed until the scarifications dried. The precaution was taken to have the arm clean, as well as to have the child in a good state of health.

The process of evolution of vaccination has consisted of the stages—first, the contents of the vesicle of the individual; second, the use of the scab from a healthy child; and third, the employment of the virus obtained from the calf. To-day few arm-to-arm vaccinations are made, because the animal product is as efficient and far more easy to obtain and preserve.

Smallpox, previous to the introduction of vaccination, was, with scarlet fever, measles, and whooping-cough, considered a disease essentially of childhood, and the mortality among children was greatest. This being the case, few susceptible ones reached adult age.

Cory prepared a table, in which he showed the deaths in children from smallpox at Warrington, in 1773; at Chester, in 1774; at Kilmarnock, in 1728-64; at Manchester, in 1768-74, and Geneva from 1580-1760, before the time of vaccination, as follows: Under five years of age, 83.15 per cent.; under ten years of age, 97.75 per cent. He further analyzes his table and shows for Warrington, Chester, Kilmarnock, and Manchester a mortality as fol-

lows: Under one year, 21.51 per cent.; one to five years, 72.48 per cent.; five to ten years, 5.05 per cent.; ten to twenty years, 3 per cent.; twenty to forty years, 0.12 per cent.

For Geneva: Under one year, 80.49 per cent.; five to ten years, 35.58 per cent.; ten to twenty years 2.65 per cent.; twenty to forty years, 1.28 per cent.

He also gives a table showing the difference between prevaccination and the present times, as follows:

	AGE IN YEARS.						
	0-5.	5-10.	10-20.	20-30.	40-60.	60-80.	80 up
Prevaccination times	83.15	15.79	15.79	1.16	0	0	0
Present	3.07	16.34	16.34	58.41	18.61	3.24	.32

Dr. Wm. M. Welch, in a paper (*Philadelphia Medical Journal*, Nov. 18, 1899), gives the following in relation to 5,000 cases of smallpox treated in the Municipal Hospital, Philadelphia, from 1870 to 1894:

	Cases.	Died.	Per Cent.
Vaccinated in infancy (good scars).....	1412	124	8.78
“ “ “ (fair scars).....	666	98	14.71
“ “ “ (poor scars).....	1070	290	27.10
Postvaccinal cases.....	3148	512	16.26
Unvaccinated cases.....	1759	1027	58.38
Unclassified cases.....	93	23	24.73
Total	5000	1562	31.24

Major Azel Ames, director of vaccination in Porto Rico, taught the world a lesson as to the protective power of vaccination, if more evidence were necessary. (*Pacific Medical Journal*, 1902). His experience showed "the absolute demonstration that comprehensive, compulsory vaccination, properly conducted, will alone certainly eradicate smallpox from any region or people, established conclusively in Porto Rico in 1899. Smallpox was endemic in October, 1898, epidemic in December, 1898; had 'honey-combed' the island in January, 1899; by February there were 3,000 recent cases, and the disease was 'spreading at a gallop.' A systematic compulsory vaccination was begun in February, and in four months 860,000 of the 960,000 inhabitants had been vaccinated. The work ceased and the disease disappeared. The mortality fell to two per year as against 621 formerly. He found glycerinated virus had nothing to recommend it, and the glass tubes proved "worse than useless." In the work in the field he found the "ivory" point satisfactory. The glycerinated virus did not retain its efficacy, when exposed to the change of tem-

perature, from a temperate to a tropical climate. Of his vaccinations 87.50 per cent. were successful.

No age acts as a contra-indication against vaccination. The 6th month of life is the proper time for a primary vaccination, where the conditions of health are favorable, but in the face of an exposure to smallpox a vaccination should be performed even in the first days or hours of life. These emergencies occur oftentimes in hospitals, and so far as I have learned without bad effect upon the infant. The vaccination of a child born of a woman suffering at the same time with smallpox is not always successful at the time of birth, but repeated attempts a few months later frequently are followed by success. This in a measure disproves the idea that such infants enjoy an hereditary immunity against the disease.

The time at which the vaccination becomes protective against smallpox has been stated by James Bryce in the following law, formulated in the early days of vaccination and published in his "Practical Observations on the Inoculation of Cow-pox," in 1809: "That if during the regular progress of cow-pox a second inoculation be performed a certain number of days after the first, the affection produced by this second inoculation will be accelerated in its progress so as to arrive at maturity, and again fade, at nearly the same time as the affection arising from the first inoculation, and that this will take place although the constitutional affection be so slight as otherwise to pass unnoticed."

Trousseau, and later Cory, repeated these experiments, and according to Cory if ten successive vaccinations be made, one on each day for ten days, the ninth is the last one to show any specific effect from the vaccination and that all mature about the ninth day. This is the law of saturation.

If a person is vaccinated as late as the third day after exposure to smallpox, it is immaterial what stage of the disease the sick one may be passing through, such a person will almost invariably have the protection of vaccination and thereby escape the disease; if the vaccination be delayed until between the third and the fourth days, the attack will be modified, while if the vaccination be delayed until after the fourth day, vaccinia and variola will progress side by side, the one without any influence upon the other. I have seen this occur in many in-

stances, but the gravity of the disease in such subjects does not follow any strict rule. I have seen the scab of vaccination, in confluent cases, thrown off in the late days of convalescence; in some instances not until the last scab of the disease had fallen off. Others have seen the same thing.

Usually a single point of vaccination is made. This I think is a mistake, although my view is different from many observers. Upon this point I quote from Marson:

	Cases.	Deaths.	Mortality.
Unvaccinated	2,654	996	37.2
Stated to have been vaccinated but having no scar	290	74	25.5
Having one vaccine cicatrix	1,357	124	9.2
Having two vaccine cicatrices	888	53	5.9
Having three vaccine cicatrices	274	10	3.6
Having four or more vaccine cicatrices	268	3	1.1

A successful vaccination protects for from seven to ten years, when it should be repeated.

The German and some of the English operators make five distinct scarifications.

The fact that a person has been vaccinated and the operation is unsuccessful, does not signify that such a person is insusceptible to vaccination or variola, but it means, the person is not susceptible at the time of the operation to vaccination; that old or poor virus has been used; that the field of operation has been so cooked with germicides that it has become hardened, or that the operation has not been properly done. Trials on other occasions may result differently, as may changing to another part of the body. Some cases of immunity to vaccination occur, but they are explained by Cory, in his lectures on the Theory and Practice of Vaccination, p. 51, as follows: "Vaccine lymph may be considered to be composed of two parts—one the living organism, the other the product of the living organism, which we assume to be the modifying agent. When we, therefore, vaccinate an individual with lymph that has lost its vitality from age, we only introduce a small portion of the product that has been already formed, as the organism which

produces it is dead, and therefore no vesicle is formed; and only a very slight modification of the system is produced in the individual so vaccinated—a modification which declares itself in the slightly shortened course run by the subsequent vaccination, when a vesicle is produced. This consideration will point to a means of so vaccinating an individual that he may become, after repeated inoculations with aged lymph, insusceptible of further vaccination without his ever having had a vaccine vesicle; indeed, this seems to us a possible explanation of the only case of insusceptibility we have met with in over 61,000 cases."

I have used, successfully, vaccine points which had been charged two years before; these points, however, had been carefully preserved. It follows from these successes, that we cannot say when vaccine virus becomes ineffective from age.

The histology of vaccination will not be discussed, but I shall rest my case upon the assertion that vaccinia and variola are identically the same in their anatomical changes. The same pathological changes take place in both diseases—to-wit, increased amount of intercellular fluid, increased formation of cells, and increased size of the individual cells. We have the papule, the vesicle, the pustule, and the scab in each condition. The inflammation spreads the same way, from center to circumference. The puckered scar is an evidence of the severity of the inflammation, just the same as the pit is an evidence of the depth of the destruction of tissue in smallpox.

The identity between vaccinia and variola has been disputed, but the consensus of opinion is with the views of Bollinger, L. Voigt, Eternod, and Haccius, Fischer, Hime, and L. Peiffer, that vaccinia is a modified variola. The other side of the controversy has as its leader Chauveau.

In Germany there is a law compelling vaccination in infancy and a revaccination at the age of twelve years. In France there is a law of recent enactment compelling vaccination in infancy, revaccination at seven years, and again at twenty-one years. Holland compels vaccination before entering school, while Austria is without law. England has a law with the conscientious scruples clause, which at times practically nullifies the act. Italy is without law, but vaccination is generally practiced

there. Hungary has a compulsory law modeled after the law of Germany. The United States, by reason of its various component parts and the wording of the Constitution, has no law, but States and cities have the power to exclude unvaccinated persons from the benefits of educational institutions, while corporations and individual associations have the power to exclude all unvaccinated employees from their shops. The military and the naval services compel vaccination, the public health service does the same, while the State militia adopts or rejects its protective power at will. The results of these laws gives Germany as clean a bill of health as it is possible for a people to have. Holland and France, and the military services of the United States, enjoy a great protection, while Austria has a high mortality rate, as does England.

Accidents occasionally follow in the course of the vaccination process, but they are in the majority of instances due, not to the vaccination *per se*, but to the want of care on the part of the child or its parents, in allowing the introduction of extraneous matters into the wound; such, for instance, as the dye in the clothing, dirt, or the careless use of a vaccine shield. In most cases the trouble is limited to ulceration of the wound; at times the child will convey the discharge to other parts of the body, especially to some of the mucous membranes. Tetanus when it occurs in the course of a vaccination is as a rule due to causes not in any way connected with the vaccination. Erysipelas sometimes occurs. Herpes, eczema, lichen, impetigo, or some other affection of the skin occasionally follows vaccination, but usually it occurs in children of an unhealthy parentage.

The chief disease of which so many are afraid of introducing into the systems of their children is syphilis. That syphilis may be and has been introduced at the time of vaccination I do not pretend to deny; but at the same time I contend it has been only in those cases where arm-to-arm vaccination has been practiced, for it is impossible to transfer syphilis to cattle; therefore bovine virus cannot be charged with the offence, and as few arm-to-arm vaccinations are made at the present day, the instances must be few and far between.

Leprosy may be transmitted through vaccination.

In regard to the transmission of tuberculosis by vaccination, I shall quote from Immer-

mann's article on Vaccination in Nothnagel's Encyclopedia of Practical Medicine, page 262: "There was a time when, next to syphilis, tuberculosis was the disease most feared as a possible result to vaccination. Nevertheless, so far no single authenticated case has been reported in which a transference of tuberculosis occurred through vaccination. With the discovery of the tubercle bacillus by R. Koch, and with the proof that tuberculosis occurs frequently in animals in the form of 'Perlsucht' (pearl disease), the question naturally assumed considerable importance as to whether the bacilli were present in the human, or especially in the animal, vaccine lymph of the tubercular. But they were not found in either case, even when the disease was far advanced (L. Meyer, Strauss, Jossierand, Acker, and Piper). Yet the possible danger of tuberculosis vaccination was not yet disproved. Therefore experiments have recently been made with the view of transferring tuberculosis by the vaccination of susceptible animals. Inoculations of vaccine lymph from tubercular subjects into the interior chamber of the eye of the rabbit resulted negatively (Peiper). The same is true of Schultz's experiments on guinea pigs with the lymph of a cow affected with pearl disease. Accordingly, therefore, the possibility of a tuberculosis vaccinata appears at best but hypothetic.

Nevertheless, it is certainly advisable to use every precaution in this regard. Human vaccine matter from an individual in whom the suspicion of tuberculosis exists should not be taken for vaccination purposes. This applies to the vaccine matter from the bovine race with even a suspicion of pearl disease."

A most interesting case of vaccinal eruption occurred in a man who had been a prisoner in the work-house during July, 1903. He was committed on July 18th and vaccinated on the same day. An eruption of purpuric spots appeared on the arm about the point of vaccination on the 27th, a day or two after his discharge. I was called into Maryland, where he was living on the 31st, and found axillary glands enlarged, arm purpuric, large purpuric plaques upon the chest and back, entire buttocks covered with one large plaque, while there were smaller ones on the thighs and legs. Three old acne pustules were on the side of the face. He denied having had a chill, headache or backache, and as he was under observation during

his postvaccinal stay in the prison, his statements proved correct.

The only preparation necessary in vaccination is to have the site of the operation clean, and soap and water will do this as effectively as solutions of carbolic acid, mercuric bichloride, or any other germicide. Blood must not be drawn, whether we use the needle, the scarifier or the lancet. Do not apply caustic potash or a blister so as to get a raw surface in rebellious children, but securely hold the child and vaccinate as in any other subject.

The regulations of the public schools of the District of Columbia require a vaccination or a previous attack of smallpox as a requisite to entrance, but we all know many children are admitted without the enforcement of this regulation, and if proof were needed the records of the smallpox hospital would afford it. This is a matter for the medical inspectors to correct.

Under the laws every person who has been exposed to variola must be vaccinated under penalty, fine or imprisonment in the district work-house.

UTERINE REFLEXES.*

By JOHN N. UPSHUR, M. D., Richmond, Va.,
Ex-President and Honorary Fellow of the Medical Society of Virginia, and of the Tri-State Medical Association of the Carolinas and Virginia, etc.

At the meeting of this Association at Richmond in 1901, I presented a paper on this subject. My object in that paper was to call attention of gynecologists to uterine reflexes as an element of danger in operative procedure, or examination of the uterus, and the point was illustrated by two cases in my own clinical experience, which gave practical emphasis to it. In recurring again to this subject, I desire to take a wider range, and discuss the influence of uterine lesions in giving prominence to symptoms attracting attention to other organs of the body, and, proving intractable to relief by internal medication, was the cause of much and protracted suffering to patients. The highly organized nervous supply of the pelvic organs of the female should never be lost sight of, and it is a safe rule in all nervous affections of women to

* Presented to the Tri-State Medical Association of the Carolinas and Virginia, at its session in Greensboro, N. C., February 28-March 1, 1905.

seek first for the cause in the uterus or its appendages. The trouble may be so insignificant as not to have attracted the woman's attention. It may be a cause centered in these organs, or acting from without, yet exerting a baneful influence on them and through them on the general system. We are all familiar with gastric disturbances due to the developmental conditions of early pregnancy, and the great difficulty often experienced in relieving such a condition, which may grade from one of simple discomfort to one which puts life in jeopardy. I plead for an intelligent investigation of the causes of this condition; they are not always the same, nor are they always capable of being removed or relieved until sufficient time has elapsed to lift the pregnant uterus above the brim of the pelvis, and in some cases not until the termination of pregnancy. But these last conditions are extreme, and I believe are not often met with. If the nausea of pregnancy is due to psychic influences of a new physiologic condition, we must look for relief from such remedial measures as will put the general health upon its highest plane—mental diversion, life in the open air, a concentrated nutrition, and such local management as will be soothing and quieting to the whole pelvic nervous system, avoiding, if possible, resort to drugs—soothing vaginal douches, a carefully adjusted abdominal bandage that will preserve an equable temperature and circulation in the abdominal and pelvic viscera, and save the uterus from jostle and undue visceral pressure, and farther, rigid regulation in the matter of the sexual relation. I have seen intractable nausea, lasting for ten weeks in one extreme case, promptly relieved by replacing a retroverted womb and retaining it in its proper position by a suitably adjusted Hodge pessary, worn until the uterus is well out of the pelvis. This has been a frequently repeated experience with me. Again, cervical lesion, such as granular erosion, may be the source of nausea. I recall one case which came to me from the hands of a very capable physician. The woman was pregnant with her fifth child, drugs had been unavailing, and the doctor had called to bring on an abortion; this she declined, and sought advice elsewhere. She was about the third month of pregnancy. Examination revealed a retroverted uterus and an angry looking granular erosion of the os, with a dirty, ropy mucous discharge from the cervix. The cervix and os were carefully

cleansed, a free application of Churchill's tincture iodine made, and a suitable pessary was applied. Relief was prompt, the nausea entirely disappeared within forty-eight hours, and she went on most satisfactorily to the end of pregnancy. Again, I have seen prompt relief come from the application of a belladonna plaster to the epigastrium and drop doses of Fowler's solution three times a day. I have dwelt on this condition because it is so common, and often so troublesome.

But it is chiefly reflex troubles of the non-pregnant uterus that I purpose to discuss. Digestive disturbance may be expected from uterine lesions of various kinds when we think of the analogy to the pregnant uterus, the intensifying of the trouble at the time of and through the menstrual period, sometimes the reverse—relieved when the period is established. I have now such a case under observation. The period is irregular in return, scanty and painful when it comes. The girl is a trained nurse, has a coated tongue, lack of appetite, and more or less constant sense of nausea. Examination revealed a conical cervix, canal contracted, ante-flexion of the organ and endometritis. Her tongue has remained coated and stomach disturbed in spite of all treatment. The result following divulsion and curettement was complete relief of digestive disturbance, tongue cleaned up and appetite returned. The first twenty-four hours after operation there was some nausea and increasing stomach disturbance until packing was removed and a bichloride douche given. In another case, patient was 42 years old, and had long standing gastro-intestinal indigestion with marked intestinal catarrh: had borne four children, labors were uneventful, except that in one of them she had a left lateral laceration of the cervix. Cervix was greatly enlarged, and there was chronic endometritis.

Menses regular, but scanty, painful and dark colored; appetite irregular and uncertain, and very few articles of food could be digested at all. Drugs brought only partial and temporary relief, and she lost flesh very perceptibly. One physician who saw her diagnosed gall-stones and urged operation, which she declined. When she entered the Virginia Hospital the uterus was curetted and the tear in the cervix repaired. The digestive disturbance was better on the day following the operation, recovery from which was most complete. Seven

weeks after the operation she reported that she had had no indigestion since the operation, except once when she had eaten a banana before retiring, and that was slight. Her general condition had improved markedly, and she had gained fourteen and a half pounds in weight.

In another case under my care—from one of the lower counties of Virginia—suffering from digestive disturbance with almost total loss of appetite, anæmic from excessive flow at period, curettage revealed extensive granular degenerative disease of the endometrium; operation was followed by marked improvement in digestion and general improvement in health, though patient has not yet entirely recovered. Some years ago I was consulted by a young woman about a localized and very offensive perspiration (I could not myself detect the odor) that covered the trunk from the centre of the sternum to the right and from the root of the neck to the floating ribs. To her it was a serious matter—she said it smelled like old tobacco bags. She was engaged to be married, and feared this condition would endanger her prospects. Examination revealed a misplaced womb, and its reposition with a suitably adjusted pessary relieved promptly this unpleasant symptom. I recall persistent morning sickness in the case of a single girl, manifestly due to disease of the left ovary. The sub-mammary pain on the left side as a symptom of ovarian lesion is constantly seen.

Nervous symptoms as the outcome of the use of means for the prevention of conception have only to be sought for to be found in this class of cases. I have had recently under my care such a case. A robust, fine looking girl, married a year, came into my hands from another physician. She was the picture of health, but had frequent nervous attacks daily, emphasized at the time of her period. Her periods had never been as copious as her physique demanded, but prior to marriage she had no nervous spells. These took the form of a mild chorea, irregular, jerking of the upper extremities, sometimes on one side and sometimes on both, rigidity of the jaws, or simply mental depression, besides other forms of hysteria. I found by interrogating her husband that she was opposed to bearing children early after marriage, and had been in the habit of using a syringe after intercourse. I insisted that this should stop. Vaginal examination revealed a highly colored cervix, and

endometritis of the uterine cavity. A curettage was done, removing a number of granulations from the cavity of the uterus. Her subsequent period was better, with decided amelioration of the nervous symptoms. At this writing she is virtually well. Reflection will explain how preventive means of conception can be very harmful—the physiologic condition of the sexual act, erection and congestion of the cervix uteri incident thereto, the subsequent relaxation after the orgasm when the cervix dips into the vaginal cul-de-sac and physiologic relief comes, followed by a sense of well-being and composure to the woman. Any means which interferes with this natural condition brings its legitimate result by unrelieved congestion, which eventually becomes pathologic from cervical and corporal endometritis, and the irritation is constantly intensified by each repeated act, to say nothing of the moral reflex on the nervous system of the consciousness of wrong-doing. To my mind, there is nothing more degrading than the desecration of the marriage chamber by the introduction into it of the means in vogue in a brothel, putting to the fore the essentially animal side of a mysterious function, and making a solemn and God-ordained union one of convenience for animal gratification. The highest instincts of manhood and morality demand that the physician should always and under all circumstances set his face as a flint against all of these methods, and by his plainness of speech impress on his patients the moral and physical wrong of which they are guilty. And yet I fear that, in many instances, the doctor is *particeps criminis*, not only in his failure to condemn, but even in the positive approval by giving the information sought by persistent patients for means of prevention. I do not believe that there is any innocuous means, nor do I believe that any condition arises which justifies the doctor in giving such information unless in the one instance of conveying venereal infection to the mother or fœtus; even then it were better that the man and his wife should live apart. The plea that another pregnancy may, and in the doctor's judgment would, prove fatal to the woman, does not justify. I had this impressed upon me most forcibly in the one instance in which I gave the woman the means of preventing subsequent conception. After a labor in which her life came very near being the forfeit, I gave her the necessary information,

upon the promise that she would not divulge the secret. Forgetting on one occasion two years subsequent to use it, she conceived, and I anticipated serious consequences. She had an uneventful labor. Subsequently she resorted again to the means of prevention. When two years old her child died. The mother looked upon this death as a judgment from the Almighty, and was on the verge of insanity. She abandoned all means of prevention, but was sterile for several years. Subsequently she bore four robust, healthy children, in perfectly normal labors. This patient had the experience of always having albuminuria, but active treatment during pregnancy prevented her ever having a convulsion when labor came on.

I have seen eye trouble relieved by curing the uterine lesion. Severe headaches are often consequent upon uterine irritation of existing lesions, coming on as the result of over-fatigue at the time of the period, or precipitated by sexual intercourse. A patient in one case had violent opisthotonos in addition with most acute suffering. Relief was obtained most promptly and efficiently by counter-irritation to the hypogastrium and anodyne suppositories in the rectum, and cure was effected by active treatment of the uterus during the intermenstrual period.

I hope I have said enough to be suggestive. Time would fail me to take up in detail and discuss all of the various reflexes that may be possible from lesions of the pelvic viscera.

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having reference to what occurs in an abnormal situation, we find that vicarious menstruation or hemorrhage occurs most frequently from the nose, and next, from the stomach and intestines. I have seen cases occur from varicose ulcers of the leg. The vocal cords, nipples, and bladder have been the seats of vicarious bleeding. The hemorrhage is sometimes from the lungs. I had a case that occurred from the bladder, and another case from an abdominal fistula. Howard Kelly reports a case that occurred from the rectum. He also reported two cases in which menstruation occurred from the cervix after removal of the ovaries, tubes and body of the uterus. One case was his own, and the other was Dr. Ashton's.

The case I have to report—none other of a like nature being on record, so far as I can find—is as follows: Mrs. B., 35 years of age, came under my care in July, 1903. She stated that she had her right ovary removed and the uterus fixed to the abdominal wall (ventral fixation) seven years before. On making an examination, I found a large mass in the left side of her pelvis, whereupon I advised an operation for relief of the constant pain with which she complained. In October, 1903, I operated, broke up numerous adhesions and removed the mass, which proved to be a cystic ovary. She made a rapid convalescence and seemed to do very well until the time for her menses, when she had severe pains in the pelvis; the menses came on, and at their cessation the pain continued, and was so severe that I had to keep her constantly under the influence of morphia.

Again I advised operation, and, in the middle of November, six weeks after the first, I did a second abdominal section, when I removed the uterus as well as all the remnants of a small piece of ovary that had been left seven years before. In removing the uterus I ruptured the bladder, but the patient's condition was such that I did not sew it up. I did not do a supra-vaginal hysterectomy, but removed the uterus entire. She made a good convalescence, but the vesico-vaginal fistula gave a good deal of trouble. Every month on the first and second of the month she had a free flow of blood from the vesico-vaginal fistula; she also complained of some pain in the pelvis at this time; she had no nervous symptoms, and was free from the flushes and flashes that usually occur during a premature menopause. She rapidly gained

VICARIOUS MENSTRUATION OR HEMORRHAGE.*

By MARTIN D. DELANEY, M. D., Alexandria, Va.,
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Menstruation can occur without uterus, ovaries or Fallopian tubes; or, perhaps, where there is only a very small part of one ovary remaining. It is the term applied to the monthly sanguinous discharge—peculiar to women—from the genital organs, with destruction of the endometrium, which is cast out from the uterus by way of the cervical canal. The word vicarious

* Read at the quarterly meeting of the Fairfax County Medical Society, February 3, 1905.

weight, and in a period of five months her weight increased from 116 to 142 pounds. The vesico-vaginal fistula continued to give a great deal of trouble and caused so much irritation that I advised its repair.

She consented to this, and in September, 1904, assisted by Dr. Moore, it was repaired, union being by first intention. She was thus enabled to retain her urine without difficulty, though previously she had to wear pads constantly. After the repair of the bladder she informed me that she had her menses as usual on the first and second days of each month. Two days before the time of her menstruation I made an examination, and found a small ulcer at the sight of the cicatrix, from which the menses probably flowed.

I report this case on account of its very interesting features, that a woman without uterus or tubes or ovaries, possibly with the exception of a small piece of one ovary, could continue to menstruate, or rather have a hemorrhage lasting two days from the site from which the uterus was removed, without leaving even a piece of the cervix. The case is also interesting from the fact that she does not suffer any of the distress that usually occurs during the menopause, premature or otherwise.

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TONSILLITIS—A CONTAGIOUS DISEASE.

By WILLIAM C. GWYNN, M. D., Washington, D. C.

There is a phase of tonsillitis to which I wish to call attention in this paper, that has practically been ignored by the authors of our text-books, as well as the medical profession generally; and that is its contagious character and its consequent treatment on that basis. I do not feel that I am putting it too strongly when I say that tonsillitis is as contagious as diphtheria, and my experience is doubtless that of many others. In quite a large number of cases of the latter that I can recall, I only remember one in which an adult contracted the disease from a child, and in that instance the mother insisted on sleeping with the patient. On the

other hand, I have had quite a number of cases of tonsillitis in which the infection was conveyed from mother to child, and *vice versa*. Of course, this result might have been partially due to the fact that isolation, antiseptics and fumigation were practiced in diphtheria, while none of these was used in tonsillitis, as at that time I did not appreciate its contagious character. I have been struck in looking up the subject in the text-books on practice by the fact that tonsillitis is not even classified as infectious. Osler designates it as a disease of the digestive system, and yet in his etiology he says: "So many cases develop within a short time that the disease may almost be epidemic. It spreads through a family in such a way that it must be regarded as contagious." Strumpell says in a summary of the subject that it is very probably infectious. Tyson, in his text-book, speaks of tonsillitis as probably always the result of infection caused by a germ other than the Klebs-Löffler, perhaps the streptococcus or staphylococcus. Yet neither Tyson nor Strumpell classifies it under the head of infectious diseases. No specific organism has been found in tonsillitis, neither has it been discovered in scarlet fever nor measles. Tchenosky found in 311 cases examined that 87.2 were due to streptococci or staphylococci. The whole clinical picture shows the character of tonsillitis. The period of incubation, generally from two days to a week, the abrupt invasion, characterized by chill, high temperature, pain in the limbs and back, great prostration, symptoms entirely out of proportion to the angina, and evidently due to the absorption of toxines, all point clearly to its infectious character. I desire in this connection to report a few cases of tonsillitis.

The first was that of a young man who was subject to recurring attacks. An examination showed the usual appearances in the throat, though the constitutional symptoms were rather severe. On the third day his wife, who had never had this disease, contracted it. When this second case developed, thinking possibly I might be dealing with diphtheria, I took cultures, both of which were negative. On the fourth day his brother-in-law, living in the same house, developed a similar condition. The two last cases recovered in four days, but the original one was much more serious, lasting eight days. They were all three typical of follicular tonsillitis.

Another case was that of a young woman who

* Read at a meeting of the Medical and Surgical Society of the District of Columbia, January 5, 1905.

developed the disease five days after her servant had gone home complaining of sore throat. There was a distinct membrane on the tonsil of a diphtheritic character, which could not be wiped off. I took a culture with negative results. Prior to sending this in I examined her servant; found her tonsils very much enlarged, but no exudate. From her statements and from the appearance of her throat I judged that she was about over an attack of follicular tonsillitis.

I might further mention the case of a young woman who contracted the disease from her husband, who had also apparently given it to his sister. His tonsils presented no abnormal appearance when I was called in to attend his wife. He stated that his throat was only sore two days, and that he was not incapacitated. His sister was sick only three days, and was not confined to bed, while his wife was quite ill for eight days. The period of incubation was two days.

A resident of the Georgetown University Hospital, who took a culture from the tonsils of a child that was brought to the dispensary with a suspicious throat, was taken down with a typical case of follicular tonsillitis two days afterwards. Cultures from both were negative. Dr. Miller, in the *Medical News*, reports four cases of direct infection.

If tonsillitis is contagious, what is our duty in the premises? To adopt the same measures to prevent its dissemination that we use in like diseases—viz., isolation, disinfection, etc., with special attention to the discharges from the nose and throat, which I believe are the chief carriers of the infection. I do not advocate that the quarantine should be as rigorous as that for diphtheria and scarlet fever on account of the difference in severity, but I think that we should use a modified form. Undoubtedly the public schools are prolific breeders of this disease. To show its virulence there I have only to quote some statistics from Chicago. Four months' inspection resulted in 689 cases of tonsillitis being found; at a later period 788 children were excluded for the same cause. The Department of Health of New York city ruled, February 2, 1902, that children suffering from tonsillitis should not be prevented from attending school. In Washington pupils are not excluded for tonsillitis, although they are for parasitic skin diseases.

There is another factor that must enter into our consideration of the question of quarantin-

ing tonsillitis, and that is the absolute impossibility at times of differentiating clinically the latter from diphtheria. I am sure that we all have had cases in which the membrane presented all the characteristics of that found by the Klebs-Löffler bacillus, and yet repeated cultures showed the absence of the organism. Holt calls these croupous tonsillitis. He says "they are differentiated from diphtheria only by culture." On the other hand, we have had apparently typical cases of tonsillitis in which the culture showed the Klebs-Löffler bacillus. Of course, after the membrane has spread beyond the tonsils, the diagnosis is simple, but it is in the beginning, when the disease has just manifested itself, and when so much depends on the diagnosis as regards the treatment and isolation, that it is often impossible to differentiate without the aid of the culture tube.

How much safer it would be for the family of the patient whom we have quarantined if our apparent case of follicular or croupous tonsillitis turned out later to be diphtheria. There is certainly a close analogy between the two diseases. Dr. Brown reports in the *Medical Record* four cases of tonsillitis developing from an exposure to diphtheria. Strumpell says that precisely at the time of diphtheria epidemics follicular tonsillitis is remarkably frequent. It might after all be possible that the mildest degrees of diphtheria present themselves in the garb of an apparently simple follicular tonsillitis. This is certainly a very strong argument for isolation. The question probably presents itself to us, aside from the diphtheritic aspect, is tonsillitis a disease of sufficient importance to warrant such measures. When we think of the profound constitutional disturbances, the aftermath it so often leaves in chronic enlargement of the tonsils, with its attendant train of diseases, we can safely answer yes.

3336 O Street, N. W.

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METHODS EMPLOYED IN MODERN REFRACTION WORK.

By HUNTER H. MCGUIRE, M. D., Winchester, Va.,

Ophthalmologist Winchester Memorial Hospital; Eye and Ear Surgeon Baltimore and Ohio Railroad etc.

It is a source of gratification to those engaged in special work that the advances in ophthalmology in the past twenty-five years have kept pace with those of general medicine and surgery, and in no department of the specialty have greater strides been made than in the determination and treatment of errors of refraction.

As a rule, the general practitioner of medicine and surgery, who has little time to devote to diseases of the eye, has not appreciated the fact, that the older subjective methods for estimating the refraction, while not entirely replaced by the newer objective tests, have been superceded to a large extent by objective determinations, which have enabled us to do our work in a more scientific and accurate way.

It is not with the purpose of presenting anything new to ophthalmology, but with the hope of impressing upon those engaged in general work the vital importance of the proper estimation of refraction and its correction by the most modern methods, that has prompted me to present somewhat in detail some of the newer tests which are employed by the ophthalmologist of to-day.

In the order of their importance, I would give them as follows: Ophthalmoscopy, retinoscopy and ophthalmometry.

Ophthalmoscopy.—In every eye case, where there is no external evidence of disease or abnormality, the importance of a thorough examination with the ophthalmoscope cannot be overestimated. By its use we determine at once whether we are dealing with a diseased fundus or an error of refraction. If the latter exists, we are enabled to tell whether the condition is one of hypermetropia or myopia. Owing to variations in the accommodation of the examiner, it is practically impossible to determine definitely the amount of the error, especially in low degrees of ametropia, but the character of the error is almost invariably disclosed.

To my mind, the chief sphere of usefulness the ophthalmoscope has, in these cases, is its infallibility in demonstrating the existence of a decided spasm of the accommodation. These troublesome cases, of which ametropia is the

most common cause and especially low degrees of hypermetropia, myopia and astigmatism, are briefly, those in which there is a cramped condition of the ciliary muscle, due ordinarily to an intense effort of the accommodation to overcome an existing error of refraction by bringing rays of light to a proper focus upon the retina. The spasm is so aggravated at times as to converge the rays of light before they reach the retina and thus produce the condition known as pseudo-myopia. The subjective symptoms attending this condition are most distressing, and a long course of treatment is usually required for their relief.

With the direct method of ophthalmoscopy, the presence of astigmatism is diagnosed by noting the degree of clearness with which the retinal vessels are seen in different meridians with the same lens. For instance, if the vessels in the vertical meridian are more clearly seen than those in the horizontal, astigmatism is indicated and its amount is estimated by the difference in strength of the respective lenses with which the vessels are best seen. Again, by either the direct or indirect method the appearance of the optic disc will sometimes disclose the presence of astigmatism. In most instances the disc appears to be round, and therefore when it assumes an oval shape it is an evidence that the eye is astigmatic. Then, too, if the upper and lower edges of the disc are seen more clearly or with a different lens from that required to see the outer and inner edges, astigmatism is indicated.

Retinoscopy.—This is decidedly the most reliable objective method we use for measuring the refraction, and consists, briefly, in reflecting the rays of light from a plane or concave mirror, at a given distance, into the patient's eye and observing the movement, which the retinal illumination makes, by rotating the mirror. The principle of retinoscopy is finding the point of reversal of the movement or the myopic far point. The movement of the light with or against the movement of the mirror indicates at once whether we are dealing with a hypermetropia or myopia, and the correction of the error is made by placing before the eye convex or concave lenses which just reverse it. In hypermetropia, with a plane mirror, the light in the pupil moves in the same direction with the movement of the mirror and the convex lens which stops the movement, a deduction being

made for the distance the examiner is seated from the patient, indicates the total amount of the error. In myopia, the conditions are just the reverse. In astigmatism, the area of light in the pupil assumes a band-like appearance and the long axis of the band indicates the axis of the correcting lens, while the movement of the band of light with or against the movement of the mirror indicates whether the condition is one of hypermetropic or myopic astigmatism. For the proper performance of this test, the eye of the patient must be under the influence of a reliable cycloplegic, and with complete paralysis of the ciliary muscle anyone, who has a reasonable amount of experience, can determine within a quarter of a diopter the amount of the error. Over other objective methods it possesses the distinct advantage of giving us the total astigmatism—that is, the combined amount of that of the cornea and lens.

Retinoscopy is particularly valuable in the condition known as mixed astigmatism, in which one meridian of the same eye is hypermetropic and the other myopic. In illiterates and children it is the only certain means of properly estimating the refraction. The ophthalmologist who uses the retinoscope is the one who does the most careful refraction work, and his results are gratifying both to himself and his patient. It has done more than all other methods combined to simplify and perfect the art of refraction and great credit is due him who first introduced it in the ophthalmological world.

Ophthalmometry.—The ophthalmometer, or more properly speaking, the keratometer, is an exceedingly useful instrument in estimating astigmatism, but it has its limitations and should never be used to the exclusion of other methods. It simply measures the radii of curvature of the cornea, but does nothing more. It gives us at a glance the meridian of greatest and that of least curvature, and in this way indicates the amount of corneal astigmatism. It will not tell us whether the astigmatism is of the hypermetropic or myopic variety, nor will it record any lenticular astigmatism, and therefore those who rely on it for the diagnosis and estimation of the total amount will be grievously disappointed. I have found it particularly useful in high degrees of corneal astigmatism, both of the regular and irregular types, and in cases of aphakia after cataract extraction. While

I use the instrument in every refraction case, in the low degrees of astigmatism I do not allow myself to be at all influenced by its results.

These constitute about all of the important objective methods for the determination of errors of refraction. The subjective tests with letters and the various forms of astigmatic dial are familiar to us all. We still use them, but principally to confirm our objective results. To employ them to the exclusion of other methods is barbarous in the extreme, and the ophthalmologist who attempts the correction of refraction errors by these tests alone is as unworthy to practice his profession as the jeweller and so called “refracting optician,” who “fit glasses free of charge.” It is just by these methods that ophthalmology is so often brought into disrepute.

In all tests, both subjective and objective, it is our duty in nearly every case under forty-five years of age to produce cycloplegia to its fullest extent. It is only by complete paralysis of the ciliary muscle that we can estimate accurately the total refraction error. The conscientious refractionist is never satisfied until he knows the latent error, whether he corrects it or not, and no other measure than absolute cycloplegia will accurately reveal it to him. By latent error is meant that amount which is overcome by the contraction of the ciliary muscle and is only manifest after the instillation of a cycloplegic. It is this error in most cases that gives rise to the train of asthenopic symptoms that are most distressing to the patient, and unless it is corrected we cannot hope to relieve them. While in some cases it is necessary to use cycloplegics after forty-five years of age, in most instances they are not needed. At this period of life the ciliary muscles begin to weaken and the lens fibres become sclerotic and lose their inherent elasticity. The loss of power in both, therefore, makes the error which was once latent become manifest and its correction becomes a simple matter. Then, too, after this age, the instillation of cycloplegics may produce glaucomatous symptoms, which are alarming both to the physician and patient. When it does become necessary to use a cycloplegic at this period of life if the physician will adopt the universal rule of counteracting its effects with a myotic, the danger of producing glaucoma will be reduced to a minimum.

The two cycloplegics most commonly em-

ployed in refraction work are the sulphate of atropine and the hydrobromate of homatropine. I will not attempt to go into the relative merits of the two, except to say, in my opinion, atropine is preferable. Unfortunately, there are few patients who will consent or are able to give up near work for a period of two weeks, and we are therefore obliged to use a cycloplegic whose effects are more transitory than those of atropine. For this purpose homatropine cannot be excelled.

The case records of every oculist only too often reveal the sad and disastrous effects of uncorrected and improperly corrected ametropia, where an early adjustment of proper lenses or a prompt recognition of a diseased condition would have preserved useful vision and rendered its owner a happier man. The eye of man is not a simple mechanical device, as the popular conception seems to make it, whose defects of curvature and other abnormalities can be patched up by the jeweller at his bench and the grinder of lenses in his workshop, but a vital organ delicately and wonderfully made, with a structure that makes it subject to the same diseases that attack other organs of the body. The art of refraction requires a delicacy of judgment and a degree of skill that can be executed only by the trained physician, and he alone is competent to practice it. In our refraction work we must not be content to rely on any one test, for it is only by a combination of all methods that we can hope to become proficient and do justice to our patients. I am not one of those who believe that the correction of refraction errors is a panacea for all the ills that human flesh is heir to, but I do feel that, in many instances, the unsuccessful issue is due to too hurried work and a failure to use all of the methods of precision we have at our command.

It is not within the scope of this paper to deal with the treatment of refraction errors or the many and varied conditions of the extrinsic ocular muscles which necessarily influence us in our treatment of a given error. My attempt has been only to show the importance of a thorough examination in all cases and to point out briefly some of the methods in vogue at the present day.

THE TREATMENT OF PROSTATIC HYPERTROPHY.*

By LEWIS C. BOSHER, M. D., Richmond, Va.,
Professor of Practice of Surgery and Clinical Surgery, Medical College of Virginia.

In discussing the treatment of chronic prostatic enlargement, the palliative as well as the radical measures used for relief should receive our attention. A prostatic patient should be instructed to avoid any and everything (as exposure to cold or draughts, getting the feet wet, improper or insufficient clothing, etc.,) that would tend to provoke prostatic congestion. Every source of irritation should be removed from this organ. All excesses, whether "physical, mental, sexual or alcoholic," will be damaging to the enlarged prostate, and, therefore, should be avoided. Moderate exercise in the fresh air will be of benefit and should be advised.

The diet should be light and of a digestible character, with a minimum quantity of meat—vegetables, cereals and milk being preferable. Acid fruits, strawberries, asparagus, tomatoes and grape-fruit act injuriously to the diseased organ and had better be omitted. Champagne and malt liquors should be avoided, whiskey and gin being permitted when alcoholic stimulants are essential or necessary to health.

By administering proper laxatives as necessary, constipation should be combatted, and by giving water freely to drink the urine should be rendered bland and unirritating. No drugs have any beneficial effect in reducing the prostatic enlargement itself, though the use of antiseptic medicines, such as urotropin, helmitol, salol, etc., will be found valuable adjuvants in prostatic hypertrophy as well as in all surgical diseases of the genito-urinary tract.

Acute retention of urine caused by hypertrophy of the prostate should be relieved by the introduction of an aseptic coude catheter, flexible soft rubber catheter, silver catheter with proper length and prostatic curve, or, as a last resort, by suprapubic aspiration. A tunnelled catheter passed over a filiform bougie can be used when a stricture complicates the hypertrophy. The often overlooked "retention with overflow," causing the patient to feel that he is successfully emptying his bladder, should always be looked for and receive our careful at-

One who fears God never fears the Devil.

*Read before the Richmond Academy of Medicine and Surgery, 1904.

tention. To avoid acute congestion of the urinary surfaces, and frequently shock, chill, fever, etc., that often follow complete bladder evacuation, this viscus should not be completely emptied in a first catheterization.

The initiation of "catheter life" in a patient suffering from hypertrophy of the prostate would, as a rule, better be delayed until the question of a radical cure has been submitted to your patient, and is either refused or not advised by reasons of conditions precluding a radical operation. Should, however, the catheter become necessary, its use should be regulated by the amount of residual urine and by the amount of urinary disturbance the patient suffers. The residual urine being less than two ounces, no catheterization, as a rule, will be required. The residual urine, reaching from two to four ounces, will give rise to nocturnal symptoms, and, therefore, should be removed at bedtime with an aseptic catheter. When the residual urine becomes increased to from four to six ounces, the use of the catheter morning and night will be required to afford the patient relief. Later, the number of catheterizations will have to be increased to four or more times daily to control the symptoms, according to the amount of residual urine and the amount of discomfort experienced. An intelligent patient can be taught to properly sterilize his catheter and to introduce it systematically and with gentleness and skill.

The importance of cleansing the catheter, both on the inside and outside, as a regular practice before each introduction, as well as the necessity of keeping it in a carbolic acid, or other antiseptic solution until needed again, cannot be too emphatically impressed upon our prostatitis. To avoid infection during catheter life, urotropin or some other genito-urinary antiseptic should be regularly administered. To escape cystitis, patients using the catheter regularly should have their bladders irrigated frequently with hot solutions of boric acid.

Cystitis complicating prostatic hypertrophy is best treated by irrigation of the bladder with large quantities of a weak solution of nitrate of silver, protargol or permanganate of potassium. Obstinate cases of cystitis failing to be relieved by irrigations will require bladder drainage. In addition to regular catheterization and regular flushing out of the bladder, sometimes considerable relief follows the introduction of large

sounds, which serve the purpose of dilating the prostatic urethra.

In advising our patients as to the best operative measures to be considered for the relief of prostatic hypertrophy, the following should be named: A palliative suprapubic, or perineal cystotomy for drainage, the Bottini operation, and a suprapubic or perineal prostatectomy. The palliative operation of suprapubic cystotomy allows of free inspection of the bladder cavity (from which a calculus may be removed if found), and also permits thorough drainage. When a catheter cannot be used, or where there is a persistent cystitis not relieved by irrigation, or when a patient refuses a radical operation or one is not safe, vesical drainage can be established with often marked relief to the sufferer. It can be performed under cocaine anesthesia, and may be undertaken as a preliminary step to the performance of a more radical operation later, as I have repeatedly done with entirely satisfactory results. Following suprapubic drainage in prostatic hypertrophy, I have seen voluntary urination restored.

Iliac ligation, castration, vasectomy, angio-neurectomy and similar measures for the relief of prostatic hypertrophy have not proved satisfactory and are generally condemned. Temporary relief may be observed as following these operations, but hardly radical cures.

The Bottini operation consists in burning a groove in the enlarged prostate with a galvano-cautery introduced through the urethra. Chetwood's operation is a modification of Bottini's. He first performs a perineal cystotomy and cauterizes the obstructing lobe with the galvano-cautery introduced through the opening in the perineum. Chetwood claims thorough drainage as an advantage in his operation over the Bottini method, and also that prostatectomy may either substitute or supplement this operation, provided that the enlarged gland be found not suited for cauterization. The Bottini operation is especially adapted to the small, hard, fibrous prostates, and where there is a decided bar at the neck of the bladder. This operation is also to be advised should the patient's condition be such as to expose him to shock or post-operative pulmonary complications from a prostatectomy. The Bottini also has the advantage of being readily performed under local anesthesia, and on patients too far advanced in years for a safe prostatectomy. In certain well

selected cases and in skilful hands, the cautery method is followed by excellent and permanently good results.

In my opinion, the Bottini is an unscientific, inaccurate and often dangerous procedure, inasmuch as one must necessarily work in the dark, must have imperfect drainage, and, unless in the hands of one who has had considerable experience with the operation, the most unsatisfactory and alarming results are apt to follow. Deaths from suppression of urine, sepsis, hemorrhage and pulmonary emboli have been reported by a number of surgeons as following the Bottini method. Again, it often becomes necessary to repeat the operation in order to obtain permanent results.

Cystoscopy, to determine the nature of the local conditions, is of especial value before the performance of either a Bottini or a prostatectomy, being really essential for the performance of an intelligent cautery operation. It is claimed that in at least a third of the cases of prostatic hypertrophy the tumor cannot be made out with the finger in the rectum; and in such cases the cystoscope will add its value to the diagnosis by revealing the general appearance of the gland, the presence of a median lobe, a trabecular condition of the bladder, or a complicating condition of vesical calculus. The cystoscope, however, should not be used indiscriminately, it being like all urethral instrumentation, dangerous in advanced pyelitis and pyelo-nephritis.

The now generally recognized surgical treatment in prostatic hypertrophy and the one from which we may expect satisfactory and permanent results, is prostatectomy. No one method for performing prostatectomy can be selected to apply to all cases. In preparing a patient for the operation, the condition of the lungs, heart, arteries and kidneys should be carefully looked into. The age of the patient need not be considered, provided his general condition be such as to justify a major operation. Quite a number of deaths following prostatectomy have been traced to the anesthetic rather than to the operation. To do away with the danger arising from a general anesthetic, spinal anesthesia, after the method of Morton, has been employed by a number of operators. Some have performed suprapubic prostatectomy under nitrous oxide anesthesia.

After having thoroughly examined the pa-

tient and satisfactorily outlined the enlarged prostate by rectal examination and by the cystoscope, the most important question to be settled is the selection of the best route for enucleation of the gland. In the greater number of cases, the perineal route unquestionably offers the largest number of advantages. The prostate is easily reached, it is directly under the eye of the operator, and the exposure offers a better opportunity for satisfactory enucleation. The opening in the bladder is at the most dependent part and gives the shortest and best drainage, and, therefore, there is less danger of sepsis. There is, too, a shorter confinement to bed, and, therefore, prompter convalescence.

With a median, semi-lunar or inverted Y incision, the operation of perineal prostatectomy may be performed after the technique suggested by Albarran, Murphy, Young or Nicoll. Young has attempted by his method to preserve the ejaculatory ducts, and, therefore, to ward off sterility. Enucleation of the prostate is greatly favored by making use of some device like Parker Syms' rubber inflatable balloon, Young's prostatic tractor, or Murphy's hooks to draw down the gland into easy reach.

The suprapubic method of prostatectomy may be performed by the method of Fuller or Freyer. It is claimed that the suprapubic method is open to many objections—viz., that the shock is greater, that the drainage is uphill and against the force of gravity, that the floor of the bladder is extensively lacerated, that hernia sometimes results, and that the mortality is greater. Notwithstanding these criticisms of suprapubic prostatectomy, some of which are of value and others not, it has a well defined place, and in properly selected cases excellent results follow the operation. In cases of a very large middle lobe, or when the whole gland projects prominently into the bladder, the gland is very quickly and satisfactorily enucleated by the suprapubic route. Calculi complicating prostatic hypertrophy can also be readily removed in this operation. By buttonholing the urethra, as advised by Fuller, perfect drainage can be established and satisfactory irrigation of the bladder carried out.

In two of my recent cases, prompt convalescence and entire relief followed enucleation by the suprapubic method. Both patients were over 60 years of age. In the last case, the patient had not passed urine without the use of a

catheter for over five years. He sought admission to the Memorial Hospital because of his difficulty in the introduction of the catheter by reason of false passages made in the urethra from previous catheterizations. I made a cystoscopic examination and found a markedly enlarged, intravesical, prostatic projection consisting of three lobes, and a trabeculated condition of the bladder. Only a few minutes were consumed in enucleating the gland after performing the suprapubic cystotomy. The patient made an excellent and uneventful recovery. He was in my office only a few days ago, and stated that he felt like a new man. He claimed that he passed the night without disturbance, and urinated at intervals of three or four hours during the day. He has been able to return to his work on the farm, and is now performing a full day's work as formerly.

The dangers likely to occur during or after a prostatectomy are from hemorrhage, injury to or rupture of the rectum, sepsis, uremia, shock, post-operative pulmonary complications, and the anesthetic. The danger of sepsis and uremia may be greatly minimized by providing for free drainage, flushing the kidneys by administering water freely, and using saline infusions as necessary. Hemorrhage is not likely to occur if proper care is given to ligation of bleeding vessels, and if proper use is made of gauze packing. When the operation is performed hurriedly, or if the gland be of large size, or if adhesions be present, tear or injury to the rectum may occur. A tear occurring, it should at once be sutured from the perineal side.

Since local anesthesia has been substituted for general anesthesia, especially in patients advanced in years, the mortality of prostatectomy has been markedly decreased.

According to Watson, the largest share of danger from sepsis belongs to the Bottini operation, and the greatest risk from shock and pulmonary complications is met with in suprapubic prostatectomy.

From statistics of operations performed by prominent men by the three methods now generally recognized in the treatment of prostatic hypertrophy, recently collected by the same surgeon, the Bottini gave a mortality of 4.5 per cent.; perineal, total removal, 2.9 per cent.; suprapubic, 8.6 per cent.

I do not think that any one method should be selected by the surgeon to meet all cases of pros-

tatic hypertrophy, but that great care and judgment should be used in the selection of the case. Cases not suited to prostatectomy or the Bottini may be given great relief and prolongation of life by the performance of a palliative operation for drainage.

717 Franklin street, East.

GASTROENTEROSTOMY.*

By WM. H. WATHEN, A. M., M. D., LL. D., Louisville, Ky.,
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Hospital, and Louisville City Hospital.

I will report to-day two cases of persistent indigestion resulting from chronic ulceration of the stomach, upon which I recently performed a posterior gastroenterostomy, draining the stomach into the jejunum three inches below its origin under the transverse meso-colon, thus eliminating the intestinal loop, and leaving the stomach and intestine in practically a normal position. By this operation, the only traumatism committed is the attachment of the bowel to the lower part of the posterior wall of the stomach, with an opening about two and one-half inches long, to drain stomach contents direct into the upper part of the jejunum; otherwise, the intestinal tract is left in the same relation it was before the operation. This prevents the troublesome vicious circle and regurgitant vomiting, dangerous conditions that frequently follow gastroenterostomy as usually performed in this country with the loop, the attachment being either posterior or anterior.

Most of the operations in this country have been by the anterior method, but the immediate and ultimate results are so far from being satisfactory that the operation is being gradually abandoned. But most of our surgeons who formerly did the anterior method still leave the loop. Mayo has done more of this work than any other surgeon, but until recently his operations were by the anterior method; and while he has now adopted the posterior method, he attaches the bowel ten inches below its origin, anastomoses the limbs of the jejunal loop by a Murphy button, and obliterates the proximal

*Clinical report made before the Jefferson County Medical Society, Louisville, February 21, 1905.

limb near the attachment, by plication or division of the bowel. This operation is more difficult, requires more time and commits more traumatism than the anastomosis near the beginning of the jejunum without the loop, and possesses no advantage over it. I predict that Mayo's experience by this method will finally convince him that it is not the best, just as his experience in the anterior method convinced him that he should adopt the posterior. It is well that these methods are being tested by such an experienced and honest surgeon, for the final results of his work will be conclusive, and carry conviction to other surgeons.

Ochsner, another honest and excellent surgeon, is making a long series of operations in gastroenterostomy by the anterior method, using the McGraw ligature. I am sure his ultimate results will convince him that this is not the best method, and that he will very soon be making the posterior attachment with the elimination of the loop. With the McGraw ligature, the operation can be performed even more rapidly than with the Murphy button, but this ligature can be used in the posterior attachment just as well as in the anterior attachment; and if it will accomplish all that is claimed for the double suture with the removal of a strip of mucous membrane from the stomach and intestine, it will very much facilitate the work in gastroenterostomy.

Considering both the immediate and ultimate results, the work of Moynihan, of Leeds, is superior to that of any other surgeon. He reports 142 operations with but two deaths, and practically no immediate or subsequent complications. Robson, of London, does practically the same operation, and his results, while not equal to Moynihan's, are excellent in every way. The results of Von Mikulicz, Czerny, and other distinguished surgeons in the posterior attachment have also done much to encourage surgeons to adopt this method.

The patient before you was operated upon about five weeks ago, and has just left the hospital. He has been vomiting for nearly six years—would vomit something of nearly everything that entered his stomach. He had lost 25 pounds of flesh, and the pain was becoming so severe in the region of the stomach that he was often compelled to take large quantities of morphine to relieve him. The scar of a large ulcer was found in the anterior wall of the stomach,

and when the transverse colon, the omentum, and the stomach were turned out of the abdomen, and the mesentery of the transverse colon opened, extensive adhesions were found between the posterior stomach wall and the small peritoneal cavity. These were separated and the posterior wall of the stomach pulled through the mesenteric opening and clamped in long forceps, the blades being covered with gum tubing. The jejunum was then clamped under its free surface by a similar pair of forceps three inches below the duodenum. Both the stomach and intestine were incised for about three inches, a wide strip of mucous membrane from each removed, and the anastomosis made by a double celluloid stitch, using a round curved needle. He had no untoward symptom, and was allowed to sit up and use the commode after the second day. He had no vomiting, took water and liquid food on the second day, and after a few days was allowed the regular hospital diet. He has suffered no pain since the operation and has gained flesh, and in every way is greatly improved.

The other gentleman was operated upon seventeen days ago, and I would have brought him before you had it not been that I did upon him at the time of the operation an appendectomy, removing an appendix seven inches long, densely adherent, dropping down into the pelvis. He had suffered intense pain in the region of the stomach, extending obliquely downward to the right, for about eight months, which was always greatly increased after eating. He had lost much flesh and was growing quite anemic. The pyloric opening was contracted, and showed evidence of chronic ulceration; adhesions extended from the pylorus down the right side to the pelvis, including the appendix. Adhesions were found also under the transverse colon and its meso-colon; also around the upper part of the jejunum, indicating that there must have been some perforation of the stomach or of the duodenum. The gall-bladder and ducts were normal. The operation was performed just as in the other case, and he is now eating the regular hospital diet and is able to sit up and walk. He feels greatly relieved and has none of his old suffering. These patients are better if they are considerably elevated in bed as soon after the operation as is consistent, and, in fact, I begin the elevation a few hours after the operation.

I show you schematic drawings that I have recently made, illustrating the normal relations and the relations after the operation has been performed. You will see that the only change is the attachment of the jejunum just below its origin to the posterior wall of the stomach. I suture the opening in the meso-colon to the gastro-jejunal attachment, taking my suture through the mesentery and the peritoneal and muscular coats of both stomach and bowel. Moynihan only indicates the coats of the jejunum, but by including both coats you give better support by bringing the mesenteric tissues entirely over the suture, uniting the stomach and intestine. If we neglect to suture the torn mesentery, we leave a weakened condition and an opening that may admit the intestine into the small peritoneal cavity, and cause death by strangulation.

Proceedings of Societies, Etc.

NEW YORK ACADEMY OF MEDICINE— ORTHOPEDIC SECTION.

MEETING OF JANUARY 20, 1905—DR. HOMER
GIBNEY, CHAIRMAN.

Dr. Homer Gibney presented the following case from *Dr. Gibney's* service at the Hospital for Ruptured and Crippled, with X-ray—girl, five years, admitted to hospital January 11, 1905:

Diagnosis, fracture right femur and old fracture of left femur.—Left femur fractured two years ago. Found not to have united. Had no pain. Four days before entrance fell and had fracture of right thigh. Had no pain at entrance.

Physical examination shows fracture of right thigh, anterior bowing at middle and upper thirds. Linear scar four inches long over outer side of same thigh. Also marked anterior and lateral curvature of left thigh at same level; bone, however, is very firm.

Treatment.—January 17, 1905, right leg by use of traction and local force straightened and bones got in good apposition, and put up in plaster spica, as at present. Subcutaneous osteotomy was done on the posterior half of the left femur at site of old fracture. The bone was then broken backwards and plaster spica applied to that side.

Dr. Gibney also presented a case of *double coxa vara* admitted by *Dr. Whitman* and operated on by him. Girl four years old. The progressive scissors deformity was not present; the waddle peculiar to congenital dislocation was present in this case, but the tibial curve had been corrected. Physical examination on admission showed marked evidence of rickets, waddling gait and lordosis as in double congenital hip. Trochanters above Nelaton's line on both sides. Right and left legs same on measurement. Soon after admission *Dr. Whitman* did osteoclasis (manual) at the middle of both tibia—union firm, put up in plaster of Paris in over-corrected position. Firm union; deformity corrected, and the child was measured for braces, which she now wears.

The Chair said that the interesting feature of this case is that the X-ray shows the right angle deformity of both femoral necks—a rather unusual bilateral coxa vara.

Dr. Whitman said that now that the bow legs had been corrected he should proceed to treat the coxa vara with the idea of replacing the neck of each femur in the normal position, for in his opinion the deformity might later on become progressive. The character of the operation he had described on several occasions—namely, a cuneiform osteotomy at the base of the trochanter of sufficient size to permit full abduction of the limb.

Dr. Whitman presented an X-ray picture showing thickening, softening and slight deformity of the right femur. This illustrated so-called *local osteitis deformans*. . . The patient, a man fifty-eight years of age, had noticed slight discomfort about the thigh for twenty years. For three years this had become more troublesome. There was a slight limp, slight outward and forward bowing of the middle of the femur and one inch of shortening. No treatment other than the avoidance of over-strain seemed to be indicated.

Dr. C. N. Dowd presented a boy who had had *epiphysitis of the upper end of the humerus*, which healed after operation two years ago. The abscess which had followed the epiphysitis had pointed just back of the deltoid insertion. The joint had not been involved. About half the head of the humerus was removed without touching the articular surfaces. Healing was complete in about two and a half months. The speaker particularly called attention to the condition of the shoulder joint, which was normal;

also to the growth of the bone, which, too, was normal.

A second case of a similar kind, which was announced on the card, but which had not come to the meeting on account of whooping cough, showed also a normal joint and normal bone growth, although the interior of the head of the bone had been completely removed, leaving simply a thin hard shell. He asked the experience of the members of the section on the effect of epiphysitis on the growth of the bone. He had seen a number of cases in which only a small shell of bone was left and in which the subsequent growth had been normal.

Dr. Dowd also presented a case of *epiphysitis of the lower end of the tibia* with an X-Ray picture which showed a cavity in the bone leading upward from the epiphysis about an inch to the bone surface. The bone below the epiphysal line was cloudy and showed a lack of detail in the picture, but there was no evidence of involvement of the ankle joint itself. The motion in the ankle joint was free and not painful. The wound was practically healed. The outer shell of bone above the epiphysal line having been removed for about two inches, healing had taken place in five weeks.

The speaker also presented a case of *fracture of the external condyle of the humerus*, admitted in September, having the ordinary appearance of such a fracture. The arm was put up in plaster in flexion; was inspected in two weeks and put in plaster again for two weeks more. He was unable to gain extension after healing had taken place. He was seen again about December 1st and the fragment could be distinctly felt; very slightly movable; the arm was still flexed at about 90 degrees. This fragment was removed by *Dr. Mathews* and was found to consist of a part of the external condyle and about half the capitellum. It had rotated about 90 degrees. Motion was good after this removal. The arm was again immobilized in flexion for three and a half weeks. Motion was now nearly normal. He has been carrying a light weight on his wrist, and extension has rapidly increased in that way.

He referred to a similar case which had previously been treated in the hospital, and to several which were reported by *Kocher* and others. *Dr. Dowd* said that he had been interested in this case on more than one account, particularly from having read in one of the most recently and widely circulated systems of surgery the fol-

lowing statement concerning fracture of the external condyle: "The prognosis is unfavorable as the fracture lies partly within the joint and callus production and adhesion may cause permanent impairment of motion; for this reason it is important to begin passive motion as soon as possible—that is, at the end of the second week." He believed that the best way to prevent callus formation was to immobilize the arm until the fragments were firmly united, and quoted his own experience of about fifty cases with only one in which good extension did not result. On the other hand, the surgeons who advocated early passive motion were the same ones who were also removing the fragments of bone frequently because their results were so poor. He felt that it would be advisable for the orthopedic section to express an opinion as to the desirability of immobilizing such joints in order to prevent callus formation and thus gain a good result.

Dr. Dowd also presented a case of *paralytic talipes equino valgus, treated by the method which Dr. Whitman advised*. The tendon of the extensor hallucis was divided near its insertion, carried through a hole in the scaphoid bone, the end being then brought up and sewed to the upper part of the tendon, making a firm fastening to the center and to the side of the bone. Synarthrosis of the astragalo-scaphoid joint was also done. A small filament of the tendon of the extensor hallucis, which was separated from the rest, was left in this patient. The foot had been kept in plaster for three months. He was now walking with a brace, which limited the plantar flexion of the ankle joint and prevented eversion of the foot, and walked very well.

A case of *fracture of the middle of the femur* was also presented by *Dr. Dowd* with practically a perfect result. The X-ray picture showed an oblique fracture, with good apposition. A similar picture, taken after the healing, showed the position was maintained, and there was a slight callus fracture. The case had been treated with *Buck's* extension for two weeks, then kept in plaster for five weeks. He had noticed that four weeks had been suggested as a time in which bony union is firm in a child after fracture of the femur, but it did not seem to him wise to permit use of such a femur under seven or eight weeks.

Dr. Whitman said that accurate apposition and rest would assure union with the least callus formation, as illustrated by the X-ray

picture of the fractured femur presented by Dr. Dowd. He had supposed that early passive motion in cases of fracture involving a joint had been employed rather to push away bone or callus that might prevent motion than with the aim of lessening its formation. Massage, after union was assured, had of course a very different object.

Dr. Whitman said, regarding Dr. Dowd's case of tendon transplantation, that it was difficult to assure firm ankylosis in children; so that in doing this operation he sewed the astragalus and scaphoid with strong silk and fixed the foot in varus and slight dorsal flexion (over-correction). As soon as possible the patient was encouraged to walk about, and the longer the attitude was retained the better, in order that varus should be impressed on the foot by accommodative changes. In Dr. Dowd's case there was a slight flat foot which might be corrected by a foot plate.

Dr. Whitman said that in correcting deformities at the elbow following fracture, the attitude of complete extension was of advantage. This was best assured by a plaster bandage which included the thorax as well as the arm. Complete extension was an awkward attitude for ambulatory treatment, but was not uncomfortable if the patient remained in bed, as was usual after the open operation to which he especially referred.

Dr. Myers thought the amount of shortening would depend upon how much of the epiphysis had been destroyed by operation or disease; the amount of motion, on whether the joint was involved or not, though this rule was not absolute. These cases are quite frequent in tuberculous children following strains, and the results usually much better than in the hip. He remembered two cases about twelve years old now, and it would be impossible to say anything had occurred at that joint, whereas in another, the limb had been shortened at least three inches in its development. This case had undergone two scraping operations in that region, and probably most of the epiphysis had been destroyed.

Dr. Sayre said that in his experience if the disease has been so extensive as to either obliterate the epiphysis of itself or to cause it to be removed by surgical intervention, there has been very material reduction in the growth of that limb. It does not at all times follow, when the disease is situated in the neighbor-

hood of the epiphysis, that by removal of the diseased tissue the epiphysis is sacrificed. In those cases he thought we still had sometimes the same rate of growth in the leg. He had operated on an ankle in a boy a little older than the one presented this evening, scooping out the lower end of his tibia to remove a tubercular focus. At the present time the patient is a medical student, with legs of absolutely normal length. About five years ago the speaker had scooped out the head of the humerus in a girl twelve years of age. The last time he had seen the case there had been no appreciable diminution in the length of that humerus. In a good many other cases seen there had been very marked diminution in the growth of the bone after such operations. In some cases of hip disease one sees a very marked atrophy of the femur, very marked shortening, although the case has been rather a mild one and the acetabulum and the tip of the femur have been very little involved, but the epiphysis evidently very much demoralized, both from appearance as shown in X-ray and diminution in growth of the leg. A very much shortened femur on that side was sometimes accompanied by very excellent functional result.

Dr. Sayre said Dr. Dowd showed that case of elbow, as he understood, to get the opinion of the Section as to the result of movement of fragments soon after fracture in regard to the production of callus. It seemed that the irritation of the two extremities of broken bone was one of the surest ways of producing callus. It is certainly one of the well-recognized facts when we have non-union in fractures after a number of weeks that we irritate the ends of the bones in all possible ways—stick needles in them, drive electric currents through them, rub them with the hands, to start up callus.

Judging from practical results he had seen, there was much freer motion in fractures of the joint, when left severely alone after fracture, placing fragments in as nearly normal position as possible, keeping them quiet to get good union, rather than taking them down at the end of a fortnight to move them. It has been fashionable in recent years to take fractures down very soon after the injury, in a fortnight, we will say, and begin to move them, and that was the plan a number of years ago. Then it became less fashionable in this country and the doctrine of rest after replacement was preached very forcibly by a great many gentlemen.

Abroad they recently have become enamored of the idea of manipulating the fragments and moving the joint very soon after fracture with the idea of preventing ankylosis. The reason for moving these fragments in the neighborhood of the joint as given by those practicing in this country was not to prevent the formation of extra callus in the joint, but to keep the joint itself limber so it would move, and the ligaments would not set up fibrous ankylosis. The idea of motion of the broken part diminishing the formation of callus was new to the speaker, and he was surprised at Dr. Dowd having said that von Bergmann gave that as the ground work of his treatment.

Dr. Fiske said he did not know of any more difficult fracture to treat than that of the external condyle of the humerus. In those cases involving joint surfaces there is generally a good deal of displacement; for that reason we have poor results due to the amount of callus, which is large because it is almost impossible in some cases to effect perfect apposition of the fragments. It seemed to the speaker that any such fracture with fragments displaced should be reduced while the patient is under an anesthetic. He made it a rule in attempting to effect reduction. In many cases it is impossible, in spite of the greatest care in manipulating, to effect exact reduction. In most cases he placed the arm in the right angle position. In two weeks, when changing the dressing, he attempted to drop the arm twenty or thirty degrees. He thought this method eventually gave a better result than when the arm was kept in one position four or five weeks. He was not in favor of early massage, but thought the joint should have twenty-eight days of absolute fixation.

Dr. Fiske said that several cases had been treated with the arm in extension with fair result.

Dr. Fiske presented a man who, about eight days ago, attempted to perform an athletic feat by which the achilles tendon on the left side was put under great strain. A physician, called in to look at the case, decided that nothing very much was the matter. Dr. Fiske, after a few days, saw the man for the first time, and discovered that he had practically *complete rupture of the upper portion of the achilles tendon, but had good function*. It was an unique case. He had attempted to jump up against a wall and placed his foot against the wall. The shoe he had may have caused pressure, cutting him.

Dr. Whitman said this case brought up a point in favor of subcutaneous tenotomy, in that it demonstrated how one may divide a tendon and leave the sheath to preserve continuity.

Dr. Whitman said he would fix the foot in slight equinus until the tendon had united; the calf muscle would meanwhile accommodate itself to the elongated tendon. The man, in his opinion, should not walk without support, for fear of breaking the sheath.

Dr. Sayre said a number of years ago this question of immobilization of the tendon after tenotomy occupied a great part of orthopedic literature. Mr. Adams wrote a long work on the subject of tenotomy, which received a prize, in which he proved successfully, he thought, that it was necessary to immediately approximate the fragments after a tenotomy, in order to get union. In the appendix he spoke of Mr. Rolfe Cox, a veterinary surgeon, who operated on race horses who had equinus. He cut the flexor perforans tendon, cut off the overgrown part of the hoof and allowed the horse to stand on his foot and run about the field at once. He soon recovered with a good tendon, winning a race the next year. This showed that the approximation of fragments as argued in the first part of the book was not necessary in quadrupeds. It is not necessary, either, in bipeds. If one divided a tendon and covered the gap between the ends with a firm dressing and thus left a space to be filled in with blood, it would afterward organize in a good piece of tendon. After eighteen days, in rabbits, it is difficult to see with the naked eye that there had been a break. In three months one cannot detect the union under a microscope. On the contrary, if one put a tight bandage around the part with a protecting roof over the gap, and keep it there, the space would be occluded so no opportunity was allowed for effusion into the gap, and cases thus treated might result in non-union.

Dr. Ogilvy cited a case in which a heavy woman was allowed to walk in seven days after the snapping of the tendon. She could not raise herself on her toes, and the tendon was not half so strong as before rupture. This result, he thought, was due to the fact that she had been allowed to walk too soon.

Dr. Charles Ogilvy presented a case of *congenital dislocation of the hip* operated on in October, 1901, by Dr. Phelps' open method. The patient was admitted six weeks before operation, during which time between six and eight

pounds' weight was put on the leg. The Hoffa open operation was done except that the Duyon excavator was used. The neck of the bone had an anterior twist. The head set more perfectly in the acetabulum by having the leg rotated inwards, and the leg was put up in plaster, remaining three months, after which time a Phelps' hip splint was applied. This was kept on for six months, making nine months of fixation altogether, after operation, after which time the child was allowed to walk without further apparatus. The result is perfect.

Dr. Ogilvy showed another case operated on by Dr. Phelps' open method in December, 1901. For six weeks a plaster of Paris spica was applied; after that the plaster was removed and a hip brace was applied as in the other case. The brace was kept on for six months. In July the brace was removed. On December 12, 1902, Dr. Lorenz operated on the other side. At the time of the operation he mentioned the fact of the acetabulum being particularly shallow, and said it was wiser to keep on the plaster of Paris as long as possible, even if it had to be renewed; that it should be kept on for at least nine months. She was treated as he advised, with the results as shown.

Dr. Whitman said that he was glad to see such good results from the open method. He thought that it should follow the Lorenz operation when that had failed. He did not think the Lorenz attitude the cause of anterior displacement ordinarily, but rather the deformity of the neck and head of the bone. In the bilateral cases shown there was slight anterior displacement on both sides. On the side in which the acetabulum was excavated there was a bony outgrowth, which gave the femur a more secure support.

Dr. Whitman said that in a number of instances he had operated for this twist of the upper extremity of the head of the bone. He had opened the joint, enlarged the acetabulum when necessary and replaced the head of the bone by rotating the limb inward. Subsequently the normal relation was restored by osteotomy of the shaft of the femur. After the joint is open one can see the relation of the neck and head of the bone to the condyles of the femur, and can demonstrate that permanent replacement is impossible unless the deformity of the bone is corrected.

Dr. Sayre said he had heard an expression

from Dr. Lorenz in regard to this technique. Dr. Sayre had asked him what his practice was in cases where the anterior twist of the neck of the femur is so great that when one puts the head in the acetabulum the toes are turned inward. In these, if one succeed in placing the head in the acetabulum, the foot must be turned inward and could only be straightened by subsequent osteotomy in the shaft of the femur.

Dr. Lorenz replied that this was the logical mode of procedure, but it did not seem to him to be necessary. What he was looking for was a good functional result rather than perfect anatomical replacement, and in his experience he had obtained results functionally satisfactory to the patient by anterior reposition in these cases. He cited a case in which one of his colleagues had followed out partially the treatment just outlined by Dr. Whitman. When he had arrived at the stage where osteotomy should be done the parents threw up their hands at the idea of an operation and went to Vienna, where the non-bloody operation was performed, with double transposition, anterior, to the great delight of the parents. In both of the patients on whom Dr. Lorenz operated for Dr. Sayre at the New York University and Bellevue Medical College, he obtained anterior transpositions. He said that the head of the bone was not in the acetabulum; he did not pretend to have it in there; did not think it necessary to do so, but he said the children would have very excellent, useful legs the way he left them, and that was what all were anxious to have. One case was single, the other double. The "double" child walks a good deal as the "double" child did this evening. The child with "single" hip walks very excellently—runs up and down stairs with hardly a trace of limp. One can see she has not an absolute reposition when her clothes are off, and motion is slightly limited, and there is a tendency to turn the toe too much outward unless she thinks of it. Several people have guessed wrongly when asked which leg, as she ran up and down the room.

Dr. Sayre said he had a case of *double congenital dislocation of the dorsum of the ilium*, which he saw when the girl, now 19, was a small child. The child fell downstairs, thrusting one leg through the banister, severely wrenching the hip. This fall converted the posterior luxation into anterior. That leg was one inch longer than the other, solid and stable; the other slipped around the dorsum of the ilium. She said:

"This leg has been all well since I fell down stairs. If you can make the other as good as this, it is all I want." That was the attitude of Lorenz. Dr. Sayre said neither of the cases Lorenz had operated on for him had so good a functional and anatomical result as that of the single open operation shown this evening.

The speaker said he thought Dr. Whitman had stated the case as tersely and as exactly as possible, and he considered it the logical and sensible thing to do in the majority of these cases.

Dr. Ogilvy said he had noticed in looking over statistics of cases operated on by Dr. Lorenz, that the majority resulted in anterior displacement. In several cases he distinctly remembered, operated on by the open method, he found the head and neck of the bone twisted anteriorly. It is easily understood that if these cases, with the neck and head of the bone twisted anteriorly, be treated by the Lorenz method the head of the bone will be anterior, and we will have as a result an anterior displacement. Dr. Ogilvy asked if that were not the reason, why there are so many anterior displacements, the result of the Lorenz method? Why will not internal rotation rather than outward rotation obviate this result?

Dr. H. C. Frauenthal presented the case of a young man who came under observation on the 10th of the month. He said he had not opened his jaw for ten days—*perimaxillary abscess*. An attempt was made seven days ago to excise the abscess, which broke. The patient was admitted to hospital for observation. Since the breaking of abscess the jaw can be opened three-eighths of an inch. Has been on soft food for twenty-one days. No temperature, no pain, no septic chills, or anything of the kind. A wisdom tooth extracted nine or ten days ago may have been the cause of the trouble.

Editorial.

Army Medical Corps Examinations.

Preliminary examinations for appointment of assistant surgeons in the army will be held on May 1 and August 1, 1905, at points to be hereafter designated.

Permission to appear for examination can be obtained upon application to the Surgeon-Gen-

eral, U. S. Army, Washington, D. C., from whom full information concerning the examination can be procured. The essential requirements to securing an invitation are that the applicant shall be a citizen of the United States, shall be between twenty-two and thirty years of age, a graduate of a medical school legally authorized to confer the degree of doctor of medicine, shall be of good moral character and habits, and shall have had at least one year's hospital training or its equivalent in practice. The examinations will be held concurrently throughout the country at points where boards can be convened. Due consideration will be given to the localities from which applications are received, in order to lessen the travelling expenses of applicants as much as possible.

In order to perfect all necessary arrangements for the examinations of May 1st, applications must be complete and in possession of the Surgeon-General on or before April 1st, and for the examination of August 1st, on or before July 1st. Early attention is therefore enjoined upon all intended applicants.

There are at present twenty vacancies in the medical corps of the army.

National Fraternal Sanitarium for Consumptives.

A commendable move is on foot by the 8,000,000 members of fraternal and beneficial societies of the world to unite in the establishment of sanitarium for their consumptive members. A special committee is now in New Mexico to select a site—with countless acres of ground available for stock raising, and out-door exercise and profitable labor. In the centre of the settlement will be the famous Temple of Fraternity, donated by the World's Fair (St. Louis) Fraternal Building Association, which cost \$90,000. Several thousand dollars will be required to remove the building from the Exposition grounds, ship it to New Mexico, and again erect it. Beside this building, which is to serve as the administration building of the consumptives' settlement, ample accommodations are to be built around it. The very ablest of medical talent will have professional charge. While this is not intended as a money making scheme, it is expected that the income will amply meet expenses. The settlement will take care of the wives and children as well as the members of contributing fraternities who are or may be suspected to be tuberculous.

Tri-State Medical Association of the Carolinas and Virginia.

The seventh annual session convened at Greensboro, N. C., February 28 and March 1, 1905. The President, Dr. Wm. L. Robinson, Danville, Va., and the Secretary, Dr. Rolfe E. Hughes, Laurens, S. C., were in their respective chairs. In point of attendance—nearly 200—and number and worth of papers presented, a most prosperous and growing condition of the Association was evident. The officers elected for the next year were: *President*, Dr. Herbert A. Royster, Raleigh, N. C.; *Vice-Presidents*, Drs. Hugh M. Taylor, Richmond, Va., and C. J. W. Jervy, Greenville, S. C., and Albert Anderson, Wilson, N. C.; *Secretary and Treasurer*, Dr. Rolfe E. Hughes, Laurens, S. C. Dr. Wm. L. Robinson, the retiring President, was elected an Honorary Fellow. White Stone Lithia Springs, S. C., was selected as the place for next annual session.

Wise County (Va.) Medical Association

Will meet at Coeburn, Va., March 22, 1905. Dr. J. B. Wolfe, Coeburn, is President, and Dr. T. M. Cherry, Glamorgan, Secretary. Papers are promised by Drs. N. W. Stallard, Dunganon, on *Fractures*; J. M. Williams, Georcel, on *Treatment of Burns*; R. M. Holly, Inman, on *Lessons in Collecting*; and M. L. Stallard, Morton, on *Indications and Contraindications for Use of Curette in Uterine Sepsis*.

Amazing Medical Record of Japanese.

The Surgeon-General of the Japanese army reports that for the five months beginning July, 1904, of over 24,000 cases of disease treated by the medical corps there were only 40 deaths. The statement needs confirmation—for the most credulous cannot take it in.

Dr. Wade H. Frost,

Of this State, was commissioned as assistant surgeon in the Public Health and Marine Hospital service January 13, 1905.

Public Health in Virginia Good.

In looking over the reports of the Public Health and Marine Hospital Service from week to week, we rarely, if ever, find any report from Virginia. We do not know the whys and where-

fores of the case, but presume it is due to the fact that there is nothing to report—that the public health is good.

Obituary Record.

Dr. John Herbert Claiborne

Died at his home in Petersburg, Va., February 24, 1905. Born March 10, 1828, in Brunswick county, Va. His father was Rev. Gregory Claiborne, and famous in the earlier days of Methodism in the South. He received his A. M. degree from Randolph-Macon College, Va., when just twenty years of age. He graduated a year later in medicine from the University of Virginia; subsequently he received diplomas from Jefferson Medical College and Pennsylvania Hospitals. He began practice in Petersburg 1851, where he practiced up till the time of his fatal sickness, a few days before his death. Dr. Claiborne was one of those who has aided Virginia in her medical renown. At different times he was a member of the House of Delegates, as also of the Senate of Virginia. He served his people not as a politician of the present type, but as a statesman. He entered the Confederate service 1861 as surgeon, and afterwards was assigned to the important duty of equipping general hospitals. In the profession of Virginia, every honor has been awarded him within its gift. He was an ex-president and honorary fellow of the Medical Society of Virginia, and never lessened his interest in the organization after receiving its honors. He was a member of various national associations of doctors. He was the contributor of many valuable articles to the medical journals. He was the author of a very valuable work, entitled *Reports from Private Practice*, and a few months ago of a book entitled *Seventy-Five Years in Old Virginia*—full of history, personal reminiscences, etc. His record is now finished as a great physician and a nobleman. He leaves six children—three sons and three daughters. The able and popular eye, ear and throat specialist of New York city, Dr. John Herbert Claiborne, Jr., is the only one who is in the medical profession.

THE Virginia Medical Semi-Monthly.

(FORMERLY VIRGINIA MEDICAL MONTHLY.)

Vol. 9, No. 24.
Whole No. 216.

RICHMOND, VA., MARCH 24, 1905.

\$2.00 a Year.
10 Cents a Copy.

Original Communications.

CONSERVATIVE GYNECOLOGY.*

By CHARLES R. ROBINS, M. D., Richmond, Va.,

Gynecologist to Memorial Hospital, Lecturer on Gynecology,
Medical College of Virginia.

Conservative gynecology is to me a subject of great interest. Its widespread discussion is one of the most hopeful signs of the times.

Gynecology has occupied a peculiar relation to modern surgery. It was the first field in which it was learned that the abdomen could be invaded and the patient live; and with the improvement in surgical technic and consequent decrease in mortality, the march of progress has continued until the present day, when there is no organ in the abdomen that cannot, with comparative safety, enjoy the benefits of surgery should surgical interference be indicated.

Occupying the position of pioneer, it was only natural that there should be attracted to this field a large number of followers and the majority of aspirants to surgical honors sought to be known as gynecologists. It followed naturally upon this that a vast amount of work was done in this field, the majority, I believe, wisely, but certainly a great deal unwisely; and of this type, the Battey operation is the most conspicuous example. When it was discovered that a woman could stop menstruating and still be sick, it was an anomaly that made gynecologists think, and it was then that conservative gynecology had its birth. Now there is hardly a gynecological operation whose efficiency is not assailed by some more or less prominent writer. Such pessimism is undoubtedly as exaggerated an error as is radicalism. All of us who have had experience along this line are able to refer to a very satisfactory number of cases of women restored to sound health by surgical means. At the same

time, we must all admit failures; and the proper study of these successes and failures should lead to a clearer understanding of what to do and what not to do. It should also teach us more of the causes of symptoms and the relation of the various gynecological conditions to the general health.

I will not take your time to go over in detail the various steps that have led to the position generally occupied to-day, but shall endeavor to present some of the conclusions already reached, and indicate some of the lines along which even better results may be obtained.

It is generally recognized, now, that few conditions warrant complete extirpation of ovarian tissue. In the early days of operating, the presence of even a few follicular cysts was thought to justify removal of the ovaries. Now these cysts are simply punctured.

It is now known that retrodisplacement is not necessarily a diseased condition. As long as the organ is fully mobile and not congested, it will give rise to few symptoms. When, however, other conditions enter as complications, they can rarely be completely relieved until the uterus is brought back to its normal position. The question of how to correct a retrodisplacement has been one that has called forth volumes of discussion and numerous operations, but it is now generally conceded that the operation which accomplishes this by the use of nature's ligaments is the best. It is always a difficult matter to improve on nature.

In this manner, I might go over the whole field and show the increasing tendency to preserve nature's organs and restore them to a natural condition. The class of cases, however, that have been the most difficult with which to deal have been those of inflammatory origin, and I believe that along this line it is possible to bring to bear with greatest promise of results the most conservative treatment. My attention was first directed to this early in my career. I was called to see a patient who was suffering from severe pelvic pain. She had a

*Read before the Richmond Academy of Medicine and Surgery, March 14, 1905.

history of having had gonorrhœa, and examination revealed a decided mass extremely painful to touch. I at once made the diagnosis of pyosalpinx and advised operation, which was refused; and the patient drifted into the hands of another physician who prescribed hot douches, and, I believe, gave some local treatment. This patient, eventually, came back into my hands, and I found that she had undergone no operation, was healthy and robust and suffering practically no pain. That was about seven years ago, and though I have been her physician ever since, I have never had occasion to treat her for any pelvic symptoms. Since that time, I have had the opportunity to observe many cases of inflammatory pelvic diseases, and I have studied them along the lines to determine, in the first place, what will happen when left to themselves; and, second, to what extent resolution will take place. In reference to the first proposition, although I have seen a number of very severe cases of pelvic peritonitis, I have seen but two that terminated fatally.

Nature seems to have recognized the danger of infection along the genital tract and to have made very efficient provision against it. Under proper treatment, the inflammation can, almost invariably, be limited, and will seldom go to a fatal termination. I was able to observe, further, that after a while the infective matter went through the life-cycle of the bacteria and became sterile. This is a most important point, and is brought out very clearly in Red's text-book.

In reference to the second point, I have found that where there is no actual formation of pus, resolution frequently takes place to the extent that the uterus regains its mobility, and all evidences of inflammation disappear as far as symptoms are concerned. Of course, if there has been a closure of the tube, its loss of function is permanent.

I believe that along this line of acute pelvic inflammations we can practice conservative gynecology with most satisfactory results. My own practice has been as follows, and the results justify me in recommending it: The patient is put to bed and kept absolutely quiet. Hot fomentations are used on the abdomen. Copious hot antiseptic douches are given every three or four hours; and each night a vaginal cone composed of ichthyol and glycerine is inserted into the vagina. The bowels are evacu-

ated both by salines and enemata. Usually, in a few days there will be an abatement of fever and marked subsidence of pain. At this period, the patient must be carefully watched for abscess formation, and if one occurs, it can usually be evacuated by the vaginal route. There need be no haste about this, as better results are obtained by evacuating after the pus is well circumscribed. By making a wide incision and providing free drainage, the abscess will usually heal promptly.

In a large percentage of cases, the patient will make a symptomatic recovery, and nothing further will be required. If, however, there is a persistence or recurrence of painful symptoms, a secondary operation can be performed. Sufficient time should always be allowed, however, to determine its necessity. Operation of a most conservative nature then can be practiced, and often by freeing adhesions, correcting positions and possibly removing dangerous tubes we may restore to health without doing a complete removal.

I believe that the tendency, which I am sure will be borne out by results, will be to practice more and more conservatism in gynecology. We now possess sufficient knowledge and means to secure the best results. I think we are now learning that many cases can be cured without operating at all. Conservative gynecology is intelligent gynecology. Its practice requires the broadest foundation. We must be familiar with all other forms of abdominal lesions, and with the functions and diseases of the body as a whole in addition to the pathology of the gynecological organs and operative technique. It is only then that we will be able to clearly determine the nature of the disturbing element and direct intelligent efforts to its removal.

Before entering into any gynecological operation, we should settle clearly in our minds two questions: What will be the effect on the patient if no operation is performed, and what will be the ultimate result from operation? Unless it can be clearly proved that the ultimate result from the latter will be a distinct improvement on the former, an operation is not indicated, whatever pathological condition may be present. And again, unless it can be clearly shown that the symptoms from which the patient complains are due to the pelvic condition, whatever it may be, there is no indication for operation, and results will necessarily be disappointing if the operation is performed.

Practiced on broad and conservative lines, I know of no branch of medicine that is more capable of benefiting the human race than that of gynecology.

17 N. Fifth street.

VOLVULUS CONSTITUTING INTESTINAL OBSTRUCTION FOLLOWING CAESARIAN SECTION, WITH UNCERTAIN SYMPTOMS.

By JOHN N. WINSTON, M. D., Washington, D. C.,
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Although forceps had been tried in the morning (January 1, 1905) of same day when patient went on the table for Cæsarian section, the pulse was strong and full and rated at 80 beats to the minute. She took the anaesthetic well, and as scarcely no hemorrhage had occurred, the condition of the patient was as good, if not better, than at first, when the uterus was placed back in the abdominal cavity and the small intestines, distended slightly with gas, were crowded back into place. Closure of the abdominal incision was then started and completed in about 15 minutes, but before closure was complete the pulse suddenly grew rapid and weak—a thing that does not happen without cause in short and careful anaesthesia. There was no chance for bleeding and no apparent cause for shock.

I firmly believe that fifty-five minutes of careful ether anaesthesia will not, without special cause, run the pulse to 130 beats to the minute, and cause it to lose its tone and strength in a patient in as good condition as this one was—notwithstanding the shock of an operation such as was done.

Patient was returned to her bed and given all the attention modern therapeutics could think of, within the bounds of reason, with no result—the pulse quickening ten beats to the minute and the temperature soon rising to 101°F., at which level it remained. After two hours the patient entirely regained consciousness and complained of only slight pain in the abdomen. Gas continued to accumulate and by next morning abdominal distension was great, necessitating loosening of the abdominal bandage. The rectal tube was inserted at in-

tervals and left in about ten minutes each time with slight result.

High purgative enemata were given with only slight result—some feces and little gas being in the return. (The bowels had been emptied fairly well before operation.)

On the afternoon of the 2d, eserine salicylate was given in repeated doses throughout the night—as large as 1-20 grain by hypodermic syringe, which caused several good sized movements and considerable gas to come away with them. There were some moderate eructations of gas through the mouth, and though nausea was often present, it was relieved by bathing the lips with ice; and only on two occasions did the patient succeed in vomiting and then only small amounts.

On the morning of the second, pulse became wiry and kept for twenty-four hours its high tension and strength, when it gave way to a pulse lacking in tone, and very weak. Symptoms of slight shock were present on this day. Calomel was given in broken doses, often repeated, and together with food and stimulants, which were pushed, was retained well.

On the morning of the third, abdominal distension was as great as the bandage would allow, and symptoms of shock were well marked. Eserine, high rectal tubing and high enemata were again tried with about the same result as before. Nourishment and stimulants were still taken and retained. Tenderness over abdomen was present from morning of second day and had grown worse, but was not exquisite. Distension seemed equally distributed over abdomen.

It was, of course, either peritonitis or obstruction, and peritonitis was allowed the first place in our minds, because altogether considerable gas had come by rectum, the bowels had moved many times, and vomiting was not present (and vomiting in this case would have favored obstruction); tenderness was not marked but the condition of patient seemed to benumb the pain; the temperature gave little light. As the external genitals had become considerably swollen and inflamed and presented a puffy look, the peritoneum was thought possibly to have been infected by the gas bacillus and that the gas as it appeared was loose in the peritoneal cavity.

In the mean time, death occurred and autopsy showed the peritoneum clean and entirely free from infection, the intestines nor-

mal and empty up to within a few inches of the stomach, where a twist had taken place in the duodenum in its ascending portion by revolving through half its own circumference and becoming fastened by the usual plastic exudate in that position. The stomach was so distended with gas as to fill nearly the whole abdominal cavity and contained all the nutriment, stimulants, etc., that had been put into it, and would have easily accommodated several gallons more. There had been no hemorrhage.

Conclusions: The volvulus must have caused the bad pulse even while on the table. The obstruction was high, nausea was almost constant; and the reason the patient did not vomit was because the stomach walls had become so distended—even while under the anaesthetic—as to be paralyzed. With this amount of distension, which is supposed to have paralyzed the stomach walls, it seems strange that the esophageal opening was not forced open enough to allow some escape of gas: it must have been that the cardiac end of the stomach so placed itself against the esophagus as to act as a valve.

Looking from the standpoint of this case, it seems that it would be justifiable in all cases simulating obstruction, but of doubtful nature, to make the passage of the stomach tube as much routine work as rectal tubing is.

Only running subcutaneous sutures were used in the closure of the abdominal incision; and for this reason it was not thought advisable to remove entirely the abdominal bandage; but had the binder been removed, the true nature of the distension might have shown itself. At any rate, a more satisfactory physical examination could have been made, and a good physical examination should never be omitted.

The volvulus, which was in the ascending duodenum, must have been caused by traction on the lesser omentum before or during operation and the relaxation of this stretch of tissue allowed the usually semi-erect gut to become less erect and thus twist on itself.

It is also interesting to note that the remains of the omphalo-mesenteric duct was present and appeared as an appendage four inches in length attached to the ileum near its lower end; the free end closed, the other connecting with the bowel cavity—and in no way connected with the obstruction.

Lastly, to have produced the above symptoms by peritonitis so quickly, it would have taken

a large amount of infection with very active infective material, or previous infection, and there was no chance for previous infection.

With the great amount of care and the watchful over-sight of these modern and triumphant surgical days, have we not a right to have more trust in our own asepsis? The hypodermics of eserine caused more peristalsis and better bowel movements than anything else, giving, at one time, a movement from bowels in thirty minutes after injection.

MOVABLE KIDNEY—ITS CAUSES, SYMPTOMS AND DIAGNOSIS.*

By BLANTON L. HILLSMAN, M. D., Richmond, Va.

The frequency of movable kidney—being found in one out of every four women—makes the subject one of great interest alike to the general practitioner as to the surgeon. In discussing this subject, I have nothing new to offer you as regard its symptoms and diagnosis, but in order to open up a discussion, I propose to theorize and give a cause which, if not true, is as logical as the theories heretofore propounded. In order to prove my theory, I must first disprove three of the most important etiological factors as laid down in the text-books. The three causes are absorption of the fatty capsule following wasting diseases, tight lacing and repeated pregnancies with consequent relaxed abdominal parietes, which do not support the kidney.

Absorption of the fatty capsule is disproved by the findings at the operations for movable kidney by numerous operators—viz., abundance of fat surrounding the kidney bed. Dr. Cromley reports eighteen cases of movable kidney in children from one month to ten years of age; and according to Dr. Brvant, the fatty capsule is not formed until about ten years of age or soon thereafter.

Tight lacing is disproven etiological as a factor by the results of examination of Arab women by Dr. Trakaki. These women wear no form of abdominal binder, yet 42 per cent. had movable kidney, a larger percentage than found in European corset-wearing women. Repeated pregnancies must be an etiological factor, as

*Read before the Richmond Academy of Medicine and Surgery, February 28, 1905.

fully 80 per cent. of cases are found in child-bearing women. But I claim that it is not due to a relaxed abdominal wall following pregnancy; for if it were the left kidney would be movable as often as the right. How, then, does pregnancy produce movable kidney? It is admitted that a larger percentage of movable kidneys is found in child-bearing women, and that the right kidney is the one involved in 90 per cent. of cases. It is also admitted that a larger percentage of women carry the child on the right side—that is, with one pole in the right hypochondrium. These facts being admitted, it is readily seen how the growing uterus pushing upward into the right hypochondrium will encroach on the right kidney, causing impairment of its circulation and improper drainage by pressure on its ureter. This pressure is proven to take place by the fact that the kidney function is often impaired during pregnancy, causing eclampsia. At least to my mind, this is the most logical theory yet advanced as to its cause.

The consequence of this encroachment and pressure is enlargement of the kidney, lateral compression of the fatty capsule and displacement of the kidney upwards. What is the result after delivery? The uterus and intestines return to their normal position, the kidney falls downward into its fatty bed, but the capsule having been compressed laterally, and fatty tissue not being resilient or elastic, does not spring back to grasp the now normal size kidney, and the kidney, consequently, is movable.

Movable kidney often occasions no symptoms. At other times, it is responsible for a remarkable train of nervous symptoms, largely reflex in character. These include indigestion, nausea, vomiting, flatulence, palpitation of the heart, cardalgia, neuralgia of various portions of the body (but mainly of the abdominal and cardiac regions), neurasthenia, mental despondency and various hysterical phenomena. The direct result of the displacement is a sense of weight or dragging in the loins, especially manifested on standing, walking, riding, dancing, etc. To this is added a variable amount of pain, which, if the ureter becomes kinked, is excruciating, resembling renal colic.

As none of the above symptoms are peculiar to movable kidney, we have to rely chiefly on a careful physical examination, especially palpation, for our diagnosis. The X-ray promises to be of invaluable assistance along this line. The

various positions and methods of palpation, as laid down in text-books, are too well known to be mentioned. Percussion over the lumbar region is at times helpful. Urinalysis, unless the kidney becomes kinked, is negative.

The kidney is sometimes easily palpated and recognized through the abdominal wall. Between this ready recognition and that which requires the highest manipulative skill of the examiner there is every degree.

The most important differential diagnosis to be made is between distended gall bladder and movable kidney. A distended gall bladder descends with inspiration and cannot be moved except in the arc of a circle with the centre at the end of the eighth rib; whereas a movable kidney can be carried downward. Moreover, a distended gall bladder, when pushed backward, tends to return to its former position, a movable kidney does not.

From a prolapsed and adherent ovary, movable kidney is diagnosed by the fact that the reflex symptoms are relieved by assuming the recumbent posture in movable kidney, and are not affected in adherent ovary.

From renal calculus, intestinal tumors, tumors of the pylorus, appendicitis, etc., the differentiation is made by the history and careful physical examination. It is worthy of note that the most severe suffering is not necessarily associated with the greatest range of mobility; and there is good reason for believing that an amount of motion which cannot be detected by the most careful palpation may be sufficient to cause most pronounced symptoms.

Daniel's Conc. Tinct. Passiflora Incarnata is prepared from the fresh, green fruit, vine and leaf of the May pop, and is a pleasant, reliable and valuable nervine—for nervous women, teething babies, neuralgia, hysteria, acute nervousness from excitement, fevers, etc. A tablespoonful at night before retiring relieves insomnia. It is an excellent calmative, and is beneficial in all troubles of purely nervous character, and acts well in cases of drawn and jerking tendons of limbs. During the menstrual period and the nervous disorders of menopause, it tranquillizes nervous manifestations. It stimulates and quiets the nervous system without the weakening and unpleasant reactions of opiates. A fact of importance is that it does not produce constipation.

THE TREATMENT OF ERYSIPELAS WITH FORMALIN.*

By THOMAS DOWLING, JR., M. D., Washington D. C.

I desire to call attention to three cases of erysipelas treated with formalin in solution applied locally to the parts affected.

Erysipelas has been defined as an acute contagious disease, characterized by a dermatitis with the signs of inflammation, such as swelling, heat, pain and redness, and, added to these, a disposition to spread. As early as 480 B. C. Hippocrates described cases of erysipelas and his description differs very little from the cases we see at the present time.

The cause of erysipelas is not positively known, but it is believed to be caused by the streptococcus erysipelatis of Fehleisen. The disease, as we all believe, can be transmitted direct from one person to another or through the intermediation of a third person. It is claimed by some writers that the disease can be transmitted through the atmosphere.

In former times numerous epidemics of erysipelas occurred in hospitals, jails, asylums and in military barracks and camps, but now, owing to improved methods of building and sanitary conditions, such epidemics are rare.

Symptoms.—The period of incubation is from one to eight days. As physicians we are called on mostly to treat cases of idiopathic erysipelas, and this variety generally begins with a chill, followed by fever, loss of appetite and headache. In some cases all symptoms are absent or so slight that the patient fails to notice them. In a short while after the chill and other disturbance, a small red spot appears on the face in the region of the nose; this spreads rapidly, and in a short while there is a characteristic elevation above the surrounding tissues and soon the whole face is involved, the eyes being closed and the features swollen out of all proportion. Later, blebs are formed and these at times are followed by abscesses.

Complications are numerous in severe cases, such as meningitis, edema of the glottis, cardiac and pulmonary complications.

Among the *sequela* we have loss of hair.

The diagnosis is based on the acuteness of the attack, the spread of inflammation, and constitutional symptoms.

Progress is favorable in the majority of cases.

In regard to treatment I will pass that over in a few words and report three cases treated locally with formalin solution applied to the parts affected.

All cases should be isolated, however slight the attack may seem. The patient should be fed at stated intervals with liquid food. Due attention must also be given to the heart. The temperature, if very high, should be controlled by sponge baths.

In regard to local treatment I have found formalin solution 1-2000 to be the very best remedy, as it controls the spread of the inflammation, and, therefore, prevents the spread of the disease. During my term as medical interne at the Government Hospital for the Insane, I had the opportunity to try formalin solution in five cases and with the following results.

Case No. 1. Mr. L., age 65, white; suffering with paresis and confined to bed for some time previous to the attack of facial erysipelas. Patient was isolated and given five grains of quinine every four hours; milk punches every three hours. Local treatment consisted of gauze saturated with a solution of formalin 1-2000 applied continuously to face. In forty-eight hours there was a decided decrease in the inflammation and twenty-four hours later patient was fairly comfortable and made a good recovery.

Case No. 2. Nellie R., laundress, age 23. This girl was exposed to a severe case of erysipelas on a visit to her sister. Six days after exposure she had a severe chill, followed by a rapid rise of temperature, and on the following morning there was a small red spot on her nose. This spread rapidly and in twenty-four hours her whole face and scalp was involved. She was promptly isolated and the same treatment as in the case No. 1 ordered, except the formalin solution was made of 1-1500 strength, and kept applied on lint to the face and head. Liquid diet, strychnia, 1-60 grain every four hours. Milk punch every four hours. After the disappearance of all signs of inflammation and the patient was convalescent, her hair began to fall out, which I believe is sometimes a sequel of the disease. She finally made a complete recovery. A peculiar feature of this case was the run of temperature, which was always higher in the morning (as

* Read at a meeting of the Medical and Surgical Society of the District of Columbia, January 5, 1905.

much as 104° F. on morning of fourth day) and normal at night.

Case No. 3. Mr. G., white; age 70; patient Government Hospital for the Insane. This man had a well marked case of erysipelas of the right foot extending up to the knee. A formalin solution 1-1000 was continuously applied to foot and leg on gauze. In this case there was also a good recovery.

As the other cases are about the same it is of no use to report them.

In looking over literature I find references to forty cases of erysipelas treated with formalin, either by the local method hypodermically or by ointment containing formalin. In twenty-five cases, solutions of formalin in strength varying from 1-500 to 1-5000 was used, the average strength being 1-2000. In ten cases the formalin was injected hypodermically around the edges of the inflamed area in the strength of 1-500. This method seemed to have a very beneficial effect upon the cause of the disease and all the patients treated in this manner recovered.

In five cases ointment of formalin—five to ten grains to the ounce—was used with fair results.

Formalin is useful as a germicide, and if erysipelas is caused by a micro-organism I do not see why it should not be found useful in the manner mentioned—locally, hypodermically or in ointment—for cases of erysipelas—as in my five cases it certainly seemed to me to relieve the conditions and prevented the spread of the disease. The patients did not complain of any discomfort while wearing the masks of gauze which had been saturated with the formalin solution except when it was first applied, and then only for a short time.

If occasion should arise at any time I intend to give a full trial to the treatment of erysipelas in the manner above mentioned by formalin in solution and made up in ointment.

Angier's Petroleum has a reinforcing influence upon digestion, assimilation and nutrition, enabling the system to utilize all forms of nutriment. Hence its value in treating progressive loss of flesh, whether due to organic or infectious disease, or existing without apparent cause.

CAUSES AND SYMPTOMS OF NASAL OBSTRUCTION.*

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An explanation of any one of the causes producing nasal obstruction would require a lengthy paper; hence it is necessary to state in the beginning that remarks upon the subject must be incomplete. A paper setting forth in detail the various forms of nasal obstruction would certainly prove most uninteresting to the general profession, if, indeed, anything which might be said would be of interest. But, since patients so frequently present themselves to us with the general statement that they are suffering from "catarrh," we are prompted to believe that this general term is applied to most of the abnormal and diseased conditions of the nose. And again, it is surprising to find so often conflicting opinions concerning the significance of nasal imperfections, some authors attributing most of the diseased conditions of the upper air passages to one of the forms of nasal obstruction, while others are less enthusiastic, and still others attach practically no importance to it. Pioneers, and those who are intensely enthusiastic, are usually considered cranks, while those who are not willing to confine themselves to minute and detail work are even less successful. So that it is probable that the most successful rhinologist is the one who does not do indiscriminate operating and yet recognizes the importance of relieving many nasal complaints. Unfortunately, patients sometimes get "fads" concerning nasal affections, and because a certain friend or acquaintance has had "the bone" cut out of his or her nose, the fashion is established, and those desiring to be strictly in it must fall in line and are oftentimes much delighted to find that they are similarly affected.

Most of the cases requiring our attention are young adults and children, and greater apprehension and alarm than the actual conditions really warrant are not infrequently manifested by the patient or friends of the patient. For instance, we are almost constantly asked what bearing it has on tuberculosis.

Certain general symptoms of nasal obstruction are so well known that it is scarcely necessary to recite them, yet it is usually these very symptoms which require relief. Inability to

* Read before the Richmond Academy of Medicine and Surgery, February 14, 1905.

inspire on the affected side, nasal tone to the voice, mouth breathing, particularly when the patient is asleep, a blank facial expression and projecting front teeth, provided the obstruction has existed prior to second dentition, are the most noticeable symptoms. Intermittent and progressive deafness are sometimes found. All symptoms are aggravated by acute attacks of inflammation of the mucous membrane of the air passages, and even damp weather contributes to their intensity. The throats of patients suffering from nasal obstruction are rarely healthy. The cold air mixed with atmospheric contaminations, inhaled directly upon the pharynx and larynx, will produce an inflammation which is accompanied by pathological secretions and expectorations, and still further the same deleterious effects are wrought upon the bronchial mucous membrane.

In studying the causation of nasal obstruction, it is simplified and more readily understood by recalling that the nose is bounded by bony and cartilaginous walls which are lined with mucous membrane with an abundant supply of glands, and that the nasal chambers communicate with other cavities spoken of as the accessory sinuses.

First, we will notice affections of the bone and cartilages; second, of the mucous membrane and its glands; third, conditions not classified with the foregoing but sufficiently frequent to make their consideration imperative.

Conditions of the bones and cartilages obstructing the nasal passages may be subdivided into (1) displacements following injury, which are usually confined to the septum; (2) congenital deformities of the septum; (3) exostoses and enchondroses; (4) the middle or lower turbinates may be enlarged, displaced, or more rarely, in a condition of cystic degeneration.

Beginning with imperfections of the nasal septum which give rise to obstruction, we meet widely divergent opinions concerning the significance of these irregularities. This difference, often arising between competent and conscientious writers, is probably accounted for by the variation of symptoms produced by irregularity of the septum. As a matter of fact, we practically never find an absolutely perfect partition between the two nasal chambers. Slight deflections, crookedness, convexities and concavities producing irregularities of the surface,

are extremely common in those who suffer no symptoms whatever.

The indications for treatment usually become manifest by the complications produced, which are in the main interference with breathing on the affected side, mouth breathing and progressive deafness on either side.

The diagnosis of septal deformities is comparatively easy to make. Deflections have a convexity with a corresponding concavity on the opposite side; outgrowths simply encroach on the space of one side. We are very much aided in the inspection of such cases by the use of the curved probe. Most outgrowths are cartilaginous and are usually situated close to the external orifice and near the lower border of the septum, so that on attempting inspiration the outer wall of the nostril impinges upon the obstructing mass like a naivè. In extreme cases following injury, the convexity or obstructing portion may be very obtuse, causing external deformity of the nose, when the tip of the nose is turned to the side opposite the convexity.

The color, situation, the concavity opposite the convexity, the gentle use of the probe will make clear to us in what part of the nose the obstruction exists. The color is lighter or slightly pink when contrasted with the normal mucous membrane, and sometimes arborescent vessels may be seen upon the summit of the spur when the mucous membrane has become very much thinned. Bony enlargement, deformity or displacement of the turbinate bodies usually takes place either at one extremity or the other, the posterior extremity sometimes forming large masses projecting into the postnasal space and easily felt with the finger introduced behind the palate. When the anterior extremity is enlarged, it may actually come in contact with the septum, in which case an area of pressure ulceration may be found at the point of contact. We are sometimes in doubt in these cases as to how much of the enlargement is due to thickened mucous membrane and how much to bony growth. The difficulty is easily cleared up by the application of cocaine or adrenalin chloride, which so contracts the mucous membrane as to reveal the actual bony irregularity. By far the greatest number of cases will be found to be thickening of the mucous membrane. It at once occurs to us that many abnormal septal conditions which are not congenital

and which have no history of injury are observed. This, I think, is completely answered by calling attention to the many injuries to which infants and children are subjected that pass unnoticed because no apparent injury has been produced. The nose being a prominent and protective member, meets opposing forces frequently. Infants receive minor injuries occurring at an age before the cartilage and bone constituting the septum are well organized, and a low grade of inflammation is produced which results in deformity long afterwards.

Conditions originating in the mucous membrane and glands: (1) Thickening and hypertrophy; (2) so-called mucous polypi; (3) adenoid vegetations; (4) gummata; (5) vascular and papillomatous growths; (6) malignant growths.

(1). Thickening or hypertrophy of the mucous membrane is one of the most important causes of nasal obstruction. Diagnosis is made by the subjective symptoms as well as by local inspection. Young adults are most frequently affected, and of these women predominate. This may be accounted for—first, by the more habitual use of warm water for bathing purposes by females, together with an indoor life; second, so-called neurotic element; third, disorders of menstruation and pregnancy. The use of alcohol and tobacco in men is a contributing factor. Irregularity of the septum is by far the most frequent of the local causes. This is explained by the deflection of air against the soft parts, which produces an irritation, and the rarefied condition of the air in the space posterior to the prominence, giving rise to a congested mucous membrane. Thus is brought about an inflammation resulting in thickening and hypersecretion due to the exposure of an increased area of mucous membrane. The obstruction furnished by a thickened mucous membrane frequently shifts from one side of the nose to the other, which is usually noticed by the patient when lying on the side. Patients often mention this symptom, and add that it is worse in cold, damp weather and when in the presence of certain atmospheric impurities. Increased secretion, with constant dripping into the throat and the use of five or six handkerchiefs daily, is found next most annoying after interference with breathing. Inspection of the nose in hypertrophic rhinitis usually reveals the true condition at once. The mucous membrane is swollen and of a dark red color,

showing the vessels to be enormously engorged. In some cases, a shiny gray appearance is quite characteristic, which is explained by the walls of the vessels having lost tone, resulting in a condition of venous stasis. The swelling from a progressive degeneration may become so pronounced that a polypoid appearance is presented at the anterior or posterior aspect of the turbinate. This is distinguished from true polypus by its more pink color and absence of a jelly-like aspect; and besides, its position is not changed with the probe, as is the mucous polypus. The diagnosis is finally cleared up by the application of one of the astringent agents, such as cocaine or adrenalin chloride.

(2) Mucous polypus. The general subjective symptoms of mucous polypi are those of nasal obstruction. The diagnosis is comparatively easy after having once seen the appearance of the growth. Next to catarrh, patients most frequently suggest the presence of polypi to account for the interference with breathing or increased secretion, and this idea is made more prevalent by some practitioners sharing opinions with the patient. Polypi seem to figure quite as conspicuously in nasal conditions as impacted cerumen does in ear diseases. The subjective symptoms are aggravated in damp weather and the patient complains of being more susceptible to cold, and asthmatic symptoms are produced. It is comparatively rare to find polypi in the nasal chambers in childhood. I have seen but one case as young as twelve years. They are usually attached to the outer wall, either to the middle or inferior turbinate, or the space between the turbinates. The jelly-like aspect, the fact that they are displaced or replaced with the probe, are sufficiently conclusive signs for diagnosis. In a large percentage of cases, pus is found draining over the false growth, which signifies other pathological conditions, usually suppuration of some of the accessory sinuses. It should be further stated that polypi rarely occur singly and that recurrences are frequent. Besides the class of polypi occurring with suppuration, we have it occurring with the so-called vaso-motor disturbances of the ethmoid, with the symptoms of asthma, hay fever and hyperaesthetic rhinitis. These patients usually manifest a neurotic habit. Many of these cases are afflicted with degeneration of the bony structure of the ethmoid. The real explanation of these cases is purely conjectural and has furnished a fertile field for

those who are enthusiastic concerning the gouty diathesis. It is necessary to distinguish poly-poid growths from malignant tumors. Cancerous growths are most vascular, very much darker in color, sometimes fungating, and still further bleed easily when touched with the probe, which never occurs with benign growths unless they are lacerated. It is generally taught that mucous polypi occur in the anterior part of the nose, in which case they are easily located by inspection, but as a matter of fact, a number of these tumors grow backward and hang in the post-nasal space by a more or less dense pedicle. The same nasal tone and obstruction exists, which, taken with breathing through the mouth, produce a suspicion of adenoid vegetations. Malignant growths in the post-nasal space usually present a broad fleshy attachment to the base of the skull and are seldom pedunculated, though it must be remembered that polypi sometimes take a malignant degeneration.

(3) Adenoid growths. The third classification of affections involving the mucous membrane we will take up under the head of adenoid growths. These adventitious growths frequently produce nasal obstruction in young children, yet they may be found in a more or less degenerated form in the post-nasal space of patients at almost any age. It is necessary to be able to locate the position and extent of the growths and to place a proper estimate upon the symptoms produced. The throat of almost every child, whose general condition is anything below par, will show more or less hypertrophy of the glandular tissue in the vault of the pharynx, which becomes more pronounced in appearance and symptoms during an attack of acute cold, especially in winter season. The variation in size and symptoms of these growths account for the difference of opinion of really eminent authorities. A reliable conservative opinion is indeed difficult to render in some cases. What is a reasonable opinion at one time is not reasonable at a later date. Cases which show an abundant crop of adenoids in winter may not manifest any symptoms in warmer weather. If the obstruction interferes with the tone of the voice and keeps up a dribbling from the anterior nares, producing excoriation of the skin, and compels the child to breathe through its mouth, surely sufficient indications are present for the removal of the obstructing tissue. I desire to lay stress upon the fact that adenoid operations should be performed in the spring

of the year, unless we are confronted with an urgent reason for immediate operation. I become more convinced of this fact every year. In the first place, the growths are less acutely inflamed and are therefore less vascular in summer than in winter, the children do not have to be housed, and breathing does not produce the same irritation which is caused in winter. The children, therefore, can live in the open air more, the post-nasal space dries up very much more quickly and the pathological secretion which really contributes to the recurrence of the growths is not kept up.

(4) Gummatus tumors. Gummatus tumors producing nasal obstruction are often confounded with more serious disease. They usually occur on the septum, forming a circumscribed swelling markedly congested around the edges with a tendency to slough in the centre. When it is acutely inflamed it may resemble abscess of the septum. Again, a decided infiltration will produce a suspicion of a malignant growth. These lesions are usually exceedingly tender to the touch and are often accompanied by severe neuralgic pains, which are worse at night. Diagnosis is finally cleared up by the iodides.

(5) Papillomatous and vascular tumors. Papillomatous tumors and vascular tumors occur in the nose very rarely and we shall not consume more time than merely to mention them.

(6) Malignant tumors, sarcoma and carcinoma. It has been stated that it is necessary to differentiate cancerous growths from the ordinary mucous polypi: and again, malignant disease may be confounded with profuse granulation tissue associated with necroses. Microscopical examination proves untrustworthy in rapidly developing cases. Fungating and breaking down gummata bear a close resemblance to malignant tumors; then large doses of iodides are required to decide between these affections. Certain clinical manifestations aid in diagnosis. For instance, carcinoma usually originates in the ethmoid cells or antrum and secondarily invades the nasal chambers. A rapidly progressing growth in the nose or any of the accessory sinuses, is seldom innocent. Hemorrhage, produced by a slight touch of the probe, and a foul smelling discharge are signs which are quite pathognomonic. When the post-nasal space is the seat of a cancerous affection it is rather more difficult to diagnose than when it is located in the nasal chambers, owing

to the fact that it grows more compactly, better drainage is secured and therefore less odor is produced; and further, it is more difficult for inspection, and still further we are more likely to meet with benign growths in this region.

Unclassified conditions producing obstruction are:

(1) Smallness of the nasal cavities, particularly the anterior nares. The lack of sufficient space allows any abnormal obstruction to have more effect.

(2) Hæmatomaa, which usually occur from injuries of the septum and may be mistaken for polypus or septal deformity.

(3) Abscess, which is located in the septal structure and always painful upon pressure.

(4) Cicatricial contraction or synechia, the result of injury or former operative procedures and is rarely confounded with any other condition.

(5) Foreign bodies, the presence of which is indicated by a discharge from one side of the nose, which soon becomes odorous and upon examination we find them covered by granulation tissue.

I shall not consume the time of the Academy in discussing the treatment of nasal obstruction. I fear that I have already detained you too long and any detailed remarks upon the treatment of the subject would prove tiresome.

DISCUSSION.

Dr. W. F. Mercer said the importance of the respiratory act (notwithstanding it was not even mentioned by several text-books) was not to be overlooked, having, as it does, for its action the warming and moistening of the inhaled air through the agency of the turbinates. Upon this is dependent the function of the lower air passages. As was demonstrated in 1885 by Bosworth, the turbinates secrete more than a pint of fluid daily; but the secretion is mucous, as there are no serous glands in the lower air passages. If the turbinates are destroyed the mucous membrane may be thickened as much as seven times, and it is very important not to destroy unnecessarily any turbinate tissue. Many infectious diseases—e. g., tuberculosis—may be acquired through diseased tonsils or mucous membrane of the pharynx or larynx. It has been demonstrated experimentally that tuberculosis of the lungs may be acquired in this way. *Dr. Mercer* objects to the use of the word "catarrh" in connection with any nasal af-

fection. It is applied chiefly to hypertrophic conditions, in which the secretion is lessened rather than increased in amount. Patients think that the so-called catarrh leads to consumption, whereas in reality it never does, though it may predispose to it. The abolition of the word would greatly diminish the use of patent medicines. Hypertrophic rhinitis, or catarrh, is not incurable; in fact, no condition is more amenable to treatment when that treatment is properly and faithfully carried out. Nasal polypi are due to long continued irritation of the nasal mucous membrane. They may recur after removal, unless the cause is also removed. Adenoids occur in young persons chiefly. General practitioners do not, as a rule, pay sufficient attention to the noses of young children, and such troubles should be corrected as early as possible. Fortunately, the cautery is but little used in the nose. It may do great damage there, and he has often wished that he could restore the turbinates that have been removed.

Dr. Baughman said that as it was now known that sewer air is pure air because bacteria and other purities are filtered out by the damp walls with which it is contact, so he thinks the nose acts in removing impurities from the inspired air. He has seen many polypi and adenomata containing glandular tissue. He asked if this is of special pathologic importance, and if, also, it may be hoped to cure any cases of atrophic rhinitis.

Dr. Davidson said, in closing the discussion, that atrophic rhinitis is incurable, but patients may be made more tolerable to their friends. He does not apply the term catarrh to any special condition. Etiologically, it is an erroneous term; and laymen attach to it an idea of bad odor such as is found in atrophic rhinitis, which condition is rather rare. He believes that the nose is an antiseptic chamber, as suggested by *Dr. Baughman*. The condition mentioned by the latter is polypoid degeneration. It is not that found associated with suppuration of the sinuses, etc. More harm has been done in the nose by cauterization than by any other procedure. He never uses it there or in the throat. Hypertrophic rhinitis is often seen in the pregnant woman, but disappears after delivery. It must be more common than is supposed. He has recently seen three cases complicated by deafness.

CLINICAL CASE OF TETANUS.*

By A. MCG. WALLACE, M. D., Gate City, Va.

On August 3, at 11 A. M., I was called to see a patient, aged 12 years, who had cut his big toe eight days before. Except for complaining of stiffness of the muscles of the neck and jaws, which was attributed to cold, he had rested well the night previous to my visit. Upon examination, I found a sticking plaster had been put over the wound, which was sealed tight. The symptoms were such as to suggest acute tetanus; for this reason, I removed the plaster, opened the wound, and washed it out with bichloride—1 to 500. Moist dressings were then ordered to be kept to the toe. I returned at 4 P. M., to find the patient worse; stiffness was more extended, making it difficult for the patient to open his mouth. The contractions became painful, the muscles of the back of the neck became involved, and the head was thrown back by contraction. By night all the muscles of the back had become affected, producing opisthotonos. The muscular spasms at first were clonic, but soon became continuous. After a sleepless night, the patient was found well advanced in the development of the disease. The muscles of the face were affected; the lower extremities were rigidly extended; the mouth was puckered in a peculiar way; the patient became extremely sensitive to disturbance of any kind, attempts to move him in any way bringing on paroxysms of convulsive action of the most painful character. At the end of each paroxysm there was free perspiration, which became a characteristic feature of the case.

Dr. B. was called from Bristol on the second day, arriving at 10 A. M., when we promptly amputated the greater portion of his toe where the source of the infection was located under the toe-nail, an ideal place for the development of tetanus bacilli. We dressed the wound with bichloride gauze, and gave chloral hydrate and bromides in full doses. Twenty grains of chloral in sweet milk by rectum seemed to produce some sleep for about an hour, but no complete remissions ever occurred, and the patient would be startled out of a disturbed slumber by renewed convulsive movements. On the third day I still had to gaze upon the terrible case before me; one minute the facial muscles would be contracted with the head turned back to one side, one foot would be turned out, the other

turned in, both in a twist, and the body—with terrible contortions and writhing like a serpent—seemed to try to put the front in the place of the back; the face was livid, and the pulse beyond counting. This would last about three minutes, and then there would be an interval of rest for probably five minutes, when the eyes were bright and there was almost a cheerful state of countenance, all to disappear, however, under another more violent contortion, in which it looked as if every bone would be thrown out of joint. Chloroform by inhalation seemed to cut short the convulsion. I used the antitetanic serum, but it was too late to get any results. Patient died at 6 o'clock in the afternoon.

My principal reason for writing this paper is to call attention to the fact that if a punctured or closed wound which has been inoculated with tetanus bacilli be *treated sufficiently early* by methods which are based on the knowledge of bacteriology of the disease, we can absolutely prevent the development of tetanus in every case. The tetanus bacillus, I need scarcely mention, is an anaerobic organism, and is surrounded by ideal conditions for its growth in punctured wounds. After the foreign body, whatever it may be, penetrates the skin and underlying soft parts, the edges of the wound of entrance are rapidly closed by wound secretions, and we have a closed cavity—devoid of oxygen, a place where the tetanus bacilli develop rapidly, giving rise to the early appearance of symptoms of the disease.

The curative treatment of tetanus leaves much to be wished for, and we must hope to reduce its high mortality only through prophylactic treatment.

To sum up briefly, convert every closed wound into an open one, so that there will be not the least corner in which tetanus bacilli find their necessary conditions for growth; then swab the entire wound area with pure carbolic acid, followed immediately with a 96 per cent. alcohol; then pack with a wet gauze—1 to 1,000—salicylic acid dressing. Irrigate daily with mild antiseptic solutions, and last, but by no means the least, give prophylactic injections of tetanus antitoxin to aid in combatting whatever toxins may have been absorbed prior to the time of operation. By these measures we may prevent tetanus.

* Read before the Southwest Virginia Medical Society, at Bristol, Va.-Tenn., January 17-18, 1905.

For tamponing, Kennedy's Dark Pinus Canadensis is preferred by many.

Analyses, Selections, Etc.

Gunshot Wounds of Ureter—Two Cases of Uretero-Vesical Anastomosis.

Dr. George Tully Vaughan, Assistant Surgeon General U. S. Pub. Health and Mar. Hosp. Serv., Professor of Surgery in Georgetown University, Washington, D. C., says (*Jour. Assn. Military Surg. of U. S.*, December, 1904) that gunshot wounds of the ureter are exceedingly rare—only one authentic case having been previously reported, and that was the case of the Archbishop of Paris, who was shot June 29, 1848. The ball entered the right lumbar region close to the spine. There was great depression, a pale, anxious countenance, nausea, vomiting, intense pain in the back and in the course of the sciatic nerves, and paralysis of the lower limbs. Urine flowed from the wound in great quantities, and there was none in the bladder. Attempt to remove the ball was made without success, and death occurred eighteen hours after injury. Necropsy showed that the ball had passed through the third lumbar vertebra, dividing the cauda equina just below its origin, and the left ureter close to the pelvis of the kidney, and lodged in the psoas muscle.

The doubtful case of Rayer, reported by Hennen, seems to have been a gunshot wound of the kidney.

Dr. Vaughan's case is as follows:

C. T., colored, male, age 30 years, laborer, admitted to Emergency Hospital for abdominal fistula which followed gunshot wound of abdomen on October 3, 1903. The 32-calibre ball entered about an inch to inner side of right anterior superior spinous process of ilium, and just below Poupart's ligament, and lodged under skin behind, in median line, having perforated or notched the fourth bone of the sacrum—whence it was removed. Purulent discharge with peritoneal symptoms followed, and on October 11th, Dr. W. P. Carr, suspecting perforation of bladder or bowel, did an exploratory laparotomy in the median line. Numerous adhesions were found, but no wound of abdominal viscera. Wound closed, with drainage in front; in a week purulent discharge occurred through the drainage wound in front, and at the point of bullet exit behind; so daily, through and through irrigation was used. Patient gradually improved; discharge became

thinner and looked almost as clear as water, but contained a little pus and a trace of urea. On December 3, 1903, patient discharged, recovered, with exception of fistula in front.

He was readmitted March 15, for the cure of the fistula, which had continued to discharge and kept his clothing constantly wet. A slight discharge also came from the posterior wound. He suffered no pain, ate and slept well, was well nourished and able to work. He voided from the bladder about twenty-two ounces of urine in twenty-four hours and from the fistula, judging from the amount collected for several hours, by means of a tube in the fistula, two ounces an hour or forty-eight ounces in twenty-four hours.

Examination of bladder urine gave reaction, acid, specific gravity 1022, urea six grains to the ounce, no albumin or sugar—a few pus cells. Fluid from fistula appeared thin and slightly milky in color, reaction faintly acid, specific gravity 1010, urea one grain to the ounce, pus cells abundant, a trace of albumin present. A probe could be passed into the fistula in front to the depth of four and three-quarter inches when it was arrested by a hard body, probably bone. Through the posterior opening the probe could be inserted to a distance of a little over two inches.

A diagnosis of wound of the right ureter was made and on March 19th abdomen was opened along the outer border of the right rectus muscle and afterward the rectus was divided transversely just below the navel. The probe inserted through anterior fistula was used as a guide but the operation was tedious and difficult on account of the numerous and strong adhesions of the intestines with one another and with the pelvic walls. The right ureter was finally exposed. It was found dilated to at least twice its normal size and was traced into a mass of unusually dense adhesions in the bottom of the pelvis. In attempting to free the ureter it was broken off at the location of the fistula as was shown by the appearance of the proximal end.

Nature was making a brave attempt to close the fistula, and incidentally the ureter itself, as at the site of the fistula the ureter was much contracted in calibre—being not larger than one fourth or one-fifth of the dilated portion above. The result of this contraction was not only dilatation of the ureter but also probable damage to the kidney, as shown by the small percentage of urea found in the urine from the

fistula. Sewing together the ends of the ureter (uretero-ureteral anastomosis) would have been almost impossible even if desirable, at this point; so uretero-vesical anastomosis was decided upon. The bladder was opened in front and a small oblique opening was made through its posterior wall on the right side at a point considerably above the normal opening of the ureter. The end of the ureter was then split into two flaps about one-eighth of an inch long and drawn into the bladder by means of forceps introduced through the anterior and posterior opening. The flaps were spread open and stitched to the inside of the bladder by sutures whose knots were tied on the peritoneal surface of the bladder. The ureter was also sewed to the posterior surface of the bladder at its point of entrance. Very fine silk sutures were used. The anterior wound in the bladder was closed by two rows of continuous sutures—using first, catgut through all the coats, and second, silk, omitting the mucous coat and inverting the first row. The ends of the rectus muscle were united with heavy catgut, the longitudinal wound was closed with through and through silkworm gut interrupted sutures and continuous catgut for the peritoneum and sheath of the rectus. No drainage for the peritoneal cavity but a small piece of gauze was left projecting from the space in front of the bladder. A catheter was kept in the urethra several days to prevent distention of the bladder, but there was slight escape of urine from the anterior wound for a few days. The patient was discharged recovered April 19th. The urine was measured several times before the patient was discharged and was variable—running from thirty-two to eighty-four ounces in the twenty-four hours. April 17th Dr. F. R. Hagner reported as the result of the cystoscopic examination that the bladder mucosa was normal. The new opening of the right ureter was seen as a small papillary mass from which urine flowed. A catheter was inserted into the normal opening of the right ureter for about one and one-half inches beyond which it would not go. The scar in the front wall of the bladder was smooth.

The patient was again seen June 15th, about three months after the operation when he appeared to be in perfect health.

Case 2. Cancer of Rectum—Inguinal Colostomy—Lateral Excision of Rectum and Part of Colon—Right Ureter Divided—Uretero-

vesical Anastomosis. Mrs. E. T., white female, aged 47 years; was operated on June 8, 1903, an inguinal colostomy being done on the left side, on account of ulceration of the rectum which had existed about a year and resisted all treatment. The patient's health improved after this operation and she gained in weight but continued to discharge pus and blood; so it was decided to remove the diseased rectum. March 14, 1904 this was done through the posterior wall of the vagina, but the disease was found to extend so high up the bowel that the abdomen had to be opened and all the rectum from just above the sphincter up to and including a portion of the sigmoid flexure was removed. In doing this the right ureter was accidentally severed near the bladder. The proximal end was split and sewed into the bladder exactly as in the former case. There was no leakage so far as known either from ureter or bladder, and the patient made a good recovery and was discharged April 29, 1904.

Conservative surgery of the ureter may be said to date from 1877, when the first uretero-vesical anastomosis was done by Tauffer (*Deutsche med. Wochensh* 1877, No. 37). Previous to that time division of the ureter was usually treated by removal of the corresponding kidney, and even as late as 1893 Hermann Thompson stated that complete cure in lesions of the ureter is to be obtained only by removal of the kidney. He condemns grafting into the bladder or intestine as methods not to be recommended. Yet in the same year, sixteen years after Tauffer's case, we find the second successful uretero-vesical anastomosis done by Novaro.

The next year, 1894, F. Westmark performed the operation under the impression that his was the first successful case in the human being. Since then the enormous increase in the amount of abdominal and especially pelvic surgery has provided numerous occasions for the operation, so that by 1903, Bovee had collected 111 cases of uretero-vesical anastomosis with seven deaths.

This operation is indicated whenever the lower part of the ureter has been divided or resected and the proximal end is long enough to reach the bladder. I believe it is to be preferred to any of the methods of ureteral union which have been suggested or practiced for the following reasons given by Baldy:

(1) It is much easier to perform; (2) it is

less likely to be followed by stricture, and (3) in case a stricture does form it is more accessible and easier to treat.

The Isthmian Canal Commission's Mismanagement in Sanitation.

Dr. Charles A. L. Reed, on his return from Panama March 1, filed his report with the Secretary of war, and the report is printed in full in *Journal A. M. A.*, March 11. Dr. Reed states that he was given every facility to study the condition of organization and the details of administration as they relate to the public health interest. He says that he was impressed with the efficiency and zeal of the sanitary staff and with the fact that much has been accomplished in the way of sanitation, but states that much remains to be done which can not be done unless better facilities are afforded. He states that the governments of Panama and of the United States both recognize the importance of efficient sanitation. At the meeting of the commission held at Ancon August 28, 1904, Mr. Grunsky, as the committee on a proposed health department, presented a report which began by stating that "After repeated conferences with" Colonel Gorgas and with practically the entire sanitary staff, "it has been agreed," but which should have stated that "in certain important particulars Mr. Grunsky has agreed with himself," for much of the report was formulated over the respectful protest of the medical men who were invited to the conference. By this report, the commission, more especially Mr. Grunsky, provided for the creation of a board of health, with power to formulate regulations, which would become effective only after approval of the governor of the canal zone. Thus the chief sanitary officer had his discretion limited to the enforcement of regulations which had first been adopted by the commission or by a board of health, in which latter event it had to be sent generally to Washington to be endorsed by the commission, or in cases of emergency, might be approved or rejected by the governor of the zone. It thus came about, says Dr. Reed, that the chief sanitary officer whom and whose department the medical profession had asked to be made largely autonomous, and which the president himself had obviously intended to be so, because, by action of the commission, more especially of Mr. Grunsky, subordinated to the governor of

the zone; to the chief disbursing officer; to the chief of the bureau of material and supplies; to Mr. Grunsky; to the commission; to the Secretary of War; to the President; subordinated, in fact, in the seventh degree from the original source of authority, and this, says Dr. Reed, is the state of affairs on the Isthmus to-day. Dr. Reed states that if the superintendent of the Ancon Hospital makes a requisition for supplies, he must take it for approval to the chief sanitary officer; then to the governor of the zone; then to the chief disbursing officer; whence it goes to the commission at Washington; then to Mr. Grunsky as committeeman; then back to the commission; then, if allowed, bids are advertised for; awards are made; the requisition is filled under the supervision of a purchasing agent notoriously ignorant of the character and quality of medical and surgical supplies; the material is shipped to the Isthmus; consigned to the chief of the bureau of material and supplies; who notifies the disbursing officer; who notifies Colonel Gorgas; who in turn notifies the superintendent; who applies to the quartermaster—"the boss of a corral—for transportation, and so much of the stuff as in the judgment of first, the governor, next the chief disbursing officer, next the commission, next and more particularly Mr. Grunsky, ought to be allowed to the superintendent of the hospital, finally arrives or does not arrive at its destination, and this, Dr. Reed says, is no fanciful picture; and what is true at Ancon Hospital is true at Colon, at Culebra, at Miraflores, and at all other points that require supplies of this description. In case of emergency, certain purchases are permitted to be made at Panama, but, of course, at greatly increased prices. Dr. Reed cites examples of the littleness of the commission, showing how the commission consumed its time with the minutiae of administration that ought to have been entrusted to the men employed for that purpose. Dr. Reed states that the commission visits on the sanitary department unnecessary and unreasonable restraints and confronts it with petty antagonisms, and he quotes instances showing how requests for necessaries have been treated. For instance, doors and windows for the hospital at Culebra were asked for in January, but are not in place. Materials for disinfection work were asked for last September; the commission, more especially Mr. Grunsky, cut the estimate down to one-fourth, and sent

the material in small lots from time to time. The commission established internships in the hospitals in the zone, incumbents to be paid \$50 a month, the same salary that is paid to nurses, in this way the sanitary department is without a sufficient number of experienced medical men. Before Colonel Gorgas went to the Isthmus he laid before the commission a plan of campaign which embraced the following district features: First, the installation of a sewer system in the cities of Colon and Panama. Second, the installation of water supply in those cities. Third, the cleaning of the streets, including the disposal of garbage and night soil. Fourth, general sanitation of houses, including their cleaning and fumigation and the drainage of neighboring pools, the abolition of water barrels and cisterns, and other places for the propagation of the yellow fever mosquito. Fifth, the prompt isolation of all cases of yellow fever. It was not until after four or five months had elapsed, however, and only after progressive development of yellow fever that Colonel Gorgas was permitted by the commission to assume the sanitary control of the two cities, one of which, Panama, having by this time become very generally infected. Contrast this with the brilliant results achieved by Colonel Gorgas in Havana, where he was given not only a free hand, but his own purchasing and distributing agents. The report states that the responsibility for the present existence of yellow fever on the Isthmus can be placed nowhere else than on the canal commission, more especially on Mr. Grunsky. It is also stated that the campaign against malaria has been thwarted by the commission, that many employes are sick with malaria, and that both nurses and attendants are frequently victims of the disease. An effort has also been made by the commission, under the subterfuge of establishing a training school at Ancon, to get undergraduate nurses to go to the canal zone at about the same rate that is paid pupil nurses in the training schools of the United States. Dr. Reed says that the Isthmus is not a place to take untrained nurses on any pretext, for nothing but fully developed talent in the various departments of activity should be sent to the canal zone. Dr. Reed concludes his report as follows: "I have the honor not only to submit the suggestion, but really to urge, that the time has arrived when the President ought to redeem his word and ask for the resignation of the commission."

The Extraction of Cataract, Choice of Operation Based Upon Intraocular Conditions.

S. D. Risley (Philadelphia) asserts that intraocular diseases, the result of prolonged eye-strain, or as a local manifestation of some general dyscrasia, e. g. gout, rheumatism or diabetes is not infrequently the cause of impaired nutrition of the crystalline lens and vitreous body, leading to opacity of the former and liquefaction of the latter. In these cases there is also great tendency to involvement of the posterior capsule of the lens and the contiguous cortex, i. e. posterior polar cataract. Therefore cataract, even in aged people, should not be regarded only as an evidence of senility but as one phase of a pathologic process, a view which is enforced by the consideration that its occurrence is exceptional even in advanced age. Dr. Risley urges that a recognition of these complicating pathologic states is important, both from the point of view of prognosis and the choice of operative procedure. He thinks that attempted extraction without iridectomy is not advisable in these eyes as the pupil is rigid and the lens not readily delivered. He advises preliminary iridectomy, to be followed by extraction a month or more afterward. A choice can then be made between extraction of the lens in its capsule, in which case a Kalt stitch should be employed, or by the more usual method which usually requires a third operation, a capsulotomy to secure an opening through the opaque posterior capsule, which should be done with two suitable capsulotomy knives, in order to avoid traction upon the ciliary region.—*American Medicine*, February 18, 1905.

Rectal Alimentation.

Edsall and Miller refer to the literature and their own previous work which indicate that nutrient enemata are very poorly absorbed and that exclusive rectal alimentation is incapable as a rule of maintaining a nutritive balance. They report a series of experiments in which they carried out rectal alimentation in dogs and also determined the absorption in isolated loops of intestines in dogs; and further they report an absorption experiment in a human being. This work was done in order to determine in how far it is possible to improve fat absorption by giving the fats in the form of soaps, or by giving them in an artificial emulsion, when the emulsion is so prepared that it will not readily

be broken up in the bowel. Their results were such as to convince them that it is impossible by any methods now available to administer successfully sufficient soap to make it of decided nutritive value. Their results with an artificial fat emulsion, particularly in the human subject, were somewhat encouraging and they believe that by further study it may be possible to increase the clinical value of nutritive enemata though it is still a question whether it will ever be possible to maintain nutrition in this way.—*American Medicine*, February 4, 1905.

Medical Treatment of Gastric Ulcer.

Frederick P. Henry (Philadelphia,) says: The tendency of gastric ulcer is toward recovery as proved by the frequent presence of cicatrices in the stomach post-mortem. The object of treatment is, therefore, to assist nature. This is best achieved by rest, general and local. The patient is confined to bed and nourished for a longer or shorter period, according to the idiosyncracies of the case, by rectal enemata. Opium is advised during this period for the purpose of allaying pain, quieting peristalsis and obtunding the sense of hunger. Milk and milk gruel should be the sole articles of diet for one, two, or more weeks after nourishment per os is resumed. The milk should be mingled with lime water. Sodium bicarbonate is not recommended because of the evolution of gas attending its use. The formation of hard, indigestible curd may be prevented by mingling the milk with flour previously well boiled with milk or water, or, this failing, the milk may be peptonized. Buttermilk is sometimes an excellent succedaneum for milk. As the case progresses favorably, raw or soft-boiled eggs, meat broths or beef peptone are added to the dietary, but the diet of health is not resumed until several weeks after the beginning of treatment. Among medicines, bismuth subnitrate, in large doses, suspended in barley water or mucilage, is believed to be of benefit. Silver nitrate is inert because of its immediate conversion, in the hyperacid stomach, into the insoluble chloride. Mercurials are emphatically condemned. Vomiting is treated by cessation of feeding per os, by morphia hypodermically, and by cocaine hydrochlorate; hematemesis by ergot and adrenalin hypodermically and by the administration of ice, gallic acid and acetate of lead.

Carlsbad water or Carlsbad salt, dissolved in a large amount of water, should be slowly swallowed during the early morning hours. Anemia, or chlorosis, if present, is to be treated with iron albuminate, which may be prepared extemporaneously after the formula of Ewald. Leube's method of treating gastric ulcer by continuous poulticing is recommended with some modifications, which consist in "nourishing the patient during the first week of treatment either entirely or partially by rectal enemata and in the pro re nata employment of opium and its derivatives." Henry has seen "Nothing but advantage in the judicious employment of opiates in gastric ulcers."—*Amer. Med.*, March 11, 1905.

Empyroform for Eczemas, etc.

Dr. F. Kornfeld, Apistant at Prof. von Fritsch's Polyclinic, Vienna, (*Zentrabl. f. d. gesamte Therapie*, No. 12, 1904), incited by the favorable reports of the clinics of Neissner, Pick, and von Duering, tested empyroform (a condensation product of birch and formalin) in his dermatological practice. The most satisfactory results were gotten from a five to twenty per cent. empyroform-vaseline ointment; a five to twenty per cent. empyroform-Lassar paste; a fifty per cent. empyroform vaseline paste, and a five to fifteen per cent. liniment. Also of much value was the dry paint of empyroform, \mathfrak{ss} , Tale. Venet., and glycerin, $\hat{a}\hat{a}$ 5iiss, and distilled water, 5v, well shaken before using. Even the 50 per cent. paste smells but slightly of tar, and only very little shedding of the skin results from its use. In contradistinction to tar, it causes neither local irritation nor systemic intoxication.

He used it in a series of most varied chronic eczemas, with good results, and never had a relapse. It was also applied in cases of less torpid subacute inflammation, and their course was also most favorably influenced. Some of the cases had been absolutely intolerant of tar, but they could use it without reaction after a course of empyroform. Empyroform first caused retrocession of the redness and infiltration: itching, burning and tension became less, and in an astonishingly short while there was complete cure. This was especially evident in those obstinate cases that had proved recalcitrant to the usual measures, including tar.

It proved effectual in a large number of

weeping eczemas of the hands, fingers, forearms and face, even when fresh. In seborrheal eczema, surprisingly good effects were noted, which must be attributable to the fact that the preparation contains the disinfectant formalin, in addition to the reducing agent—tar. Much benefit was also experienced in prurigo, psoriasis and lichen urticatus.

Varicocele Among Recruits.

Among the various minor ailments which are the bane of male adolescence, varicocele is by no means the least important. The aching pain to which it gives rise when fully developed is quite sufficient to prevent the sufferer therefrom from taking part in any occupation involving much standing, walking, or other physical exertion. Teachers of surgical anatomy are always most careful to impress upon students the fact that the condition is more common upon the left side, owing to the mode in which the left spermatic veins empty themselves into the renal vein upon the same side. To army surgeons varicocele is of considerable interest, owing to the disability which it causes among soldiers. As a matter of fact, the rejection-rate among recruits is fourteen per thousand from this cause alone, while $2\frac{1}{2}$ per cent. are supposed to be suffering from this affection in more or less degree. The success which has attended Bennett's operation for the radical cure of varicocele has enabled many men to lead useful lives who would otherwise have been wholly incapacitated from active service. Major S. G. Allen finds that in 1903 the number of cases of varicocele operated upon in the Royal Herbert Hospital, Woolwich, was second only to that undertaken for the radical cure of hernia, it being understood, of course, that only bad cases of the disease are admitted. Minor degrees of the affection must be far more frequent, and of these no series of statistics are forthcoming. The fatigue and physical exhaustion attendant upon forced marches would be felt to a greater extent by a man who has but a slight varicocele than by the individual whose pampiniform plexus is normal.—*Medical Press*, etc., March 8, 1905.

A New Method of Ether Anesthesia.

A new method of ether anesthesia is now in use in the University Hospital. No claim for originality is made, as the method is in use in other hospitals, but as its use is by no means widely prevalent, it is described. No cone is

used, but an ordinary Esbach inhaler covered with a double layer of stockinette, and the ether is dropped from an ordinary chloroform dropper. The eyes are covered with moist absorbent cotton. The inhaler is closely covered by gauze, except a small opening through which the ether is dropped, and this is an important matter, as some difficulty will be had in getting the patient anesthetized if too large an opening be left in the inhaler, as it allows a too free admixture of air. This method has the following advantages: The patient is gotten to sleep quickly—often complete anesthesia is gotten in four minutes; it obviates largely the sensation of strangling that the ordinary cone causes, and the patient goes to sleep with much less struggling than is ordinarily seen. As there is little struggling, there is consequently very much less bronchorea. The unpleasant after-effects of ether are not so evident, the patient wakes sooner, and has much less nausea and vomiting.—*Hosp. Bul.*, March 15, 1905.

Chancroid of Penis, Mons Veneris, Groin and Inner Surface of Thigh.

Dr. Lazzard, *N. O. Med. and Surg. Jour.*, March, 1905, reported the case of a white male, age 40—Patient contracted a sore of a dorsum of penis in October, 1902. The disease continued to spread until admission to Charity Hospital, September, 1903. On admission the disease had involved the entire dorsum of penis, the mons, the groin to about one inch to the inner surface of anterior superior spine of the ilium—about two inches in width, and two inches below the middle of the groin.

Soon after admission the area was curetted and actual cautery passed over it. Patient refused to be grafted. About ten days after operation the disease had regained its original condition.

In May, 1904, an area was curetted and Thiersch grafts placed over it. The groin, thigh and mons were covered by Thiersch grafts in three sittings. The penis was covered by flaps taken from scrotum in two sittings. Patient was discharged in October, 1904. The case was exhibited to the society after recovery.

Use of Adrenalin Chloride in Hemorrhage and Angio-Neurotic Diseases of the Skin.

Granville McGowan, M. D. (*Jour. of Cutaneous Diseases*, February, 1905).—The writer has used this preparation quite extensively in

genito-urinary conditions, and in hemorrhages of the skin, due to arteriosclerosis, the drug has proved successful. In other diseases of the skin he has tried the drug experimentally, and, it seemed to him, with great benefit in angio-neurotic conditions, and especially in chronic urticaria. He reports a number of very interesting cases, and recommends much larger doses than is usually prescribed.

Treatment of Epidemic Cerebro-Spinal Meningitis by Diphtheria Antitoxin.

Dr. E. Waitzfelder reports the results following the treatment of seventeen cases of epidemic cerebro-spinal meningitis by the injection of large doses of diphtheria antitoxin according to the suggestion of A. J. Wolf. Five of the patients recovered completely; three died, of whom two were adults, and nine cases are still under treatment. Of these, five show such marked improvement as to indicate probable recovery, four being convalescent. Of the remaining four cases, all are in a serious condition and prognosis is impossible at the present time. Most of the cases were severe in their onset with well marked evidence of profound constitutional infection, as is to be expected in the early periods of an epidemic. The doses of antitoxin given were 6,000 units to children less than five years of age; 8,000 units to those between five and twelve, and 10,000 units to adults. This amount was injected under the scapulae on alternate days. In some severe cases it was given daily. Usually the injection was followed by a fall of temperature and pulse, and great improvement in the general symptoms. No bad effects developed as the result of the administration of the antitoxin. Should the results in these cases prove to be consistently repeated in others, the author believes that to Dr. Wolf belongs the credit of having discovered the remedy for one of the most fatal diseases, and of having evolved a plan of treatment not second in its effects to the antitoxin treatment of diphtheria.—*Medical Record*, March 11, 1905.

Military Importance of Milk Typhoid Infections, such as Mountain Fever.

Major Charles E. Woodruff (Plattsburg Barracks, N. Y.), says (*Amer. Med.*, December 24, 1904), that mild and atypical forms of typhoid infection are found in every part of the United States, and that when troops are organized for war there are sure to be numerous cases arise to

infect every camp. Disinfection in a camp is practically impossible, so that it is now an axiom of warfare to remove every infective case from the camp rather than to try the impossible task of disinfecting. In civil practice a very large number of typhoids are not recognized by the physician sufficiently early or perhaps are wholly mistaken, and when such physicians are called into the service of the nation, they will be dangerous unless they follow the invariable rule to treat as typhoid every simple continued fever of a few days' duration resisting quinine. The fever of the West—called mountain fever—has been proved to be typhoid and the retention of the dangerous term "mountain fever" is very reprehensible, as it tends to obscure the real state of the patient, and will interfere with camp sanitation. The treatment requires an equipment which cannot possibly be carried along with a mobile army, so that it must be recognized that the patient's welfare, as well as that of the camp, demands his immediate removal to a base hospital. Modern armies are never far from railroads and the transportation of the patient is a minor difficulty compared with the transportation of a field hospital, which must therefore be a mere collecting station for the sick. The medical department of the army is entirely too small for these modern duties of sanitation, and there is an urgent necessity for its enlargement on new lines which have proved so efficient in the Japanese army. At present the medical department is organized to treat the sick, and sanitation is a secondary matter, but the birth of sanitary science makes it necessary to reverse the matter. The medical officer must act for the commanding officer, and not merely recommend measures which may or may not be carried out depending entirely upon a layman's opinion as to their necessity.

Cicatricial Stricture of the Esophagus.

Dr. A. B. Atherton describes a case of obstinate cicatricial stricture of the lower end of the esophagus which when first seen admitted only an olivary French bougie two millimeters in diameter. By gradual dilatation it became possible to introduce an instrument of twice this size, but after this no further stretching could be effected. By gradual dilatation it became possible the stricture softened by the use of the string and bougie procedure of Abbe, after which gradual dilatation became possible so that a short red rubber bougie one centimeter in diameter

could be permanently worn. The upper end of the bougie lay at the junction of the pharynx and esophagus and was secured by a silk thread fastened to a tooth or to one ear. When last heard from, a year after the operation, the patient was still obliged to continue the daily use of the bougie, otherwise the stricture soon contracted.—*Medical Record*, March 11, 1905.

Book Notices.

Ophthalmic Year Book. By EDWARD JACKSON, A. M., M. D., Emeritus Professor of Diseases of the Eye, Philadelphia Polyclinic, but now Ophthalmologist to Denver County Hospital, St. Anthony's Hospital, Denver, etc. *With 45 Illustrations.* The Herrick Book and Stationery Co., Denver, Col. 1904. Cloth. 8vo. Pp. 260.

This Year Book for 1903 reaches us many months after its evident publication. But it is none the less useful to the ophthalmologist who seeks to keep up with recent advances. It is estimated that about 25,000 pages of ophthalmic literature is annually published. Some of the articles are but rehashes of established textbook literature; but many articles are valuable, and it is the effort of the author to bring out abstracts or analysis of them, and so systematize them in book form as to be readily accessible from year to year. In other words, this year book pre-supposes acquaintance with the standard text-books, and the matter now collated is new to them. It practically covers every department of ophthalmology, and this mass of recent information is made readily available by the arrangement of the table of contents and the very thorough index—covering 16 double columned pages. We regret that the annual subscription price of this "Digest of the Literature of Ophthalmology, with Index of Publications for the year 1903" is not stated.

Gynecology—Medical and Surgical. By HENRY J. GARRIGUES, A. M., M. D., Gynecologist to St. Mark's Hospital, New York city, etc. *With 343 Illustrations.* Philadelphia and London: J. B. Lippincott Co. 1905. Cloth. 8vo. Pp. 461.

This book of "outlines for students and practitioners" is not to be considered as a revision of the author's able "Text-Book of Diseases of

Women," published 1900. This is a new work, giving an outline of the whole system of gynecology, and specially describes minor operations which the general practitioner is most apt to undertake. We wish especially to emphasize the *medical* part of the work, for most other works on gynecology devote themselves so exclusively to the *surgery* of diseases of women that the books are almost useless to the general practitioner who has to devote himself to the medical and local treatment of uterine diseases, and who preferably refers his operative cases to the hospitals or special surgeons. The book is well indexed, and profusely illustrated, and is the book needed by the general run of doctors—in cities as well as country. It fills a long felt want of the present day when so much of radical surgery is advocated, and which so often leaves a crippled woman.

Progressive Medicine. Quarterly Digest of Advances, etc., in Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M. D., Assisted by H. R. M. LANDIS, M. D., of Philadelphia. *March 1, 1905.* Lea Brothers & Co., Philadelphia and New York. 8vo. Pp. 298. Paper. \$6 per annum.

This issue of Progressive Medicine is as rich as usual in practical valuable information, with advances in the several departments of medicine and surgery well brought up to date—with reference to surgery of the neck and thorax; infectious diseases, including acute rheumatism, croupous pneumonia and influenza, the diseases of children, laryngology and rhinology, and otology. The index is good. The price for the four volumes of the annual series—\$6—is cheap for the valuable material each issue contains.

Surgery of the Diseases of the Appendix Vermiformis and Their Complications. By WILLIAM HENRY BATTLE, F. R. C. S., Surgeon to St. Thomas Hospital, etc., and EDRED M. CORNER, M. B., B. C., F. R. C. S., Surgeon in Charge of Out Patients at St. Thomas Hospital, etc. Chicago: W. T. Keener & Co. 1905. Small 8vo. Pp. 208. Cloth. \$2.50 net.

So much of book and journal literature is extant with reference to appendicitis as a surgical disease that one would have thought that there was no room for this work. But the authors have gone at their book making in such a clear and distinctive style, and have supplied such a number of useful illustrations and diagrams and tables as to make the volume before

us very attractive, useful and instructive. It possesses the advantage of being compiled almost exclusively from the writings of English and Continental surgeons, so that those familiar with American technique will be able to add to their fund of knowledge what is also on record abroad. The etiology, symptoms, diagnosis and plans of treatment of appendicitis, or those conditions which resemble it, or those complications and sequelæ which may occur as a part of the history of the disease are also treated of in detail. The book is worth the price, and should be read by surgeon and physician alike.

A Book About Doctors. *Vol. IV of The Doctor's Recreation Series.* By JOHN CORDY JEFFERSON. Charles Wells Moulton, General Editor. 1904. The Saalfield Publishing Co., Chicago, Akron, O.; New York. 8vo. Pp. 516. Gilt top. Cloth, \$2.50; half Morocco, \$4.00.

The author has collected in readable form many medical "ana," which have been grouped to advantage under the covers of this fourth volume. We notice numerous statements, items, and short stories that are interesting, though we do not find—taking it all in all—that this "Book About Doctors" is as entertaining as the volumes that have preceded.

Editorial.

Georgia and the So-called "Reorganization Plan."

From the representative medical journals of that State, it appears that the Georgia profession is about to pass through the turmoil of discussion as to whether or not to become a part and parcel of the stupendous American Medical Trust, under the catchy term of "organization," etc. We are not prepared to say that the "so-called" "reorganization plan" may not satisfy the demands of some States, for some people seem to prefer to be governed rather than to govern themselves. But we have studied the proposition of the American Medical Association from its inception, and the more we have seen and heard of "the plan," as applied to every State, the more convinced do we become that the whole thing is but as "a tinkling cym-

bal and sounding brass" to catch the ear and daze the mind.

What benefit is to come from all of this stir and commotion that is not already possessed by those States that have not adopted the plan? Let us take Virginia, for instance, as an illustration of a State in every way loyal to professional interests of the country, and where doctors are generally as ethical as any in America: It has, after two years of discussion, declined to adopt the proposed plan, with benefit to itself in every respect, and without the loss of any privilege enjoyed by others. The Medical Society of Virginia has a personal, active membership in every one of the 100 counties of the State. Look over the list of States that have "adopted the plan," and see how relatively few there are that have done or are doing so well as to the total membership of each State Medical Society or Association on adjournment of their several annual sessions 1904. Virginia was in the lead—having over 65 per cent. of the medical population of the State in its membership, whereas Alabama—the next in order—had only 62 per cent. And judging from the number of applications for membership of well recommended doctors already in hand, the percentage of worthy members of the Medical Society of Virginia will be much increased at the Norfolk session during the fall of 1905.

As to medical legislation, what single success of importance has been gained before any Legislature by State Medical Societies acting under the reorganization plan that the Virginia Society has not equalled?

As to "the harmony of doctors" in their respective communities, most of the bitterest of personal contentions of our knowledge have occurred in *local* medical societies. But little of such contentions have occurred in State Medical Societies.

In the true sense of organization, the Medical Society of Virginia has every essential to success in the earnest ardor of its individual members; in the means at its control for legislative successes; in the ability of its members to present papers of worth, and to discuss them, as shown in its recent *Transactions*; in the influence it possesses to attract to its annual sessions visitors who participate in the scientific proceedings—men of renown in the profession. What more do others, with all of the paraphernalia of so-called affiliating county medical societies and State Medical Associa-

tions operating under the so-called "reorganization plan."

The missionary of the American Medical Association has said that "experience has demonstrated over and over again that even the fear that a single member of the present State Society might be lost is groundless." Has he lost sight of the fate of Dr. H. B. Young, an *ex-President* of the Iowa State Medical Society, simply because the Des Moines County Medical Society refused to enter upon the reorganization plan? Dr. Young had been specially invited to read a paper before a section of the American Medical Association, at its Atlantic City session, but was arbitrarily refused a place in the program by the Secretary of the Association, although Dr. Young still holds his certificate of good standing in the American Medical Association for the year 1904, just as he has held like certificates for the past twenty-two years. Other cases might be referred to were it necessary. Under the reorganization plan, Sec. 2 of Art. IV says: "The members of this Association shall be members of the component county medical societies, to which only white physicians shall be eligible."

It is not the purpose of this note to influence any doctor as to how he should vote in his State on "the reorganization plan." But we have thought it well to let our Georgia friends see, from the history of the Medical Society of Virginia—which is not operating under the proposed plan—that the proposed reorganization plan is not an essential to success. We believe—as the editorial in the *Atlanta Journal-Record of Medicine*, March, 1905, suggests—"Self-government, the right of (individual) franchise, of free and untrammelled expression are dearer than glittering generalities of this alluring prospect." As that editorial further cites: "The temptation is singularly acute; but 'get thee behind me, Satan!'"

In this connection, we call attention to the editorial note in this issue about the Jefferson County (Ky.) Medical Association.

Jefferson County (Ky.) Medical Society.

According to the *Kentucky Medical Journal*, January, 1905, Jefferson county, Ky., together with the city of Louisville, contains between five and six hundred registered physicians. It is the largest and most important county in the State of Kentucky, having four or five regular medical colleges, beside a homeopathic, and a

colored medical college—and it would naturally be expected that the work of organization of the medical profession would succeed better here than in outlying counties in the State. Yet according to that journal—the official organ of the Kentucky Medical Association—such is not the case—for only about one-fourth of the registered physicians of Jefferson county—including Louisville—are members of the county medical society. Consequently, about three-fourths of the practitioners of this large city are ineligible, under the "reorganization plan" of the American Medical Association for membership in the Kentucky State Medical Society. We venture the assertion that many of this three-fourths of "ineligibles" could be brought into the State Society if compulsory membership of the County Medical Society were not required.

New York city furnishes illustration no less striking.

The Transactions, 1904, Medical Society of Virginia

Are now being issued. If any Fellow of the Society fails to receive his copy in a day or two after receipt of this issue of the *Virginia Medical Semi-Monthly*, he will confer a favor if he will promptly notify the Secretary. Members are also requested to examine their respective biographical registers in the *Transactions*, and note on a separate sheet of paper any corrections needed. If they recognize errors with reference to the register of any of their friends, Fellows of the Society, also make corrections.

Applicants for fellowship at the Norfolk session next fall have already begun to file their papers, and every indication is that the next session will be as great a success in every respect as the Richmond session, 1904. It will be noted that the membership of the Virginia Society represents every one of the one hundred counties in the State.

Lest the item be overlooked in the *Transactions*, the subject selected for general discussion during the 36th annual session at Norfolk is *Chronic Nephritis*—Dr. James S. Irwin, Danville, Va., being chosen to present the medical side, and Dr. Hugh M. Taylor, Richmond, Va., the surgical aspects.

To deliver the *Annual Address to the Public and Profession*, Dr. George Ross having declined to serve, the Executive Committee congratulates itself that so able and distinguished a man as Dr. P. B. Barringer, former chairman

of the faculty of the University of Virginia, has accepted the invitation to take the place.

American Medical Association Journal, etc.

The *California State Medical Journal*—being an official organ of a State Society that has adopted the reorganization—speaks with remarkable temerity as to the business management of the *Journal of the American Medical Association*. Among other things, it points out that the Association members pay into its treasury something like \$40,000 a year more than it needs—enough to enable the trustees to provide for not only the best journal in the country, but also one which does not, in every issue, make a laughing stock of the “principles of ethics.” Nearly every issue tends to debauch the mind of some members; it recommends to them to make use of or prescribe secret remedies. It uses about \$15,000 of the dues paid in by members to help in its work of “promoting the use of secret remedies.” The trustees of the A. M. A. are responsible. “Their contention, that it is not possible to determine which ads. are ethical and which are not, is simply absurd, puerile and idiotic. Let them answer these simple questions: Is it a medicine? Is the composition of this stuff known to the doctor who is asked to prescribe or use it? Are the advertising statements made within the truth? Is it advertised to the laity?”

The Southside Virginia Medical Association

Held its seventh session at Emporia, Va., March 7, 1905. The subject for general discussion was “Delivery of the Placenta,” Dr. C. W. Astrop, of Surry, being the leader. Dr. W. F. Drewry, of Petersburg, Va., an invited guest, read a paper on “The Commission of Lunacy—Its Scope and Limitations,” as did also Dr. J. Shelton Horsley, Honorary Fellow, of Richmond, on “Uses of Cocaine in Surgery.” Invited Guest, Dr. Jacob Michaux, of Richmond, was scheduled for a paper on “Some Recent Methods of Entering the Abdominal Cavity, and Some Observations Upon Ventral Suspension, and Alexander’s Operation.” The other papers on the program were: “Embolism After Puerperal Fever,” by Dr. R. T. McNair, of Emporia; “Empyema,” by Dr. W. L. Devany, of Dendron; “Post-Partum Hemorrhage,” by Dr. O. C. Wright, of Jarratt, and “Management of Convalescence from Typhoid Fever,”

by Dr. Joel Crawford, of Yale. The secretary reports having had quite an interesting meeting, but omitted to inform us of the place and date for the next meeting. Dr. W. H. Wallace, of Disputanta, is president, and Dr. John E. White, of Wakefield, is secretary.

Malaria at Panama Worse Than Yellow Fever.

According to an Associated Press correspondent, Secretary of War, W. H. Taft, says that it is a mistaken idea that yellow fever was giving the most trouble on the Isthmus of Panama. “Eventually, while there are some cases of yellow fever in the American zone, we shall be able to stamp that out.” To reduce the trouble arising from malaria, however, he thought would cause a much harder fight, though the authorities of the Marine Hospital Service are doing everything in their power to combat both diseases.

Despite the encouraging statements above, a recent report of the U. S. Pub. Health and Marine Hospital Service shows that there were 27 new cases of yellow fever, with 8 deaths, in the canal zone for the period from January 1, to February 14, 1905. For so small a territory, with the government in absolute sanitary control, this does not strike us as being entirely satisfactory.

The Medical Legislator,

A quarterly publication issued by the Committee on Repealing the Special License Tax on Doctors in Virginia, Dr. J. Beverly DeShazo, of Ridgeway, Va., Chairman, has made its first appearance in newspaper form. Its special object is in line with the purpose for which the committee was appointed by the Medical Society of Virginia, but it also proposes incidentally to hit some good lies for the Virginia profession along other lines as well. Every doctor in the State has very probably received a copy, but those who have not should send their names at once to Dr. DeShazo, who editorially remarks: “Just send us your full name with your post-office address and a quarter in a common envelope plainly addressed at our risk, and whether we receive it or not, you shall have a full year’s subscription, together with our thanks.” “The money goes to the treasury of the Medical Society of Virginia after the printers and pub-

fishers are paid; not a cent goes to individual members of our committee."

The Archives of Physiological Therapy

Is a new monthly journal, begun February, 1905, published by Richard G. Badger, Boston, Mass., at \$3 a year, and edited by Dr. Clarence Edward Skinner, of New Haven, Conn. It is a large size 64-page journal, "devoted to the diagnostic and therapeutic uses of electricity, radiant energy, heat, water, mechanical vibration, etc." If successive issues maintain the standard set by the February number, it will be a most valuable journal for practitioners—especially all interested in X-ray work, as well as in the electrical treatment of disease.

The Philadelphia Polyclinic and College for Graduates in Medicine

Announces that a special week in *Diseases of the Eye* will be held at the Polyclinic from April 3 to 8, 1905, during which a special effort will be made to present an interesting series of lectures, demonstrations, operative cases, etc. Physicians who expect to visit Philadelphia about that time, and who are interested in that line of work, would do well to write to the Dean, Dr. R. Max Goepf, for further information.

Meeting of the Medical Society of Virginia.

At a meeting of the Norfolk Medical Society, held March 14, 1905, it was decided to have the thirty-sixth annual session of the Medical Society of Virginia hold its meetings at Norfolk on Tuesday, Wednesday and Thursday—October 24, 25, and 26, 1905. Dr. R. L. Payne is President of the Norfolk Medical Society, Dr. George A. Renn, Secretary, and Dr. E. C. S. Taliaferro, Treasurer.

Annual Volume IX Closes with this Issue.

The Index for the year ended will appear with first April number. It is gratifying to note the increase of subscriptions from all sections during the year now ended. During the year over 150 distinct original contributions have been made to its columns by authors in 17 different States, etc., representing Virginia, District of Columbia, North Carolina, West Virginia, New York, Kentucky, Maryland, Pennsylvania, Illinois, New Hampshire, Massachu-

setts, Connecticut, Florida, Louisiana, Georgia, Michigan, and New Jersey.

Toy Pistol Tetanus

Has always been quite an enigma to us, for the reason that with the fire and violent shock incident to an explosion, it seems reasonable to suppose that all living organisms would be destroyed. During the maneuvers each year of the regular and militia services as conducted by the U. S. Government, we have heard of no case of tetanus that has resulted from the sham battles, although on several occasions the firing was done in individual cases at such close quarters as to injure by burning, wads, etc.

The American Electro-Therapeutic Association

Will hold its next (15th) annual meeting at the New York Academy of Medicine, 17-21 West 43d street, New York city, September 19 to 21, inclusive, 1905. All who anticipate going are requested to forward their addresses, etc., to the secretary, Dr. Clarence E. Skinner, as soon as possible.

Obituary Record.

Dr. Benjamin Brooke Temple

Died at his home, Danville, Va., March 11, 1905, aged 66 years. In former years before advancing age and ill health had made their mark, he was a physician of prominence in his community.

Dr. Edwin A. Hering,

Of Harrisonburg, Va., died February 25, 1905, after having reached the age of seventy-eight years. He was born in Pennsylvania, graduated in medicine at the University of Maryland in 1855, but did not move to Virginia until 1879, when he located near Cross Keys. Later he moved to Harrisonburg. He was a member of the Medical Society of Virginia, and attended several of its sessions. Dr. Hering is survived by one daughter, two sons, and a brother.

Index to Volume IX,

[APRIL, 1904—MARCH, 1905, INCLUSIVE],

VIRGINIA MEDICAL SEMI-MONTHLY.

This Index is divided into TWO PARTS—FIRST, **Index of Contributors**; SECOND, **Index of Subjects**, in which italicized lines represent original articles.

Notices of books, colleges, deaths, journals, personals, and proceedings of societies, etc., are indexed in the INDEX OF SUBJECTS under the respective words **Book Notices, Colleges, Hospitals, Journals, Obituaries, Personals, and Society and Board Proceedings**, etc.

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