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\$2.00 a Year.
10 Cents a Copy.**Original Communications.****THE NEGRO.****1. His Environments as a Slave; 2. His Environments as a Freedman.***

By JOHN HERBERT CLAIBORNE, A. M., M. D., Petersburg, Va.

Ex-President and Honorary Fellow, Medical Society of Virginia, etc.

From the time of Genesis and the curse of Canaan—"A servant of servants shalt thou be to thy brethren,"—Ham seems ever to have belonged to a subordinate and unfortunate race. Ancient history has left no records of his achievements as warrior, or king, or councillor. We have mention of him in the first century of the Christian Era, as "a man of Ethiopia, an eunuch of great authority under Queen Candace, who had charge of all her treasure." But we note of him there, 1st, that he was an eunuch, an inferior; and, 2dly, that after having been baptized, in his journey, by Philip, with whom "he went down into the water" of some passing stream, he has been an endless source of strife and controversy. Learned men have agonized over the Greek participles or prepositions descriptive of the incident, governing the mode of baptism; and plainer men have contended—Baptist and Pedo-Baptist—with so much energy of logic, and so much muscularity of argument, that some profane persons have hazarded the opinion that it would have been better in some respects—if not for the eunuch, at least for the world—"if the Spirit of the Lord" had "caught up Philip," and hurried him away before, instead of after the ceremony of baptism.

Some fourteen centuries afterwards, Ham is again introduced to us as Othello by Shake-

spere, who probably, with poetic license, drew his personal from Hannibal, endowed him with great martial honors, and who, reciting his achievements in arms to the beautiful Desdemona, won her—she "loving him for the dangers he had seen," and he "loving her that she did pity him." Yet, mad with causeless jealousy, he slew her.

Thus we see that when introduced to history at all—when lifted out of obscurity and placed upon record, sacred or profane, if not a servant he has been a marplot and a misery.

Dr. Cartwright, of Louisiana, used to say that he was only safe and only useful when confined to the destiny to which the curse of Canaan had assigned him, viz., that of a servant. Indeed, he said that in the original the name meant the "knee-bender," and that the configuration and ligaments in the knee-joint of the negro were different from and stronger than those in the white man, and especially fitted him for this postural service.

I am not sufficiently versed in ethnology, or in anatomy, to express an opinion on the subject.

But we are expected to discuss *the negro*, as he appears in American or Afro-American slavery.

The traffic in slaves on the American Continent dates as far back as 1503, when the Portuguese imported a cargo of slaves into San Domingo. This adventure proved so profitable that soon every maritime nation of Europe became engaged in it, and continued the slave trade, as it was called, until 1808. As late as 1770, England had as many as two hundred vessels engaged in it; and New England, with its hardy marine, was not far behind; not only moved by the profits of the investment, and the securing of a market for their rum, but, according to one of their historians, thanking God in public congregation for the safe arrival of a cargo of slaves—"hundreds of benighted heathen, where they would be under the blessed influence of the gospel."

Virginia early protested against the inhuman and criminal work, sending to the Parlia-

* Presented to the Tri-State Medical Association of the Carolinas and Virginia, during its Annual Session held in Charleston, S. C., February, 1900.

ment of England as long as she was a colony more than an hundred petitions that no more slaves should be imported into her territory. And when, after the Revolution and the independence of the States, she made to the general government that magnificent gift of her north-western territory, she coupled the gift with the proviso that no slaves should be carried there, "and from the outset Ohio, Indiana, Illinois, Wisconsin and Michigan could only be admitted into the Union as free States." And when the present Constitution of the United States was adopted, Virginia insisted upon the immediate abolition of the slave trade, whilst, by the vote of the New England States, in every one of which slavery existed, the time of abolition was postponed until 1808.

Under a Tripartite Treaty of England, France, and the United States, the slave trade was suppressed at a great cost, after that date—this government and Great Britain each keeping a squadron on the Eastern Coast of Africa for the purpose of patrolling the seas and arresting slavers.

Emancipation itself of the slaves in the British Colonies was not complete until 1831, when the government paid the owners of the slaves 20,000,000 pounds to compensate them for their loss.

After the abolition of the slave trade, our Northern brethren, finding that they could no longer import the African for others, turned their attention to the slaves at home. The asperities of climate, and a soil unfitted for negro labor, soon convinced them that, as a chattel, he was unprofitable, and that to hold him in bondage any longer was not a blessing in any capacity, but a sin. So, for a consideration, he was gradually transferred to a warmer climate, and where the agricultural interests called for such a class of labor.

We have said that the negro was ever a source of trouble. Let us count his cost in his transference from the Northern United States to the Southern. We have no means of estimating the profits accruing to his Northern owners by the transaction; but when, in the process of time, the enlightened conscience of his former masters compelled them to take him by force from the Southern master, to whom he had sold him, it cost the country the horrors of the bloodiest war which has ever stained the annals of time, a loss of more than 500,000 of white men, a debt of more than two billions of dollars, and an annual pension list of two hundred and fifty million.

In all of this, we concede that the negro was the innocent, the ignorant, and the irrespons-

ble factor. He was simply filling out his destiny and inheriting the curse of Canaan, according to scriptural commentators.

But what were his environs from the time of our acquaintance with him, as he was taken from his forest lair, in the year of our Lord 1503 to 1831, when our trade with his importers wholly ceased and determined? His home was in the entangled jungles of tropical Africa, surrounded by wild beasts and venomous serpents, of which he was often the prey—a breechless savage, a slave, and a cannibal, ignorant of any art by which he could render his surroundings tolerable, and ignorant of any God to whom he could look for succor in his wretched needs, save the idols of his own making—creatures representing lusts, cruelty, and oppression, of a higher grade only than his own native born barbarism.

Eliminating from the problem the internecine strife which the stronger tribes waged upon the weaker, the wounds, the suffering, and the deaths, resulting therefrom in the struggle to capture and enslave, omitting the horrors of the holds of the vessels in which the miserable captives were crowded in the tedious sea voyage to this continent, their situation and surroundings could not have been worse when landed and sold as slaves in America. The New England deacon was not far wrong when he thanked God for the "marvellous transfers of these savages from the Dark Continent to the land of the light of the Gospel."

And now we will consider his surroundings no further than in this land of the light of the Gospel—the United States. And as by circumstances to which we have referred, he soon found a home in the soft climate and amongst the kindly population of the Southern States, we will note his environs in these States, and these results upon him—mentally, morally and physically.

The South was mostly agricultural, and the men of the South were, as a rule, men of education, of culture and command. The negro, brought in contact with this class of people, soon absorbed, by instruction and by observation, ideas and information, sharpening his wits and elevating his views. Patient, strong and helpful, he was not only invaluable as a farm or plantation laborer, but he early acquired some knowledge of the mechanical arts; and as carpenter, blacksmith, miller or shoemaker, he added immensely to his master's comfort and resources. As a domestic or house servant, reared in contact with and often as a playmate of the younger members of his master's family,

he was apt in picking up the arts and usages of a society characterized by the grace and elegance of its customs; and with these advantages he often became accomplished as a courtier; and proud of his position, and proud of the master, he was not only useful, but a highly ornamental feature of the body politic. As maid to the mistress of the mansion and as valet to the master, the services of the slave were invaluable.

And the result of these environs was to elevate and to educate him beyond mere book-learning. He was well-behaved, intelligent, versed in many of the topics of the day, from contact and conversation with his superiors. As there were no "higher criticisms" in that day, his ideas of religion, of the relation of himself to his master, were correct and conservative; his duties as a servant were prescribed in a book called the New Testament, which he heard frequently, and which he was taught to believe was the Word of God.

The churches and the sacraments of all denominations were open to him; and the colored membership of one of the evangelical churches just before the Civil War was between 15,000 and 20,000.

Sometimes a sable brother felt called upon to preach, and he was given every opportunity to gather together a colored congregation and to dispense to them the Word of Life. And some of these colored divines were men of power and eloquence in the discussion of the truths of the Bible. If they had not been taught of men, they drew their inspiration from some deep fountain of Truth.

One of these colored preachers, who is now a very old man, though still preaching, I think, in the city of Richmond, Virginia, I heard preach some fifty years ago, reading the lesson and hymn from memory, for he knew not a letter of the alphabet. Though a little off in his astronomy, yet when he repeats persistently the statement that the "sun do move" he is but reiterating the statement of his eminent predecessor Galileo, who, when summoned before the Inquisition in 1633, and compelled to recant his heresy, yet insisted, though *soto voce*, "*e pursi muove.*"

The worst character of the negro was elevated by the environs of slavery. He occasionally developed certain piccadilloes not peculiar to his race alone, but he was rarely the author of crime. The peculiar and nameless crime which is now so often attributed to him, and which is visited with so terrible a retribution, he seems never to have dreamed of. During the Civil War, when the Southern plan-

tations were left almost exclusively in charge of the negro slaves, the few ladies of the family were as safe as if under the care of a body of soldiery. There was not a colored man who would not have sacrificed his life to save the honor of his mistress. Faithful, honest and true, he was their support in the day, and in the night time their sentinel; and this whilst under full knowledge of the fact that the master was away, fighting to fasten the chains of slavery upon his neck. Surely such chains could not have been very galling.

Physically, under good care, wholesome diet, prompt medical attention, and the restraints upon roving at night and other dissipation, the negro had developed before his emancipation into fine specimens of manhood. Erect, of good muscle, of fine carriage, as a class, he would have attracted attention anywhere that custom had not made him common.

He had no heredity of disease—the negro, unadulterated with alien blood. To the commencement of the Civil War he was considered to some extent immune to the climatic diseases of the South, especially to yellow fever. We heard but little of yellow fever amongst the negro slaves of Louisiana, of New Orleans, or of Mobile.

When in the processes of amalgamation his blood became mingled with that of the white man, then a Pandora Box of ills was opened—consumption, scrofula, cancer, syphilis, one or the other would invade his humble cabin and batten on his vitals. He paid the usual penalty of inoculation of a superior upon an inferior race; his heredity to disease was increased, and his resistance to disease diminished. But even then, mental alienation was rarely seen. Referring to the statistics of the State of Virginia (the only statistics to which I have found access) I find that prior to the War the insane negroes of the State were confined in the Eastern Asylum at Williamsburg—indeed prior to 1867—and their number was from twenty-five to thirty. On the 17th of December, 1869, when an asylum for the colored insane was inaugurated in the State by order of General Canby, then the Military Governor, there were seventy insane negroes reported. At present, on the 19th day of January, 1900, the total number is 1,026.

We have no time to go into the discussion of this social problem. We will have to be content to state results in one State. *Ex uno disce omnes.* Surely the environments of freedom have not conspired to promote the happiness of the ex-slave, if only the unhappy become insane.

I regret that the time and opportunity are wanting in which to consider at large the interesting subject of *the influence of the environs of freedom on the negro*. A distinguished educator, familiar with his history, says that, divided into three classes, one class has improved, one has stood stationary, and one has retrograded. However that may be, one cannot but observe that, considering the fact that one-third of a century ago he was suddenly elevated to the condition of a freedman, and suddenly clothed with the dignity and rights of citizenship, he has achieved wonderful success and developed most remarkable progress, mental and material.

REPORT OF TWO CASES.

1. A Miscarriage; 2. A Retro-Displaced Pregnant Uterus.*

By WALKER BOURNE GOSSETT, M. D., Louisville, Ky.
Instructor in Obstetrics, Louisville Medical College, etc.

CASE I.—During the evening of January 1, 1900, I was called to see Mrs. W. Her last menstruation was on November 1, 1899. She gave the following history:

On the 26th and 27th of December, she introduced the end of a wooden pen-holder into the uterus. Pain followed, but, as nothing came, on the 28th she introduced the end of a piece of slippery elm bark into the uterus. Pain increased, but nothing came; but she suffered intensely up to the time I was called, as above stated, on Jan. 1st.

On examination, I found the uterus slightly enlarged, the external os uteri unopened, and a foul smelling discharge slightly tinged with blood. Temperature, 100.5°. I gave the patient a hot carbolio acid vaginal irrigation, and let her go until morning. I expected the ovum to be thrown off that night, as she was having very good uterine pains.

On the morning of the second, I found the fetus with the membranes intact in the upper part of the vagina, which was removed.

This is the specimen [exhibiting the same to the Society]. You see it is covered by the decidua except at two points, and they are the places where the decidua was punctured; the rest of the membranes that go to make up the "bag of waters," the chorion and internal amnion were not punctured. I should judge this

woman was about six weeks gone. Tuesday morning the temperature was 101.2°. On Wednesday morning it was normal. Patient was dismissed on Saturday, January 6th.

CASE II—During the afternoon of March 14th, 1899, I was called in consultation by Dr. Coleman to see a patient who was about three and one half months pregnant. She gave a history of having aborted twice at about this period in previous pregnancies.

Upon examination, I found the uterus retroverted, and the fundus caught under the promontory of the sacrum. The woman was placed in the knee chest position, and, with some difficulty, the pregnant uterus was raised and replaced.

While she was in the knee-chest position, the vagina was tamponed so as to hold the uterus in position. The uterus was kept in place by the tampons until the latter part of the fifth month. The fundus of the uterus was then above the brim of the pelvis, and too large to drop back into the true pelvic cavity. At the time of full term, Dr. Coleman delivered her of a fine boy.

Remarks.—In reporting this case, I want to bring out a few points:

The three most general causes of the habit of abortion are syphilis, retro-displacement, and endometritis, probably associated with a lacerated cervix.

A pregnant uterus at the end of the third month is pyriform in shape and sinks lower into the pelvic cavity.

At the beginning of the fourth month, the uterus develops rapidly at the lower end, and now becomes spherical in shape. It also begins to rise and grow out of the true pelvic cavity.

At the beginning of the fourth month, the retro-displaced pregnant uterus must be placed in its normal position, and so held in this normal position, so that the fundus will not be caught under the promontory of the sacrum; and it should be held in position until after the beginning of the fifth month. At this time, the fundus is half way between the symphysis pubes and the umbilicus.

617 Third Avenue.

No Bubonic Plague in San Francisco.

The *Pacific Medical Journal*, April, 1900, says that "there is not in the city [San Francisco] a case of bubonic plague, and that there has never been any good reason for quarantining even a portion of the city."

* Reported to the Louisville Society of Medicine, Feb. 5, 1900.

THE CLINICAL ASPECT OF INFANTILE DIARRHŒA.

By J. W. P. SMITHWICK, M. D., La Grange, N. C.

In the treatment of a great number of cases of diarrhœa occurring in infants during the past season I made use of a salt of bismuth known as eudoxine, and found it coming nearer meeting all the indications than any single drug hitherto employed by myself.

From a series of thirty six cases, of which I kept full and complete clinical histories, I am enabled to deduce the following:

(a) The intoxication usually accompanying severe attacks of this malady does not seem to develop so rapidly, nor is it so profound, and it disappears more quickly in the cases in which I used eudoxine when compared with other cases in which I used other drugs;

(b) The duration of the attack seemed shortened materially, and convalescence was more rapidly established, comparatively speaking. I would account for the above by reason of the great antiseptic properties possessed by this drug, and another advantage in favor of its use is that it is entirely tasteless, and may be readily administered to any infant. I have never observed any bad effects resulting from its use, though in a few patients I made use of doses larger than recommended. In this series I had one patient to die, and this alone should warrant the use of this drug, since the mortality rate is usually great in this disease with the most approved methods of treatment.

For the purpose of illustrating the method by which I use this drug, and the results obtained thereby, I relate a few clinical histories of cases of the above series, as they appear in my case book, viz.:

I. Mary G., age thirteen months, had been troubled several days with diarrhœa—the discharges being of a green color, watery and thin in character and highly offensive; but the mother had paid no attention to the infant until the time I was called, attributing the trouble to teething. I found the baby with a temperature of 102.4° F., pulse rapid and feeble. The evacuations were frequent, being as many as fourteen or fifteen during the twenty four hours. Abdomen was swollen and tympanitic, but not tender. There was complete anorexia, but no vomiting, though she would occasionally show symptoms of nausea. I instructed the mother as to the proper hygienic and dietetic precautions, and prescribed calomel in one tenth grain doses every hour until eight had been taken. I also prescribed eudoxine

in one half grain doses, combined with sugar of milk, to be given every three hours. When I saw her again at the end of twenty-four hours, her temperature was 101° F., and decided improvement was noticeable in other particulars. The evacuations were not so frequent, and much improved in appearance and odor, and she would nurse occasionally. The eudoxine was continued and she made an uneventful recovery, and in six days was perfectly well.

II. Eva N., age two years. Her mother gave the history that she had been troubled with a diarrhœa about four weeks. Her passages were watery, and while her food seemed to be well digested they were highly offensive. Usually she would have as many as eight or ten actions of the bowels a day. Her appetite was good, but she was emaciated in appearance, and had lost considerable flesh. I made a microscopic examination of the alvine discharges, and found that they literally swarmed with pathogenic and putrefactive bacteria, which accounted for the great abdominal distension occurring at times. I prescribed a powder containing one grain of eudoxine and two grains of willow charcoal, to be administered every six hours, and directed her mother to restrict the child's diet. Under this treatment she improved rapidly and recovery was about complete at the end of five days. I advised a continuation of the medicine in two daily doses for a week longer. The recovery was complete, and there has been no relapse.

III. Robt. J., age sixteen months, was brought to my office with a history that he had had repeated attacks of diarrhœa for the previous four months, and that he had never been entirely well since the first attack. His appetite was fairly good, but digestion rather poor, as pieces of half digested food were observed in almost every evacuation. The discharges were very offensive, of a greenish color, and at times would contain a small amount of mucus. Whenever the mucus was present there would be some straining and pain at stools. The emaciation was extreme, which began with the first attack, and had progressively grown worse until the time I was consulted. The mother stated that almost all remedies had been tried, and several physicians consulted, but nothing gave more than temporary relief, and very often a relapse would take place after a certain medicine had been made use of for a period of time. The little fellow was in an extremely bad condition. I prescribed calomel in one-tenth grain doses, and a powder containing one grain each of eudoxine and saccharated

pepsin, to be administered three times daily. I instructed his mother as regards the dietetic and hygienic management. Improvement was noticeable after two days' treatment, and was continuous with the result that he was entirely cured in two weeks' time.

IV. Ella M., age ten months, a bottle-fed baby, had a tendency to diarrhœa since about four months of age, but it had become very troublesome since the strain of cutting teeth was taxing the system. She was very cross and fretful, and evinced signs of considerable pain at times. Her discharges were always thin and watery in character, slightly greenish in color and very offensive in odor. At times food would be passed partially digested. The evacuations usually numbered from eight to twelve a day, though at times the diaper would only be stained. Emaciation was very marked, and she was very small in size for one of her age. I prescribed a modified milk diet, and directed the mother to attend carefully to the hygiene of the child and all food taken by her. For medication, I used one half grain of eudoxine combined with a grain each of willow charcoal and precipitated chalk. The improvement was rapid almost from the beginning, and convalescence readily established, so that in three weeks' time she was perfectly well and had improved much in appearance.

V. Henry L., age two and a half years, had been troubled with diarrhœa for several months, but at the time of consultation it was worse than at any time previous. The discharges were of a thin watery consistency, and contained much half digested food, and were very foul smelling. The loss of flesh was very perceptible, and was progressive in spite of the fact that the appetite was good. There seemed to be a general atonic condition of the whole alimentary tract. I advised the mother to give a modified diet, and observe the necessary hygienic precautions, and prescribed a powder containing one grain each of eudoxine, saccharated pepsin and willow charcoal, to be administered three times daily. An improvement was noticeable from the beginning of the treatment and continued until recovery was complete.

VI. Bessie W., age nine months. I was called, and found her suffering from an attack of cholera infantum of twenty-four hours duration. The resulting intoxication was profound, manifested by a rapid and weak pulse, hurried respiration, high temperature, and sluggish circulation. Vomiting was frequent, and nothing that had been tried would remain in her stomach more than five minutes. The evacu-

ations were nothing more than stained water. I prescribed one tenth grain each of eudoxine and calomel. The first dose was vomited almost immediately after swallowing, but the dose was repeated at once, and did not cause vomiting. This was repeated every two hours, with instructions that the dose be immediately repeated if it should cause vomiting. After the third dose the evacuations began to change color and consistency, and the vomiting ceased. From this time on there was no trouble, and the baby was as well as customary in four days' time.

In the use of eudoxine for the treatment of infantile diarrhœa, I have observed in this series of thirty-six cases, that whenever the trouble manifests a tendency to the chronic form due to loss of tone in the bowel walls, and perverted action of the secretory glands, accompanied by putrefactive changes in ingested food, that this drug has given me the most satisfactory results of any other hitherto used.

In the treatment of this disease it is absolutely essential that the lost tone of the walls of the intestinal canal be restored, that the perverted functions of the secretory glands be corrected, and that the putrefactive and fermentative changes accompanying the ingestion of food be prevented. Until we overcome and prevent these three conditions we cannot hope for more than a mitigation of the trouble. In every case of infantile diarrhœa I have seen there is a more or less relaxed state of the whole muscular system, due to the absorption of toxic products formed by the putrefactive and fermentative changes taking place in the bowels, the whole being the result of bacterial infection. This relaxation seems to be shared to a very much greater extent by the muscular walls of the bowels than by any other part of the system, which is probably caused by the intimate relationship with the poisonous products themselves. When we hinder the action of the bacteria, and overcome the poisonous influence of their toxins, we are using a logical treatment, and employing means to remove and render inert the cause of the trouble.

In eudoxine we have a remedy which exerts an antiseptic influence, which hinders the actions of the bacteria, and renders harmless the poisons already formed. It tones up the relaxed muscular walls of the intestines and promotes a healthy secretion of the glands. It will be noted that in some instances I combined it with saccharated pepsin and charcoal. This was not done to counteract any of the effects of eudoxine, but was done to assist di-

gestion and prevent fermentation. When I combined it with precipitated chalk it was done to correct the hyperacidity of the discharges. I have observed that relapses are not so frequent after the use of eudoxine, and in the thirty-six cases tabulated, there were only three in which the disease made its appearance the second time, and I am confident that it was due to improper dietary measures—allowing the children to eat about what they desired.

Six cases of this series were of the choleraic form, all of which recovered after the administration of small doses of calomel, stimulants and eudoxine.

THE MEDICINAL AND SURGICAL TREATMENT OF ABSCESSES—WITH CLINICAL HISTORIES.

By EUGENE C. UNDERWOOD, M. D., Louisville, Ky.,
Surgeon B. & O. S.-W. Railroad, etc.

There is no subject which is of greater interest to surgeons and the general practitioner than the treatment of abscesses. It is now, in view of advancement in our therapeutics, within the power of the physician to frequently abort an abscess, and when this is not possible, we can limit its extent, and correct the dyscrasia of the blood which often is coexistent.

We will view *treatment of abscesses from two standpoints—The medical and the surgical.*

The *medical means* consist in the exhibition of such agents as will tend to prevent the formation of pus by the correction of the dyscrasia of the blood, and by local applications of such agents as may be thought appropriate to lessen the congestion, in site of the abscess; or when the abscess cannot be aborted, such applications as will hasten the development of pus.

To carry out these indications will call for the exhibition from the beginning of an anti-purulent. *Ecthol* has in my hands proven itself an efficient anti-purulent and corrector of dyscrasia. I begin with *ecthol* at the outset in doses of a teaspoonful every two hours, and continue this until there is manifest improvement in the patient's condition. Given in this way I have very frequently brought about the abortion of abscesses which, if they had been allowed to go without treatment, would have been large, and the consequences might have been most serious.

Ecthol is the internal remedy employed in all cases; but local measures are not to be disregarded, and in fact they are of value.

Cold water, in cloths kept over the site of the abscess, is very often of marked benefit, relieving as it does to some extent the congestion in the parts. It is my custom in these cases to rely upon the local application of cold, and the internal employment of *ecthol*. These agents, given with great correctness, I have found will abort the largest number of abscesses, seen before there is any pus formation. *When pus has formed*, the application must be of a poultice. Poultices hasten the formation of pus, and this is what we desire to accomplish when it is impossible to abort the abscess. In these cases *ecthol*, by correcting blood dyscrasia, is most valuable, and should always be administered. When the abscess cannot be aborted, *ecthol* by its anti-purulent action puts a period to the process of pus making, and the patient will improve in a manner altogether different from the old time way. These patients should be fed regularly, and such foods as are digestible are to be given. We will lose ground in any case if we forget the importance of feeding.

Another important matter which must not be overlooked is constipation. The confinement, scant diet, and the frequent resort to opiates which these patients frequently make render them particularly liable to constipation. The administration every other day, therefore, of a saline cathartic is generally very beneficial.

The *surgical indications* in the treatment of abscesses consist of opening the cavity and draining it of its pus, and leaving it in a condition to heal without further pus formation.

In opening an abscess we must never forget that it is a serious mistake to make a small incision. A small incision does not allow good drainage, and, therefore, when one is made, we only partially carry out our purpose. When the abscess then has been opened fully we must allow all the pus which will run to come out. After this we must employ peroxide of hydrogen and clean the cavity entirely of pus.

After this we should wet absorbent cotton with *ecthol* and put it in the cavity. The local application of *ecthol* to the abscess walls is most valuable in stimulating healthy granulation. The abscess cavity is covered over with bichloride gauze, and this is held in position by a bandage which is by no means one which brings about considerable pressure. The *ecthol* should be applied to the abscess cavity every six hours, even after we have ceased to put the absorbent cotton in the cavity.

These clinical histories from my notes are only a few in which this treatment was applied.

CASE I.—This patient, a man aged 43, was

attacked with erysipelas involving the entire leg. Four inches above the tarsus on the internal surface an abscess was forming. It was three inches wide and six inches long. It was indurated, hot and red, and I thought I could detect a doughy feeling about the center. I put him on ethol in doses of a teaspoonful every two hours, and absorbent lint wet with ethol was applied over the surface of the incipient abscess. This patient was required to stay in bed and to live on a mild diet. He also took a saline cathartic every day or two. While this was a case, which I feared would turn out badly, I am happy to record the fact that the abscess began by the end of the second day to lose its firmness, and from this time on it dwindled until at the end of a week when resolution had so far advanced that I could find but little induration, and the patient felt well and strong. This was one of the happiest results I ever attained.

CASE II.—A young man, aged 20, injured the palmar surface of his right hand. When I saw him, an abscess was well started. I at once put him on ethol in doses of a teaspoonful every two hours. I had him apply poultices. In several days I opened the abscess, and put a layer of absorbent cotton over it, and kept it wet with ethol. After taking the ethol internally a week, and using it as a local application, resolution was advancing and the patient was well in another week.

I am quite confident that ethol prevented the extension of this abscess, and caused what would have been a serious abscess to be of a little more importance than a boil.

CASE III.—A girl, 18 years of age, bruised her arm, and an incipient abscess was in the course of formation. It was red, hot, and had all the symptoms of a forming abscess. She had cold clothes applied over the site of the abscess and took ethol in doses of a teaspoonful every two hours. This had a happy effect, and the patient got along so well that the abscess was completely aborted.

I could give a number of other cases which have been treated, but this would be unnecessary I think. I have never had a remedy to serve me so well as ethol.

It is a true anti purulent, and is therefore destined to become the therapeutic *sine qua non* in all purulent conditions.

PHENOCOLL HYDROCHLORIDE IN MALARIA.

By L. H. WARNER, M. D., Brooklyn, N. Y.,

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There exists a long prevailing opinion amongst the medical profession that quinine, especially the sulphate, is the only sure remedy to apply in the treatment of malaria in its various forms and complications. Owing to the chemical changes that quinia sulphate undergoes when it comes in contact with the hydrochloric acid of the stomach, where it is turned into quinine chloride and soda bisulph., the latter especially undesirable if the malaria is accompanied by a diarrhoea or dysentery, I have almost discarded its use in malaria, excepting when in the form of quinia simplex plus chlorine in aqueous solution. The latter combination, when coming in contact with the hydrochloric acid of the stomach, would result in producing quinia chloride plus 6 molecules chlorine and 3 of water.

I desire to call attention to a comparatively new drug, the hydrochloride of phenocoll. This drug will not produce the disagreeable effects which most frequently accompany, and which indicate the intoxication of and through quinine sulphate, such as severe gastric pains, painful erysipelatoid eruptions, etc.

I cite here two out of many cases of malaria which were treated with phenocoll hydrochloride:

CASE I.—C. K., æ'tas. 37. Admitted to hospital in the morning, July 13th. At 3 P. M., had a typical malarial attack lasting 5 hours. Blood examination reveals parasite of estivo-æ'tumnal form; hæmorrhage 54 per cent; red cells, 3,050,000; white cells, 7,700. Tongue is coated; has violent pain in splenic region, and abundant sweat at night. Is given 1.5 gm. phenocoll hydrochloride.

14th. Has spent a good night; complains of general muscular pain; no attack during the day; is given 1.5 gm. phenoc. hydr.

15th. Patient feels languid, though better. Pain less than on two previous days. Is given 1.5 gm. phenoc. hydrochol.

16th. Patient appears better. Has some appetite, and moves about. Late in afternoon, complains about pain in splenic region, which is painted and rubbed with iodine vasogen, 6 per cent. Vomits some, and complains of headache.

17th. Patient had fairly good night. Had slight attack in morning, and is given 1.5 gm.

phenocoll hydrochloride. No fever rest of day.

18th. Patient feels much better. Pain in splenic region has disappeared. Urine normal in quantity, with strong iodine reaction, proving absorption of iodine vasogen. Patient is about, and has fair appetite. 1.5 gm. ph. hydr.

19th. Feels considerably better. Appetite good. Is stronger, and exercises out doors all day. 1.5 gm. phenocoll hydrochlor.

20th. Has had no further attack. Blood examination reveals increase in hæmoglobin and red cells; no parasites or pigmented bodies. Patient is discharged from hospital. Is given one dozen powders of phenocoll hydr. aa 1.5 gm., and is ordered to take one daily. Reports on Aug. 1st that he is feeling well; has had no further chill.

This same patient had been using quinia sulph. for two years past with but little result, causing him deafness and general malaise. We must allow, though, that the indiscreet use of quinia is often accompanied by worse results than if no quinine had been taken.

CASE II.—O. M., *ætas.* 41 years. Has lived in malarial district for the last fifteen years, and has used quiniæ sulph. for a number of years to ward off chills. Is very weak, feels languid, and there is marked deafness. Has leaden, ashy complexion; spleen enlarged and painful on touch. Admitted to hospital July 2d, A. M. Had chill at 6 P. M. July 1st. Blood examination reveals quartan parasite. Hæmorrhage, 59 per cent.; red cells, 3,314,000; white cells, 9,200. Is given 1.5 gm. phenocoll hydr.

3rd. No fever, but abundant sweat. Intense cephalalgia. Has slight diarrhœa. Is given 1.5 gm. phenocoll hydrochloride.

4th. Had a good night. At noon complains of severe pains in limbs and splenic region. Is given a thorough inunction with iodine vasogen, 6 per cent. Towards night, has slight attack, and is given 1.5 gm. phenocoll hydrochloride. Urine free, and normal in quantity, with strong iodine reaction.

5th. Feels better and stronger. Has some appetite, and is able to be up and exercise outdoors for a few hours. Is given 1.5 gm. phenocoll hydrochloride.

6th. Had a good night. Feels stronger, and has good appetite. Is given 1.5 gm. phenocoll hydrochloride.

7th. Has had no further attack, and leaves hospital to go to work. Is given 12 powders of phenocoll hydrochloride, aa 1.5 gm., and is ordered to take one daily and report at hospital in 12 days.

19th. Patient states that he feels well and strong; better than he has felt in years. Has had no further attack. Is undergoing tonic treatment.

As far as I can learn, the *physiological action of phenocoll hydrochloride has not been sufficiently studied* to enable us to explain its action upon the malarial parasite or the toxins manufactured by the latter, but its reaction, when coming in contact with the hydrochloric acid of the stomach, will result in giving us, aside of the phenocoll chloride, a few molecules of free chlorine and water. In both cases above cited we have a history of previous quinine therapy with apparently no results in months and years, while the efficacy of phenocoll hydrochloride as an anti-malarial remedy was shown in a very brief period of time. Dr. Tiemann, of Charlottenburg, Germany, has used phenocoll hydrochloride extensively in the treatment of malaria at Kamerun, on the West coast of Africa, and reports lengthily upon it in his work on malaria and other blood parasites, page 69. Aside of the Campana there is probably no other more malarious region than the Kamerun districts.

43 *Second Place.*

WORK DEVELOPS; WORRY DETERIORATES THE BRAIN*.

By G. W. DRAKE, M. D., Hollins, Va.

Resident Physician Hollins Institute; Emeritus Prof. Chattanooga Medical College; Ex-President Tennessee State Medical Society, etc., etc.

The brain and mind must be studied as separate and distinct entities. The one is material, the other immaterial.

The brain is the head and centre of the nervous system, and is also the organ of the mind. It is not a simple but a composite centre. Every tissue and organ in the body has a special functional centre in the brain. It is not a simple but a compound organ of the mind. Every faculty of the mind, intellectual or emotional, has a special functional organ in the brain.

Since the brain is so important an organ from an intellectual, moral and hygienical standpoint, it is well to learn how to take care of it, and improve its functional capacity, and guard against its deterioration.

Work develops; worry deteriorates the brain.

* Original abstract of a paper presented the Tennessee Medical Society during its Annual Session in Knoxville, April, 1900.

It is a physiological law that the organ at work receives an increased supply of arterial blood, which promotes healthy development and improved fitness for function. In this way, work develops the brain and increases its functional fitness. It augments its capacity for thinking and also for supplying neuric energy to all parts of the body, causing the brain tissues and organs to work and develop.

A well developed brain is symmetrical and not lapsed. To form such a brain all its functional centres must do a normal amount of work, and enjoy a normal amount of rest. Periodical rest is as essential as is regular work.

The brain centres are so associated by connecting fibres that when one is exercised there may be an overflow of energy to others. The energy from a thought centre is sometimes conducted to a lower glandular centre, and from it to the salivary glands, causing a flow of saliva, as when the mouth waters at the thought of a savory morsel. *Vice versa*, the writer believes that the intellectual centres may be stimulated and developed by the presence in the mouth of a savory morsel.

It is a pleasing reflection that we may cultivate and develop our intellectuality by tickling the palate with delicious viands. The diet of a great genius is usually simple and palatable, never coarse and unsavory.

People grow wiser by seeing, hearing, tasting, smiling, and feeling the agreeable, and by enjoyable muscular exercise, as well as by mental work in thinking and studying.

Every musical sound, every artistic picture and sculptured form, and every muscular movement makes its image on the brain, and contributes to its improvement. The action of every peripheral organ reacts upon the cerebral centre, with which it is connected, by liberating neuric energy, which is connected back to the latter over efferent nerve fibres, making neurographs on the brain.

Brain culture, as a physical science and a hygienic measure, has not heretofore received the attention which its importance demands.

The brain and the mind have been considered by many as synonymous terms, and the phenomena of the one confounded with those of the other. As a consequence, what should have been the work of the physician and physiologist has been relegated, in many instances, to the metaphysician and psychologist.

Diseases of the brain have been ignorantly named diseases of the mind. The mind can no more become diseased or deranged than can electricity or any one of the natural ener-

gies get out of order. The mental machine, or brain, like an electrical machine, can break down, and need repair or treatment. The mind is incapable of injury by traumatism, autointoxication or bacterial infection. It is inconceivable that it can be pierced by a bullet or cut in twain by a knife.

Brain work means the normal, and brain worry the abnormal exercise of all the cerebral centres. Work preserves a physiological equilibrium between the nerve centres and promotes the health of all the bodily functions.

Worry is the antithesis of work in its effects. It deranges the cerebral centres and deteriorates their capacity for normal activity. Since these centres preside over the functions of all the other organs, the health of the whole body is affected by their disorder, and, in time, there may be a general break down of the system, with nervous prostration as the most prominent symptom.

Worry includes the indulgence of anger, ill-humor, fretfulness, jealousy, fear, grief, sensitiveness, and all the unpleasant emotions. The disastrous effect on brain structure is certain, but it is often so gradual and insidious as to be imperceptible until the danger line is passed and alarming symptoms developed.

Often a business man, occupying a responsible position, has been the subject of worry until the judgment centre of his brain has become so disordered as to unfit him for administrative ability. The company fails to discover the change in the brain capacity of one of its most important officers—president, cashier, or business manager, as the case may be—and the diseased man himself is not conscious of his fatal malady. Errors of judgment and mismanagement result. There is a sudden crash of the business, the officer commits suicide, and the cause is said to be insanity produced by the failure. The truth is the failure was produced by the insanity.

Expert examination of officials in responsible positions would, in many cases, save the individual from insanity and the business from ruin.

A proper physiological balance should be maintained between all the functional centres of the brain by regular work and periodical rest.

CLINICAL MICROSCOPY IN DISEASES OF THE RESPIRATORY ORGANS.*

By H. STUART MACLEAN, M. D., Richmond, Va.

Lecturer on Bacteriology and Physical Diagnosis; Director of Micro-copical Laboratories, University College of Medicine; Bacteriologist and Hematologist to St. Luke's and Virginia Hospitals, etc.

The past few years have greatly enhanced our knowledge of laboratory, and microscopical methods for the diagnosis of diseases. Some of our older physicians can recall the time when the microscope was a rarity even in the colleges, and a microscope in the office of a physician was simply a means of whiling away leisure hours by (usually) botanical study. Since that time, however, year by year, a mass of evidence has been accumulated by laboratory workers and clinicians in all departments, and facts have been adduced which, through experience, have come to be recognized as of reliable diagnostic or prognostic value. Like everything "new," clinical microscopy has been injured by enthusiasts who have, either through inexperience, immature observations and judgment, or incorrect deductions, claimed that which could not be substantiated nor fulfilled. Practicing physicians having to form their opinions from the current literature on the subject have thus been misled, and once this having occurred they have, perhaps, been slow to accept that which *can* be proven, and often would be helpful. In diseases of the respiratory organs clinical microscopy has been more uniformly resorted to and useful than anywhere else; and under this heading we wish to consider briefly some of the more important conditions in which it is of value.

The usual examination of the secretions from the air passages is limited to the detection of some specific form of micro-organism. This is usually all that is necessary, but at times, in stopping here, information is lost which might be of material value. It would therefore be urged that more attention be paid to other constituents such as elastic fibres, pigmented epithelial cells, crystals, spirals, etc., as well as to the gross characteristics of the material. For instance, we recognize that purulent sputum has a characteristic color, but it is possible that a green tinge may be imparted by bacterial pigments or biliary coloring matter.

So, too, the odor, and the general appearance of the sputum may have considerable significance. These points, however, would be

included more properly in a paper upon the sputum alone, so will be passed over here.

Pneumonia.—The sputum in pneumonia is often supposed to be of a characteristic color and consistency; this, however, is not always so, and a diagnosis based to any extent on the presence or absence of rusty colored or prune-juice sputum, is liable to considerable amendment. In this disease we have an instance where too much has been expected of a microscopical examination, for the disease cannot always be diagnosed on examination of the sputum alone, by our present knowledge and methods. Yet an examination will usually be of great value, and the presence of the pneumococci in any number is strong evidence, especially if the other clinical symptoms are at all suggestive. It is well known that pneumonia, in a certain proportion of cases, is not easy to diagnose, and if the pneumococci can be found it is a material point gained.

In examining rusty sputum one is not infrequently surprised to note that there are comparatively few red blood corpuscles. This has been explained, however, by Traube, who showed that the color was largely due to the presence of dissolved hemoglobin. This red color may change quite rapidly to one of grass green, which has been claimed by Nothnagel to be due to the conversion of the coloring matter of the blood into biliverdin. In this disease we not infrequently obtain valuable aid from a blood examination. There is always an increase in the white corpuscles (or leucocytosis), which commences with the chill and lasts until a short time *after* the fever has disappeared, whether that be by crisis or lysis. In cases where a pseudo crisis occurs the leucocytosis remains high, while in event of true crisis the number of leucocytes *begins* to fall a few hours *before* it. The existence of leucocytosis in an obscure case may afford a clue to the real condition. Last summer at the request of Dr. W. S. Gordon, the writer examined the blood of one of his patients. The case was an obscure one with a history of indisposition for some days, recent chill and high fever. The patient had been confined about six weeks previous, and there was some tenderness in one breast. She had just arrived in Richmond, and it was difficult to say whether the case was one of typhoid fever or malaria. A blood examination failed to reveal any malarial parasites, and at the same time a considerable increase in the number of leucocytes was observed. This latter excluded both malaria and typhoid fever unless they were complicated by some other disease, and the probability of the existence of

*Read before the Richmond Academy of Medicine and Surgery, April 10, 1900.

a commencing suppuration or pneumonia was suggested. The following day many symptoms of pneumonia developed, and the case ultimately ran the typical course of that disease. The examination of the blood may also be of decided prognostic value, for it has been repeatedly demonstrated that the absence of leucocytosis almost always indicates a fatal termination. Another unfavorable symptom found in the blood is the presence of the pneumococcus, the majority of such cases terminating fatally, death not infrequently being preceded by gangrene of the lung.

Asthma.—In the expectoration of this disease are found long spiral bodies, apparently fibrinous threads twisted loosely around a faint central fibre. They are said to occur only in the bronchial form of asthma, and are, to that extent, of diagnostic value. They are occasionally found in pneumonia, acute bronchitis and tuberculosis, and are supposed to be formed in the small bronchioles by twisting of the mucous threads. Indeed, they have been experimentally produced by twisting mucous shreds on their long axis. There are also found crystals, commonly known as Charcot-Leydens' crystals, which while found in large numbers during the paroxysm are likewise to be seen at all times in the bronchial expectoration of asthmatics. They are probably derived in some way from mucin as has been demonstrated by V. Jaksch, and they are noticed to be formed in and around the spirals after allowing sputum, in which they were not at first noticed, to stand for a few hours.

These crystals are sharply pointed, octohedral in shape and vary very much in size, being found as large as 50 microns in length. They are found in the grayish-yellow masses expectorated during a paroxysm. There also is noticed in the sputum one form of leucocyte, the eosinophile, in large numbers. This cell differs from the other white corpuscles chiefly in having relatively large granules, which have a peculiar affinity for acid stains, as eosin, etc. In a properly stained specimen will be noticed these sharply stained leucocytes, far in excess of the number usually present in sputum or pus; while throughout the field will be seen other leucocytes (neutrophiles), and many of the eosinophilic granules which have escaped from the cells, and appear like brightly stained spores.

It will be seen, therefore, that a microscopical examination may be of considerable value in asthma, and it is well to be familiar with the points to be looked for and the information to be gained.

Tuberculosis.—There probably is no one disease in which a microscopical diagnosis is so often sought as tuberculosis. While a physical examination usually will make a diagnosis, we are forced to admit that in a certain number of cases presenting all, or nearly all, the physical signs of tuberculosis, negative examinations of the sputum have decided against such a diagnosis, and the further cause of the disease has demonstrated the microscope to be correct. Within the past year or so, the writer has reported negatively on at least six specimens of sputum from cases in which a diagnosis of tuberculosis had been made from the physical signs, and in every case the subsequent history has demonstrated the absence of tuberculosis. Some of these cases had made every preparation to remove to another climate, so strongly suggestive were the physical signs.

The great value of a microscopical diagnosis in this disease lies in making it *early*. Usually, if the case has progressed so far as to allow of a positive diagnosis on the physical signs alone, it has become hopeless. The aid of the microscope should be sought when the physical signs are simply suggestive; if a cough is not disappearing quickly enough after pneumonia; a little dullness or broncho-vesicular breathing, perhaps a few moist râles; in other words, when the case is only a "bronchitis" which, for some unknown reason, will not yield to appropriate treatment. If this was the usual custom it would save many cases. After so much grippe and pneumonia as has prevailed here this winter, we will see many such cases of persistent bronchitis refusing to respond to treatment, and a prompt microscopical examination may detect the tubercle bacilli long before the physical signs have developed sufficiently to base a diagnosis upon, and the patient's life saved.

In examining sputum for tubercle bacilli, there are certain points always to be borne in mind.

1. The sputum should be *coughed up*, not simply cleared from the throat (unless the case be one of laryngeal tuberculosis). Disregard for this point is not infrequently the cause of failure to make diagnosis and consequent discredit upon the method.

2. While a positive diagnosis may be made on the first slide, yet it is another matter to make a negative one. A large number of slides should be prepared and carefully searched, the fact that the sputum is from the lung ascertained, and even then it is wise to ask for a second, and often third specimen.

3. In cases where the bacilli are few in number, or not found at first, it is often of service to place the sputum in the incubator for eighteen or twenty-four hours. This increases their number and renders their detection proportionately easier. The bacilli may also be separated by boiling with caustic soda, allowing it to stand for a time, then examining the sediment, or by using the centrifuge.

The number of bacilli present are, in a way, a measure of the extent of the disease, many bacilli meaning a wide spread involvement and, particularly, *rapid* progress. At the same time, there is no accurate method of estimating this point by counting the bacteria, although much work has been done along this line. It is likewise claimed that the bacilli increase or diminish as the fever is high or low. While all these facts have as yet no actual diagnostic or prognostic value, yet it is hoped that the results of patient repeated observation will in time produce more tangible and practically applicable methods.

In tubercular sputum are often found fibres of elastic tissue derived from the lung substance. It is indicative of destruction of lung tissue and a more or less advanced stage of the disease. They occur in any condition of the lung in which breaking down of the parenchyma occurs, such as gangrenous pneumonia, abscesses, bronchiectasis, and are readily discovered by examining the sputum without any preparation in the way of fixing or staining. Their occurrence, therefore, with tubercle bacilli denotes that the disease has advanced to the stage of cavity formation. It should be borne in mind that in acute miliary tuberculosis the bacilli may be especially scanty, or even at times absent from the sputum. The blood examination in pulmonary tuberculosis is remarkable for the absence of any material changes. Especially in the advanced stages one would expect, from the accompanying pallor and the wasting nature of the disease, that the red corpuscles would be diminished, but this rarely, if ever, occurs. They remain normal, or are even increased. The white corpuscles are likewise seldom influenced except when there is considerable cavity formation—then leucocytosis usually appears. Holmes, of Denver (*N. Y. Med. Jour.*, September 5, 1896), has announced certain changes which he claims occur regularly in the leucocytes in tuberculosis, but his studies have not been fully corroborated.

Influenza.—In influenza a microscopical examination may be used as a means of diagnosis, the specific bacillus of Pfeiffer being

found in all cases. Only in cases where there is a question of differential diagnosis is it necessary, however, as the disease is usually easily recognized from the symptoms.

Diphtheria.—The value of a microscopical diagnosis in this disease is fully recognized and more universally resorted to. It has resulted in recognizing many cases as diphtheritic which have hitherto not been considered as such, with the result that the danger of infection and consequently the number of cases, have been greatly lessened. This diagnosis is made by making a culture on blood serum from the throat and examining the growth obtained, after fifteen or twenty-four hours in the incubator, at body temperature. Some physicians hazard a diagnosis from an examination of the material obtained from the throat without cultivation, and this may usually be relied upon, providing the result be confirmatory; but a negative result should not be accepted without applying the further test of cultivation. Microscopical diagnosis is at times not used as promptly as it might be, because of the difficulty in getting a sterilized swab and a culture tube. This is not absolutely necessary, and a swab can be prepared by wrapping some sterilized absorbent cotton on a clean stick, and after carefully wiping the patch in the throat with this, it may be placed in a clean test tube previously prepared by passing through the flame and allowing to cool. The swab can thus be sent to a bacteriologist, and even ten or twelve hours of express or mail transportation will not materially influence the result of the examination.

These are some of the more important features recognized. Many of secondary importance, such as the detection of pigmented epithelial cells found in the sputum in mitral disease, crystals of hematin, cholesterolin, and oxalate of lime or the examination of pleuritic effusions for tubercle bacilli and other bacteria, have been purposely omitted to shorten the paper. In closing, it will not be amiss to revert again to perhaps the most important subject mentioned—the urgent necessity for early examination of the sputum in cases of “persistent cough” and similar conditions. The result may well repay for the trouble by saving the patient's life.

422 W. Main Street.

DIFFERENCE IN THE CAUSE, SYMPTOMS, RESULTS, AND TREATMENT OF GRIP AND COLDS*.

By WM. S. GORDON, M. D., Richmond, Va.,

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As the time allotted for the reading of papers is too short for a full treatment of the subject under discussion this evening, my object will only be to emphasize the main points mentioned in the title of this article.

The cause of an ordinary cold, or coryza, especially during epidemics, is supposed by some observers to be a microbe. While there may be grounds for this belief, I am inclined to the opinion of those who claim that a cold is the result of vaso-motor and trophic disturbances of various portions of the respiratory mucous membrane. So far, a destructive microbe has not been discovered, while the nature, course, and symptoms of the disorder can be explained from other standpoints than that of an infection. All of us know the intimate connection, through nervous agency, between the skin and the mucous membrane. One of my patients, an aged gentleman, will frequently suffer from diarrhœa when a damp east wind is blowing. In recent years he has enjoyed comparative immunity by protecting the abdomen with flannel, thus preventing the irritation of the sensory nerve terminals in the skin, with the consequent reflex effect upon the vaso-motor centres. Another patient will suffer in the respiratory tract from the same cause; while another may be affected in the urinary tract. Damp feet, a draught of cool air on a limited portion of the exposed cutaneous surface, and the sudden transition from a very cold into a very warm atmosphere are all stimuli for reflex action resulting in what is termed a "cold." Preceding the immediate cause is, in every instance, a lowered resisting vitality, with constitutional weaknesses in the affected portions of the body.

It is almost conclusively established that one cause of influenza is a microbe designated as Pfeiffer's germ—a short and extremely minute bacillus, which is supposed to enter the body through the nose and mouth, or, as held by some, even through the conjunctiva, and which, in certain forms of the grip, are associated with, or prepare the way for the activity of, the pneumococcus and the pus forming microbes.

The difference between the symptoms of a

cold and a mild form of influenza, when the latter disease is prevailing, are often indistinguishable in the early stages. The sneezing, dry mucous membrane, tightness over the frontal sinus, lachrymation, discharge of mucus, chilliness, fever, aching in the muscles, anorexia, coated tongue, impairment of smell, taste, and hearing, and other effects, are common to both ailments; and unless we observe the well-known sequelæ of influenza—which are at times absent—it is impossible to determine the exact nature of the disease. If post-grippal results are manifested, we are able to diagnose last instead of first.

The symptoms of influenza, in its various forms, are well-nigh innumerable. For convenience sake, therefore, and for the saving of time, I shall refer to the leading characteristics of the disease in the respiratory, gastro-intestinal, and nervous types. In the first division we have the ordinary coryza symptoms, frequently intensified; conjunctivitis, otitis media, tonsillitis, pharyngitis, laryngitis, tracheitis, bronchitis, and catarrhal pneumonitis. The mucous membrane of the throat is at times glazed and dry, intensely red, congested and painful, the trophic disorders being well marked, of long duration, and almost defiant of treatment. In other instances, an excessively thin or thick mucus, often streaked with blood, is secreted. The flow from the nose may be clear, profuse, and almost constant. Sudden aphonia; distressing cough, disproportionate to the local inflammation; obstinate tonsillitis, follicular or parenchymatous; consolidation of the lower lobes of the lungs; and, occasionally, rapid, complete, and fatal occlusion of the air-cells are prominent features. The catarrhal symptoms are, it is seen, marked by an intensity, diversity, long duration, and tendency to recurrence not observable in the simple inflammatory affections of the respiratory tract.

In the gastro-intestinal form one or more of the following conditions may be present: nausea, vomiting, pain, mostly in the abdominal walls, fermentation, with resulting flatulence, diarrhœa, acute inflammation of almost any of the internal abdominal organs or structures. The tongue may be moist and almost normal, but in the majority of cases is coated brown or white, and frequently dry. When diarrhœa is present the stools are light-colored, frothy, and offensive. Eruptions of sulphuretted hydrogen are common.

The nervous form is characterized by frontal, occipital, vertical, or cervical pain, neuralgia of the trigeminus; myalgia in any portion of

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the body, with a sense of aching, weariness, and soreness in the muscles; intercostal neuralgia frequently; inflammatory affections of the nervous structures; mental depression, amounting occasionally to melancholia; irritability; and, indeed, any symptom of neurasthenia, hysteria, or hypochondria.

In general, the disease is marked by suddenness of invasion; chilliness, followed by more or less elevation of temperature; aching of the limbs or other portions of the body; marked asthenia, and tendency to relapse. Added to these are many of the symptoms above mentioned. Fever may be absent, or it may assume a typhoid type. Many cases are of a chronic or sub-acute nature. During convalescence from one form of the disease another form may rapidly supervene. In a recent case now under my care—that of a little girl four years of age—the disease began with throat symptoms, followed by severe bronchitis and middle ear inflammation, with rapid rupture of both drum-heads. After the fever had subsided, and while sitting up, she was seized suddenly with severe pleurodynia and a temperature of 105° F., the temperature remaining high after the pain had been relieved. In another case, characterized by two attacks, two weeks apart, of profuse diarrhoea, nausea, and abdominal pain, the catarrhal form followed.

An ordinary cold is usually unattended with serious results, except when the Eustachian tube, middle ear, or naso-pharynx is repeatedly involved. The sequelæ of influenza are legion, the most prominent being the cardiac weakness, mental depression and prolonged impairment of the functions of the nervous system, chronic or sub-acute inflammation of almost any of the organs or structures of the body, and a tendency to recurrence.

From the multiplicity of symptoms, their general distribution, and their peculiar nature, it is evident that the poison of influenza is exerted upon the structures that regulate the functions of the organs involved, and, consequently, the conclusion is inevitable that the nervous system is primarily and chiefly involved. The medulla is especially responsible. The action of the germ on this organ alone will account for a large number of the trophic and vaso-motor disturbances, while involvement of the centres for vomiting, respiration, cardio-inhibitory action, and other functions carried out by the pneumogastric nerve, will explain a large majority of the symptoms. The cutaneous symptoms can also be thus explained.

The disease is unquestionably infectious; is

conveyed from one person to another in various ways; and has a period of incubation differing in different cases. I am not prepared to assert, however, with some observers, that the germs are not borne in the air at long distances; although it is not within the scope of this paper to advance the reason for such a belief.

The treatment of a cold is simple, and usually efficient if begun early and carried out faithfully. A full dose of quinine and Dover's powder; a cholagogue if needed; hot drinks; a hot bath; and immediate recourse to the bed will frequently abort a cold in from twelve to twenty-four hours. Phenacetin and acetanilid are useful. A spray of menthol and camphor in neutral oil is also valuable, cocaine being added if indicated and advisable. Two or three days rest in bed is invaluable, and will often save days or weeks of suffering and discomfort. In the later stages the symptoms must be appropriately treated as they arise.

There is no specific treatment for influenza. The mild cases can be treated as ordinary coryza. In all cases I regard rest in bed as one of the most important measures, not only for the immediate effect upon the disease but as a preventive of the sequelæ. When indicated, laxatives and cholagogues prepare the way for efficient action of other drugs. In the affections of the respiratory tract it is well to use an antiseptic and soothing spray in the nares and throat, inhaled into the lungs. If the fever is mild, with slight cough, and the pain is not marked, I usually administer a mixture of ammonium chloride, wine of ipecac, spirit of nitrous ether, and solution of ammonium acetate. Bromide of ammonium can be added for headache or nervous irregularity. At other times the ipecac and nitre can be advantageously combined with solution of potassium citrate, especially when the urine is scant and high-colored. Warmth to the body, nourishing food, and quietude, physical and mental, are powerful adjuvants. In the bronchial and pulmonary complications mustard and flaxseed meal poultices, properly made, applied, and renewed, are highly beneficial. Iodine to the chest is often useful.

When the fever is high and the pain severe, I have found phenacetin, or acetanilid, with salol, quinine, codein, caffein or strychnine to meet the requirements. Hypodermics of morphia and atropin may be necessary—the latter drug being useful in the profuse sweating that may occur.

In the gastro-intestinal form I have usually begun the treatment with calomel, which ex-

cites the secretions, acts as an antiseptic, and often allays nausea. Opium, bismuth, salol and chalk mixture control the pain, check the diarrhoea, and have an anti-nauseant effect. Turpentine stupes and dry or moist heat to the abdomen are valuable in relieving the abdominal pain.

No matter what the special indications may be, the physical weakness must always be borne in mind, and will often require early attention. Strychnin, ammonia or alcohol will each have its place at various times. Tonics are indicated in most cases during convalescence. Patients are liable to recrudescences and relapses, and are often left in an unrecuperative, worrisome, and generally decomposed condition. A change of scene is often the best remedy. Chronic sequelæ must be appropriately treated.

6 East Grace Street.

Proceedings of Societies, etc.

NEW YORK ACADEMY OF MEDICINE.
Section on Orthopædic Surgery.

Meeting of March 16, 1900. A. B. Judson,
M. D. (1 Madison Avenue), Chairman.

Lengthening the Tendo Achillis.

Dr. R. A. Hibbs presented five patients affected with *talipes equine varus*, the result of infantile paralysis, on whom he had performed a new operation, as follows: The tendo Achillis having been exposed by a parallel incision $1\frac{1}{2}$ inches in length, made to its outer side, it was cut transversely within $\frac{1}{2}$ inch of its insertion, through two-thirds of its substance, and with the turned knife it was then split upward a certain distance. A quarter of an inch above the end of the longitudinal cut another transverse cut was made from the opposite side through two thirds of the substance of the tendon, and the knife being turned the tendon was again split to within $\frac{1}{4}$ inch of the first transverse incision. Thus the tendon was severed in such a manner as to secure its lengthening, and at the same time to preserve its continuity. In Figure 1, the first transverse cut would be from E to C; the first longitudinal from C to D; the second transverse from G to B; and the

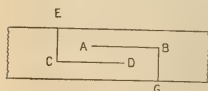


FIG. 1.

second longitudinal from B to A. When traction was applied lengthening would occur as shown in Figure 2, and it would be equal to the sum of the 2 longitudinal cuts minus the sum of the two laps of $\frac{1}{4}$ inch each. In Figure 2,

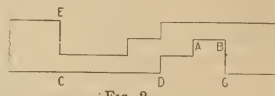


FIG. 2.

Figure 1, if C D is $\frac{1}{2}$ inch, B A $\frac{1}{2}$ inch, A to E C $\frac{1}{4}$ inch, and D to G B $\frac{1}{2}$ inch, then the lengthening would be ($\frac{1}{2}$ inch plus $\frac{1}{2}$ inch) minus ($\frac{1}{4}$ inch plus $\frac{1}{4}$ inch), or 1 inch minus $\frac{1}{2}$ inch, or $\frac{1}{2}$ inch.

It was a matter of choice whether the longitudinal or the transverse cut were made first, but it was important that the skin incision should be to the outer side of the tendon in order to prevent the scar from falling directly over the tendon, which might be rubbed by the shoe.

Dr. Hibbs had learned since operating by this method that it had been practised in a case of traumatic equinus by Sporon, a Dane (*Hospital's tidende*, 3d series, Vol. IX, No. 50, 1891).

CASE I.—In a girl 8 years old, a short tendo Achillis had prevented flexion of the right foot within 10 degrees from a right angle. It was lengthened by this method on Sept. 22, 1899, and the foot was fixed at a right angle. In two weeks slight voluntary motion was allowed, and the muscle received daily exercise with some resistance from the attendant. After $\frac{1}{2}$ inch lengthening had been secured there was positive resistance to any further flexion of the foot than was allowed by the lengthening. The child walked with strong control of the os calcis.

CASE II.—In a girl 12 years old flexion of the left foot was impossible within 15 degrees from a right angle. The tendon was lengthened $\frac{3}{4}$ inch on July 6, 1899. With suitable after treatment the result was an excellent position of the foot with strong action of the muscles of the calf.

CASE III.—In a girl 14 years old flexion of the right foot was prevented within 10 degrees from a right angle. The tendon was lengthened $1\frac{1}{4}$ inch on June 16, 1899, an unusual amount in order to relieve extreme valgus, with resulting good control of the os calcis. As the valgus was recurring a tendon grafting would be done.

CASE IV.—In a girl 8 years old the left foot was inflexible within 45 degrees from right angle, appearing to be almost in a straight line with the leg. The tendon was lengthened

1 $\frac{3}{4}$ inch on June 16 1899, and the foot fixed at a right angle. It was believed that an ordinary tenotomy would have been followed by loss of usefulness of the calf muscles. It was seen, however, that this action was excellent.

CASE V.—In a girl 14 years old the right foot had been inflexible within 15 degrees from the right angle, and the tendon was lengthened $\frac{3}{4}$ inch on June 16, 1899, and the foot fixed at 90 degrees. The muscle and tendon showed enough strength to sustain the weight of the body on tip-toe, and this had been true of all the cases presented. In no case had an effort been made to correct the equinus beyond a right angle. Further correction might be desirable in congenital but not in acquired equinus.

REMARKS.

That the strength of a tendon lengthened in this way was not seriously impaired was proved by the observation that in every case there had been resistance to the carrying of the flexion beyond the limit allowed by the operation, and also by the ability of the muscle and tendon to sustain the body on tip toe. The process of repair had been rapidly completed after operation by this method, which presented obvious advantages over those in which sutures were applied to the tendon. But the greatest advantage had been found in the readiness and certainty with which the desired amount of lengthening could be exactly secured.

A perfect gait required the "spring" or elastic quality imparted by the muscles which enable the anterior part of the foot to sustain the weight of the body in walking. Without this power the gait would be that of one who had a wooden foot or a foot affected with talipes calcaneus. In equinus following infantile paralysis it was probable that the muscles were more shortened than the tendon, and as lengthening the muscle was generally impossible, operative relief had to be sought by lengthening the tendon. In operating, however, it was important on the one hand to avoid leaving the tendon so long as to impair the action of the muscle, and on the other hand to avoid leaving it so short that the equinus would not be sufficiently overcome. This method enabled the operator to maintain exactly the proper relation between the length of the tendon and that of the muscle. By subcutaneous tenotomy the equinus was readily corrected, but in many cases the result was a serious defect in the gait from undue lengthening of the tendon and resulting shortening and inefficiency of the muscle.

DISCUSSION.

Dr. A. M. Phelps said that it was immaterial whether a muscle was operating at its full length or whether the same amount of muscle tissue was operating at a shorter leverage. The power was precisely the same, as instanced by putting your arm nearly straight or flexing it. So long as the amount of muscle cells remained the power was the same. Open incisions for primary operations on the tendons should be avoided, and in the ordinary subcutaneous operation the tendo Achillis should be made too long, if possible, by overcorrecting, the normal process of repair being relied on to fill in the space between the ends and to secure an accurate and efficient adjustment of the relative lengths of the structures. He had repeatedly seen 4 inches replaced after division of the tendo Achillis, and perfect function of the muscle restored.

Dr. Hibbs said that an alteration in the relative length of the muscle and its tendon modified the effect of muscular contraction. If the tendo Achillis was lengthened the contractile power of the muscle cells might remain, but the extent to which the os calcis could be raised by the contraction of the muscle would be lessened. If the muscles of the calf could not momentarily sustain the weight of the body on tip-toe in the act of walking they were not of great use.

Dr. H. L. Taylor said the fear of impairment of function after ordinary tenotomy properly done, and followed up was unnecessary. It was formerly the custom after division of the tendon to put the foot up in the deformed position, and to correct the deformity at subsequent sittings. Correcting the deformity immediately after the operation was attended with good results. It was possible to elongate the tendon too much, but such cases were rare. He had been looking for years for a case of ununited tendon after tenotomy, but had not found one. The exact amount of correction would vary with the kind of case. It was a matter of judgment. The results in the patients shown were admirable.

Dr. H. Gibney said that he had seen one or two adults in whom the tendons had failed to unite. He could see no advantage in the new operation over the ordinary subcutaneous method after which many cases acquired a length of 2 $\frac{3}{4}$ inches. The results shown, however, were excellent and would be better still after tenderness and an indisposition to voluntary motion had worn off.

Dr. J. P. Fiske said that the results shown

were good and that the details of the new operation were very interesting. It was, however, a departure from the rule of simplicity which characterized the old operation which, almost without exception, gave results which left nothing to be desired.

Dr. A. B. Judson admired the mechanical ingenuity displayed in the operation. A short tendo Achillis produced no deformity and did not interfere with the normal gait excepting in cases in which the tendon was extremely short. Normal flexion of the ankle might be said to be about 40 degrees within a right angle, but with 10 degrees the gait was normal in appearance and ability, and the patient experienced no inconvenience, even when assuming the unusual position of squatting. In measuring the equinus it was desirable to have the leg flexed on the thigh in order to relax the gastrocnemii, which had their origin in the femur. The foot being held flexed manually, so far as it could be done painlessly, one arm of the goniometer might be made parallel with the crest of the tibia and the other parallel with the inferior surfaces of the os calcis and the head of the first metatarsal bone. The degrees could then be read on the scale. In the use of the club-foot brace for congenital equinovarus setting the upright backward from a right angle, lengthened the tendo Achillis, which was contrary to what might have been expected. The object of setting it backward was to increase the leverage applied for the reduction of the varus. Lengthening of the tendon followed this adjustment in every case.

Dr. Taylor had a few years ago offered an explanation of this action of the club-foot brace by the theory that, as the inner border of the tendo Achillis was shorter than the outer border, when the foot was rotated outward by the brace the inner border was first put on the stretch, and gave way, fibre after fibre, thus unexpectedly lengthening the whole tendon.

Dr. Hibbs said that he had operated in this manner on upwards of twenty patients, but those presented had been the only ones in whom sufficient time had elapsed to make the presentation useful. It was vastly more important to preserve the action of the muscles than to relieve the deformity, which was generally not serious and in some cases absent.

Analyses, Selections, etc.

Mental Disturbances After Operations Upon the Eye.

In the section on ophthalmology, College of Physicians of Philadelphia, held February 20, 1900, *Dr. William Campbell Posey* reported twenty-four cases of delirium. In nineteen of these the mental symptoms developed after the removal of cataract, in 3 after iridectomy for glaucoma, and in the remaining 2 after extensive wounds of the eye. Three of these cases were in subjects over 80 years of age; 6 over 70 years; 9 over 60 years, and 2 during the sixth decade. The traumatic subjects were much younger.

The delirium appeared during the first 24 hours after the operation in 2, on the second day in 8, on the third day in 6, and on the fourth day in 2. No atropin was used in 6 instances; in 4 others it was not employed until the delirium had manifested itself, and in the others it was instilled at the time of the operation. Its employment did not seem to have any influence whatsoever upon the mental condition. Both eyes were bandaged after the operation in every instance, but the dressing was removed from the unoperated eye in 9 cases as soon as the delirium manifested itself, without giving any appreciable relief to the mental condition.

It was specifically noted in 9 cases that there was absolutely no tendency toward mental derangement. Evidence of previous tendency was present in only 2 senile and in the traumatic cases. All of the eyes made a good recovery except in 2 cases—one of panophthalmitis and one of traumatic irido-cyclitis.

The delirium was of the same character in all, beginning with a mild restlessness which rapidly developed into an active delirium with hallucinations and ideas of persecution, but passing rapidly under control by the proper administration of narcotics; permanent affection of the brain being remarked in not a single instance.

The writer believes that the cause of the delirium is largely psychical, and he agrees with *Parinaud* that it is due to the preoccupation upon the part of the patients prior to and after the operation. What the other factors are, which in addition to the preoccupation determine the delirium, are as yet unknown. The frequency with which the delirium is encountered should, however, be recognized, and proper treatment, namely, chloral and bromides, be administered at the first indication

of its appearance. Removal of the bandage from the unoperated eye and discontinuance of the use of atropin are not advised.

Constant oversight and judicious and tactful nursing are most essential, and rapid amelioration in the mental condition frequently follows the installation of a proper person by the bedside.

Discussion.—Dr. de Schweinitz said that the most pronounced case he had ever seen occurred in a man aged 59, upon whom he had performed Förster's operation for the artificial ripening of the lens of one eye, and 1 month later extracted the opaque lens. The man had nuclear cataracts, and vision, except in the central portion of the field, was good. He had organic heart disease, and for several years before the operation had considerable family trouble. Both eyes were bandaged after operation. On the second day maniacal delirium developed, followed by dementia lasting for 2 months. Under large doses of nitroglycerin the mental symptoms disappeared, and he eventually secured vision of $\frac{5}{8}$. Two years later the man returned to have the naturally ripened cataract upon the other eye removed, and begged that he might be allowed to have the good eye unbandaged after operation. This was done, and he made a rapid recovery without mental disturbance. Dr. Zimmerman stated that while resident at Wills Hospital he had seen numerous cases. The custom at that time was to unbandage the sound eye and get the patient out of bed at the earliest possible moment after the onset of mental aberration. Dr. Veasey also reported mental symptoms after 2 cases of operation—one a patient upon whom the rolling operation was performed for granulated lids, and the other a case of senile cataract. In both instances the delirium subsided upon the removal of the bandage from the unoperated eye. On the other hand, Dr. Randall had removed the bandage in order to check delirium in a cataract patient with absolutely no result, the delirium continuing uninterruptedly for 4 or 5 days. Dr. Harlan stated that the delirium had many types and causes, and that no one explanation would be satisfactory for all cases; therefore the treatment must be diversified to meet individual requirements. Dr. Posey referred to a recent article by Dukes, to the effect that the restlessness of old people is due to the gradual age—failing of the scavenger organs, and that it is owing to their incompetence that the blood is not sufficiently depurated, and arterial tension increased. This author believes that the remedies best adapted

to these individuals are those which re-

lieve the arterial tension, such as nitroglycerin, though he adds that he found erythrol tetranitrate, gr. ss to gr. j, to be even more valuable.

The Cause and Prevention of Infant Mortality.

The following editorial, signed "A. D. C." appears in the April, 1900, number of the *Amer. Gynecol. and Obstet. Jour.* It is so excellent a paper, and so apropos to the season just beginning that we appropriate it in full:

The report of Ernst Wende, Health Commissioner of Buffalo and Chairman of the American Public Health Association Committee on the Cause and Prevention of Infantile Mortality, published in the recent numbers of *Pediatrics*, contains much that is instructive, interesting and suggestive. The inquiry was limited to the subject of the supervision and protection exercised by municipal and State authorities over the dairy interest and milk business. A circular letter embodying this inquiry was sent to each of the one hundred largest cities of the country; of the forty-nine cities replying, nine exercised no municipal control, while that of the remainder varied from a partial or inefficient administration to the severest restrictions and regulations. There was no difference of opinion as to the liability of milk to contamination of all sorts nor as to the reduction of infant mortality *pari passu* with improvement in the quality of the milk supply. In Buffalo, during the last six years the milk supply has been rigidly supervised, with a marvellous reduction of infant mortality, the largest percentage being in infants under one year of age. Another factor has been the mailing of a circular of instruction to the mother as soon as a birth is reported; still another, the prohibition of the sale of long-tubed nursing bottles. An idea of the result of all these measures may be gained from the fact that in 1890 out of a total of 5,024 deaths in Buffalo 2,305 were under five years of age; while, in spite of the annual addition of 10,000 births to the population, there were in 1898 only 1,570 deaths in children under five years old, out of a total of 4,533 deaths at all ages.

Experience has furnished abundant and well understood evidence as to the potentiality of milk in the dissemination of the virus of tuberculosis, diphtheria, scarlet and typhoid fevers, in the generation of bacterial products giving rise to acute diarrhoea, cholera infantum and tyrotoxicæon poisoning, and in the production of inanition, malnutrition and marasmus. To the many records of epidemics directly traceable to the milk supply it may be

well to add an account of five occurring in Buffalo, three of typhoid fever and two of scarlatina. In the fall of 1898 a number of cases of scarlet fever occurred in such association that their dependence upon a common source of infection seemed probable; investigation revealed that fifty-seven children of twenty-six families had developed scarlet fever, all of which families had procured their milk from the same dealer; nothing of an unsanitary nature could be discovered in the latter's equipment or handling, though there were two cases in his immediate family; at the dairy farm, however, it was found that there had been two cases of the fever, one of them a young man who, while still desquamating, was engaged in milking, washing the cans and transporting the milk. Upon discontinuing the marketing of the infected milk, the disappearance of the epidemic was as abrupt as its beginning. The result of this experience was the establishment of a "milk register" of the routes of the different milk dealers; this, an invention of the Buffalo Board of Health, has been found simple, feasible and of greater efficiency than any other measure. The register is posted daily, and the health of the families supplied by each individual dealer is thus constantly watched; once infectious disease appears upon any dealer's route an investigation is instituted into every detail of his business and source of supply; and, if necessary, or even reasonable doubt demand, his route is suspended. To this system is due the checking in their incipency of the four subsequent epidemics. In 1894 nineteen cases of typhoid fever developed in families served by one milkman, investigation showing that the milkman's wife was ill with the fever and being nursed by her husband, who likewise handled the milk and washed the cans with water from an old, unsanitary cistern. In 1895 eighteen cases of typhoid fever developed upon one route; the premises of the dairy were found unsanitary, and it was discovered that the wife of one of the hands was ill with the fever and being nursed by her husband, who also handled and delivered the milk without changing his clothes or taking any precautions whatever. In 1896 fourteen cases of typhoid were noted upon a milkman's route, with the resulting discovery that several months previously there had been a case of the fever in a family occupying rooms over the milk room, and that the building was generally in an unsanitary condition. In 1899 twenty cases of scarlet fever developed within four days upon one milk route, the source of the trouble being traced to a dairy farm twenty

miles distant where there were four cases, one of whom while convalescent was engaged in milking the cows and handling the cans and utensils. Prompt action in all these instances resulted in the immediate or almost immediate suppression of the epidemic.

Too much importance cannot be attached to efficient legislation pointing to complete control of the milk supply. In many States there are no dairy laws, and in many others their enforcement under State supervision is unsatisfactory; so that it is much more feasible to trust each city to look after the health of its own inhabitants. Dairies located beyond the city limits may be inspected in the same manner as those within the city. The milk importer should be required to file with the city authorities a written application for a permit, such application to contain all details concerning his farm and stock, methods of handling and shipment; the same details should then be inspected, and if all be found satisfactory a milk importer's permit may be granted, subject to revoke on any occasion making such action desirable or necessary. Every municipality should inaugurate a code of regulations for the thorough and systematic inspection of all dairies, dairy-farms and cowsheds. The carrying out of these requirements is much more easily secured by refusing a license until they are complied with than by attempting to enforce them afterwards; while any question of authority that may arise can be effectively disposed of by interdicting the sale of the milk within the confines of the city.

Considerable difference of honest opinion exists as to milk from tuberculous cows. It is difficult to say whether an udder disease is tuberculous or not, but it is best to destroy the milk of a cow so affected; it is also safer not to use the milk of a tuberculous cow, even if there be no udder disease. Adequate legislation with regard to tuberculous cows is difficult to attain and more so to enforce. Considering its wide-reaching importance the subject would seem to come properly under State jurisdiction; but, even where laws exist, States are so negligent in the matter that practically the rigid enforcement of proper regulations, whether in accordance with law or with expediency, lies with the local health authorities. The question of indemnity for the animals condemned, also the question of who shall pay inspection fees, need not seriously trouble the local authorities; for the sale of milk from all farms not prepared to show a clean bill of health being prohibited, the dairymen find that they must conform in order to market their pro-

duct. The New York City Board of Health, while not attempting to control beyond a limited extent the sale and use of milk from diseased cows, does prevent the sale of diseased cows in the city, no cows that are sold being paid for till they have been examined by the Department.

The writer gives detailed rules for the regulation of the care and food of the cows, transportation, storage and city delivery of the milk; many of the points have been dwelt on so often that it is not necessary to reiterate them here. The individual ability of the cows with regard to producing standard milk should be taken into account, a grain ration in addition to the pasturage being necessary for some. The cans should be thoroughly cleansed and scalded by the dealer before their return to the farmer, being often shipped back in a state of disgusting sourness and filth that make their later cleansing much more difficult and unsure. As to the use of glass bottles, usually considered a safeguard, milk is so susceptible a medium for the transmission of infectious diseases and the bottles themselves are so commonly taken into sickrooms that they cannot fail to be frequent means of spreading disease, unless they are boiled or otherwise thoroughly sterilized; while sterilization involves so serious a loss from breakage that it is safe to assume that sufficiently high temperatures for the purpose are rarely used. There is also a temptation to the drivers to refill bottles in the wagon. In Buffalo there is an ordinance prohibiting the sale of bottled milk to houses placarded for infectious disease, and a severe penalty is placed upon refilling bottles at any place other than the dairy. As to the selling of milk in stores and groceries it should be stopped altogether.

As skimmed and separated milks possess a food value their sale should be permitted, but only under strict supervision, specially colored or shaped cans being used as containers that the nature of the milk may be known at a glance.

As tests of the richness of the milk, the directions of the New York and Philadelphia Health Boards are given with reference to the use of the creamometer, lactometer and cream gauge. The writer would define adulterated milk as any of the following: milk containing less than twelve per cent. solids, more than eighty-eight per cent. water or fluid or less than three per cent. fat; milk drawn between fifteen days before and five days after parturition; milk of animals fed on distillery waste or other unhealthful food; milk of cows kept in unsanitary sur-

roundings, of diseased cows and of cows that drink impure water; milk from which any part of the cream has been removed; milk to which water or any foreign substance has been added; milk drawn by unclean milkers; any milk shown by analysis to contain foreign matter or to have been deprived of any part of its natural ingredients. Any milk thus classed as adulterated should at once be destroyed; and for any one selling such milk there should be vigorous prosecution and severe penalties, ignorance of the character and quality of the article being no defence. As preservatives of milk, boric and salicylic acids, salicylate of soda and formaldehyde are principally employed. The coloring substance chiefly used is annatto, the intention being to conceal watering or the abstraction of cream. Paste annatto has been shown to contain many bacteria, and for this reason milk to which it has been added sours much more readily than pure milk. Condensed milk should be subject to the same regulations and inspections as dairy milk, and its sale permitted only in original and properly labelled packages; otherwise its substitution for dairy milk is sometimes practiced.

In conclusion, then, the attitude toward the milk industry should be one of both State and municipal control, the State exercising its authority upon every detail of protective sanitation till the milk passes within municipal limits. The State control should concern itself with the license system, fees, periodical inspection and penalties; with inspection of the herds (tuberculin tests), food and care of the animals, with the buildings and their environment in every particular, with water supply, health of employees, cleanliness in milking and care of utensils; with means of differentiating the various qualities of milk and dating the cans; with definite rules governing the entire handling of the milk; with the prohibition of all adulteration, and of the use of milk from diseased, sick or parturient cows; with the prohibition of refuse and other unfit materials as food; with a standard of quality, tests and analyses; with veterinary inspection and a rigid quarantine against the introduction of diseased cattle from without the State. Municipal control should concern itself with a continuation of the same lines; also with the sanitation of city storage rooms; with the proper numbering of wagons and their protection against the heat of summer; with stringent prohibitions regarding intercourse with houses containing infectious diseases, and the refilling of bottles *en route*; with cleansing of the containers before their return to the farmer; with supervision or

prohibition of the sale of milk in groceries; until city and State act in unison, with the interdiction at the city line of all milk coming from unsatisfactory dairies; and with the constant surveillance of contagious disease by the "milk register."

Here again is presented one only of the innumerable instances of abuses in public hygiene and their possible redress which confront us on all sides as evidence of medical inaptitude and indifference to responsibility in regard to the public health.

Only through the establishment of a central source of authority which shall at the same time represent scientific devotion, knowledge and executive ability, civil resource and power can any uniform and effective remedy be expected of the daily menaces to health and longevity. When the medical profession is represented corporately by a Cabinet Secretary of Public Health and a National Board of Health, then only will the public hygiene of this country be placed upon an intelligent and practical basis, commensurate with our present scientific knowledge and the requirements of modern civilization.—A. D. C.

Dr. T. Lauder Brunton has recently written a very excellent paper on "Headaches," which appeared in the *N. Y. Lancet*, and republished in *Med. and Surg. Bulletin*, March, 1900. We extract that part relating to *Treatment*.

Treatment of Headache.

The first method of treatment in headaches is, of course, to try to supply the brain with healthy blood; to clear away any toxins that may be present in it; and one method of doing this I have just mentioned—namely, the administration of a blue pill and a black draught. But more than this, we may try to give something which may have the power of counteracting these toxins or of producing elimination from the liver, and I have found, by personal experience, the easiest way of getting rid of the toxins or of counteracting their effect, I do not know which, is to keep up the action of salicylic acid or salicylate of soda. So that in persons who are liable to headache I generally prescribe salicylate of soda, 15, 20 or 30 grains at night, with 10, 20 or 30 grains of bromide of potassium. This mixture acts better than either salicylate of soda or bromide of potassium alone, and it will usually prevent the occurrence of headache in the morning.

If, however, the headache should still come on, I recommend that the dose should be repeated, and in the case of people who suffer

from very violent and often recurring headaches, I give them the salicylate of soda not merely morning and night, but three times a day, in small doses, either immediately before or after meals. The salicylate of soda is apt to produce a certain feeling of depression and weakness, and in order to counteract these I generally give it along with half a drachm of aromatic spirits of ammonia. Some of my patients have taken salicylate of soda for several years without any apparent harm, but we know theoretically that all these drugs allied to salicylate of soda have a tendency to produce anæmia; and it may be advisable in some patients, if you are giving the salicylate of soda regularly, to give also a little iron to counteract the effect of the salicylate in producing anæmia.

There is another large class of drugs that are used for relieving headache. These, I should mention, ought always to be given before the headache becomes too severe, because when it is severe, absorption from the stomach appears to be arrested, and many patients will tell you that the first dose they had of antipyrin acted like magic, but the next time they took it, it had no effect whatever, and you can tell them the reason why. The first time they took it was before the headache had got very bad. It was, therefore, absorbed from the stomach, and acted upon their nerve centers. The second time they waited too long, until the headache had got so bad that absorption ceased, and so the antipyrin was no more use to them in their stomach than in a bottle outside. Where you have to deal with headache it is always advisable to give your drug before the headache gets too bad. All these belong to the class of drugs which act upon the conducting fibres or cells in the cord and tend to disperse pain. I dare say you know the old story of the dirty Scotch woman. A lady came in to see her one day and found the children walking and grubbing about, and she said to her: "Do you not often wash your house?" "No," said the woman. "But when the children come in with a lot of mud on their boots and they tramp all over the floor, what do you do?" "Oh, I make them knock it about until there is none." She distributed the mud equally all over the floor and then she thought it was all right. Now, that is what these drugs do to the pain.

Painful impressions do not pass to the cerebrum straight up as a rule, because, as you know, pain is largely conducted up the central column of the cord, and not up through the straight fibers which conduct tactile sensation.

If you can distribute your sensation so much that it will get broken up in the cord and will not reach the center for pain in the brain, of course the patient will not feel pain, and so antipyrin, nux vomica, strychnine, phenacetin, antifebrin, and all that class of drugs relieve pain with one exception—namely, if the pain be not too severe. If the irritation of the sensory nerve is so great that it will fill up all the channels for pain, then phenacetin or antipyrin may sometimes make the pain worse than before. I did not believe this; I thought it was quite contrary to anything that could possibly be, but a patient of mine told me that the antipyrin which I had prescribed to relieve headache made him very much worse. I thought he was mistaken, but I have no doubt he was quite right, and that the reason was that the irritation was so intense, for it seemed to him that the pain had increased tenfold by this drug.

But there is another drug that is very much used, and which has a somewhat similar action, but it acts apparently more upon the posterior columns than upon the central columns—at least so far as experiment goes—and that is caffeine. In cases where the pain is so intense that these substances instead of relieving it seem to make it worse, there is perhaps no drug to which you can have recourse except the subcutaneous injection of morphine, and that relieves the pain and gives the patient quiet for the time being. But of course there is always the difficulty of the morphine habit arising, and so you put off the use of this drug as long as you possibly can. In some cases where there is continued pain in the head lasting for a length of time, cannabis indica seems to help, and this may be given either in the form of the extract or tincture. It is easier to regulate the dose of the tincture, and you may begin with 10 minims three times a day, gradually increasing the dose. You must be careful about cannabis indica. There is no danger in it, I think, but you may greatly alarm the patient's friends if you run beyond 15 or 20 minims until the patient is accustomed to it. You may bring on a state of maniacal excitement which will greatly alarm the patient himself and everybody around him, but the long-continued use of this drug will sometimes relieve these headaches when other things seem to fail.

For the relief of headache occurring through inflammation of the periosteum from gouty, rheumatic or syphilitic irritation, it is fortunate that one remedy is very useful—namely, iodide of potassium, which should be begun in

small doses and gradually increased up to 10, 20 or 30 grains, three times a day. Where you think that the pain is not of a pure nature, not due simply to dilatation of the nerve fibriles in the fibrous tissue of the periosteum, but is associated also with some change in the vessels of a nature allied to them, which we find in sick headache, the iodide may be combined with bromide and salicylate, and in all those cases it is advisable to give some aromatic spirit of ammonia along with it, in order to prevent any depressing effect of the drugs.

There is one thing more. Whenever you get a case of intense headache which your drugs fail to relieve, always look out for glaucoma. Even in ordinary headache you will be very apt to find the affected eye is rather tight, that the intra-ocular tension is higher than usual, but in glaucoma it is very much increased, and this will be permanent, and not temporary, as in ordinary sick headache. In cases where this increased tension exists, you must either treat the glaucoma yourself, or have the patient operated upon by some specialist so as to prevent the loss of an eye as well as to relieve the headache which is so intense, and which comes along with the disease.

Hæmophilia in the Negro.

As long ago as the year 1820 an attempt was made to collect all the reported cases of hæmophilia, by Naas, a German physician. Since then several other writers have at intervals carried out the same task. Of the races represented in the list, the Anglo-Germanic has furnished the most cases, but it is curious to note that throughout the literature upon the subject there are only two cases recorded as having been met with in the negro. The first was that of a mulatto boy, æt. 7, reported by Hadlock, of Cincinnati, in 1874, where the diathesis became manifest after the extraction of a tooth, death subsequently following. The second case is published in the February issue of the *Johns Hopkins Hospital Bulletin*, for the current year, by Steiner. But the latter writer points out that in neither case the hæmophilia was in patients of pure negro blood. In his own case the patient's great-grandmother was a bleeder, of Scotch nationality, who married a Guinea negro, while her grandmother, also a bleeder, married an Irishman. Thus she was far removed from a pure negro stock, although she is described as a "quite well developed, dark skinned negro girl." The form in which she was troubled with hemorrhage was epistaxis, but it had never assumed a serious character.—*Med. Press*, April 4, 1900.

Ankylostomiasis the Cause of Puerto Rican Fever, or Tropical or Egyptian Chlorosis, or Severe Anæmia, or Cachexia Aqueuse.

By permission of the Surgeon-General U. S. Army, the *New York Medical Journal* April 14, 1900, publishes the Report of Assistant Surgeon Bailey K. Ashford on "*Ankylostomiasis in Puerto Rico*," which contains suggestions that will undoubtedly prove of inestimable value. He says:—

One of the first observations made by professional men here is the prevalence of anæmia, especially among the poor. This is at first attributed usually to starvation or poor food, then to malaria, and then to the "climate." The ignorant peon treated himself by purging, with beneficial effects for a time and a relapse to previous conditions soon afterward. Iron and arsenic have been prescribed largely, but with little benefit. Some physicians frankly declare it beyond their power to cope with the disease, which they regard as a pernicious, progressive anæmia of obscure origin. Stools have been examined, but, no worms being evident, this, as a cause, was dismissed. I was led to examine the fæces for the ova of *Ankylostoma duodenale*, and found them in great numbers. Soon after, a large dose of thymol brought away the parasites, male and female. No sooner had I stated my results to the physicians of this city than they agreed as to diagnosis, and verified the parasite and its eggs. Their testimony is as follows:

1. This disease is the most destructive and general disease of Puerto Rico.
2. It is found typically and very frequently among the poor and badly fed.
3. Most cases are similar.
4. Bad food and bad hygiene are responsible for much of its power for evil.
5. Blood foods have never exercised more than a temporary influence on the course of this disease.
6. Improvement follows purgation.
7. Up to this time the existence of this parasite had not been proved on this island, or, if proved, not within their knowledge.

In studying this disease twenty cases typical of "Puerto Rican anæmia," or "tropical chlorosis," were selected from the provisional field hospital for indigent and sick Puerto Ricans, established after the flood of August 10, 1899, in this city.

1. *Family History*.—Most patients give a history of deaths in the family from a like disease. At times this history is truly appalling. Many claim the deaths to have been due to

"malaria" or "diarrhœa" or obscure fever." It is fair to suppose, inasmuch as the disease is often marked by irregular fever, with intermissions, that their diagnoses may be questioned. But questions as to chills are extremely unsatisfactory. There is much malaria here in the lowlands. I have followed such cases through their course, but the testimony of local physicians coincides with mine, that malarial organisms in the blood are not so often seen as would be supposed. Chills, then, are not so frequent; there are few "ague cakes"; the pallor is not that of malaria, and the scleræ are not icteric. The most suggestive fact outside of blood examination is that the cases come from the mountains and the valleys; some of the very worst cases I have seen came from highly salubrious mountain districts. Nevertheless, I hesitate to affirm that many cases of malarial cachexias do not exist to swell the sum of anæmics here.

2. *Previous History of Patient*.—The diet is a powerful factor in turning the scale against the unhappy victim of ankylostomiasis. Rightly the physicians here quote its influence. Personally, I have eaten and slept in all parts of this island, not alone on the frequented roads, but in those rarely visited by strangers, and can submit my testimony to that quoted in support of this influence. The relation of the daily life among the working classes has been confirmed in talking with many owners of sugar and coffee plantations and their employees. They rise at from 4 to 6 A. M. Some take a little black coffee, some boiled water and sugar, some nothing. They work till eleven, when they breakfast on about four ounces of codfish and a few pieces of plantain. They return to work at one and continue till 5 P. M. Dinner is composed of rice and bean; some have only boiled rice with lard, and some boiled rice alone. They get plenty of bad rum and some bad wine. This seems a slight enough diet, but the hurricane deprive them of even this, and the sick poor came drifting down on Ponce. Bathing is not often practised. Fæces are distributed over the earth wherever the individual happens to be while at work, or in a little shack when at home, but directly on the ground always. Indeed, fæces pollute their very houses. Ponce is a town of perhaps forty thousand inhabitants, yet it has no sewerage, and is in the lowlands near the sea. Closets and kitchens are in conjunction in many houses. The water soon takes up its quota of whatever is noxious. Those who are clean in their habits—and the educated classés are a most cleanly people—are polluted by the filth

of the poor and ignorant. The configuration of this island is one of steep mountains and deep ravines, with broad plains near the sea. Heavy rains wash the larvæ from each fecal deposit into these watercourses, and this muddy water is probably one source of contamination. Contaminated earth on the hands of laborers is another; fouled garden is another. The larvæ have not yet been demonstrated in the water or mud. The drinking water of nearly all well-to-do people is filtered, and in this class we do not find so great a preponderance of this disease.

3. *Subjective Symptoms.*—It is difficult to obtain a history of the disease from its inception, for many have it from infancy. Generally it is possible to obtain some such history as this: A variable appetite, some nausea and vomiting, pain in epigastrium, either constipation or diarrhœa (or these may alternate), sometimes dysentery; swellings of the feet and ankles, no loss of weight, sleeplessness, restlessness, tinnitus aurium, giddiness, faintness, severe headache, palpitation of the heart, progressive debility; little perspiration, but kidneys active; fever sometimes, but not chills. I have not been able to get a history of geophagism nor of intestinal hæmorrhage described by some authors. Sometimes the patients improve for a time after medication, but not permanently.

4. *Objective Symptoms.*—*Pallor:* The conjunctivæ, lips, tongue, gums, nails, and cheeks are in some cases perfectly pallid, the mucous membranes especially being of a deathly white. The skin is generally a pasty yellow, a dirty brownish gray, or a grayish-white. *Expression:* A passive expression is often seen, and its peculiar character is heightened by puffiness of the eyes and bloating of the face. *Edema:* This is simply the usual accompaniment of severe anæmia. Practically every variety is seen, the chief being, in order of importance—œdema of the feet and ankles, œdema of the face, ascites, and œdema of the scrotum. *Hypostatic congestion of the lungs* exists often. The important point is that with this disease there may be *emaciation*. This has not been present often in my cases; on the contrary, the patients are apparently well nourished. *Anæmic ulcers* are sometimes seen on the legs and an incorrect accusation of syphilis may be made. Corneal ulcers are at times seen. One of my cases presented corneal ulcers of both eyes. *Respiratory symptoms:* Generally none from this disease save in increased rapidity of breathing from anæmia, serous accumulations, or hypostatic congestion. *Liver:* No constant

symptom. *Spleen:* No constant symptom. *Heart:* These symptoms are very aggravated; signs of a pernicious secondary anæmia. *Pulsating vessels:* Both jugulars, superficial veins of the arm, and vessels about the root of the neck and heart in severe cases, with greatly dilated heart; pulsating suprasternal and supraclavicular regions and diffused pulsations in the anterior thoracic wall. All kinds of deductions might be made by a careless observer. *Hæmic murmurs* are almost constantly present, and are in many cases heard in the veins of the neck.

The urine: No albumin is found and the specific gravity is constantly low. The pulse is weak, rapid, soft, and compressible.

The blood: The following deductions are drawn from blood examinations:—

1. A severe anæmia, falling as low as that of Addison's anæmia in count of red cells in some cases.

2. A very low hæmoglobin average and a very low color index.

3. A marked eosinophilia in some cases. Forty per cent. reached in one case. This follows the observation of Neusser.

4. No leucocytosis common to the disease itself. Leucocytosis recorded is always apparently due to complications.

5. Frequent presence of normoblasts, and in some cases megaloblasts, but never a majority of megaloblasts.

6. Poikilocytosis common. Mauson denies this.

7. Utter unreliability of blood foods without removal of the cause, the ankylostoma.

This blood examination was the first line of research taken up, and, as soon as anæmia was proved, the patient was given blood tonics, with temporary supporting treatment suited to the individual case, with the idea that the patient might be carried along until the true cause could be discovered. Of course, now, all treatment has been substituted by antelmintics, chiefly male fern and thymol, and the blood and heart tonics will be again tried when the eggs have disappeared from the feces. I was led to examine the stools carefully from the high eosinophile count, and it is certainly evident that trichinosis has a rival for high counts in ankylostomiasis.

The ankylostoma was found in all cases save one, a case of tuberculosis pure and simple. This patient was chosen to represent a contrast, and I think he does. There is true leucocytosis, and the eosinophiles are not much in evidence. Moreover, the red cell count is

much higher than all the others, as is the hæmoglobin record.

The histories of this disease have been made up to show what percentage of the people have the disease in certain countries: Twenty five per cent. in Egypt, twenty per cent. in Maitland, fifty-two in Madras, thirteen per cent. in Kioto, Japan; but no percentage can be cited as yet for this island. Dr. B. Scheube, of Greiz, speaks in his work of its existing in the Antilles, but no island is specified, nor is the extent of the disease stated. From my own observation, and from the opinions of the resident physicians of the island, I believe it to be widespread and destructive. Only twenty cases have been examined, yet all, save one, have given me the ova of this parasite in large numbers. As the twenty cases were chosen at random from hundreds more just like them clinically, and as the one exception noted was chosen only for contrast, I am convinced that further investigation will show that the disease has killed its hundreds, and that it is curable and preventable. The proof of its prevalence lies naturally in the hands of all scientific physicians of this island. I can not further judge than from a short experience and the positive evidence of nineteen cases submitted.

A glance at its geographical distribution is appalling. Egypt is so full of it that it is known as Egyptian chlorosis, and forms the great basis for rejection of recruits for the army. The French, of the French Antilles, call it *cachexie aqueuse* and recognize its full importance; and literature is full of its ravages in South America. Thornhill regards it as of greater importance in Ceylon than cholera.

There is in Puerto Rico a dense population in a small country. In a space of about a hundred miles by sixty we have probably over a million people. Of the working class it can not be denied that a large percentage have anemia, and, should the future verify my suspicion, means are at hand to increase not only the well-being of those now suffering, but to insure to the owner of large haciendas of coffee and sugar a better class of labor; to insure to the army protection from the invaliding from anemia of such troops as are enlisted here; to insure protection against the disease to our American troops; to relieve the State and the hospitals here from the expense of caring for a large number of anemics who are now slowly dragging on to a fatal end. Perhaps our own sick reports will unfold some additional facts.

I mention here only such possibilities as have occurred to my mind; but it is a significant fact that, though it is present in Ger-

many, Scheube notes that it is confined to a few cases. In other words, it appears to assume only such proportions as a country will allow it to assume.

I have given thymol in several cases with the always easily demonstrated presence of the parasite. From the exceeding kindness and the scientific spirit shown by the local doctors, I can not doubt that it will be but a short time before measures will be taken, if there is sufficient extent of the disease found, to alleviate the conditions.

A New Method of Closure of Wounds of the Abdominal Wall.

At the meeting of the Jefferson County Medical Society, March 27th, Dr. W. E. B. Davis demonstrated his method of closing abdominal wounds and the application of this method to operations on the perineum, the Alexander operation, nephrorrhaphy, hernia, and other operations. He stated that the method of tier sutures with absorbable material had a just and high place in surgery and was practiced by many of the best surgeons, but the majority still closed the wound by the interrupted through-and-through suture on non-absorbable material—silkworm gut, silver wire and silk being employed.

The method which he practices combines the advantages of both, and obviates their objectional features. He uses interrupted sutures of silk-worm gut, uniting the aponeurosis, recti muscles and peritoneum, and secures the sutures by means of very small silver tubes, corresponding in length to the thickness of the skin and subcutaneous fat, through which the ends of each suture are passed, and then through a perforated shot. After the aponeurosis has been well approximated, each tube is pressed well down and secured by the compression of the shot at the distal end of the tube. After all sutures have been secured, the skin is brought together with a very small size suture of silk or catgut. The suture should be very superficial or subcuticular. The little tubes with shot project just beyond the wound. Compresses of gauze are placed on the sides of incision to approximate the subcutaneous fat.

The silk-worm gut sutures should remain from two to three weeks, and can be removed by clipping the ends of the suture between the tube and shot, and after the tube is removed the suture comes without difficulty. By this method the wound is freed of all foreign material before the patient is discharged, there being nothing left to cause subsequent trouble. The method has a very wide field of application.—*Ala. Med. and Surg. Age*, April, 1900.

Mixed Anæsthesia—Association of Paraldehyde with Chloroform.

Dr. Cosimo Noto (*N. O. Med. & Surg. Jour.*, March, 1900, quoted by *N. Y. Med. Jour.*, April 14, 1900) aims to avoid or counteract the depression produced by chloroform on the cardiovascular system by associating with chloroform a drug that would make easy and prolong chloroform anæsthesia without exerting any obnoxious influence. This drug he considers he has found in paraldehyde. He records six experiments on dogs in which chloroform inhalation about forty minutes after the administration of paraldehyde in water was followed by anæsthesia with complete abolition of corneal reflexes and without any phenomena of excitement. An hour later the chloroform action ceased, the dog continuing to sleep soundly. The function of the heart remained perfectly regular and the great lowering of blood pressure incident to chloroformization did not ensue. The method has not yet been tried on the human subject. The author concludes that the association of paraldehyde with chloroform appears to be far superior to all other methods of mixed anæsthesia proposed up to this time. By administering paraldehyde before the inhalation of chloroform, we remove from patients who are rebellious or fretful the consciousness of being forced to undergo chloroform narcosis—a great practical advantage. The period of chloroform excitement, often much protracted and of great intensity, is completely suppressed. The profuse secretion of saliva is done away with and vomiting does not appear to be produced.

New Treatment for Eczæma.

Dr. Radcliffe Crocker has proposed a new way of treating obstinately recurring eczema, which is well worthy of attention, as it does not interfere with other treatment. The method consists in the application of a counter irritant, not to the part affected, but to the other parts of the body which have some connection with the nerve centers. The counter irritant used is an ordinary mustard leaf, but when that is not sufficiently strong a blister is produced with liquor epispasticus. For the face alone the mustard leaf (or blister, as the case may be) is applied behind the ear; for the face and forearms, apply it to the nape, and for the leg the counter irritant should be applied on the hip over the large sciatic nerve. In most cases this treatment has been followed by removal of the itching, and the relief lasts from one to several nights. The redness and swelling are also relieved.—*Health*, April 7, 1900.

Deafness in Children.

The following is an original abstract of a paper read by Edward F. Parker, M. D., Charleston, S. C., at the annual meeting at the Tri-State Medical Association of the Carolinas and Virginia, held February 20, 21, 22, 1900, in Charleston, S. C.:

Deafness in young children is so often allowed to go unnoticed because the child is uncomplaining or the parents careless, and is so often mistaken for dullness and inattention that the disability is apt to become fixed and beyond repair before expert skill is solicited.

The most common of the numerous causes of deafness in children is adenoid hypertrophy in the naso pharynx. Recurrent earache and deafness are symptoms which imperatively demand a thorough exploration of that cavity. Faulty ventilation and drainage will invariably produce catarrhal inflammation of the middle ear. The importance of such early examination and treatment cannot be over estimated.

The treatment consists in the administration of appropriate constitutional remedies and in the surgical removal of the exciting cause.

Incurable deafness in adults can often be referred to adenoid hypertrophy in childhood. Particular attention is called to recurrent earache and slight deafness as danger signals never to be disregarded when noticed either by parents or practitioner.

Treatment of Renal Concretions of Uric Acid with Glycerin.

Dr. Herrmann (*Med. Chron.*, Jan. 1900; *Ref. Brit. Med. Jour.*, No. 2040, Epit. p. 28) has obtained favorable results in nephrolithiasis by the administration of glycerin by the mouth. He gave it in the first instance on theoretical grounds, based on the facts that glycerin is a solvent of uric acid, and when given *per orem* it is excreted in large part with the urine. The good effects he has observed he does not now attribute to any solvent action of the glycerin on the uric acid, but to physical changes produced in the urine. When given in the large doses he employs, it causes the urine to become somewhat oily in consistence, and to its lubricating action he believes the good results are to be ascribed. Rosenfeld, who has also praised the method, believes it to give relief by raising the specific gravity of the urine and thereby producing a change in the position of the calculi in the pelvis of the kidney. It is given in quantities of from one to four ounces, dissolved in an equal quantity of water,

and taken as one dose, between two meals, and repeated two or three times in a period of several days. He has used it in 115 cases of nephrolithiasis, and in 60 per cent. of these it proved efficacious either by removing concretions or by relieving the pain associated with the disease. Ortner and Kugler have confirmed the stone expelling power of glycerin, while Casper and Rosenfeld speak of its anodyne effect as simple astounding. Given in the doses named, the only unpleasant effects observed were headache in twelve nervous patients, and diarrhoea in three cases where the digestive organs were not healthy. In all the fifteen cases these effects ceased in the course of a few hours. In such patients, and indeed in others, it is recommended that the initial dose should be smaller than the minimum dose named, and that it should be gradually increased. The presence of albuminuria does not contraindicate the employment of glycerin; the amount of albumin was never increased, and in one case, after three doses of the agent, the previous albuminuria completely disappeared. In six cases of the 115, hematuria occurred, and this the author ascribes to the concretions changing their position either spontaneously or owing to the glycerin.—*Post Graduate*, April, 1900.

Western Ophthalmologic and Oto-Laryngologic Association.

The Western Ophthalmologic and Oto Laryngologic Association held its fifth annual meeting (1900) at St. Louis, on the 5th, 6th and 7th of April.

The President, Dr. W. Sheppergrell, of New Orleans, opened the meeting with a paper on "*The Rise of Specialism*," in which he disproved the oft repeated charge that specialism in medicine are modern innovations. He cited historical data dating several centuries before Christ in which distinct references were made to specialists of the eye, stomach and the head. The essayist commended specialists in medicine, as they promote more detailed study and thereby lead to higher medical attainments.

Dr. J. W. Buliard, of Pawnee City, Neb., read a paper on "*Two Classes of Eye Cases that Give Me a Great Deal of Trouble*." Chief among them were those in which irritation and dryness of the conjunctiva persisted in spite of every attempt at refraction which had been made.

Dr. Edwin Pynchon, of Chicago, read a paper on "*Slight Irregularities of the Nasal Septum*." The author advocated the removal or correction of slight irregularities of the septum

when there were disturbances of the nasal functions on account of their presence. If later and larger developments justified their removal, the author thought their early removal was justified on the grounds of "A stitch in time saves nine."

Dr. C. R. Holmes, of Cincinnati, read a paper on "*Foreign Bodies of the Orbit, with Report of Cases*." About seventy cases were compiled from the literature by the author, and three additional ones were reported by him. The most interesting and unique case was one reported by the author. It consisted of a knife blade about 1½ inches long which had been in the orbit 32 years without causing much inconvenience. It was imbedded in a fibrous capsule and was but slightly rusted.

Dr. B. E. Freyer, Kansas City, presented a "*Report of a Case of Railway Trauma of the Eye, with the Report of a Case and its Legal Aspects*."

Dr. M. A. Goldstein, St. Louis, made "*Presentation of Cases: (a) Primary Tuberculosis of the Ear; (b) Primary Tuberculosis of the Larynx*."

(a.) The case had been operated on some years previously and had a recurrence some months ago, at which time he did the Schwartz operation. Bad symptoms developed a few weeks ago, and he did the radical operation, since which time the patient is doing well. (b.) The second case was one of probable primary tuberculosis of the larynx, which came under the observation of the author about one year ago. At that time the patient was in a very serious condition; death seemed but a matter of a few weeks or month. The patient was greatly emaciated, and in response to the treatment administered had gained a fair degree of health, being able to attend to business. The diagnosis in the case is somewhat doubtful, but the author having excluded lues and malignant growth, has made the diagnosis of primary laryngeal tuberculosis. Tubercle bacilli are absent and the tissue has not been examined microscopically.

Dr. Wm. L. Ballenger, of Chicago, read a paper on "*The Physiologic Tests of the Organ of Hearing as Aids in the Differential Diagnosis of Lesions of the Ear*." The author advocated the physiologic tests of the ear, including the range of hearing, as tested with the tuning fork, Galton whistle, the Webber experiment, the Rinne experiment, the Schwaback and Bing tests, as important aids in the differential diagnosis of the lesions of the ear. They are of special importance in determining the location of the lesion. He suggested that in a general way the deeper the structure involved, the more pronounced the disturbance of hear-

ing and the less probability of a cure. The tests were, therefore, recommended more for the purpose of aiding the surgeon in giving a correct diagnosis than for the purpose of aiding him in the treatment, which is often unsuccessful. Six cases were cited illustrating lesions of different kinds in the middle ear and labyrinth, in which the tests were used for the purpose of differentiating them. He recommended that the tests be made in all cases of ear disease in which there was marked deafness and tinnitus, both before and after the inflation of the tympanum. If this point is neglected, the diagnosis may not be properly made. While the physiologic tests are not absolute guides to a correct diagnosis, they are, together with all other means of diagnosis, the most correct at the command of the aural surgeon, and therefore should be invariably used.

Dr. O. J. Stein, of Chicago, read a paper on "*Symmetrical Osteoma of the Nose; Report of a Case.*" The author reported a very rare case of symmetrical or double osteoma of the nose, occluding the nasal chambers and extending to either side for a considerable distance, whereby the patient was given the typical frog-face appearance. Osteoma upon one side is rather common. This case was presented on account of its unique type, and was reported with a number of other cases collected from the literature. No attempt was made to correct the deformity, as the patient is well advanced with tuberculosis, several other members of the family having died with the same disease.

Dr. John J. Kyle, of Indianapolis, read a paper on "*The Sympathetic Inflammation and Sympathetic Irritation of the Eye.*" The author made an interesting review of the subject presented, in which he advocated the usual classical treatment.

Dr. Adolph Alt, of St. Louis, announced his subject: "*Studies Concerning the Anatomy of the Eye-lids, Especially Their Glands (with lantern slides).*" The purpose of the author was to report the result of an extensive examination made of the tissues of the eye-lids, in which he had found mucous glands located in positions where they were not usually found. He also stated that in all his examinations, with one exception, the tarsal cartilages of the eye-lids were not true cartilaginous tissue.

Dr. H. W. Loeb, of St. Louis, made "*Pre-entation of Specimens of One Hundred and Seven Polypi Removed at One Sitting.*" This case was unique, not so much on account of the great number of polypi removed from the nose as from the fact that they were removed at a sin-

gle sitting. They were uniformly pedunculated and varied greatly in size.

They were removed with an electro cautery snare devised by the author.

Dr. J. O. Stillson, M. D., Indianapolis, read a paper on "*Removal of the Middle Turbinate for the Cure of Some Forms of Inveterate Eye Disease.*" The author read a very interesting paper upon this subject, in which he reported his observations as to the relationship of nasal and eye diseases, and the results he had obtained in allaying eye symptoms by the treatment of nasal conditions, more especially the removal of the turbinate.

Dr. Goldstein, as Chairman of the Local Committee of Arrangements, arranged for a museum of pathologic and anatomic specimens which, while not large, was extremely interesting, and marks a new departure in this Society.

The officers elected for the ensuing year were as follows: Dr. M. A. Goldstein of St. Louis, *President*; Drs. Widemann of St. Paul, C. R. Holmes of Cincinnati, Fayette C. Ewing, St. Louis, *Vice-Presidents*; Dr. W. L. Dayton of Lincoln, Neb., *Treasurer*; Dr. Wm. L. Ballenger of Chicago, *Secretary*, 100 State St., Chicago; Dr. C. R. Holmes of Cincinnati, was made *Chairman of the Local Committee of Arrangements* for the meeting to be held in Cincinnati, April 11 and 12, 1900; and Dr. Loeb, of St. Louis, was chosen *Chairman of the Membership Committee.*

Tannopine for Infantile Diarrhœa.

Dr. D. E. Smith, of Minneapolis (*Northwestern Lancet* November 15, 1899), states that in cases of diarrhœa characterized by copious serous discharges it is necessary to resort to some astringent which would be antiseptic and not absorbed to any extent. Tannic acid was the drug par excellence, but it has been dismissed by the profession on account of its unpalatability, its bulk, its taste, its rapid absorption in the upper intestinal tract, and its rapid decomposition. Recently a chemical combination of 87 per cent. tannic acid and hexamethylen-tetramine has been introduced under the name of *tannopine*, which the author considers an ideal remedy in this class of cases. It is given in small doses from three to ten grains every three hours. It does not break up until it comes in contact with the alkaline medium of the lower intestine, when the tannic acid is freed and the hexamethylen-tetramine liberates the most desirable of antiseptics, *formalin*. Children take tannopine readily as it is tasteless and small in bulk. It

may be given either on the tongue or in any kind of nourishment. The formalin destroys the germs already attenuated by previous treatment. As soon as the serous discharge is stopped there is an immediate improvement in the patient's condition.

To Overcome Whiskey or Morphine Habit.

Dr. L. V. Weathers, Bracken, Texas, says (*Texas Med. Jour.*, April, 1900,) that a few drops of tincture of cinchona dropped far back on the tongue will at once overcome the craving for whiskey in a drinker.

He has used successfully the following for both whiskey and morphine craving:

℞ Ammon. bromid. gr. v.
 Fld. ext. belladon.
 " " nuc vomic.
 " " cannabis Ind.... āā min. ij.
 Water..... q. s. ʒij.

M. S.—Repeat same four times daily.

Book Notices.

Manual of Modern Surgery. By JOHN B. ROBERTS, A. M., M. D., Professor of Anatomy and Surgery in the Philadelphia Polyclinic, etc. *Second Edition. Revised and Enlarged. Illustrated with 473 Engravings, and 8 Plates in Colors and Monochrome.* Lea Brothers & Co., Philadelphia and New York. 1900. Cloth. 8vo. Pp. 842. \$4.25 net; leather, \$5.25 net.

This is a clearly written practical treatise on surgery, giving "an exposition of the accepted doctrines, and approved operative procedures of the present time, for the use of students and practitioners." Large space in the first part of the work is given to the fundamental principles of all surgical successes—especially asepsis and antiseptis. Any one who reads after the author is impressed with the plain practical method he adopts in writing, and thus in teaching. The illustrations are quite profuse, and well selected, which fact greatly helps the student in the understanding of the subjects treated in the book. Among the articles in the former edition which have been entirely rewritten and recast for this edition are: Appendicitis, Diseases and Injuries of the Joints; Diseases and Injuries of the Genito-Urinary Organs, Dislocations, Excisions, and Amputations. On all of these the work is brought well up-to-date. A well prepared *Index*, covering about thirty pages of the "*Manual*," is appended, and greatly helps the reader in making prompt references to the chapter or subject desired for consultation.

Diseases of Women; A Treatise on the Principles and Practice of Gynecology. By E. C. DUDLEY, A. M., M. D., Professor of Gynecology in Northwestern University Medical School, Chicago; Gynecologist to St. Luke's Hospital, etc. *Second Edition, Revised and Enlarged. With 453 Illustrations, of which 47 are in Colors, and 8 Full-page Plates in Colors and Monochrome.* Lea Brothers & Co., Philadelphia and New York, 1900. Cloth 8vo. Pp. 717. \$5 net; leather, \$6 net.

Within about a year after the issue of the first edition of this work in 1898, a second edition was called for. The opportunity has been availed of by the author to so revise and add new material to the former edition as to practically make this second edition a new and much improved work for students and practitioners. Especially to be noted in the rearrangement of the book is the collection of much that was scattered throughout the first edition on the Disorders of Menstruation, and giving them a distinctive Part of the present issue. Most of the work is taken up naturally with descriptions of the various diseases of women and the chief points useful to remember in making diagnoses; and, of course, descriptions of many of the surgical procedures intended for their relief. A very important point of interest to the young gynecologist is the great stress laid by the author on details of preparation of the patient, and in the performance of operations, etc. Whoever has critically examined the contents of the first edition needs no recommendation as to this edition; for it is, so far as we have examined the chapters, without notable fault.

American Year-Book of Medicine and Surgery. *In Two Volumes. I. MEDICINE. Pp. 656. II. SURGERY. Pp. 560.* Collected and Arranged with Critical Editorial Notes by 28 Collaborators. *Under the General Editorial Charge of GEORGE M. GOULD, M. D.* Philadelphia: W. B. Saunders. 1900. Price—Cloth, \$3 per volume; Half Morocco, \$3.75 per volume.

These two books give, in effect, most of the advances in medicine and surgery during the year ending about September, 1899. They constitute "a yearly digest of scientific progress and authoritative opinion in all branches of Medicine and Surgery, drawn from journals, monographs and text-books of the leading American and foreign authors and investigators." The volume on *Medicine* is divided into sections on general medicine; pediatrics; pathology; nervous and mental diseases; cutaneous medicine and syphilis; materia medica, experimental therapeutics, and pharmacology;

physiology; legal medicine; public hygiene and preventive medicine; and physiologic chemistry. The *Surgical* volume is divided into sections on general surgery; obstetrics; gynecology; orthopedic surgery; ophthalmology; otology; diseases of the nose and larynx; and anatomy. Each volume is profusely illustrated—no expense seemingly having been spared in this direction. They contain such additions as text-book authors would or ought to add to their works when the demand for them call for revisions. Every former subscriber will be glad to find this *Year-Book* published in two volumes, instead of one huge unhandy volume as heretofore.

Physiology—A Manual for Students and Practitioners. By HOWARD D. COLLINS, M. D., Assistant to the Attending Surgeon of Roosevelt Hospital, etc., and WM. H. ROCKWELL, JR., M. D., Assistant Demonstrator of Anatomy College of Physicians and Surgeons (Columbia University), New York, etc. *Illustrated with 153 Engravings.* Lea Brothers & Co., Philadelphia and New York. Handsome cloth. 12mo. 323 pages. \$1.50 net.

This is one of "Lea's Series of Pocket Text-books," being "edited by Bern B. Gallaudet, M. D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York, etc." One need not be surprised at the popularity of this series, for each one of the books, apparently elementary at first, gradually advances in thoroughness and fullness, in natural gradations—enabling the student easily to comprehend the lectures of his professors. At the same time, the several volumes of the series serve an excellent purpose in reviewing for examinations, etc. No claim to originality of composition, or of discovery in physiology is laid by the authors; but the best authorities have been fully examined, and their teachings incorporated.

Pocket Medical Dictionary, Giving the Principal Words Used in Medicine and the Collateral Sciences. By GEORGE M. GOULD, A. M., M. D., Author of "The Illustrated Medical Dictionary, etc. Fourth Edition, Revised and Enlarged. 80,000 Words." Philadelphia; P. Blakiston's Son & Co. 1900. Flexible leather. Pocket size. 837 pages. \$1.

This is truly *multum in parvo* for the medical student or practitioner—giving the pronunciation and definition of 80,000 words, besides "very complete tables of clinical eponymic terms, of the arteries, muscles, nerves, bacteria, bacilli, micrococci, spirilla, thermometric scales, and a dose-list of drugs and their preparations, in both English and metric systems of weights and measures." In addition, we find an excel-

lent table of *râles*—when heard, how and where produced, character, condition in which heard, etc. *The Table of Tests* covers 22 pages, and is remarkably complete for the space given the subject. While the type used is small, it is yet clear and distinct; and the paper, though light and thin, is very excellent for the purpose of such a book. This *Dictionary* is remarkably cheap, and what is unusual at such a price, it is remarkably serviceable for doctor or student.

Editorial.

Compulsory Vaccination in North Carolina.

We are glad to note that the Supreme Court of North Carolina, during its March session, 1900, at Raleigh, sustained the decision of the lower courts when they declared constitutional the law requiring compulsory vaccination.

It is indeed surprising to learn with what decided opposition some Health Boards have had to contend in their efforts to carry out the vaccination acts of various States. To what can all this opposition be due? Certainly there has always been a class of skeptics among the laity; vaccination is a thing they do not understand, and nothing but education will ever convince them of its importance. Unfortunately there are unscrupulous fakirs in the profession, who, knowing better, seek a cheap notoriety among the ignorant by all sorts of deceptions as to the dangers and failures of vaccination. It is a pity that such unprincipled persons cannot be ruled out of practice just as dishonest or disreputable lawyers are disbarred by the courts in which they attempt to practice. Such doctors sometimes undertake to teach their ignorant patrons that all kinds of diseases are inoculated by vaccination, though done aseptically. We have even heard of such infamous doctors teaching these people that horns may grow, that their skins may turn like that of a cow, that their dispositions may be changed, and even that vaccination, though properly done, has no preventive effect. More common is it to hear of these doctors teaching that there is great danger to life by vaccination, that arms have to be amputated—in short, that the remedy is worse than the disease. Undoubtedly cases of exceptional severity do occur, but for such general teachings to be made to the public is untrue and dishonest.

Again, we often hear, when duly authorized vaccinators are making the rounds, that the family physician gives an ill-health certifi-

cate to the effect that it is dangerous for so and so to be vaccinated, when in reality such certificate is sought by the patient for the purpose of evading the law. The moral tone of the profession should condemn the giving of these certificates, unless there be actual reasons, which are few, for them.

Vacancies to be Filled in U. S. Marine Hospital Service.

A board of officers will be convened at the Service Building, 378 Washington street, New York city, Wednesday, May 23, 1900, for the purpose of examining candidates for admission to the grade of Assistant Surgeon in the U. S. Marine Hospital Service. Candidates must be between 21 and 30 years of age, graduates of a reputable medical college, and must furnish testimonials from responsible persons as to character.

The following is the usual order of the examination: 1. Physical. 2. Written. 3. Oral. 4. Clinical.

Candidates are required to certify that they believe themselves free from any ailment which would disqualify for service in any climate.

The examinations are chiefly in writing, and begin with a short autobiography of the candidate. The remainder of the written exercise consists in examination on the various branches of medicine, surgery and hygiene. The oral examination includes subjects of preliminary education, history, literature and natural sciences.

The clinical examination is conducted at a hospital, and when practicable candidates are required to perform surgical operations on a cadaver.

Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order as vacancies occur. Upon appointment the young officers are as a rule first assigned to duty at one of the large marine hospitals, as at Boston, New York, New Orleans, Chicago, or San Francisco.

After five years' service, Assistant Surgeons are entitled to examinations for promotion to the grade of Passed Assistant Surgeon. Promotion to the grade of Surgeon is made according to seniority, and after due examination as vacancies occur in that grade. Assistant surgeons receive \$1,600; Passed Assistant Surgeons receive \$2,000, and Surgeons \$2,500 a year. When quarters are not provided, commutation at the rate of thirty, forty or fifty dollars a month, according to grade, is allowed.

All grades above that of Assistant Surgeon receive longevity pay, ten per centum in addi-

tion to the regular salary for every five years' service up to forty per centum after twenty years' service.

The tenure of office is permanent. Officers traveling under orders are allowed actual expenses.

For further information, or for invitation to appear before the Board of Examiners, address Supervising Surgeon-General, U. S. Marine Hospital Service, Washington, D. C.

Special Course in Ophthalmology.

Dr. James Moores Ball, 3509 Franklin Ave., St. Louis, Mo., assisted by Dr. E. C. Renaud, and a corps of special lecturers, will conduct a six weeks' course in Ophthalmology in St. Louis, beginning April 16, 1900. The course will consist of didactic and clinical lectures, recitations and laboratory work. Practitioners attending this course will receive instruction in the use of all instruments, etc., used in ophthalmic practice. Drs. A. C. Bernays, R. B. H. Gradwohl, O. H. Ohmann-Dumesnil, W. W. Graves, Arthur E. Mink, L. W. Beardley, Emory Lanphear, A. C. Corr, and others, will give special lectures, clinics and demonstration in their respective specialties, so far as relates to ophthalmic work or studies.

St. Andrew's Home, Lynchburg, Va.

Drs. Terrell and Lile have just completed their new private hospital, St. Andrew's Home, having it equipped with all the up-to-date essentials for good work. These gentlemen deserve great credit for their successes, which have won for themselves as surgeons and physicians, marked distinction in the roll of practitioners of the country. They are assisted by a well taught corps of trained nurses, who, in their new Home, have greater facilities than formerly for doing clever work.

Dr. Hunter McGuire.

Since the last issue of this journal, the condition of Dr. Hunter McGuire has somewhat improved, and hope is expressed that he may still further improve.

The announcement is made to the profession that Dr. Stuart McGuire will continue in charge of St. Luke's Hospital as a private sanatorium, and his father, Dr. Hunter McGuire, will aid as consultant so far as his health will permit.

Dr. B. C. Keister, South Boston, Va.

Has been appointed by Commissioner-General, F. W. Peck, a delegate to the Congress on Professional Medicine at the Paris Exposition, which convenes in Paris July 25th, 1900. Dr. Keister will spend the summer of 1900 in London, Paris, and Berlin.

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TRUE FUNCTION OF THE STATE MEDICAL EXAMINING BOARD.*

By ALLARD MEMMINGER, M. D., Charleston, S. C.,

Professor of Chemistry, Hygiene and Clinical Urinary Diagnosis in State Medical College of South Carolina; Visiting Physician in City Hospital of Charleston, etc.

In presenting to the consideration of this august body the question of the propriety of the offices of the State Medical Examining Board as now organized, I trust sincerely my real and true purpose will not be misunderstood and taken as a suggestion for lowering our medical standard; but, on the contrary, elevating and making it more practically useful.

As a teacher in our State Medical College, I hope, too, you may and will regard the outcome of my views as suggested by a long course of observation and not as in the least actuated by a desire to alone further the well-being of our institution to the detriment of the public good.

With these excuses, then, if indeed they be necessary, for the selection of my theme, I shall proceed at once to the subject matter of my paper.

First. The offices of examination to constitute a graduate in medicine.

Second. The offices of examination by our State Board to constitute the right to practice medicine and surgery in our State.

The requirements for graduation are so well known by all of you here present, that I need not take up your time by a repetition of the same, but simply call your attention directly to the salient points that must always be kept in view—namely, that a student must have not only a theoretic, so called, idea of the subject, but as well a practical application of the same.

To this end, the course or courses of our four-year graded institution is divided into

two portions. In the first, the theoretic aspect of the branches taught is kept in view almost entirely; and thus, the student is not only prepared for what is to follow, but his untrained mind is brought in better condition for the environment by which he is soon to be surrounded, and which, by imbibing, is to make him a graduate in medicine—indeed, a *practical medical man*. Observe the word I use—graduate as a *practical* medical man.

With this idea, then, in view, our examinations are or should be directed, and for its accomplishment we have divided our course into what are termed Junior Graduating Branches, and Senior Graduating Branches—the former dealing more with the theory of the underlying principles of medicine, and the latter with the application of the same. The Junior branches are studied for two years, and at the end of this term an examination is held; and if the student attains a graduating excellency, he is allowed to discontinue his further study on these branches, and devote the remaining two years of his studies to the application of his theories gained by his two year's course.

This plan is deemed so advisable that our State Medical College allows the certificates of Junior branches passed in other first-class four-year graded colleges, to count, and exempt the holder of the same from standing the examinations on these branches in our college—thus enabling these students, too, to apply all of their time to the practical aspect of medicine.

By this division of labor and study in our colleges, it is found that students are better prepared to practice in a practical manner than when theory and practice were crowded into two years. Indeed, if I mistake not, the trend of medical teaching is now aiming more at bringing our colleges into the line of post-graduate institutions, and thus giving to the public more practical and less theoretical physicians.

Now, then, let us glance at the offices of the State Medical Examining Board: What do they set out to do?

* Read before the meeting of the South Carolina Medical Association, at Charleston, April 19, 1900.

First. Examine, to keep out quacks or charlatans.

Second. Examine, so as to see whether the diploma of any particular college is upheld by the answers made to questions propounded the applicant for license to practice.

Most assuredly, with these two objects in view, the charlatan and graduate of a reputable college, when he or she comes before the Board, are on the same footing. True, the Board says you must show a diploma; but of what good is such a diploma when this State Board is to decide upon the answers of the applicant, and not on his credentials? It is just here I wish to draw attention particularly, for we most assuredly think that the credentials should be allowed a full and just weight in the matter. The credentials or diploma give evidence that the student has studied medicine four years; has graduated in the Junior or theoretic branches of medicine, and has also, just before coming before this State Board, been considered worthy of applying this theory to the practice of medicine.

This Board, then, does not show that comity which exists between four years' graded course and high standing colleges, but at once commences to examine on the Senior and Junior branches, which latter the student has put by two years ago, and which with the best of us grow dim in that time. No wonder, then, that some of the applicants show a less familiarity with these questions than with the Senior and practical questions, and in the summing up of the examination may show a less total than that required. That such is the case is to be expected, until we Medical Colleges all require a University A. B. or A. M. as necessary before entering the study of medicine.

Yes, I as a teacher know full well that questions which are put in chemistry to test, mark you, the *theoretic knowledge* of the student, would be unwise to ask two years after the student has passed; but this is what is expected by the Board, and which I contend is unwise, as it does not fairly subserve the purposes for which the Board was created. No doubt such an examination would be fair to put to one not holding a diploma; but then we should add that, to be perfectly fair, if one should pass successfully such an examination, he would be, in our judgment, fully prepared to practice medicine.

The diploma, then, of our four-year graded medical colleges, divided into Junior and Senior branches, is surely deserving of some respect, and should entitle the holder thereof to some more deserving place than in the cate-

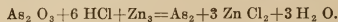
gory of quacks and persons who have never studied medicine.

I would, therefore, respectfully suggest that the State Board of Examiners work along in the same line as that pursued by reputable four-year graded medical colleges, accepting Junior certificates as proper credentials of proficiency of having passed in these branches, and paying more strict attention to practical medicine, limiting their examinations for those holding diplomas from four-year graded courses to questions absolutely pertaining to the practice of medicine and surgery, and respecting to this slight degree the Junior branches, which, as I have already said, grow dim after two years, and which hardly any of you who now listen to me would care to have himself tested on. For example, would all of you gentlemen who have practiced long, and I hope well, in the various sections you hail from, care to answer the questions I now propound, and which have been well answered by many in the Junior graduating class of chemistry this year?

MARCH, 1900.

QUESTIONS ON PHYSICS, TOXICOLOGY AND CHEMISTRY.

1. When does a liquid boil at 212° Fahrenheit?
2. Explain the upward draught or current in a chimney.
3. What is the effect of gravity, what the cause of pressure, and what is weight?
4. What is solution and upon what does it depend?
5. What is the universal effect of heat and how are heat and cold related?
6. When a moving mass is stopped by friction what takes place?
7. When heat falls upon a body what becomes of it?
8. Mention some of the cooling effects of evaporation.
9. Why is wet clothing injurious to wear?
10. What is the velocity of heat, light and electricity?
11. How are heat, light and electricity conveyed to our senses?
12. What would be the effect of removing the aqueous vapor from the air?
13. Describe the voltaic circuit.
14. State the difference between tonic and clonic contractions.
15. Give the order constituting the reaction of degeneration by the galvanic current.
16. Give the chemical properties of oxygen.
17. Give a like description of sulphur dioxide and chlorine gas.
18. Give one method of production for ammonia gas and phosphorus respectively.
19. Give the salts, with correct formulæ, containing one or more of the following elements: Oxygen, arsenic, potassium, calcium, carbon, iron, antimony, mercury, bromide.
20. Is the following formulæ correct, and if so, why?



The atomic weights and valences are as follows:

As	atomic wt.	74.44	Valence,	iii and v.
H	"	"	1	i
Cl	"	35.5	"	i, iii v and vii.
Zn	"	65.4	"	ii
O	"	16	"	ii

21. What symptoms denote poisoning by alkaloidal substances?
22. What is the antidote for acute poisoning by arsenic?
23. What general composition is observed in organic substances?
24. Mention some of the more recent derivatives of the coal tar by-products.

QUESTIONS ON INORGANIC CHEMISTRY.

1. How is mercurous iodide made?
2. What are the properties of zinc sulphate?
3. State the modes of occurrence and properties of the metal iron.
4. Give a like history of potassium.
5. What is calcium phosphate and what are its uses?
6. What is copper arsenite, and how is it prepared?

Yes, gentlemen of this Association, you all once answered questions of a like kind; but do not let us *forget* that which we have forgotten, and require this a second time of these students, because we ourselves are safe. This lack of due appreciation, and what is deemed injustice to the four-year grade course, is, I believe, at the bottom of the unrest of the students in this and other States as to the rights of State Examining Boards. It is, indeed, a wave of discontent that must be met, not by harsh measures, but by just and wise acts.

Let us, therefore, keep ever before us the true office of a State Medical Examining Board, which is neither to give a diploma nor revoke one, but on the contrary, grant a license to practice—to stand between the honor conferred on the graduate and the exercise of it on the people.

It, therefore, should busy itself with the clinic and hygienic aspect of the subject, and should feel that by close attention to this the public good is best subserved.

A course, then, such as I have hurriedly mapped out will not lower the scale of medical education in the State, but, on the contrary, tend to elevate and increase practical teaching and give out to the State a better class of medical men.

What we want is *thorough and practical physicians*, who will do the public no harm and much good. A State Medical Examining Board organized on such lines may aid much in this direction and at the same time feel that, in recognizing a graded course they further and approve the good work already begun, and not in any way hamper nor render it less effective. I repeat, I do not wish to abolish the State Board—far from it. I wish to make it, and by it, the medical institutions all over our land more effective, so that in the future a license to practice medicine in South Carolina will carry with it the assurance of a good practical physician, who, having passed through the alembic of common sense, is now fit to be a custodian of health in our historic State.

A CLINICAL REPORT OF A FEW SELECT CASES: I, GONORRHŒAL PNEUMONIA; II, SEPTIC LYMPHANGITIS OF THIGH FROM SCRATCH ON FOOT; III, TYPHOIDAL TOXÆMIA IN MALARIAL FEVER; IV, GUNSHOT WOUND OF ABDOMEN—RECOVERY—WITH REMARKS.

By JOHN R. HICKS, M. D., Acting Assistant Surgeon U. S. Army, Fort Screven, Ga.

While I do not claim any originality in the method of research or study of the following cases, yet they may be some interest, as they are quite unique and more or less rare in some, the microscopical findings present quite a different picture from what one would expect.

I, GONORRHŒAL PNEUMONIA.

The first case occurred in Private W. H. B., Battery "F," 1st U. S. Artillery. He came on sick report January 22d, complaining of a cough which annoyed him very much, and kept him awake all night; he expectorated very slightly, and had no pain in the chest on coughing. Examination of chest showed no signs of inflammation, except a few, dry rales over both sides. A cough mixture of codeine sulphate suspended in syrup tolu was given, to be taken in teaspoonful doses every two hours during the day. On the next morning, January 23d, he returned and reported that he was well, so was returned to "duty."

On January 29th, he came on sick report again, and this time said his cough had returned with a severe pain in the left side, which was much aggravated by coughing and dyspnœa due to pain caused by breathing. He was taken into the hospital; his temperature was 102, pulse quite full and bounding, and in a few hours he began to expectorate blood in small quantities, the sputum being quite tough and fibrinous in character. On examination of the chest mobility was found to be impaired; there was dullness over the left lower lobe with bronchial breathing and crepitant rales which were most pronounced, and vocal fremitus was increased as compared with the other side.

Microscopic examination, January 30th. A cover slide preparation of blood gave no characteristic changes as there was no leucocytosis. The white cells averaged about 7,000, and eosinophiles 4 per cent. This absence of leucocytosis was quite alarming as I knew it was a dangerous condition in acute fibrinous pneumonia, and it led me to suspect the presence of tuberculosis. I prepared a cover glass

stained by Gabbett's method, and to my surprise no tubercle bacilli were found. The second and third specimens were negative also, but a cover slide preparation stained with Loeffler's methylene blue solution demonstrated numerous bunches of staphylococci between and about the pus cells, while in the cells were numerous diplococci hemispherical in shape, or like coffee grains with their flat sides turned toward each other. These diplococci stained perfectly with Bismarck brown, and were decolorized by Gram's method. When treated by Gram's method and followed by Bismarck brown solution, they were stained brown, while the bunches of staphylococci were stained red by the aniline gentian violet solution.

I may say I was unable to detect any diplococcus having the characteristics of the "diplococcus pneumoniae." I tried to get a culture of the gonococcus, but was unable to do so, but did get the staphylococci from bouillon culture.

Having satisfied myself that this was a case of *gonorrhæal pneumonia*, it turned out that he was then suffering from a case of acute gonorrhœa, which he had had for about two weeks, but had allowed to go untreated.

The treatment was directed mostly toward the gonorrhœa while a cough mixture was used to quiet cough and allay pain. The patient was returned to duty March 9th, after a very slow recovery. His sputum and blood were examined at regular intervals during his sickness, and no leucocytosis was evident until very late in the disease, when, toward the last, it averaged about 10,000—practically no leucocytosis.

II, SEPTIC LYMPHANGITIS OF THIGH AND SCROTUM FROM SCRATCH ON FOOT.

The next case is that of Private J. M. C., Battery "F," 1st U. S. Artillery. He was admitted to the hospital February 12th, 1900, complaining of soreness and pain just below Poupart's ligament and in Scarpa's triangle. Personal history: He had never been sick before in his life, and gave no history of tuberculosis in his family. His present sickness began by getting a scratch on the right foot just below the highest point, and on the midline of the dorsum. He says, he paid no attention to it for about ten days, but when his thigh began to give him pain he came on sick report.

By examination I found the wound on the foot healing, and a very small area of inflammation, not painful to pressure, giving no dis-

charge, and having every appearance of a speedy recovery. The area of inflammation in Scarpa's triangle, however, was not so favorable. There was a large, red, circumscribed area, very deeply seated, very painful to pressure and indurated. I could find no line of inflammation extending along the superficial veins and lymphatics; no pain down the leg on pressure, and apparently no connection between the abscess and the wound of ten days' standing on the dorsum of the foot.

Thinking this a case of "phlegmonous erysipelas," I injected a two per cent. solution of cocaine just about three quarters of an inch to the outer side of the line of the large vessels and opened up in the usual way, finding that the pus was deeply seated, being placed beneath the large vessels extending into the abductor muscle with another pocket looking upward and inward toward the obturator foramen; after taking some of the offensive pus for microscopic study, I washed out the sack thoroughly, then opened the cavity, but could find no opening through the obturator foramen. I packed the cavity of the abscess with aseptic gauze, and put on a bichloride dressing which remained until the next day, the patient's condition in the meantime being excellent, as there was no fever and he said he felt better than he had for a week.

On the next day the drain was taken out and the cavity irrigated with a mild carbolic solution; then a boracic acid dressing was put on, and the wound healed without event. The patient had no fever until the fourth day after the opening of the abscess, but did not regain his color, looked pale and anæmic, and complained of great weakness and no appetite.

On the sixth day I detected a small, round, hard and very tense lump in the scrotum on the left side, situated above the left testicle and just below the external abdominal ring. The lump was too small to make a positive diagnosis, and as there was no pain on pressure, no fluctuation and no fever, I decided to keep hot applications on the tumor until the next morning, when I opened it through the left scrotum, and drained a large amount of pus from the pelvis. The wound was drained and irrigated whenever it was thought necessary, and the patient finally made complete recovery.

In this case there was a leucocytosis throughout the attack, and this was one of the most important points in the diagnosis, serving to aid me in eliminating tuberculosis. The microscopic examination revealed numerous staphylococci and diplococci identical in all respects with that of the diplococcus pneu-

monia; streptococci were entirely absent, hence the mild form of sepsis, and the chronicity of the attack. Repeated stains for the tubercle bacilli were negative, and at this time the patient is entirely well and has returned to duty.

III, TYPHOIDAL TOXÆMIA IN MALARIAL FEVER.

The third case was that of H. J. Y., Electrician Sergeant, U. S. Army. He was admitted to the hospital December 1st, 1899, with a temperature of 103. Personal history: The day previous he had a severe chill followed by high fever and a profuse perspiration; he complained of severe pain in his head, back, legs, and shoulders; his bowels were constipated, and he was perspiring quite freely; his tongue was coated in the centre of dorsum, and very red on the tip and sides; the face was flushed, otherwise quite natural looking; urine highly colored, and very little had been passed in twenty-four hours; vomited twice during the time of chills; pulse full and bounding, and skin flushed. Half grain tablets of calomel and soda were ordered to be taken every ten minutes until eight tablets had been given, to be followed by a small dose of Rochelle salts 3.7 grammes to be given in early morning.

On December 3d his condition was similar to that on the previous day, except that his bowels had acted well, but the fever and perspiration were more pronounced. Blood count revealed no leucocytosis and often two or three "creasents" were present in one field of the microscope; here and there were numerous small, round hyaline bodies in the cells, and on staining with eosin methylene blue solution these appearances were characteristic. No albumen or sugar in the urine; specific gravity 1028. Quinine was withheld until the fourth day in the hospital; then it was administered in ten-grain doses with the result shown in the chart. A microscopic examination was made every other day with the result given above, until the seventh day, when I found the crescents and small hyaline bodies had disappeared from the blood, and what I took to be small particles of pigment had also disappeared, not even leaving a trace, except that the red cells appeared smaller and more contracted than normal, the hæmoglobin equalling 65 per cent.

On the morning of the eighth day the temperature was up again to 102½° though quinine had been given every day; at 5 o'clock in the afternoon the temperature jumped to 103½°, as is seen by the chart. Quinine was

increased to 40 grains a day until the patient's head felt full and his ears were ringing, but with very little effect upon the temperature, not enough to justify further administration. On the morning of the tenth day his bowels became loose, having two actions a day; his tongue became dry, brown and coated; expression changed and face became worn, tired and pinched, also very pale; pulse feeble and rapid; skin dry and parched with slight moisture off and on, and on the eleventh day, small, round, red, unraised spots appeared on the abdomen, which disappeared on pressure. The Widal reaction was perfect, and no malarial organisms were found in the blood. I then made up my mind that I had to deal with a case of typhoid fever, and began giving cold baths and starvation to eat, unless the temperature was below 102°, when he was given chicken soup, beef tea, oyster soup, and etc., *but no milk*, as I believe this always does harm instead of good.

I may say I believe milk would have killed this patient if it had been given persistently, because I gave him small quantities one day, and his mouth became much more foul, sordes being very much more pronounced, and tympanites most marked. In fact, I believe milk is most harmful in every case of typhoid, whether this was a case of typhoid or not.

According to the symptoms and the Widal reaction, this patient had a typical case of typhoid fever. He became convalescent about the 23d of January, 1900, and had no temperature for three or four days, at the end of which time he had a mild chill, his temperature ran up to 103, and expecting he was entering upon some grave complication, I examined his blood for leucocytosis; to my surprise there was none, but the everlasting "crescent" had returned to get in its work again. I immediately returned to quinine and arsenic, finally controlling the malaria, and on February the 23d he left the hospital to go on a two-months' furlough. I may say that during the convalescence he had a very severe glossitis and very sore feet; the plantar surfaces were so sore he could not bear the slightest pressure with out extreme pain.

Examination of urine and feces for bacillus typhosus was negative after a great many examinations; however, the feces were full of colon bacilli.

Was this a case of æstivo-autumnal malarial fever? or was it a case of typhoid fever? It was most assuredly the former. As to the Widal reaction, I believe it is produced very often in æstivo-autumnal fever. Where was

this organism for so long a time? Why did it disappear from the blood? I believe it removed its place of abode to the spleen, the liver, and perhaps the other glands, and that the typhoidal condition was a malarial toxæmia; also that under some conditions the malarial parasite is capable of producing a specific toxine between the ordinary paroxysm. Was it possible for the colon bacillus to have produced this typhoidal condition in the interval of the malarial paroxysm?

IV, GUNSHOT WOUND OF ABDOMEN—RECOVERY.

L. B. S., age twenty-four (colored), medium stature and well developed. He was shot with a 38-calibre Smith and Wesson revolver, during a drunken brawl on Christmas Day, 1899, I saw him about twenty-five minutes after he was shot, and found him lying on the floor of the saloon, with a severe pain in the epigastric region; his thighs flexed on the abdomen, and back flexed as much as possible; he had vomited a small amount, and though he complained of severe nausea all the time, seemed unable to vomit.

I gave him a hypodermic of a quarter of a grain of morphine sulphate at once, and had him taken to the hospital. Examination showed the ball had entered just at the edge of the costal cartilage of the right side opposite the junction of the 7th and 8th cartilages, and made its exit in the 8th intercostal space of the left side about one inch posterior to the axillary line, which is shown in the diagram below. The man who fired the shot was standing to the right, and in front of the man shot, and said he did not aim the pistol, but raised it about as high as his own breast and fired. After being in the hospital an hour the patient vomited about a tea-cup of blood, after which he said he felt better. At the end of another hour I gave him a quarter of a grain of morphine for the second time. It was then about 7 P. M. He became quite comfortable, and soon dropped off to sleep. On leaving him I gave instructions to give him nothing to eat or drink until I saw him again, but if he had a bad night to send for me. This did not prove necessary, as he passed a good night, only vomiting a small quantity of blood about 6 o'clock in the morning (on waking). At about 11 o'clock A. M. I had him removed to the City Hospital of Savannah, where he was treated medically by Dr. Weichselbaum, the attending surgeon, and after a very slow, but sure recovery he returned to his employment at this post February the 20th, 1900.

I did not deem surgical interference neces-

sary—because: *First*, his stomach was more or less antiseptic from the amount of liquor he had taken during the day; *Second*, the stomach being distended the ball probably went through the upper part of the anterior wall; *Third*, he had been lying very quietly, and after the morphine was given he could lie on his back without discomfort, so preventing the fluid from passing through the stomach wound into the peritoneal cavity; *Fourth*, there was a chance of the bullet not having gone through the stomach (but a very slim one); *Fifth*, I had seen many similar cases recover while in Cuba without operation, although the missiles used in those cases were smaller and of higher velocity; *Sixth*, I have been informed at a later date that the man had a "septic pneumonia" as complication; *Seventh*, I believe this patient would have died if he had been operated on owing to the shock and the aggravation of the lung by the anesthetic, thus increasing the severity of the pneumonia.

THE TREATMENT OF CONSTIPATION BY ELECTRICITY.*

By FRANCIS B. BISHOP, M. D., Washington, D. C.

Member and Ex-President of the American Electro-Therapeutic Association; Member and Ex-President of the Medical and Surgical Society of the District of Columbia; Member of the Medical Society of the District of Columbia; Member of the French Society of Electro-Therapeutics, Paris, France, etc.

The prevalence of constipation, its importance in the complication of, and as an etiological factor in disease, together with the inefficiency of drugs to give permanent relief, is my excuse for writing this paper.

A short review of the causes of constipation will give me a basis upon which to present my claims as to the superiority of electricity as a therapeutic agent in the treatment thereof.

Landois and Sterling, in their comparative Physiology of Digestion, gives the cause of constipation in three subdivisions:

(1) "Conditions which obstruct the normal channel, *e. g.*, constriction of the gut from stricture in the gut in dysentery, tumors, rotation on its axis of a loop of intestine (Volvulus) or invagination, occlusion of a coil of intestine in a hernial sac, or by pressure of tumors or exudations from without, or congenital absence of the anus.

(2) "Too great dryness of the contents, caused by too little water in the articles of diet, diminution of the amount of the digestive secre-

* Read before the Medical and Surgical Society of the District of Columbia, March 1, 1900.

tions, *e. g.*, of bile in icterus; or in consequence of much fluid being given off by other organs, as after copious secretions of saliva, milk, or in fevers.

(3) "Variations in the functional activity of the muscles and motor nervous apparatus of the gut may cause constipation, owing to imperfect peristalsis.

"The fecal masses in constipation are usually hard and dry, owing to the water being absorbed; hence they form large masses of scybala within the large intestine, and these again give rise to new resistance."

When rectal stricture is the cause of constipation, we have no method of treatment that has at once proven so harmless and so efficient as the one known as electrolysis, and introduced to the profession as well as practiced so successfully by my good friend Dr. Robt. Newman, of New York city.

This method has been published so often that I presume all are familiar with the technic; it may be found in most of the leading text-books on electro-therapeutics.

After many years' experience with the galvanic current in the treatment of strictures of various kinds, by the "Newman method," I feel compelled, by results obtained, to acknowledge it as superior to any method known to me for the safety and comfort of the patient as well as the surest means of cure.

I have had some failures, but in every instance I have been able to trace the cause of the failures to my own haste or clumsiness, and not to the method used. I believe, however, that a very small portion of the good results obtained are due to electrolysis, but rather to a stimulation of the absorbent vessels in the immediate neighborhood of the stricture, after perhaps some slight softening effect of the current causing it to be absorbed. The very short length of time that the stricture is subjected to treatment, and small amount of current used at each seance, as well as the length of time that must elapse between the treatments in order to get the best results, seems to indicate rather the stimulation of the physiological process of absorption than any great amount of electrolysis.

Tumors of recent origin, in any part of the intestinal canal, accompanied by obstruction, usually present very grave symptoms, and may mean volvulus or impacted feces, and it is frequently impossible to say positively with which of the two conditions we have to contend. In either case, as soon as the diagnosis of obstruction is made, the patient should be subjected to one or more thorough electric douches, at

the hands of an expert, before a surgical operation is seriously considered. The electric douche has been followed by most excellent results in extreme cases. A number of these cases have been reported by Larat, of Paris, who claims a cure in over fifty per cent. of a great number of cases treated by him, as well as Budet of Paris, who claims a cure in 70 per cent. of fifty cases treated. All of these cases are said to have been treated by the electric douche only after all other means except surgical interference had been tried; hence, the patients were all in a very critical condition.

My experience, while not so extensive, has been quite as agreeable, but is confined to only three cases, all of which recovered. My last case was extremely interesting, and was treated last winter for Dr. C. R. Collins, of this city.

A young man, 25 years of age, convalescing from typhoid fever, and whose temperature had been normal for twelve days, suddenly became obstinately constipated with symptoms of obstruction; upon examination, Dr. Collins found a mass in the right iliac fossa, the temperature went up to 103° and 104°, purgatives and enemata had no effect. Dr. Collins requested me to see the case with him with a view to electrical treatment; the patient was placed upon his left side with hips elevated, and the electric douche was administered. Peristaltic action of the bowels began at once, and during the night he had three large movements. I treated him for a few days by external applications, and his bowels moved regularly each day, and I have learned from Dr. Collins that his convalescence continued without further interruption.

Only a few days before I saw this case, another physician had been speaking to me of a case of typhoid fever that was convalescing when symptoms of obstruction developed, and in spite of all medical treatment and ordinary enemata the patient died.

"The pressure of tumors or exudations from without," causing constipation, may often be treated to advantage by electricity judiciously applied; especially is this the case when the obstruction is due to the pressure on the rectum by a subinvolted uterus, or by a uterus held firmly against the rectum by pelvic exudations. The following case is not without interest:

When in general practice, I had under my care a young woman suffering intensely with abdominal pain and constant vomiting. The abdomen was so much distended with gas that it was impossible to locate the seat of the trouble, and what proved to be a very misleading

symptom was a severe pain always in the right iliac fossa. It was necessary to administer morphine freely.

A surgeon was called to see the case with me, and after a very careful examination, advised waiting awhile before operating. He thought that he detected a tumor in the right iliac fossa. The family being anxious, insisted on having a gynecologist called in, and he, after a very careful examination, advised an immediate operation, as he considered her condition serious. After due reflection, the family determined to take the advice of the first surgeon, and wait awhile before submitting to an operation.

In a final effort to relieve her, she was placed in the knee-chest position, and several glycerine suppositories were introduced, and were allowed to remain for a few minutes, when a copious injection of hot water and soap was administered; the bowels began to move, and while still in the knee chest position she had a very large movement. The pain and tenderness was much relieved, and upon vaginal and rectal examination, the uterus was found to be firmly bound down against the floor of the pelvis by adhesions, and behind this mechanical obstruction the feces had accumulated, and in turn this mass of hardened feces were pressing upon the inflamed pelvic viscera, while the accumulated gas was an additional source of pressure and pain.

The consulting surgeons in this case were gentlemen of the highest character, and surgeons of acknowledged ability, and no adverse criticism is intended, for I am sure that any one seeing the case at that time would have been misled, as we were.

A day or two after her bowels began to move I commenced the daily application of galvanism for the relief of the pelvic inflammation; and after four months' treatment I had the satisfaction of discharging the patient completely cured. "Congenital absence of the anus" must of course be treated surgically.

The second and third subdivision of this subject, while not so dangerous to life immediately, may, by neglect, cause one of the conditions just considered; or, by absorption, the system may be poisoned, and may manifest this by symptoms of any one or more of the functional nervous diseases.

Constipation is so common and the processes of digestion, assimilation, secretion, and excretion, are so complicated, that this at once becomes the most important of L. & S., three subdivisions, and any agent to successfully relieve constipation must be able to stimulate,

with a minimum of reaction, and to tone through the motor, sensory, and sympathetic systems of nerves the glands of secretion, the excretory organs, and through the nerves and their plexi the muscular fibres of the intestinal walls, the abdominal muscles, the stomach the liver and the pancreas, etc. Electricity is an agent that fills all these indications. The mild galvanic current to the pneumogastric nerve in the neck stimulates the salivary glands, and a fresh flow of saliva is the result, and, at the same time, it produces peristaltic movements in the small intestines, either by causing a contraction of the stomach, or by conducting impressions to the plexus myentericus of Auerbach. As the stomach and intestines contract, the liver is stimulated to activity and pours out its bile, the intestinal secretions become more abundant, the pancreas secretes its juice, and digestion goes on more perfectly, and provided the physiological quantity of water has been taken, the fecal mass passes through the intestines saturated with the natural secretions of the body.

In addition to this, if we take a large electrode and place it over the back, covering the lower dorsal and the lumbar vertebrae, and another covering the stomach and abdomen, and pass through them an interrupted galvanic current of moderate volume, we take in at once the solar plexus, the stomach, the liver, the kidneys, the spleen, the pancreas, the large and the small intestines, the abdominal muscles, the diaphragm, and the kidneys. The activity of the glands is increased, the muscles are toned, peristaltic action gradually strengthens, and through the sympathetic the sensibility of the rectal nerves return, and step by step the constipation is cured.

Two of my recent cases are interesting in this connection:

CASE 1.—A young lady, 19 years of age, had been a martyr to constipation for several years. She had, at the suggestion of her physician, used many of the remedies lauded for the cure of constipation, but, with the exception of a very temporary relief, the constipation continued to get more and more obstinate, and the patient more and more miserable, with tired, sluggish feelings, intense headaches, and a chronically furred tongue, foul breath, and a sallow complexion. She was taking cascara pellets, and had gradually increased the dose until she was taking about three times the amount suggested by the manufacturer. I immediately stopped all medication, with the exception of a few drops hyposulphite of soda for a few days as an intestinal antiseptic. I ordered glycer-

ine suppositories and an enema to clear out the lower bowel, and proceeded with my treatment as outlined above, and in about two months she was having one good movement each day, her complexion was clear and rosy, and her headaches were gone.

This young lady hesitated a long time before coming under treatment, as she was under the impression that the treatment would be very disagreeable. She imagined that the treatment would have to be applied by means of an electrode in the bowel, or by means of the heavy static spark, but when she learned that there was neither exposure, embarrassment nor pain connected with the treatment, she was delighted, and very willingly and anxiously noted every improvement until she recovered.

CASE II.—This case was sent to me by Dr. J. F. Nowell, of Greencastle, Pa.

A lady about 45 years of age had, since an attack of grip six years previously, been extremely nervous, with a decided tendency to melancholia. She was obstinately constipated, and the doctor writes me that during the early summer she suffered from impacted feces in the sigmoid flexure of the colon. Analysis of the urine showed that she was passing only about 15 gms. of urea in the twenty-four hours. She was drinking Poland water and taking an enema every day. After each injection, she would have an evacuation of the bowels, and pass a mass of undigested and very offensive matter. This would be followed by severe pain and nervousness. She was well nourished, weighing 135 pounds, hectic flush upon the cheeks, pupils dilated, the tongue dry and looked like a piece of raw beef, stomach and bowels distended with gas. She was at all times extremely sad, and much given to dwell seriously upon her condition; she complained constantly of intense headache, and pain in the stomach and abdomen, and of a sour taste being ever present. There was a lack of peristaltic movement, and there was tenderness on pressure over the stomach and right iliac fossa. She slept poorly, and suffered greatly from cardiac palpitation. She told me that she could not take stimulants of any kind, and for that reason her physicians had, each and every one in turn, abandoned the use of tinctures in her case; so I found it necessary to begin the treatment by very slight currents, and for a very short time at each treatment. The interrupted galvanic current, as outlined above, and the tonic current from the static machine, constituted the treatment, with small doses of the hyposulphite of soda as an intestinal antiseptic.

The first improvement noticed was that the pupils responded normally to light and accommodation, and the cheeks were less flushed. She gradually became tolerant to the current, and could take all that I found it necessary to give. The urea increased to 22 gms in the twenty-four hours; the headache diminished, and gave her no trouble, except upon the approach of and during her menstrual period; her bowels were moving regularly and without the aid of medicines; her tongue was moist and of normal appearance, and she was again taking interest in the affairs of life, something that she had not done for years.

When she left for her home she was still a little nervous, but she is passing through a period of life very trying to most women. When we consider that she was under medical treatment for six years, and that three months' electrical treatment accomplished so much for her, does not, in any sense, reflect discredit upon the medical treatment of the case, but means that electricity did that which it was impossible for medicine to do. It toned the paralyzed muscles, it stimulated the secretions from one end of the digestive tract to the other, it simply reached all the nerves and muscles, and all the glands, and helped them to resume their normal functions.

1913 I Street N. W.

DISCUSSION.

Dr. D. Percy Hickling: We are all particularly interested in the treatment of these cases, owing to their great frequency, and the unsatisfactory results of medicine. He thinks the static machine of little use, but general Faradization is fairly successful and has given good results. He congratulated Dr. Bishop, and considered his method an easy one of application, free from the drawbacks of others that have been suggested.

SOME POINTS OF GENERAL INTERESTS IN REGARD TO DRUG ADDICTIONS.

C. C. STOCKARD, M. D., Atlanta, Ga.

I do not propose to attempt an exhaustive discussion of drug habits, but simply to call attention to some interesting features of the subject, a few of which I have never seen mentioned, but which are important, and should be known to the general practitioner of medicine.

While a number of drugs of the pharmacopœia are sometimes used habitually, still there are only a few which get to be so used because

of their peculiar effects, or, which create in the system a demand for continual repetition. The others are used simply by reason of habit, and there is no real physical suffering from their discontinuance. Alcohol, tobacco, opium, in some of its forms, and cocaine are the most prominent of those, the use of which causes a demand for continuous use—in fact, lead to an abnormal condition, which, after suspension, must be recovered from before one can be said to be cured, and it often seems as though this condition is never recovered from, as no matter how long one may have abstained, the habit is resumed far more readily than addiction is reached in the beginning.

Opium, in some form, is the drug most frequently used habitually. Its habitual use does great damage to the individual, disturbing all the functions and rendering one unfit for the duties of life, no matter what one's calling may be. Its effects are very frequently not readily apparent, and hence thousands are using it without being at all suspected.

I know a prominent surgeon who has been addicted to the morphia habit for twenty years, and I doubt if a single person in his State suspects it.

The works on Therapeutics give as the effects of the continuous use of opium, a muddy, sallow complexion, contracted pupils, constipation, albuminuria, sleeplessness, etc. While these are present in some, they are absent in many, who use large quantities for years and still having healthy looking skins, while in others the pupil is not affected, except that it responds slowly to light and darkness, and a great many are not at all constipated. The laity look upon drowsiness as a constant effect of the habitual use of opiates, but this is far from true, and many opium or morphine habitues take, almost constantly, hypnotics in order to procure sleep. The habitual use of morphia, in a majority of cases, suspends sexual desire, and also, in the female, the menstrual function, though exceptions to both these rules are not infrequent. I know one man who has used it in large doses for twelve or fifteen years, and he tells me that there has never been a time when his sexual power could be said to be weak, and I also know one lady who has several times become pregnant while using morphine.

I am studying at present the effects of opium habituation on the reflexes, and though I have not pursued it sufficiently to arrive at conclusions, still, it is proving interesting, and I would advise that, when these are found abnormal, the morphine habit should be excluded

before giving to them their full diagnostic significance.

The examination of the urine is also proving of much interest, and a simple test for the presence of morphia in the urine is much to be desired. It is usually understood that the habitual use of morphia gives rise to transient albuminuria. I have found albumen in the urine of but one morphinist.

A point of more interest and importance is the finding of morphia itself in the urine, as these parties will not hesitate to deny their habit, and thus obtain life insurance; and, owing to the great prevalence of the habit it would, I believe, pay the insurance companies to require such a test in all cases. I had recently a patient come to me for treatment who developed pneumonia on the day of arrival, and died in a few days. He had insurance in a number of companies, some of which was obtained while using the drug.

The cocaine habit alone, according to my experience, is rare, nearly all of them being morphinists too—and I find a good many morphinists who take cocaine by sprees, leaving it off with little difficulty; while in certainly the large majority of cases the morphinist is bound to keep up his dosing at regular intervals. However, I have met a few who claimed that they took it and left it off at will, as DeQuincy claims that he did for eight years. A few, owing to nausea resulting from morphia alone, always use it combined with atropine. The effect of this is to limit the amount of morphia used, though they get enough atropine to be the more harmful of the two. One case that I know uses the combined tablet $\frac{1}{4}$ gr. and $\frac{1}{100}$ gr., taking a dozen or more tablets by the syringe per day, thus getting $\frac{1}{2}$ gr. of atropia.

A point of interest and surprise to one who has not had experience with these cases, is the rapidity with which they can increase the dose of morphia in relapses. While the beginner usually takes a year or two to get up to the maximum dose, that is, where one can take practically any amount, still, in cases of relapse, though none had been used for a long time, the dose can readily be run up to fifteen or twenty grains within a month, so that the system does not seem ever to regain its virgin condition. We see the same thing, however, in the use of tobacco, the first attempts at using it, unless done very cautiously, producing great distress, but after being once habituated to it, if left off, even for years, it can be resumed without the slightest unpleasant effect. We frequently hear of morphia habitues taking an overdose and dying in con-

sequence. I do not believe this possible to one thoroughly habituated. One who takes 20 grains can take 60 grains without feeling any decided difference in the effect, and one patient told me that he had frequently taken a drachm at a single dose without experiencing any effect, except, that he would not need another for two or three days. I have heard of one man taking 10 drachms within forty-eight hours.

A point of considerable importance, not to us as physicians particularly, but to the general public, is as to the fitness of drug habitues for places of trust, office holders, jurors, etc., and I maintain that no habitue should hold any office of trust, or one requiring discretion or judgment; and particularly that he is unfitted for a juror. Owing to the difficulties of taking his accustomed "shot" while serving on a jury, in a murder trial for instance, he would do anything he could to hurry on the jury's decision. One told me that were he in such a position, rather than keep a jury tied up when there was no opportunity for his getting the accustomed dose, he would consent to the hanging of what he was sure was an innocent man, and I believed he is no exception in this.

If I shall have succeeded in bringing some to a sense of the extent of drug habituations, and the great harm done thereby, thus rendering them more cautious in the use of those drugs which are liable to result in the establishment of a habit, my object shall have been accomplished.

PULMONARY TUBERCULOSIS--ITS PREVENTION AND TREATMENT.*

By DAVID R. FLY, A. M., M. D., Amarillo, Texas,

President of the Panhandle Medical Association; Professor of Physiology and Hygiene in the Amarillo College;
 Demonstrator of Anatomy in the Medical Department of the Fort Worth University; Formerly City Health Physician of Fort Worth;
 Late Quarantine Inspector for Tarrant County.

Preparatory to the reading on my paper on *Pulmonary Tuberculosis, Its Prevention and Treatment*, I wish to say that the subject and substance of the investigations therein set forth, were formerly presented by me, in a paper before the North Texas Association, at Dallas, Texas, in December of last year. Pursuant to the request of several friends, following the bent of my own inclinations, increased doubt-

less by a recent and somewhat exhaustive study of the subject, I herewith present an amplification of my former thesis.

In that paper I conceived the idea of calling this malady the vampire disease; for truly, like the mythical bat, it sucks the life blood and saps the vitality of its unfortunate victim; it is most subtle in its devastating ravages on the human system in-so-much that tubercular subjects will rarely admit until after the second stage is far advanced that they are victims of this dreadful malady. From the Arctic regions to the Gulf of Mexico, and from the Atlantic Coast to the Pacific slope, it yearly fastens its deadly tentacles upon the loom and youth of our country—selecting by choice those just entering into the pleasures and hopes of young adult life. It annually causes more deaths than all other diseases combined. Osler states that 1,200,000 people, at any given time in the United States are affected, and that 13,000 die annually in New York with pulmonary consumption; and many other States furnish a corresponding mortality. We can scarcely comprehend what these figures signify. Osler states further, that one in every fifty persons in this country is affected with tuberculosis. Thus we see that one fiftieth of the population of the United States to-day are tuberculous subjects, and unless some active measures are instituted to prevent its further spread we will soon become a nation of consumptives.

It is now a well established fact that to some extent this disease is contagious, not by a single contact with the affected, as is the case with scarlet fever and small-pox, but by close association, as in the family circle or those occupying for any length of time the same quarters. Medieval physicians were not ignorant of the contagious character of tuberculosis, as evidenced by the fact that as early as 1700 it was common after the lungs had become ulcerated to isolate consumptives from the public. After the death of the patient his clothing and all his belongings were burned, and sometimes even the house he lived in was burned or thoroughly renovated.

Webber noted a case of a tuberculous husband who lost four wives in succession; another who lost three, and four others who lost two each. Statistical studies of many other authorities show that the disease spreads through factories, prisons, and other similar institutions where people are congregated. The chief medium of contagion is the atmosphere impregnated with dry particles of sputum expectorated upon sidewalks, flooring, bed clothes, etc. It is obvious, then, that those engaged in mak-

* Read before the North Texas Medical Association, Dallas, December 12, 1899. Revised and read before the State Association, Waco, April 24, 1900.

ing up beds and sweeping and dusting rooms occupied by tuberculous patients are most exposed. This danger, however, can be materially lessened by sprinkling the rooms with a good antiseptic solution. Every municipality should pass laws requiring every consumptive to expectorate in antiseptic vessels, and to destroy the contents of same by burning. Suitable cups can be purchased filled with carbolized oakum for use upon the streets and public streets, contents to be destroyed by fire as often as necessary, and refilled with the same material. Every apartment occupied by a consumptive should be thoroughly fumigated and disinfected before being occupied by any other person. Those precautions would be a potent factor in checking the spread of tuberculosis.

No doubt there are cases contracted by using the same drinking vessels. Many strong men and women whose vitality is temporarily lowered by some current disease of the season—notably la grippe, typhoid fever, and pneumonia—are stricken with this fearful malady. Other cases are contracted simply by occupying the same sleeping berths or beds previously occupied by a consumptive. By no means the least formidable feature of this disease is the subtlety and the various means of its contagiousness—not one, even in the prime and vigor of health, seems entirely safe from the dangers of its onslaught under suitable conditions; and it requires no temerity to aver that scientists and humanitarians have no more difficult problem to solve than its sequestration and final extinction.

Direful as the foregoing facts appear, and really are, there is a rainbow of hope in the certainty that under proper climatic conditions, combined with scientific treatment and systematic hospital service, a goodly percentage of tubercular cases are susceptible of cure; what is more important is that the ravages of the disease thus confined can be so reduced year by year that eventually consumption will be an obsolete term in medical science.

For half a century the medical fraternity has recognized the increasing prevalence of this disease, but not until recently has any feasible plan been proposed to check its headway. Philanthropic and scientific minds of Europe, ably seconded by leading specialists of America, after wrestling long and earnestly with the problem, have come to the conclusion that the only possible means of arresting the universal supremacy of consumption over the human system is the isolation of the patient in a properly equipped sanatorium, enjoying a climate conducive to the cure of tuberculosis

in its incipient stages. Even in States whose climatic conditions are such that the cure of the patient is impossible, a place of seclusion must be provided for those afflicted as a protection to the general populace. It is hardly necessary to quarantine against consumption, but isolation, and proper sanitary precautions are now an absolute necessity.

It is only a question of time when legislative action will be taken by all civilized States toward this beneficent end. It remains for some one to take the initiative in this important line of humanitarianism; and I understand the State of New York has already done so.

No State has more intelligent and progressive people than Texas. No district on the face of the globe has a more salubrious climate than the table lands of Northwest Texas, known as the Panhandle, and its peculiar efficiency in staying the destructive onslaught of this disease, and bringing about an eventful cure, makes it the natural sanatorium of the world.

The object of this paper is to arouse the medical profession to the gravity of this danger, and through them to call the attention of all the intelligent people, and especially to impress on our representatives the necessity and importance of inaugurating legislation to the end that our citizens afflicted with tuberculosis may have adequate care, and that the unaffected brawn and sinew of our country may be preserved from its deadly grasp.

One or more sanitariums should be erected and equipped at the expense of the State. The great majority of consumptives will do better in sanitariums, and for the poor they are absolutely essential. The United States Government has set aside a reservation on the table lands of New Mexico for the erection of a sanatorium for her tubercular soldiers. Then let us follow this noble example, and do the same for our unfortunate victims of this terrible and fatal malady. There are asylums for the blind and insane; there are homes for the orphans, and domiciles for the poor; there are hospitals for the care of other bodily infirmities; but the significant and deplorable fact remains that no public institution is, or ever has been provided for our victims of tuberculosis, the deadliest foe of the human race.

To the imminent consequence of this subject, and the necessity of intelligent action in the premises, I invite your serious consideration.

Treatment.—After we have safely landed our consumptives within the portals of a well

equipped sanitarium, located in a suitable climate, what line of treatment shall we pursue?

Any method in order to be successful must embrace three cardinal points, viz.: proper alimentation, attention to the rules of hygiene, and judicious medication.

Diet is of prime importance; it should be both generous and nutritious. Good beef, mutton, fish, oysters, milk, butter, eggs, and wild game are among the best; the sweet starches and fats should be used with care, and absolutely prohibited when they undergo fermentation and derange digestion. No article of food whatever should be allowed that in any way disturbs the digestive functions; it may be even necessary to use pre-digested foods for a short while in some cases, for it is of the greatest importance that digestion and assimilation be preserved, for through this channel we are enabled to give nature the greatest aid in throwing off and checking the destructive influence of this disease. It is a matter of no little importance that food be well cooked and attractively served, in order to tempt the appetite and please the palate. It is said by one of our leading authorities, as this is a disease largely of mal-nutrition, that for the purpose of prognosis more depends on the condition of the stomach than on that of the lungs; therefore, in administering our medicines and feeding our patients, anything that disagrees with the stomach and interferes with digestion should be promptly withdrawn.

Attention to the *rules of hygiene* means proper ventilation, location and disinfection of the patient's apartments. These should be so arranged as to admit plenty of fresh air and sunshine during the day, and be warm and comfortable at night. Pure air and sunshine are the elixir of life itself to this class of sufferers. Consequently, every consumptive should spend as much time as possible in an out-of-door life. For those in the incipient stages, such valuable exercise as walking, riding and driving, in connection with such pleasurable sports as hunting and fishing, should be recommended. Walking and horseback riding to the point of fatigue are ideal exercises for this class of cases. For those able and wishing to engage in some business enterprise, I would heartily recommend the livestock business, in a suitable climate; it is both healthful and profitable. No other business has environments so conducive to the general welfare of consumptives. Those in more advanced stages should be wheeled or carried out each day for the benefit of the air and sunshine. The fever, cough and night-

sweats do not contraindicate this, for clinical experience has demonstrated that consumptives, in all stages, show the greatest improvement under the influence of out-door life under suitable conditions. The wearing apparel, especially the underclothing, should be of the best grade of wool, as this gives the body the best protection against atmospheric changes. Sleeping rooms, besides being well ventilated, should be provided with suitable antiseptic vessels to receive the expectorations, their contents to be destroyed as often as necessary by burning.

Medication.—Though we may not have at hand Karl von Ruck's extract of the tubercle bacilli, or Koch's antiphynim remedies that have not yet stood the test of practical experience, and received the sanction of long use, yet we have many valuable drugs, when judiciously administered, for controlling leading symptoms.

For the *incipient stages*, tonics, reconstructives and digestive ferments render valuable assistance in building up and maintaining the vigor and tone of the system. I consider the hæmatic hypophosphites of Parke, Davis & Co., with addition of little more strychnia, say a half grain to six ounces, an ideal tonic for these cases, in teaspoonful doses after meals. In addition to this, when the appetite is poor, and digestion allows, I frequently give some of the bitter tonics in connection with pepsin, pancreaticine and hydrochloric acid. Alcohol, in the form of good whiskey, sherry, claret, white wines, ale, porter or beer, is of material benefit in those cases where it improves the appetite and digestion, thus improving nutrition and lessening tissue waste. These preparations should, however, be prescribed with care, watching their effect in each individual case.

In the *stage of caseation or softening* resulting in septic fever, cough, expectorations and night-sweats, we have in creasote, carbonate of guaiacol and ichthyol, admirable remedies for controlling the fever, checking the night-sweats and lessening the cough and expectorations. It is well to alternate these agents with the systemic antiseptics, sulphite and sulphocarbonate of calcium. My preference is for creasote. It should be given in wine or hot milk after meals, commencing with small doses, gradually increasing to toleration, then drop back to a medium dose, and continue this as long as necessary.

The *cough* is but a symptom of the general condition, but sometimes this becomes so annoying as to seriously interfere with eating,

digestion and sleeping, and needs some special attention. For this condition, I want to urge the use of *heroin* and *codcine*. They possess all the virtues of morphine, without any of its evil effects. Creosote is an invaluable remedy by inhalation, especially in the laryngeal and bronchial forms. The advent of the nebulizer marks an era in the treatment of these forms of the disease.

I wish here to speak in the highest terms of the value of the *nuclein preparations* in well regulated doses, several times a day. They are true tissue builders, increasing the leucocytes and exciting cell life and glandular activity throughout the organism.

If we turn to any of our text-books on the practice of medicine, we will find *cod liver oil* highly spoken of as a food and nutritive tonic. This may be true where the patient can assimilate it; but I have never yet found a patient who could tolerate the pure oil for any length of time without impairing digestion, and when this impairment happens, it is more of a detriment than a benefit, and I have long since abandoned its use. I have, however, found many cases that would take it with benefit in the form of an emulsion with the *hypophosphites*. There are many preparations on the market, but I am partial to the egg emulsion, prepared by Parke, Davis & Co.

The *night sweats*, too, are but a leading symptom of the disease, but frequently are so distressing as to need some special treatment, and for this I want to speak in flattering terms of the value of *agaricin*, the active principal of *agaricus-alba*, a species of mushroom plant. It is put up by the Abbott-Alkaloidal-Granule Company, of Chicago, in granules of one sixtieth of a grain each; it is best administered in a solution in doses of two granules every two hours for three doses in early part of the night. It frequently controls the sweats in three or four nights, even where atropine and other well-known remedies have failed. It sometimes causes purging, but this can be obviated by giving small doses of codeine with it, and it has none of the bad effects of atropine.

There are a great many other drugs of more or less value in the treatment of this disease that I might mention, but I will only mention one more—that is *calomel*. This valuable drug should be given whenever indicated, at such a time and in such doses as are best suited to each individual case. Creosote alone seems to enjoy the confidence of the entire profession, and upon it we must place our chief reliance.

In conclusion, I wish to emphasize the fact

that, in this day and time, with the present lights before us, I sincerely believe that a modern sanitarium, with an efficient hospital service, situated in a suitable climate, where the patient can be isolated under proper environments, promises us the most efficient means of curing, checking and holding in abeyance the ravages of this terrible and fatal disease. This method has been tried in Europe and various places in the United States with gratifying results. I also wish strongly to emphasize this fact, that in whatever region or clime a consumptive receives a cure, or an apparent cure, or even benefit, he should forever thereafter hold his peace and stay by that good samaritan location.

I wish to make a motion in the form of a resolution—to-wit:

“Resolved, That all the members of the Texas Medical Association be requested to urge, through conversation or correspondence, their respective Representatives and Senators to take up the matter of a State appropriation for the building and endowment of one or more sanitariums for our consumptive poor, in such portion of the State as may be best adapted to the purpose, and that the chair appoint a committee of three to draft a measure to that effect.”

ÆTIOLOGY AND DIAGNOSIS OF IDIOPATHIC FEVERS.*

By F. M. BRANTLY, M. D., Senola, Ga.

Causation is the great problem sought after, and evokes the aid of every department in science. Theology discourses on theoretical imagination, seeking to build facts on immateriality.

A fulcrum is essential to all power; in like manner, matter is the foundation upon which science must build, beginning at the concrete and ending in the infinitesimal.

Every department of physics has its votaries, among which is to be found in prominence the disciples of Æsculapius. Their labors are constantly revolutionizing all medical departments, and developing the hidden mysteries of nature, bringing to light truth, and setting aside cherished and long lived traditions of the Fathers, astounding themselves and the world to see what a day of small things can bring forth. The phantom cure-alls of to-day, who seem to have the world in a swing, are gone to-morrow, and others more

*Read before the Medical Association of Georgia April 19, 1900.

pretentious come in their place to deceive the credulous. These blatant monstrosities only await in turn to be knocked out by others, until science shall have demonstrated its triumphs and forever put to rest the calling of the mountebank.

Ætiology is a big word, and means much. It goes from branch to root. Its workings are seen and felt all through the physical stamina. It is much talked about, but less known. *Let us study it in fevers for a few moments.*

Fever is said to originate from nervous disturbance. However, nosologists differ widely in their views on the causes that give rise to the excess of heat. If we were to attempt to give a reason for the rise of temperature in fevers, we could but say that the combustion arises in the lungs, together with the laborious efforts of the heart's action to eliminate the morbid cause, increases the momentum of the blood and the fraction, and thus gives rise to heat, as does violent muscular action. Hypocrates, Broussais, Paracelsus, Oullen, Brown and others, were divided in their pathological notions. One side contended that all diseases originated in the solids, the other in the fluids, and they fought it out on these lines for ages—while humanity suffered on account of practice conforming to theory. Plausible theory, that does not conform to fact, is a constant menace to humanity. Theory is the life of empiricism, and is the quack's hobby. In the absence of knowledge, theory always asserts itself, and cannot be set aside until dethroned by solid fact; even then, it dies hard.

Arbitrary nomenclature, doubtless, has as much or more to do in confusing the minds of medical men than any other thing. When you consult the current authors, you are constantly confused and confronted with the various names given to the same diseases. Idiosyncrasy and fortuitous circumstances have much to do in these diversities. While the cause may be the same, the effects may be more or less virulent. Idiosyncrasy will cause peculiar effects. These phenomena give rise to the ambiguous names given to diseases arising from the same fundamental cause. We know that vegetable decomposition generating microbes and imbibed into the general system by the various inlets produces malarial fevers, and that their names are legion—all amenable to treatment and curable by quinine, which destroys the plasmodia of different forms of malaria—all brought on by the same cause, and curable by the same remedies which are known to destroy the microbes in the blood whose cycles characterize the stages of pyrexia

in all fevers due to their infesting the corpuscles and plasmodia of the blood. This class of cases may be grouped together and offer work for the diagnostician, who will not be apt to err when bearing in mind the suggestions made.

The red corpuscles of the blood are the favored pabulum for malarial microbes; and in their evolution produce the changes and the anemic condition always found early in malarial fevers, but never in typhoid until ten or fifteen days have elapsed. Either from lack of close observation, or for sinister motives, some medical men are often ready to pronounce synochal fevers typhoid; or if they apprehend a reversal of opinion from any source, they compromise on the term *typhomalaria* as an easy term to get out on.

To make this diagnosis more plausible, they roundly assert that malarial and typhoid fevers can and do amalgamate, and then readily conclude, or else try to have others conclude, that they cure typhoid fever—thereby gaining a fictitious notoriety. That class of healers stand between the Ten Commandments and the Code of Ethics; and when I hear a doctor say that he cures typhoid fever, then I mourn for human depravity.

Within half of a century past, miasmata were regarded as a contagion located in the cerebro spinal periphery—the effect taken for the cause—a theory that gave rise to much empirical treatment. When fact takes the place of theory, treatment is revolutionized.

This miasm is always found in localities where moisture, warmth and vegetable decay exist.

Some contend that the mosquito bite produces the toxic effects of malaria, and that the various kinds produce the various orders of these fevers, but that idea is precluded by the fact that in many places where these parasites abound, there are no malarial fevers.

Another separate and distinct fever is typhoid. It is but one disease, and is the outcome of another kind of miasmatic microbe, generated from animal effluvia, emanating from animal excreta, and when effectual, is capable of infection by contact, and is nowise controlled by heat or cold. It prevails in winter or summer, and, unlike the other variety, has no known antidote, but patiently awaits scientific investigation to reveal in the vegetable microbe a remedy that will destroy the typhoid bacillus.

To our great allies, chemistry and pharmacy, we confidently look for the antidote. We imagine that we are nearing the time when a

remedy will be found, as in the other case, to cut short this dread monster that has always been a scourge to humanity; and he who shall make that discovery will have justly a name equal to that of Jenner.

Up to the present time, no known remedy avails either to cure or abort this disease; and all pretenders to the contrary are thus far doomed to failure. No treatment can be relied on, and the experience of ages is to treat typhoid expectantly; and then not to expect too much.

After over a half a century of practice, and always on the lookout for the cause, I have almost always found it in either hog-pens, privies, wash places, or about the dumping ground near the culinary departments. I have often seen the spread of this fever averted by strict sanitary regulations, both in and out of the premises. The microbe of typhoid fever, according to its discoverer, Eberth, is distinct from that of malaria, but has the same nidus in the blood corpuscles. They widely differ in development and duration, time of development, and longevity. This fever is often confounded by casual observers with the autumnal æstivo-malarial, resulting in the unscientific and misapplied name of *typho-malarial*, in which it is supposed co exists the two diseases, typhoid and malaria. But all evidence at present shows these cases to be a pernicious type of malaria, uncomplicated with typhoid admixture. The clinical appearance may so nearly simulate typhoid that a correct diagnosis may require an examination of the blood. The following points will aid us in diagnosis:

Herpes in common in æstivo malarías; delirium appears early, abdominal derangements, anemia, are all later in typhoid than in malarial fever; temperature takes a wider range.

It does not legitimately come within the purview of this paper to allude to treatment, but I will allude to the diversity of opinions of eminent men in regard to theory and treatment of typhoid fever—both of which are poor substitutes for facts. It is amusing to see with what tenacity men hold to particular remedial agents that they claim to suit their theory.

As typhoid is not amenable to known remedies, a wide field is opened for empirical remedies, a large proportion of which serve either to kill time or patient.

THE DUTY OF THE MEDICAL PROFESSION AND THE STATE TO CHRAINAIN SCIENCE HEALERS*.

By P. R. CORTELYOU, M. D., Marietta, Ga.

The science of medicine has always been classed among the liberal professions. If we will examine its record from the days of Hippocrates to the present, we will find that numbers of its ranks have, as a rule, always been earnest, thoughtful men, ever striving to know the truth, and to investigate and apply all means which will relieve mankind of suffering and disease. While we do not claim that a perfect system has been found as yet, still very great advances have been made in regard to the causes of disease and the best treatment of them, though the patient investigation of earnest minds and human life has been lengthened and disease overcome and arrested in its course in very many cases.

It is not necessary at this time to recall the many important discoveries that have been made which have added so much of comfort to human life and have brought so much relief to suffering humanity. It is not surprising, however, that while the medical profession have been endeavoring, by research and experience, to secure the most efficient means to overcome disease and to educate the people in regard to the best sanitary conditions for the preservation of the health of the community and State, that they should encounter from time to time all sorts of cranks who claim this and that is truth, contrary to all the experience of the past. So we have the various pathies and isms, and often the public seem to think they are as competent to give advice as the most learned and accomplished physician.

Of all the isms, however, the most grotesque and irrational is the one now claiming public favor and patronage, under the name of "Christian Science," and by the use of religion, and a perverse interpretation of the scriptures would lead people to believe that there was no such thing as disease, but that it was only an erroneous belief of mortal mind. This system, as you all may know, was promulgated some years ago by a Mrs. Mary Baker Glover-Eddy, of Boston, Mass., who claims that it was revealed to her by Divine Authority, and she published a book called "Science of Health with Key to Scriptures," in which she maintains the only true method of treating and healing the so-called sick and diseased—said

* Read before Georgia State Medical Association, in session April 18-20, 1900.

disease not being a reality but only a belief of mental mind.

From this work I quote some of the following statements, to show what so many people, at the close of this nineteenth century of intelligence and enlightenment, are so ready to accept and believe as truth above all other methods and scientific research of the centuries past.

She says: "The divine spirit, testifying through Christian Science, unfolded to the demonstrable fact, that matter possesses neither sensation or life; that human experiences show the falsity of all material things; that mind is all in all, and the only realities are the divine mind, and idea mortal mind implies something untrue, and therefore unreal."

The blood, heart and lungs have nothing to do with life. Disease arises, like other mental conditions, from association. One disease is no more real than another; all disease is the result of education, and can carry its ill effects no further than mortal mind maps out the way. The five physical senses are the avenues and instruments of human error. The daily ablutions of an infant are no more natural and necessary than would be the process of taking a fish out of the water every day and covering it with dirt in order to make it thrive more vigorously.

To reduce inflammation and dissolve a tumor or cure organic disease divine mind is more potent than all lower remedies. It is a noticeable fact that in families where laws of health are strictly enforced and caution observed in regard to diet, there is the most sickness; where there are fewer doctors, and less thought is given to sanitary subjects, there will be better constitutions and less disease. Until the advancing age admits the efficacy and supremacy of mind it is better to leave the adjustment of broken bones to the fingers of the surgeon.

Such, then, are some of the remarkable statements made by the head of this sect in her book, which is their only guide.

Now, it is a fact not to be denied that many, even of the learned and cultured classes, have accepted these doctrines, and are governed by them in their lives, and in dealing with those of their number who may become diseased; and not only so, but they are making every effort to make converts to their system and to control the action of courts and law makers.

What, therefore, shall be the correct and proper course for the medical profession to take in regard to this system so detrimental to the public health and sanitation is, it seems to

us, a question which is worthy of our consideration. We may ignore it completely, or may show the folly of it, or may demand from the State that all who propose to care for the sick under a form shall be obliged to undergo the same examination as to qualification as the practitioners of medicine are called upon to do before they can be admitted to offer their services to the people. It has been generally conceded that the State has a right to regulate all employments which for any reason involve a hazard to the community. On this principle, it forbids any man or woman to practice medicine or put up drugs for the sick without previous special education and training, attested by an official examination. The fact that the mental healer prescribes no drug does not take him out of the sphere of responsibility.

The practice of medicine does not consist exclusively in the prescription of drugs; for in many cases none are prescribed. The practice of medicine consists in a knowledge of the body and of the laws which regulate its various functions, and of such advice to the patient based on that knowledge as will enable him to comply with the laws. Sometimes it calls for a prescription to aid; often of what food to eat, and what bodily habits to maintain. Any one who may undertake to heal disease in any way whatever, would come, under the law, as a practitioner, whether he go under the name of allopath, eclectic, homœopath or mental healer. And it is useless to say that these Christian science healers do not practice for pay, for Mrs. Eddy says that pay in itself is in healing, and urges all her followers to demand pay; and I have known of cases where they even demand it in advance of the treatment, which may be a wise precaution for them to take. Christian science, she says, demonstrates that the person who pays what he is able, is more liable to recover than the one who does not. The healer is sure to prescribe a fee for him or herself if he or she does not prescribe any drug for the patient.

We hold, then, that the State has a right to decide by such tests, as it may determine who is competent to practice the healing art, and that these healers, so-called, should not be allowed to practice until they fulfil the qualifications demanded by the State of all who wish to care for the sick and diseased.

Knowing absolutely nothing of disease, and even denying its very existence, it is not surprising that they should claim the power of curing the sick and maimed. With their beliefs we have nothing to do; but when they boldly proclaim that cancer, consumption,

locomotor ataxia, typhoid fever, valvular disease of the heart, and all organic diseases can be cured by them, and that there is no need for sanitation, or that contagious diseases should be isolated, they should be made to know that liberty is one thing and license another; and that they should not be allowed to bring the lives of others in jeopardy, but should be made to understand that human life is too valuable to be thus lightly dealt with. It has generally been the habit of these healers to give up the case when the patient is in *articulo mortis* for the regular physician to be called in, so that they will not be called on for a certificate of the cause of death, which they would be unable to give.

In the case of life insurance, it would seem that it might become a very important factor as to whether the policy-holder has a right to refuse proper medical treatment, and so sacrifice a life which might have been saved, and loss to the company prevented.

While delusions of this character are usually short-lived, still, while many people embrace these views, that disease is not real, and sanitation should be ignored, great harm is liable to come to the community unless the practice of these views is controlled by the power and authority of the State, and the same law is made binding on them as on all other legalized practitioners of medicine.

Analyses, Selections, etc.

Pneumonia—Its Treatment with Strychnia and Stimulants—Some Atypical Cases—Difficulties of Diagnosis, Etc.

During the meeting, March 10, 1900, of the Columbus [Ohio] Academy of Medicine, a most interesting running discussion on pneumonia, etc., occurred, which is reported in full in the *Columbus Medical Journal*, April, 1900.

STRYCHNIA AND HOT DRY APPLICATIONS FOR PNEUMONIA.

Dr. Chas. F. Turney said that a few years ago some one read a paper to the State Medical Society on "The Treatment of Pneumonia," recommending especially the use of strychnine. Just before the reading of that paper I had a serious case of double pneumonia; patient was an aged man. I began the use of strychnine and nitroglycerine in the treatment of the case. I didn't expect favorable results, but fortunately—whether it was due to the medicine or constitution I knew not which—he got well. Since that time I have used strychnine or other

heart stimulants, and have been much pleased with the results obtained.

At our last national association a paper on the use of strychnine in pneumonia brought out expression of quite a number of opinions; some advocated large, others small doses. I have usually used the small doses, often repeated, generally about $\frac{1}{10}$ to $\frac{1}{20}$ of a grain every hour, together with either nitroglycerine or caffeine.

Modern writers on the subject advise us to rely wholly on external applications of cotton. I have always been a little afraid of it and for that reason have never used it much. I have never used hot wet poultices, but rather hot dry applications, and have been pleased with the results. I use strychnine, repeated every hour until resolution begins, then I diminish the dose.

Dr. A. M. Steinfeld: My experience with pneumonia has been limited to children, and, while I can agree with Dr. Turney that strychnia is all right and that heart stimulants are indicated, yet do not think strychnia should be used early in the disease. A boy was sent to the Children's Hospital early in the disease, with a muttering delirium and high fever. We gave him a cold bath, which quieted him. His temperature dropped in two days from $105\frac{1}{2}^{\circ}$ to 96.4° and all the strychnia he got was two doses in the crisis. Our method of treatment was brandy, p. r. n. His diet was light and nutritious. I think *strychnia* used at the time of the crisis does more good than when used in small doses throughout the disease.

Another case was brought into the hospital with a diagnosis of pneumonia by the attending physician. Examined the case and was at a loss to know what was the matter with the boy. I found a greatly enlarged liver pressing on the right lung causing the pain and cough. No history obtainable. The boy had been ill for twelve hours, pulse 136, respiration 36, temperature 104° . Some râles over the right lung; liver greatly enlarged; vomited bilious matter for twenty-four hours; gave calomel, and all symptoms subsided. Think the enlargement of the liver was due to auto-intoxication.

RECENT FREQUENCY OF PNEUMONIA DUE TO INFLUENZA—PNEUMONIA AFTER FOLLICULAR TONSILLITIS—CASES WITH LITTLE RISE OF TEMPERATURE—CATARRHAL PNEUMONIA FOLLOWING GRIPPE, COMPLICATED BY ABSCESS AND GANGRENE—CONTUSION PNEUMONIA—LOW TEMPERATURE IN OLD PEOPLE, ETC.

Dr. Starling Loving: I think pneumonia has been rather more common during the past

winter than for several years. It is my impression that the frequency of the disease is due to the prevalence of influenza. I have seen several cases of pneumonia with rather unusual features. The first case that attracted my attention as being unusual was one which succeeded an attack of acute follicular tonsillitis. Pneumonia developed after the deposit had disappeared from the tonsils. Am sure the case was one of follicular tonsillitis, for examination disclosed the streptococcus pyogenes aureus in abundance, but no Klebs-Löffler bacillus. The inflammation was confined to the lower lobe of the right lung. Resolution did not begin until the end of two weeks. I feared resolution might not occur and was uncomfortable in regard to the result, but it did occur and the patient made a perfect recovery.

Next I had a case under my immediate care and saw another in consultation with Dr. Dixon, in which there was but little elevation of temperature, the highest temperature being 100°. One patient died on the sixth day and the other died at the end of ten days. There was absolutely no temperature beyond what I have stated. In one there was no complication or antecedent lesion. In the other there was mitral insufficiency of long standing, and death was preceded by an attack of angina pectoris.

The third was one of catarrhal pneumonia following an attack of grippe, complicated by abscess and gangrene. The typhoid state, with diarrhoea and great prostration, developed, and finally, in a fit of coughing, there was a discharge of a large quantity of excessively fetid pus, mingled with blood, and the patient became better. The lung is clearing; patient is rational, begins to eat, the diarrhoea has ceased and convalescence seems established.

The fourth case is what Dr. Baldwin would call a "contusion pneumonia." The patient, a female aged 82 years, fell down stairs and fractured the neck of the thigh bone. There was no injury in any other region. The case presented no unusual symptoms, though the patient suffered a great deal of pain. On the fifth day after the accident there was a chill and an increase of fever and pneumonia developed. She sank into a typhoid state and died at the end of the fifteenth day from the accident.

The fifth was somewhat similar. On Friday of last week a man was kicked by a horse nearly over the apex of the heart. The shock was severe and reaction not complete until the end of thirty-six hours. To-day he has developed pneumonia.

Of these cases, two had unusual origin and

the others presented rather unusual symptoms. The case of gangrene was particularly interesting to me, as I have seen but few in which it has occurred; heretofore all that I have seen complicated with gangrene have died, but this one is recovering.

I follow Dr. Turney's method—give the patient strychnia and an abundance of alcohol. I use strychnia in rather more liberal doses than those mentioned by him.

The cases in which there was no temperature were interesting to me, as I have rarely seen such. Both were old people—one a man of 65 or 70 and the other a woman of 82. As already stated, the latter had mitral insufficiency and died after an attack of angina pectoris. I beg to call attention to one fact. After the use of the usual remedies, morphine, nitroglycerine and amyl nitrate, pain ceased and did not return, but the patients gradually sank and died. In the last case, an hour or two before the end, there was frequent and shallow respiration. For about four hours before the termination the patient was unconscious.

Dr. Turney: Are we most apt to find low temperature in old persons?

Dr. Loving: I should say yes, for I have never seen a case of pneumonia in a young person with low temperature.

SLow RESOLUTION OF PNEUMONIA.

Dr. H. Hendrixson: I have a case which has been a very peculiar one. The patient, a girl nine years of age, previous good health, began to have symptoms of pneumonia, dulness on percussion, but no râles or murmur in the lower border of the left lung, the dulness not extending more than two inches from lower border. The temperature at the time I saw her, on the 20th of January, was 104°, pulse 110. The temperature registered lower every day, for a while, which I attributed largely to treatment, but the hepatization continued to spread until it reached above the nipple to the fourth intercostal space, and was complete, no air passing into that portion of the lung. Never any moist râles; at the upper edge or border of the extended consolidation there was no fine crepitant râles, usually heard in pneumonia. There was a hacking cough, but no expectoration. The lung still continues solid below fifth rib. There has been partial resolution, the upper portion of hepatization seems to have partially recovered. The lower portion is still consolidated, not a particle of air can I discover going into it. She still has a little cough, but no expectoration. The temperature to-day was 99°, pulse 120. The

temperature some days reaches 101°. The general symptoms of pneumonia, except crepitant râles, were present—viz., that peculiar muddy-colored face, with flush upon the cheek, high temperature preceded by a chill. These were not in the usual order, yet I think it was pneumonia. *The peculiarity of the case is the slowness of resolution.* I gave strychnine from the beginning, because I thought the heart needed stimulating. But no expectorants were given. The highest pulse rate was 130, frequently after the eighth day the heart beats would be about 120, and then very little fever. Strychnine given in full doses always increased the force of the heart and slowed the pulse, but as soon as the effect of the medicine was gone the heart weakened. There was but little pain after the fifth day. I have her now on the syrup of the iodide of iron.

ARE HOUSES SOMETIMES INFECTED WITH PNEUMONIA?

Dr. C. F. Clark: I know little about pneumonia except what I have seen in my hospital experience. I would like to ask Dr. Loving or Kinsman, *Are houses sometimes infected with pneumonia?* I think probably most of the physicians present will recall that a great many men who go East from here develop pneumonia. I have wondered whether it was the faster life or the climate, or whether the hotels are actually infected with pneumonia.

Dr. Starling Loving: I believe infection is not infrequently left behind. Houses become infected and remain so. Unquestionably, if we speak of pneumonia following influenza we must suppose the infection to be due to the same cause. I think the same is true of croupous pneumonia or winter fever.

EPIDEMIC AND CONTAGIONS IN AREAS—STIMULANTS IN TREATMENT—DIAGNOSIS USUALLY EASY.

Dr. D. N. Kinsman: As to the contagiousness of pneumonia, there is any number of cases reported in the British journals, in which it has been *undoubtedly epidemic and contagious in limited territories.* Another thing, while looking after the sources of infection, we forget that our own mouths may carry it, and most of us carry the microbes known to be active in the production of this disease, and it is possible that a chill or irregularity of life may lead to the development of these in the same way that Pasteur found the anthrax develop in the chicken. When the chicken was chilled the germ grew, and when not chilled it did not

grow. So a person going to New York and getting chilled, depression that allows the microbes to spring into activity is produced.

While listening to the discussion I have been thinking how different the mode of treatment is from that formerly used. I have not heard a word about expectorants. It is curious when I come to think about it. We know now that we must have a local implantation of the germ. There is no vaso motor supply to the blood-vessels of the lungs. There is engorgement in the pulmonary capillaries, and an exudate of fibrin and cells into the air vesicles.

You cannot find any change in the lung substance. Take this matter exuded by an extremity and you can lift it out like a bunch of grapes. Some say there is change in the epithelium. Osler says there is. Delafield says not. Rindfleisch, who wrote a most exhaustive article, says the epithelial lining of the air cell does not suffer in croupous pneumonia. The result of exudation is lessening of the blood coming from the right to the left heart. That is the essence of the whole business. We treat the heart because there is increase of pressure. The heart is working against toxic influence; it is also working against the temperature, hence it becomes necessary to treat the heart. If we study a case of pneumonia carefully the indications for stimulants are plain. Every case does not need stimulation. The retarded pulse, the dragging pulse, not that it is slow, but there is want of precision. The thrill to the artery does not depend on the amount of blood, but on the vibration of the arterial wall. When we recognize that we must use stimulants, use them freely. I suppose there is no question but that stimulation is the best thing. Such a load of remedies have been prescribed,—aconite, veratrum viride, etc. Some have given ergot with the insane idea that they could cause contraction of the lung capillaries. Physiologically such effect cannot be produced.

I do not think there is usually any particular trouble about the diagnosis of this disease. Low temperature is one of the things that Jürgensen calls attention to, and says that often old people die, and it is supposed that death results from the rupture of blood-vessels, but the post-mortem reveals pneumonia. So often pneumonia is overlooked, and the diagnosis is made on the post-mortem table. The symptoms that we are in the habit of looking for have all been in abeyance. There has been neither chill or fever, but a condition of lethargy or coma.

DIAGNOSIS OF PNEUMONIA OFTEN DIFFICULT.

Dr. Charles A. Cooperrider: I must take issue with Dr. Kinsman when he says there is not much question about the diagnosis of pneumonia. In typical cases, presenting all the special symptoms characterizing the disease, I grant there is not much question, but unfortunately not all cases are of this type. We frequently meet with cases the diagnosis of which to me, at least, is extremely difficult—particularly those cases in which the physical signs are delayed. In cases of this kind I regard the course of the temperature as of considerable diagnostic significance. A sudden rise of temperature to a great height, preceded by a chill or convulsions, is always, to my mind, suggestive. About a year ago I was called to see a boy, thirteen years of age, with a temperature of 105°. Some two hours before he had suffered a terrific chill. I made a probable diagnosis of pneumonia. The next day I felt almost certain of my diagnosis, although there were as yet no physical signs. The case continued until the tenth day with absolutely no physical signs—no cough, no râles, no consolidation, no anything characteristic of the disease except the continued high temperature, the pulse-respiration ratio, and that peculiar something about the countenance that belongs only to pneumonia. At my next visit took with me a very prominent physician who made a diagnosis of "cerebro-spinal meningitis." Notwithstanding that, the gentleman told me frankly, and I may say, somewhat patronizingly, that I was mistaken. I adhered to my diagnosis, and was rewarded on the morning of the eleventh day by finding a considerable patch of consolidated tissue and some bronchial breathing. In order that the doctor should see his mistake, I suggested that he come again, when he agreed with me perfectly, saying, "Last night I didn't think it pneumonia; to-night I know it's pneumonia."

I think I have had the good fortune of seeing at least three and possibly four cases that run along, not for three or four days, but for prolonged periods without any physical signs. The boy's temperature fell by crisis on the fifteenth day—dropping from 105½° to below normal. In regard to cases where we can get no consolidation there are two theories; some contend that they are central, while others hold that the consolidation is under the scapula where we cannot get at it, or probably hidden along the spinal column, along the thick portion of the lung covered by the spine. I do not know which is correct, but I usually get the

first evidence high up in the axillary space. Another thing that often worries me is to differentiate in certain cases between pleurisy and pneumonia. It is often a matter of considerable nicety, especially in older people, when there is little cough and no expectoration, to distinguish between a pleuritic friction rub and a crepitant râle.

One word as to treatment. I agree with Dr. Kinsman as to stimulation. The majority of cases need no stimulation. I have treated many cases in children by paregoric alone. The average case of pneumonia in a child almost always gets well if the doctor is not too officious. As to stimulation in adults, I never stimulate until it is needed; then I give strychnia in heroic doses, $\frac{3}{16}$ to $\frac{1}{16}$ of a grain or more, as is needed.

CLIMATE RATHER THAN HOTEL INFECTION OF CITIES CAUSE OF PNEUMONIA IN LARGE CITIES.

Dr. William H. H. Nash: The question asked by Dr. Clark seems in a general way, to be answered in the affirmative. That is, many of those who have gone to eastern cities and resided for some time there in hotels, have become infected with pneumonia and died. I would answer the doctor's question by asking another. Do the members of the Academy who believe the hotel theory of infection believe that it holds good in relation to our own hotels; or in other words, do they know that our hotels or private residences in which pneumonia cases have been sick, treated and died, communicate the disease to later occupants? For my part I rather think the tendency that there seems to be for pneumonia to be epidemic in a most fatal form in eastern cities, depends more on the wretched climate that is the rule in winter there than the infection in their hotels. In the winter of '74 and '75, when I took a post-graduate course in Bellevue, pneumonia in a most fatal form was very prevalent in the city. I remember a remarkable coincidence which happened that winter. Three brothers, quite elderly men, one a distinguished doctor, another a noted lawyer, and the third a banker—men of affluence, living up town on the avenues in different localities, in their private homes and not in infected hotels, died of pneumonia so near the same time that they were all buried at the same time, having a triple funeral. Now granting so bad a climate as New York winters can produce and knowing how fatal pneumonia is, even with the life-long residents of New York, is it necessary to seek out a cause in infected hotels to

account for the lamentable fatalities of the unacclimated.

STRYCHNIA IN DEFECTIVE HEART—NITROGLYCERIN DOSE TOO VARIABLE—HOT-WATER BAGS WHEN COMFORTABLE—DIAGNOSIS AND PROGNOSIS.

Dr. J. F. Baldwin: Owing to the character of my work I have not treated a case of pneumonia for many years, though I have seen a number of cases in consultation. I have recommended and used in this disease strychnia in pretty full doses. It is not always indicated, but if there is any indication of defective heart action I give it, and give it freely. The disease is, as we all understand, self limited, and we simply treat symptoms as they arise; but when strychnia is indicated, as it usually is at about the time of the crisis or before, I give it in large doses, seldom less than one twentieth of a grain hypodermically—this being repeated every hour if necessary until its effect is produced. It should be given for effect and not simply for quantity. I have never been in the habit of giving nitroglycerine in these cases. Its effect is so evanescent that it has seemed to me to possess very little value unless the physician can be present so as to repeat it at short intervals. If nitroglycerine is to be given, however, it should be borne in mind that that is one of the medicines the dose of which varies very widely with different people. Personally one half drop will make my head feel very uncomfortable, yet some years ago I treated a little girl to whom I had to give twenty drops to produce any effect whatever, while cases have been reported in which a teaspoonful of the 1 per cent. solution was necessary.

If in cases of pneumonia a hot-water bag is comfortable, it should certainly be used. I have never used cotton compresses and see no advantage in them. They interfere very materially with the examination of the lungs, and sometimes patients seem to suffer when they are removed at the end of the disease. If the patient is in a warm bed and in a warm room I can see no advantage.

As to the *diagnosis*, I am glad Dr. Cooper-*rider* has brought out the point which he did. I have seen one such case. In that the patient, a young girl, had had the premonitory symptoms of pneumonia, yet her physician had been unable to find any physical signs. When I saw her I was able to make out a little patch of pneumonia back of the scapula, and the case afterwards ran a typical course.

The *prognosis* is good as a rule in healthy people, but in a patient with a weak heart and

in whiskey drinkers the prognosis is almost uniformly bad. I do not remember ever to have seen a genuine whiskey drinker recover from an attack of pneumonia.

Dr. H. Hendrixson: I would say in regard to the case referred to by Dr. Baldwin that I suspected an effusion, but found no evidence at the intercostal spaces, and no difference in the size of the lungs by external measurement. There is seemingly no effusion. The fact is, I have examined the patient in different positions and can get no evidence of effusion. There is still that consolidation and the knee chest position does not change the sounds in the apex. It began in the lower portion and extended up above the nipple and seemed very marked in its margin. Resolution is slowly taking place from above downward. The lower portion is as solid as ever. The vesicular murmur is being restored and seems to be heard as far down as resolution has gone. In case of fluid we would expect some difference in the measurements and possibly bulging of the intercostal spaces. There may be fluid encysted.

Inebriety in the Navy.

Some recent inquiries made at the Navy Department regarding the losses of government ships have brought out the strong probability that many of these cases were due to the failures of officers who were spirit drinkers. It has been known semi-officially that at least the disasters occurring to two government ships were intimately associated with and followed from the drink excess of the officers. In one instance, where a subordinate officer was in active command, and at the time using large quantities of spirits, the ship was wrecked. The inquiry did not disclose this fact because of the responsibility of the superior officer. A number of instances have occurred of the wrecking of warships belonging to other countries, whose officers were intoxicated at the time of the disaster. Officially grave errors of judgment and blundering stupid conduct appeared entirely unusual for officers of experience. Probably one of the most prominent disasters was the capsizing of the English battleship, "The Royal George," many years ago. The officers had been intoxicated the night before, and were still drinking.

The extraordinary behaviour of an English admiral who went down with his ship from a stupid blunder was explained by his alcoholic excesses the night before. In many of these cases, official inquiry covers up the real facts to save the reputation of the officers and the management of the navy. Several great liners

have gone down in mid-ocean whose captains were known to be alcoholic drinkers. At least three ships have disappeared manned by the same class of men. One of these recent ships loaded with passengers, which disappeared in mid-ocean, was officered by moderate drinking men. The merchant marine has for many years suffered so much from this possible cause that the underwriters are becoming more strict in refusing insurance to any ships which are not officered by total abstainers. Two of the great Atlantic lines have issued strict orders that no officer shall use spirits on duty or off duty under pain of dismissal. One of the leading underwriters in New York asserts as his opinion that fully half of the ships wrecked are due to the alcoholism of the officers. The fact is becoming recognized that both the moderate or occasional drinker is unfitted for accurate work. Such persons have defective judgment, do not think quickly, and are confused in times of excitement and peril. On shipboard, the incompetency of such men is fatal and cannot be corrected. The delusions which grow out of the palsy of the senses from wine, with the unhygienic conditions of life on shipboard, unfit officers for exact duties of any kind. The teaching of the danger of alcohol in a naval academy is carried on with a great deal of enthusiasm, and already the graduates realize the importance of this study. In the Navy Department, the former drinking officers who spent most of the time while ashore under the influence of spirits, are rapidly disappearing, and a new class of men, who are total abstainers, not from any sentiment or theory, is taking their place. It is understood in the department that the losses and wrecks due to the carelessness of drinking officers are to be severely punished in the near future, and no farther attempts will be made to conceal and cover up the real facts.—Editorial in *Quart. Jour. of Inebriety*, April, 1900.

Syphilitic Gangrene; Case Involving Scrotum and Perineum.

William R. Lowman, A. M., M. D., Orangeburg, S. C., read a paper on this subject before the Tri-State Medical Association of the Carolinas and Virginia in session at Charleston, S. C., 1900, of which the following extract may be taken as a summary:

"Thus we have in this case a progressive localized necrosis of cellular and connective tissues—an areola of red inflamed tissue circumscribed 6 cm. in diameter, centre 4 cm. to the right of anus, eventually sloughing into deeper tissue over the entire area, passing for-

ward for 3 cm., crossing the perineal raphe on a line with the posterior edge of the superficial transverse perineal muscle and thence to the posterior base of the scrotum, where another area of about the size of a silver dollar was involved; and then proceeding anteriorly around the left side of the scrotum, involving all of the left side of same anteriorly, sloughing into and destroying the skin, cremaster muscle, spermatic fascia and tunica vaginalis, laying bare the lower end of the left testis, but not involving it. The inflammatory action and destruction of tissues was complicated by much systemic disturbance from general toxæmia. The case responded to local antiseptic and to general tonic constructive medication with a mixed specific treatment.

"Locally, warm lotions of hydrogen dioxide were used until after separation of sloughs; then aristol was applied freely. Constitutionally, Basham's mixture was used in conjunction with salol, phenacetine and quinine until the destructive processes ceased; then the four chlorides till recovery was complete.

Ethyl Chloride as an Anesthetic with Primary Chloroform Inhalation.

Professor Oscar Bloch, of Copenhagen, Denmark, publishes, in the *St. Paul Medical Journal*, the results attending the extensive use of ethyl chloride, both alone and after the primary inhalation of small quantities of chloroform. Under ethyl chloride alone he operated in 503 cases; in conjunction with primary chloroform narcosis in 393 cases.

The reasoning which formed the basis of his method is as follows: "The psychical pain plays an overwhelmingly greater part in the matter than the physical; when we except greater sensibility of the skin and nerves the other tissues do not count; we can, therefore, in reality by anesthetizing the skin, and by operating with a light hand (not pulling the tissues—i. e., the nerves) undertake large operations without any pain to speak of; the reason why we should use primary-chloroform-anesthesia is that it does away with the psychical pain."

With ethyl chloride alone many operations were performed painlessly, or practically so. "The ethyl chloride is sprayed on the skin; when the sprayed line is white and also firm to the touch, the incision can be made without pain; if too much pressure is not made (therefore a sharp knife!), the incision is painless; it is only when we reach the subcutaneous connective tissue that pain may arise; this is dependent upon the presence of larger nerve branches, which have not been anesthetized by

the cold." Dr. Bloch has operated by this method in sixteen herniotomies, three tracheotomies, six colostomies, and one enterostomy, an important consideration in view of the fact that the physician may be called upon to do these operations without time to summon skilled assistance.

When primary chloroform anesthesia is employed, he proceeds as follows:

"The field of operation is cleansed, the patient placed in the most favorable position for operation. If an Esmarch is to be applied, it should be adjusted before narcosis is begun; Esmarch's mask is placed over the patient's nose and mouth, and he is asked to breathe quietly to endeavor to go to sleep; I am accustomed to add, 'do not be afraid; if you notice that anything hurts, you are to say so, in order that you may get chloroform, but you are not to pay any attention to our touching you if it does not pain you.'

"A spot the size of a silver twenty-five-cent piece just under the nostrils is moistened with chloroform, and then the mask is covered by the hand so that none of the vapor is lost. Everything is quiet in the operating room. A short time afterwards a little more is poured on, and usually in one or two minutes I ask, 'Are you asleep?' As a rule I receive no answer, or the patient replies, sleepily, 'yes' or 'no.' In short, we get the impression that the patient, who has had from 1 to 2 cc. of chloroform, is either asleep or on the way to sleep; this is the time to use the ethylchloride; both the operator and assistant spray the skin with the tubes (covered with sterile gauze) of ethylchloride, either simultaneously on one spot, or if several incisions are to be made, each on his own line; the anesthetizer drops a little chloroform now and then on the mask, which he keeps constantly covered with the hollow of his hand. When the skin becomes white and hard it is incised and without reaction on the part of the patient.

"Incision of the subcutaneous connective tissue produces, on the other hand, frequently some reaction; if it occurs, a sterile gauze tampon is placed in the wound while a little chloroform is administered. As a rule, in one or two minutes one can continue the incision without complaint from the patient. With a sharp knife the fascia and muscles are divided carefully, without pressing too hard, without the least reaction; the retractors used are blunt and must be held with a light hand without pulling more than absolutely required. If the peritoneum is to be incised, a fold is usually picked up with a forceps and cut, then a knife

or scissors divides it the whole length; the fold must be picked up carefully; if it is pulled upon too hard it hurts. A healthy peritoneum can be incised without the least reaction, if we are careful not to pull upon it; in the same way the application of the Pean forceps along the border of the peritoneal wound does not give pain. The same remark applies to incision of the other tissues. It is not so remarkable that pressing and pulling hurts, because we are pressing or pulling the nerves, and this is always painful. We know this from our daily life; if we pull the hair, it hurts; if, on the other hand, we grasp the hair with a gentle hand it is not noticed; when we press (pinch) the skin lightly and carefully it does not pain; if we do it roughly it is very painful.

"When we operate with attention to the patient's complaints, we can cover the wound and give chloroform if there is pain that we wish to escape; in this manner we can operate under the effects of repeated primary chloroform narcosis, or we can continue the anesthetic to complete narcosis."

As already stated, Dr. Bloch has used this method in 393 cases, comprising every variety of major as well as minor surgery. He is convinced of the utility and value of this method in a great variety of conditions, and warmly urges its use. Unfortunately, he has to report one accident, evidently due to this cause, occurring in an old man operated upon for calculi; "after the use of one cc. of chloroform, and after the skin and fascia had been cut through following ethylchloride, he stopped breathing, cyanosis appeared, and in spite of all efforts he could not be resuscitated."—*Med. Standard*, May, 1900.

Duotal in Phthisis.

Dr. Julius Pollak, House Physician, etc., says (*Wiener Klinische Wochenschrift*, No. 3, 1900, January 18th) that in duotal we possess a drug that has all the advantages of creosote, without its deleterious effects. Duotal, Von Heyden, is 90.5 per cent. of pure guaiacol chemically combined with carbonic acid. It is a white, crystalline, odorless and tasteless powder, insoluble in both hot and cold water, and can be taken without causing any difficulties whatsoever.

For experimental purposes it was administered to a series of patients at the "Heilanstalt Alland." They were chiefly those in whom there was no improvement in weight, in spite of treatment, in consequence of the anorexia.

The mode of administration was the following: During the first four or five days a single

dose of 0.5 gram ($7\frac{1}{2}$ grains), in a wafer, was given once daily after dinner. Then the dose was doubled. A few days later 1.5 grams ($22\frac{1}{2}$ grains) was given daily, divided into three doses. Finally the daily amount was slowly increased up to 4.0 or 5.0 grams (60 to 75 grains) and at this point it was maintained for a considerable period of time.

Thirty-two persons altogether took the drug for two months each, two of them being ambulant patients.

In five of these cases the duotal treatment was stopped after three weeks, because the patients' appetites got worse. In all the other cases there was marked improvement in the appetite. In the two ambulatory cases there was an increase of weight in 14 days of 1.6 and 1.4 kilograms ($3\frac{1}{2}$ pounds and $3\frac{1}{10}$ pounds) respectively. Twice we obtained a good result when obstinate constipation was present. After four weeks' administration of the duotal in the above doses the movements of the bowels became regular.

One patient, who began with daily doses of 1.0 gram (15 grains), after four days took a single daily dose of 3.0 grams (45 grains) for a long time. He had suffered from very marked loss of appetite; but it became good after ten days of the treatment, and in four weeks his weight increased 3.0 kilograms ($6\frac{1}{2}$ pounds). Another female patient entered the institution weighing 51.4 kilograms (113 pounds). During four weeks of other treatment her weight had not increased. Duotal was then prescribed, and in as short a time as eight days thereafter her weight was 52.7 kilograms (116 pounds).

In consequence of its stimulating effect upon the appetite duotal is to be highly recommended for hospital and private practice; and even in the special institutions for the treatment of the tubercular disease it is a very valuable aid to the general dietetic and hygienic treatment.

Dr. Edward Francis Brady, in an article entitled *Epilepsy (Hospital Bulletin and Clinical Reporter)*, says: I do not approve of the Gowers plan of treatment. The dosage is too massive, and I think unsafe. The danger from collapse is always to be feared; and if that is escaped, bromism is almost certain to be produced. I think that the combination of all the bromides, the potassium, sodium, ammonium, calcium, and lithium, is the best form in which to use them; for that reason I always use Peacock's Bromides. This preparation contains the five bromides, and is a safe, reliable, and staple article, and by its use we escape the substitution of pharmacies.

Book Notices.

An American Text-Book of Surgery for Practitioners and Students. Edited by WM. W. KEEN, M. D., LL. D., and J. WILLIAM WHITE, M. D., Ph. D. *Third Edition, Thoroughly Revised.* Philadelphia: W. B. Saunders. 1899. Royal 8vo. Pp. 1228. Cloth, \$7; Sheep or Half Morocco, \$8 net.

Beside the editors, the other authors of articles in this great volume are: Drs. P. S. Conner, Cincinnati; F. S. Dennis, New York; Chas. B. Nancrede, Ann Arbor; Roswell Park, Buffalo; L. S. Pilcher, New York; Nicholas Senn, Chicago; F. J. Shepherd, Montreal; L. A. Stinson, New York, and J. Collins Warren, Boston. With such an array of able men as authors, we are not surprised that the publisher had sold nearly 29,000 copies of the preceding edition when this third edition was called for. New subjects considered in this edition are: orthotherapy; leucocystosis; post-operative insanity; the use of dry heat at high temperatures; Krönlein's method of locating the cerebral fissures; Hoffa's and Lorenz's operations for congenital dislocations of the hip; Allis's researches on dislocations of the hip-joint; lumbar-puncture; the forcible reposition of the spine in Potts' disease; treatment of exophthalmic goitre; surgery of typhoid fever; gastrectomy and other operations on the stomach; several new methods of operating upon the intestines; use of Kelly's rectal specula; surgery of the ureter; Schleich's infiltration-method, and the use of eucaïne for local anaesthesia; Krause's method of skin-grafting; newer methods of disinfecting the hands; the use of gloves, etc. A number of Sections have been revised and enlarged. A number of new illustrations have also been added. The editors regret that they have been compelled to omit the chapters on the surgery of the eye and ear because of the growth in size of this *American Text-Book*. The popularity of the work is shown by its adoption by over 100 medical colleges. In its present form, we may safely say that no work on surgery can possibly hold a higher place in the esteem of the profession.

Text-Book on Embryology. By JOHN CLEMENT HEISLER, M. D., Professor of Anatomy in the Medical College, Philadelphia. *With 190 Illustrations, 26 of Them in Colors.* Philadelphia: W. B. Saunders. 1899. Cloth. 8vo. Pp. 405. Price, \$2.50 net.

While the title page indicates that this work is intended for "students of medicine," the practitioner will find in these pages many facts

of interest, and new to him, which afford him much information. It is a new book, and the subject of embryology is treated in a regular chronological order—even beginning with descriptions of the male and female sexual elements. Of course there is much of dry detail in the volume; but even the minutiae are described in such a way as to sustain an interest in reading them. The work is divided into eighteen chapters, arranged in regular order up to the moment of the birth of the fetus. Practically speaking, the entire contents are summarized in an eight-page "*Tabulated Chronology of Development*," giving the stage of the ovum during each of the first eight weeks, and then the remaining seven months of human conception. Ready reference to any item is made easy by a very excellent index. The work is one that should be in the library of the progressive physician.

Practical Treatise on Diseases of the Skin. By JAMES NEVINS HYDE, A. M., M. D., Professor of Skin, Genito-Urinary and Venereal Diseases, Rush Medical College, Chicago, etc.; and FRANK HUGH MONTGOMERY, M. D., Professor of Skin and Venereal Diseases, Chicago Clinical School, etc. *Fifth and Revised Edition.* Illustrated with 111 Engravings and 24 Plates in Colors and Monochromes. Lea Brothers & Co., Philadelphia and New York. 1900. Svo. Pp. 863. Cloth, \$5.25; Leather, \$6.25.

The profession has long since learned to appreciate the teachings of the authors of this book. They have greatly improved the present edition over any of the former editions. While much that was interesting, yet not of practical value that was in former editions has been eliminated, the additions of newer and important matter have enlarged the present volume some 50 or more pages. A large part of the work has been rewritten and the rest has been revised, so that the present edition may be said to represent the very latest of dermatological advances. About a dozen full page plate illustrations have been added, as also a large number of engravings—all of which greatly assist the student and general practitioner in recognizing the diseases referred to. We know of no book on skin diseases that will prove of so great a value to the physician who has to diagnose and treat such diseases. In its therapeutics, the authors have been careful to give excellent chapters that are thoroughly practical in their teachings. In a word, this is an excellent book for the student, the practitioner, or the specialist. A double column index of 21 pages greatly helps the owner of the book in making prompt references to subjects treated of the volume.

Minor Surgery and Bandaging. By HENRY B. WHARTON, M. D., Demonstrator of Surgery in the University of Pennsylvania, Surgeon to the Presbyterian Hospital, etc. *Fourth Edition Thoroughly Revised and Enlarged, with 502 Illustrations.* Lea Brothers & Co., Philadelphia and New York. 1890. 12 mo. Pp. 594. Cloth, \$3 net.

We regret the delay of the notice of this book, received some months ago, and placed in the hands of a friend for review, who was prevented by a train of circumstances from preparing it. However, the delay does not lessen the value of the work, which embraces the very latest of approved methods in "the treatment of fractures and dislocations, the ligation of arteries, amputations, excisions and resections, intestinal anastomosis, operations upon nerves and tendons, tracheotomy, intubation of the larynx, etc." This fourth edition contains a chapter on "Surgical Bacteriology," and also a section upon "Operative Procedures upon the Cadaver." Twenty-seven new engravings have added—many of which are photographic. The 502 illustrations are well selected as to subjects, and very valuable in assisting a perfect understanding of the text. This book has won its way as the text book on the subject of which it treats into almost all the medical colleges of the country, and its popularity indicates that it will long remain as the authority in colleges. It is of great practical value also to the doctor who has to treat accidental cases. A good double column index of about 18 pages are appended which greatly facilitates ready reference to subjects.

Lectures on the Principles of Surgery. By CHARLES B. NANCREDE, A. M., M. D., LL. D., Professor of Surgery and of Clinical Surgery, Ann Arbor, Mich, etc. *With an Appendix, Containing a Resumé of the Principal Views Held Concerning Inflammation.* By WM. A. SPITZLEY, A. B., M. D., Senior Assistant in Surgery, University of Michigan. *Illustrated.* Philadelphia: W. B. Saunders. 1899. Cloth. Svo. Pp. 398. Price, \$2.50 net.

This volume contains full notes of thirty-six lectures by the author, arranged systematically as to subjects in reading matter style. The lectures are primarily intended for the beginning classes in surgery, but the subject is one of such great importance to practitioners that we are confident the book will prove of great value to the doctor as well as the student. The lectures on *Inflammation* are full of interest, as the subject is brought up to a statement of the most recent facts and opinions concerning it. Of course the author recognizes that inflammation is a true microbic process. A

number of diseases usually considered in such works as this are discussed in this volume. But the excellence of these "Lectures" consists principally in the plain, easy style of stating facts, and the well-arranged manner of bringing them out. It is thus a book of special value to the student, while it is a constantly serviceable one to the general practitioner. We must especially commend the excellent manner in which the publisher has done his part.

Practical Treatise on Medical Diagnosis. By JOHN H. MUSSEY, M. D., Professor of Clinical Medicine in the University of Pennsylvania, etc. *Third Edition, Revised and Enlarged. Illustrated with 253 Woodcuts and 48 Colored Plates.* Lea Brothers & Co. Philadelphia and New York. [1899.] Large 8vo. Pp. 1082. Cloth \$6; leather \$7. Prices are net.

Musser's *Medical Diagnosis* was first issued in 1894; the second edition in 1896. The demand for this third edition has given opportunity for the revision, the addition of many new and helpful facts, and such improvements as to make this work now the standard one on the subject which it treats. The author has brought to his assistance a number of able authors in their specialties, and they have kept in view the general design of the book—"for diagnostic convenience, and not for pathological classification." The *Treatise* is divided into two parts. *Part I*—through page 416—is taken up with points of *general diagnosis*, including "data obtained by inquiry," and "data obtained by observation." These pages should be well read and thoroughly digested by every doctor. The remainder of the book is given to *Part II*, which refers to *special diagnosis* of diseases of various parts and organs; systematically considered, the fevers, etc. A double column 20 page *Index* is appended, which, with its cross references, is exceedingly valuable. The list of *Errata* is unusually long in a book issued by the usually accurate and most excellent publishers. It might be well for the purchaser to make corrections on the proper pages, as indicated in the *Errata*.

Essentials of Physical Diagnosis of the Throat. By ARTHUR M. CORWIN, A. M., M. D., Instructor in Physical Diagnosis in Rush Medical College, etc. *Third Edition, Revised and Enlarged.* Philadelphia. W. B. Saunders. 1899. Cloth. 12 mo. Pp. 220. \$1.25 net.

These "Essentials" are well arranged, and are stated in such a way as to be real help to student or physician. As in the former edition, we look upon the added section setting forth the signs found in each disease of the

chest as very useful to the practitioner. It is a good text book for adoption by medical colleges. It has ten diagrammatic drawings which are helpful to the text; and the *Index* is very full.

Diseases of Children. By GEORGE M. TUTTLE, M. D., Attending Physician to St. Luke's Hospital, Martha Parson's Hospital for Children, St. Louis, etc. *Illustrated with Five Plates in Colors and Monochrome.* Series Edited by Bern B. Galland, M. D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbus University, New York, etc. Lea Brothers & Co., Philadelphia and New York. Large 12mo. Pp. 386. Price, \$1.50 net.

This is one of "Lea's Series of Pocket Text-books," intended to meet "the requirements of the beginner in the study of pediatrics." It deals more fully with the *physiology of infants* and with *artificial feeding* than with pathological states. No attempt is made at exhaustiveness or originality, but standard authorities have been made free use of so as to present the subject in a systematic manner, and as concisely as possible. It is a good synoptical work—the author having condensed most of the leading points in connection with diseases of infancy and childhood into short and readable chapters.

Mentally Deficient Children: Their Treatment and Training. By G. E. SHUTTLEWORTH, B. A., M. D., etc.; Medical Examiner of Defective Children, School Board for London; Consulting Medical Officer, National Association for Promoting Welfare of the Feeble-Minded, etc. *Second Edition.* London: H. K. Lewis, 136 W. Gower street, W. C. Philadelphia: P. Blakiston's Son & Co. 1900. Cloth. 12mo. Pp. 180.

This is a book in which all who are interested in the care of feeble-minded children will find much of fact and valuable suggestion. It points out that, by proper treatment and training, even "idiots have been improved, educated and even cured; not one in a thousand has been entirely refractory to treatment." A good chapter is one on "The Treatment of Mentally Defective Children—General, Medical and Surgical." It is surprising to learn the beneficial effects of educational, industrial and moral training. Study and occupation must be varied, and relaxation in the form of recreation is essential. Love for music is common with the mentally feeble, which fact suggests such diversions as attendance at concerts, etc. Out door exercises are generally useful. But it is impossible in a few lines notice of the book to give even a bare statement of the encouraging facts it contains. So that we must content ourselves with a general commendation of the book to any one interested in the subject.

Editorial.

University College of Medicine, Richmond, Va.

The seventh annual commencement exercises of this institution were held Thursday night, April 26th, 1900, at the Academy of Music, in this city. As is usual on such occasions, the building was crowded with friends and acquaintances of the successful candidates. After prayer by the Rev. W. A. Barr, D. D., Hon. A. J. Montague, Attorney General of Virginia, delivered a most able address on "The Modern Doctor." On account of the enforced absence by sickness of Dr. Hunter McGuire, the President of the University College, diplomas were delivered to the numerous graduates by the chairmen of the various departments. Dr. Landon B. Edwards, Chairman of the Medical Department, conferred the degree of *Doctor of Medicine* up the following named gentlemen:

Drs. Harry Burgwyn Baker, Richmond, Va.
 Gaston Graham Bell, Elizabeth City, N. C.
 Richard Patterson Beville, Wellview, Va.
 Hunter McG. Brumback, Bliss, Va.
 Wade Hampton Bynum, Germantown, N. C.
 Patrick H. Casey, Lynchburg, Va.
 William Jeffries Chewning, Fredericksburg, Va.
 Miles Dudley Chisholm, Springfield, Mass.
 John Southern Clark, Allisonia, Va.
 William McSpadden Copenhaver, St. Clair's Bottom, Va.
 G. Russell Cottingham, Ottoman, Va.
 Frederick E. Downing, Downing, Va.
 Conrad G. Eddy, Newport, O.
 James Poague Epes, Blackstone, Va.
 Leslie Ballard Evans, Idaho, N. C.
 Ernest Christian Fisher, Richmond, Va.
 Alexander Fletcher Fortune, Asheville, N. C.
 Philip Gibson Gary, Wakema, Va.
 Dennis G. Graham, Little Falls, N. Y.
 B. Brown Henry, Wick Haven, Pa.
 Edward Govan Hill, Manchester, Va.
 John Irving Hocutt, Emit, N. C.
 Frank Wandling Hornbaker, Manassas, Va.
 Harry Houston Hughart, Cliff Top, W. Va.
 Walter H. Janney, Occoquan, Va.
 Horace Gibbs Lazelle, Richmond, Va.
 Frederick Lefew, Richmond, Va.
 F. Harwood Lukin, Leesville, Va.
 Newton E. McDonald, Hot Springs, Va.
 Neill MacRae, Fayetteville, N. C.

William Julius Mason, Jr., Norfolk, Va.
 Wayman Chalmers Melvin, Populi, N. C.
 Joseph Lyon Miller, Beech Hill, W. Va.
 John Garnett Nelson, Alexandria, Va.
 William Clayton Orr, Petersburg, Va.
 James Eliakim Patrick, Institute, N. C.
 Robert Louis Price, Boone Mill, Va.
 Lewis George Richards, Island Ford, Va.
 A. Stuart Richardson, Valley View, Va.
 Luther Addison Robinson, Fall Creek, Va.
 William Ashby Robinson, Brink, Va.
 George Christian Rodgers, Meadow Dale, Va.
 Guy Wilkinson Leitch Sanford, Marmion, Va.
 Lester Linwood Schwab, Warrenton, Va.
 Gibson L. Sikes, Clinton, N. C.
 John Samuel Slate, Mispah, N. C.
 John William Slater, Quaker, N. C.
 James E. Smith, Land, Va.
 Ruther Randolph Stinson, Beesville, Va.
 George A. Stover, Churchville, Va.
 William Henry Stratford, Greensboro', N. C.
 Edgar Kent Thagard, Cedar Creek, N. C.
 Allen Granberry Thurman, Thurman, Va.
 Francis James Townsend, Snow Hill, Md.
 Ashby Turner, Leesville, Va.
 E. Edward Walker, Forksville, Va.
 William Ernest Walker, Pass Christian, Miss.
 George Samuel Watkins, Cornwall, N. C.
 Hugh Spotswood White, Lexington, Va.
 Thomas Henry Wilkins, Portsmouth, Va.
 H. McGuire Williams, North Garden, Va.

After delivery of the medical diplomas, Dr. Lewis M. Cowardin, Chairman of the Dental Department, conferred the degree of *Doctor of Dental Surgery* upon the following:

Drs. Hilary F. Bowles, Columbia, Va.
 William E. Broadus, Glen Allen, Va.
 Dabney L. Chapman, Denton, Texas.
 Victor W. Cross, Brooklyn, N. Y.
 William A. Hammen, McGeheysville, Va.
 Frederick A. Wood, Richmond, Va.

Mr. T. A. Miller, Chairman of the Pharmacy Department, concluded the degree-conferring exercises by declaring *Graduates of Pharmacy*: Messrs. James A. Allen, Staunton, Va.
 Wade Hampton Barnes, Greenville, S. C.
 Charles F. Collins, Oak Park, Va.
 Oscar L. Doster, Greenville, S. C.
 McChesney Hogshead, Staunton, Va.
 Stephen S. McGee, Roanoke, Va.
 James L. Price, Ashland, Va.
 W. Kent Vaughan, Elizabeth City, N. C.

Hospital appointments were then announced by Dr. J. Allison Hodges, Proctor of the institu-

tion. They were: *Virginia Hospital*, Drs. W. J. Chewning and H. S. White; *St. Luke's Hospital*, Dr. John Garnett Nelson; *Richmond City Hospital*, Dr. E. C. Fisher; *Retreat for the Sick*, Dr. George A. Stover; *Sheltering Arms Hospital*, Dr. L. G. Richards; *Home for Incurables*, Dr. H. McG. Williams; *Clifton Springs Sanitarium*, N. Y., Dr. James P. Epes.

Through respect for Dr. Hunter McGuire, the President, who was ill at his country home near the city, there was no annual banquet.

Need of Physicians in Porto Rico.

It will be interesting for the younger members of the profession, who are now looking for "openings," to note that there is a large territory under the American flag with an average of only one physician to 8,000 people. This is in Porto Rico. Dr. George G. Groff writes to the *Medical News* that there are municipalities in the island containing 10,000 to 20,000 people which have no physician. With a population of 975,000 there are only about 125 doctors, and most of these live in the large towns and cities. Beside the licensed physicians there are, however, a number of "practicantes" or assistants, who practice minor surgery, pull teeth, and make themselves generally useful. There are also midwives or "comadronas."

The small number of physicians is due in part to the extreme poverty of the people and to the disorganized condition of the profession. The rule has been for each municipality to pay one or more physicians salaries for attending the poor to the amount of \$400 to \$500 each annually. It has gradually become the custom for practically the entire population to depend upon this free medical attendance, which they consider rather as a right than as a charity, so that it is very difficult for a physician to collect accounts even from those able to pay. Then the mountainous character of the country in the interior and the almost entire absence of roads makes much of the island very difficult of access, so that the country doctor's lot in Porto Rico is not by any means an easy one.

Since the American occupation a Superior Board of Health has been created which issues licenses after examination to physicians, dentists and pharmacists. This board consists of three physicians, two pharmacists and one dentist. The fees charged for examination are \$25. "Practicantes" must also be examined, as well as nurses and midwives. These pay \$15, \$10 and \$5 respectively for the privilege. Porto Rico is an immensely rich country, thickly populated, and under the stimulus of

American ideas is bound to become prosperous. The young man who is willing "to labor and to wait" will have no difficulty in finding enough to do, for disease is prevalent and the opportunities for medical and surgical work are certainly large. The future for his profession is certainly not unpromising there. But if he desires to step at once into a "lucrative practice" it would hardly seem an encouraging field.—*Med. Standard*, May, 1900.

Functions of State Medical Examining Boards.

We invite attention to the paper on this subject in this issue by Dr. Allard Memminger, of Charleston, S. C. It contains suggestions, sustained by fact and argument, worthy of serious consideration.

The true function of a State Board of Medical Examiners, as we understand it, is to test parties applying for license to practice medicine, surgery, obstetrics, etc., as to their ability to assume the grave responsibilities of their profession—in short, to see that the parties are practically trained and informed as to matters of diagnosis and treatment of diseases or conditions. Of course, also, he should know the essential practical facts of anatomy, physiology, materia medica and therapeutics. In a word, he should know whatever is of constantly practical utility to the doctor in his daily rounds. But the minutæ of rare interest are matters about which the best of practitioners have to refer to their text-books to refresh their memories.

When Boards of Examiners began to be established, some fifteen or more years ago, it was usual for medical colleges to have only a two-years' term. About 1890, the colleges began to establish a three-years' graded course, which, however, did not become general until about 1895. In the last two years or so, colleges all over the country have established the four-years' graded course. And now there is a tendency to increase the curricula to five-years' graded courses.

We submit it as a commonly recognized fact that while the broad principles learned four or three years ago are easily recalled, yet it is not an easy matter to remember the minutæ of the studies then mastered—especially when no demand has been made since then for such information. It thus happens that the two years' student may present better examination marks on the primary courses of medical study than the four year course graduate; while the graduate passes better examinations on the practical branches of study. But, in the final adding up marks, it is found that the undergrad-

uate and the graduate have about the same total percentage, and thus they are alike given permits for licenses as if they were equally prepared to attend to the practical duties of the physician, surgeon, and obstetrician. A mere statement of the facts shows that there is a palpable error as to the methods generally adopted for examinations.

It is thus seen that in view of the change in colleges since Examining Boards were begun from the two-year to the four-year graded courses—some change should now be made in the methods of Examining Boards. Dr. Memminger offers a partial solution of the problem; and we therefore commend his paper to the careful consideration of the profession.

The Mississippi State Medical Association

Has postponed its annual meeting, which was to have been held in Meridian during April, to May 16, 17, and 18. The postponement was made because of the recent floods of the Mississippi river. The meeting in May will be in Meridian.

The New Orleans Medical and Surgical Journal

Was made the official organ of the Louisiana State Medical Society during the session of the State Society being held this week in New Orleans. A better selection could not have been made.

The American Medico-Psychological Association.

The Executive Committee, in view of the Carnival week in Richmond, May 14-19, when all the hotels and boarding-houses will be overrun with visitors to the city for that occasion, announces a postponement of the session until May 22, 23, 24, and 25. The meetings will be held in the Roof Garden Hall of "The Jefferson"—the most desirable hotel of the South for any such event.

The present officers of the Association are: Drs. Joseph J. Rogers, Logansport, Ind., President; P. M. Wise, New York, N. Y., Vice-President; C. B. Burr, Flint, Mich., Secretary and Treasurer. The Virginia members are: Drs. Wm. F. Drewry, Central State Hospital, Petersburg; Benjamin Blackford, Western State Hospital, Staunton; Robert J. Preston, Southwestern State Hospital, Marion; and L. S. Foster, Eastern State Hospital, Williamsburg.

The Tri-State Dental Association of Maryland, Virginia, and the District of Columbia,

Will hold their third annual meeting in the University College of Medicine, Richmond, Va., May 10-12. An interesting session is anticipated.

Register of Trained Nurses.

The popular pharmacist, Mr. T. A. Miller, 519 east Broad street, Richmond, Va., deserves the thanks of the profession generally for having established a *Register of Trained Nurses*. Applications to him by telegram or telephone from responsible doctors anywhere for a trained nurse will be promptly attended to. As some nurses have adopted special lines of nursing, the doctor in communicating with Mr. T. A. Miller should state the general character of disease for which the nurse is wanted. No one will be allowed to register as a nurse who cannot present satisfactory evidence of having graduated as a "trained nurse" from a well recognized school for nurses where practical work on the part of students is required. Unless special preference for a given nurse is stated in the application, nurses will be assigned for duty in the rotation of their notice of availability for service.

Commitment of the Insane in Virginia.

Due to the efforts of the superintendents of institutions for the care and treatment of the insane in Virginia [now called State Hospitals], new laws were secured during the recent session of the Legislature with reference to the method of committing the insane to the hospitals. Heretofore justices of the peace had the power to pass upon the mental condition of patients. It is now necessary to have two physicians to examine the person whose sanity is questioned, and report in writing as to his or her mental condition. If the person is found to be insane, a judge or magistrate orders the commitment. The cost incident to committing an insane patient is to be borne by the county or city from which such patient is sent. Under the new law, imbeciles, idiots and demented cannot be received into the State institutions for the insane.

The American Pharmaceutical Association

Will hold its 48th annual session in Richmond, Va., during the week beginning May 7th. The headquarters will be "The Jefferson," in the Roof Garden Hall of which hotel the meetings will be held. Dr. A. B. Prescott, of University of Michigan, is President of the Association; Mr. S. A. D. Sheppard, Boston, Mass, Treasurer; Mr. Chas. Caspari, Jr., Baltimore, Md., General Secretary; Mr. T. A. Miller, Richmond, Va., Local Secretary. An excursion on May 10th to Old Point Comfort will be given, and dinner at Chamberlin Hotel.

Dr. Hunter McGuire's Condition

Has not materially improved since our last issue. He has moved to his country home—about three miles from Richmond. In the meantime, St. Luke's Hospital work is being attended by Dr. Stuart McGuire and a corps of assistants.

Medical College of Virginia

Will have its Commencement exercises at the Academy of Music, 8 P. M., Thursday, May 10th. Dr. Charles A. L. Read, of Cincinnati, O., will be the orator of the occasion, and we may anticipate an address. A list of the graduates will appear in our next issue. The Alumni Association will hold its regular annual meeting in the College building during the afternoon of May 10th.

Dr. William F. Drewry,

Superintendent of the Central State Hospital, Petersburg, Va., has been appointed as a delegate to the National Association of Charities and Corrections, to meet in Kansas City, Mo., May 20-28. No more popular delegate from Virginia could have been selected.

Not Yellow Fever in Port Principe, Cuba.

Major Carr, Surgeon U. S., has investigated the fever situation, alarming reports of which have been sent out, owing to what was supposed to be cases of yellow fever. Surgeon Carr is satisfied that the sickness is not yellow fever, although he has ordered vigorous sanitary measures to be taken. The health of the troops is good.

The Virginia State Board of Medical Examiners

Will hold its next session for the examination of applicants for license to practice in Virginia in the city of Lynchburg, Va. The Board itself will hold an executive session, beginning at 8 P. M., Monday, June 25th, 1900. Examinations of applicants will begin *promptly* at 9 A. M., Tuesday, June 26, and will continue three days—three subjects each day, with a limit of three hours for each examination. Dinner hour, 3 to 4 P. M. No examinations after 7 P. M. until the next morning at 9 A. M. The Secretary of the Board will be in the Hall of Examination *one hour* before the examinations begin on Tuesday (8 to 9 A. M.), to register the names, etc., of applicants for examination. Each applicant must pay him the *Fee of Ten Dollars* (required by law) before he can be examined. Full details are given on the last page of cover of this journal. For further

information, address the Secretary and Treasurer, Dr. R. S. Martin, Stuart, Va. Dr. R. W. Martin, Lynchburg, Va., is President of the Board.

Bubonic Plague in the United States.

It has been both affirmed and denied that cases of this dreadful disease have been introduced into this country by transports from some of our "new possessions." Without entering into the political discussion that suggests itself with reference to some of our "new possessions," it does look as if we have "the elephant." There can be no question with reference to Luzon and other Philippine Islands, that their subjugation is costing this nation a great deal more than they are worth. Sickness and the death rate in our army of occupation has been terrible. Bubonic plague is in Manila and other sections of Luzon, and it will require special vigilance to prevent its ravages in the troops now in the Islands. Once introduced into the United States, it would cause as much alarm and concern as do the few cases of leprosy that have been introduced into the country from time to time. Fortunately, the long voyage between the Philippines and the Western Coast of this country allows ample time for the detection of cases on board by the Quarantine Health Officers of California and other ports of entry.

Compulsory Vaccination

Should be a law in every State. North Carolina acted wisely in passing such a law during its recent legislative session. The result is that already small-pox has been practically stamped out in that State. But we hear of the disease in very many other States. When the known means of preventing the disease are so easily obtainable, it is a reflection upon the people that they do not adopt satisfactory laws and enforce them. No one, because he claims the right of remaining unvaccinated, has a right to be a menace to the health and lives of a community. An unvaccinated active person should be arrested and fined on the same general principle as he who is detected in carrying about his person a concealed weapon.

Cholera Epidemic

May be expected this summer in Southern Europe, and possibly in this country, unless health officers are wide awake. The devastations and horrible effects of the famine in India during the past few months are simply appalling; and, with it all, cholera has already

begin its deadly epidemic work in that country. It is said that about 90,000,000 of human beings are famine stricken in India and famishing for want of water to drink because of the unusual droughts. With all the contributions made from different countries, enough of food only has been supplied to satisfy the cravings of about 5,000,000 of the starving people.

The New York Medical College of San Antonio, Texas,

Was incorporated for the purpose of teaching medicine by mail or otherwise. Its diplomas in Texas were valid in law. But the Attorney General of Texas has instituted *quo warranto* proceedings against this "College" for forfeiture of charter, and to restrain it from further issue of diplomas for the practice of medicine. The complainant avers that "the main object and practice of the defendant are to sell its diplomas to any person it pleases, whether informed or not in the science of medicine, for the stipulated sum of \$50." How such a "College" could have obtained a charter in Texas, or any other Southern State, is inexplicable. We congratulate the profession of Texas that it has such a watchful Attorney-General.

Louisiana State Board of Medical Examiners.

All applicants for examination must not only possess a diploma from a reputable medical college which requires that its students shall have attended four courses of medical lectures in different years before the granting of the degree of Doctor of Medicine. This rule applies only to those who matriculated after January 1, 1900. All applicants from foreign countries must present *evidence* that they possess the full right to practice medicine in all its branches in their respective countries, and present a diploma from a college whose standard of medical education is equal to that of the leading colleges of this country requiring four courses of lectures in as many different years.

The Amended Ohio Medical Law.

The Love medical bill passed the Ohio Legislature last month. The chief features in the new bill are that it requires an examination of every graduate in addition to a diploma after July 1, 1900. It however exempts all medical students now matriculated in any medical college in Ohio. The clause defining what constitutes the practice of medicine has been more explicit. The standard of preliminary educa-

tional qualifications for medical students in Ohio has been materially raised.—*Ecl. Med. Jour.*, May, 1900.

The Dosage of Orphol.

A note from Messrs. Schering & Glatz, 58 Maiden Lane, New York, states that "communications upon the subject received from physicians lead us to believe, that Orphol is often exhibited in quantities too small to produce the best results. Bearing in mind the innocuous nature of the drug, the rapidity of peristalsis in most cases in which it is indicated, and the amount of material to be disinfected, the remedy should be given in relatively large doses (10 to 15 grains for adults), and frequently repeated. In all instances in which the fecal discharges are unduly offensive it should be vigorously pushed until the stools are completely deodorized."

Women Admitted as Students in Heidelberg.

The Heidelberg Medical Faculty, induced by Government influence, has voted to admit women students. This is noteworthy, since Heidelberg is extremely conservative. It is believed that the movement is due to the influence of the Grand Duchess of Baden, who is such an active worker for the social welfare of her subjects and her sex. Only last semester, the feeling in Heidelberg was strong against admitting women.—*St. Louis Cour. Med.*, April, 1900.

G. W. Bodey, M. D., of Kettlersville, Ohio, says in the *Medical Brief*: "I used Ethol on a case of sinus extending from the inner and middle of the right thigh upward and outward nine and one-quarter inches in length. It had been operated upon in that locality twice, also once on the canal from the psoas abscess, its starting point. The sinus was lined with a tough pyogenic membrane, so that by inserting the index finger its full length occasioned no pain. The young man, twenty-two years old, would submit to no further operation. I inserted perforated rubber tube, one-half inch in diameter, nine inches, burned or destroyed the membrane with chloride of zinc solution, after which I used Ethol, filled the cavity completely full three times a day, by which the pus ceased to flow from the very beginning. I continued its use until I could not insert even a catheter. I applied a rubber bandage for five weeks, dismissed him then as cured; the period extended eight months. I used five bottles of Ethol."

Original Communications.**REMOVAL OF BOTH UTERINE APPENDAGES DURING PREGNANCY*.**

By J. WESLEY BOVEE, M. D., Washington, D. C.

Arnutt and Burd, in 1847, were probably the first to report abdominal operations on the uterine appendages during pregnancy. Since that time such cases have been published by hundreds, and to-day one can scarcely find a progressive abdominal surgeon who considers pregnancy a contra-indication to such necessary operations on any other organ than the uterus. This is the natural outgrowth of ripe experience in such work.

Many cases have been reported in which an ovarian cyst has been removed, and years later a second ovariectomy complicated by pregnancy has been successfully done. Such cases, however, do not belong to the class to be considered in this paper, inasmuch as but one appendage was removed during pregnancy.

These single operations were done for forty years before J. Knowsley Thornton, on February 4, 1885, did double ablation of the appendages in the fourth month of pregnancy for double ovarian dermoid cysts. The right one was in front of and above the uterus, and its pedicle was twisted once around. The other tumor lay behind the uterus and extended to the bottom of Douglas' pouch. At the end of the eighth month of gestation, labor came on rapidly without previous warning, and the child was born before the doctor arrived. The placenta was soon expelled and the child was breast-nursed.

According to my researches, this was the first case of removal of both uterine appendages during pregnancy. The operation was next done on this continent, in 1887, by Munde, of New York; Gardner, of Montreal; and Montgomery, of Philadelphia. The following year

*Original abstract of a paper read at the meeting of the Medical and Surgical Society of District of Columbia, January 4, 1900.

Potter, of Buffalo; Nelson, of Chicago; and Sylvester, of Boston, performed the operation, each once. Since that time the number of operations has increased to 38, including my own.

Indications.—Of these 38 cases, 23 were done for various kinds of ovarian cysts, 1 for "tumor of both ovaries," 6 for pus tubes, 3 for chronic salpingo-oöphoritis, 1 for a large inoperable uterine fibroid, in which Tait's plan of ablation of the appendages was practiced, 1 for hystero-epilepsy, 1 for parovarian cyst, and in two cases the reason for the operation was not given.

There were ten cases of dermoid ovarian cyst, eight of which were double. In one case the pedicle was twisted three times and once in another. In both the tumor was very black and the operation one of emergency. In one case double papillomatous cysts were removed. There appear in the list three cases of double multilocular cysts and three of one-sided multilocular cyst with some other form of disease, sometimes a dermoid, in the opposite ovary.

We find nine cases of tubal disease, in six of which pus was present.

The history of the operation under consideration is such as to warrant surgical intervention in nearly all conditions of the pelvic organs that might usually be considered justifiable, save those of the uterus itself. Myomectomy during pregnancy has not the sanction of the surgical world, as thus far the maternal mortality is above 60 per cent., and that of the children enormous.

Dermoid cysts are remarkably common during pregnancy, and are far from innocent in such environments. The danger of twisted pedicles and the subsequent train of conditions incident to that phenomenon is well understood. Pregnancy does tend strongly to produce this twisting. Puncture of the cyst, induction of premature labor or abortion with or without subsequent operation, Porro's operation, or ovariectomy at term or later are reckoned as alternatives for early operation without interfering with the pregnancy.

It is doubtful, however, if these are true alternatives. There may be special cases in which an abdominal operation may be inadvisable at the time, but on general principles objection to the operation does not obtain. We know abortion and death occurs much oftener without

than with operation. Litzmann found, in 56 cases of pregnancy complicated with ovarian tumors, that 24 women died in labor; and Heiberg found in 241 such cases that one-fourth the mothers and three-fourth the children died. Jetter says 30 per cent. of women

CONDENSED TABLE OF CASES.

OPERATOR'S NAME.	INDICATIONS.	MONTH.	RESULT.	REMARKS.
Meredith (10).....	Double papillom. ov. cysts....	3rd.....	Living child at full term...	Drainage tube 36 hrs.
" (15).....	R. dermoid and L. multiloc. ov. cyst.....	.....	Living child at full term...	Normal ut. contract. and perfect involut.
Michie (11).....	L. pus tube; R. thickened, inflam and adher. app.....	4th.....	Nat. deliv. at full term.	
Gardner.....	Dermoid, ped. twisted 3 times, other ov. enlgd and cystic.....	2nd.....	Del. full term.....	Wall of dermoid blk; cav. irrig; tube in 5 days.
Smith (12).....	L. tube nearly closed at fimbriae and restricted at uterine end.....	1st.....	Del. full term.	
Prokopjeff (13).....	Double ov. cyst.....	.....	Del. full term.	
Montgomery.....	.....	3rd.....	Del. full term.	
Delageniere (14)....	Pyosalpinx & hematosalp....	4th.....	Del. full term.....	Agglut. intestine adherent to uterus.
Cotterell (15).....	Double multiloc ov. cysts....	3rd.....	Abort. 42 hrs. later and death 3 hrs. later.....	Keith drain tube; a half starved and cruelly treated woman.
Thornton.....	Double dermoids one ped. twisted.....	4th.....	Living child deliv. at 8 months.	
Munde.....	Double dermoids.....	5th.....	Aborted 72 hrs. later.	
Potter (16).....	L. multiloc ov. cyst 34 lbs. R cystic ov.....	4th.....	Del. full term.	
Stratz.....	.....	3rd.....	Recov.....	No subsequent record.
Sutton (17).....	Double salpingo-oöphoritis....	2nd.....	Del. twins full term.....	Unsuspected preg.
Nelson.....	Hystero-epilep.....	1st.....	Living child full term.....	Unsuspected preg.
Hall (18).....	Ov. cyst and opposite append. embedded in adhesions.....	3rd.....	Full term, living.	
Eliot (19).....	Double pyosalpinx.....	2nd.....	Emptied uterus at 5 mos.	
Garrigues (20).....	Double dermoids.....	3rd.....	Abort. 11 days later.	
Sylvester.....	Inoper. ut. fibd Tait's op....	3rd.....	Still birth instrumentally at term.....	Preg. unsuspected.
Kingman (21).....	Double multiloc cysts.....	3rd.....	Living child at term.....	Low forceps; severe p. p. hemor.
" ".....	" " ".....	.....	Same night passed hydatiform placental mole.	
Anderson (22).....	Multiloc. cysts 26 lbs. Other append. removed for satisfact. reasons.....	3rd.....	Normal labor at term.	
" ".....	Pus tube and enlarged ov.....	3rd.....	Living child at 7 months....	Unsuspected.
Roberts (23).....	Both ovaries and tubes bound by adhesions.....	3rd.....	Living child at term.	
Morison (24).....	Double ovarian dermoids....	5th.....	Living child at term.	
Schroeder (25).....	L. ov. cysto-fibroma, R. ov. cyst.....	5th.....	Aborted 7 weeks later.	
Veit (26).....	Tumor both ovs.....	2nd.....	Full term.	
Martin (27).....	Double ov. cysts.....	3rd.....	Full term; normal.....	Abort. imminent.
Polaillon (28).....	" " ".....	3rd.....	" " ".....	
Flaischlon (29).....	" " ".....	3rd.....	" " ".....	
Bantock (30).....	" " ".....	3rd.....	No abort.....	Report 1 mo. after operation.
Matthai (31).....	" " ".....	5th.....	Plac. præv. 14 days later.	
Landan (38).....	" " ".....	4th.....	Living child at full term.	
Merkel (32).....	Parov. cyst & cystic ovary....	.....	Full term; normal.	
Mouchet (33).....	Ov. cyst & sclerotic ovary....	3rd.....	Full term; normal.	
Lebedeff (34).....	Double dermoids.....	.....	.....
Baldy (35).....	Double pyosalpinx and abscess of uterine wall.....	5th.....	Term labor.....	Insane woman.
Bovée.....	Double pyosalpinx.....	2nd.....	Term labor.....	Forceps; still-birth.

under such conditions die in labor. Playfair found that six died of thirteen cases. The danger of pus tubes during pregnancy is only too apparent to all.

The danger of rupture with resulting dangers and of abortion is well known. Even if the conditions permit pregnancy to go to full term, we must not forget the great danger from the presence of pus in this region during and just after labor.

If an ovarian tumor be small and giving no trouble during the early months of pregnancy operation may well be postponed unless an increase of the growth be sudden, when operation should not be further delayed. The third and fourth months of pregnancy seem to be the most satisfactory period for operation. After that time the size of the uterus interferes with the operation.

My case was as follows:

Double pyosalpingitis, complicating two months' pregnancy.—Mary M., 39 years of age, multipara, was admitted to Columbia Hospital May 10, 1894, complaining of severe pain in both sides of the lower abdomen. Her last confinement was five years ago, and she has had three abortions—the last of which was about one year ago. Her menses began at the age of 13, and has recently occurred every two to three weeks, and lasted but three days. It last occurred March 19, 1894. She has had a profuse yellow discharge since her trouble began three months ago, and gives a history of repeated attacks of pelvic inflammation during the past five years. She is now very nervous and troubled with loss of sleep and appetite.

An examination revealed a lacerated perineum and cervix; a normal vagina with no discoloration of pregnancy. The cervix was well to the left, and the uterus considerably enlarged but somewhat movable. The appendages were both much enlarged, fixed and tender.

Pregnancy and pus tubes was diagnosed, and operation seemed imperative. Accordingly, on May 17, 1894, she was etherized and the abdomen opened. The uterus was found to be enlarged to about two months' pregnancy. The left tube contained pus which poured out the fimbriated end when this was separated from adhesions, and the ovary was embedded in adhesions; the right ovary was much enlarged, contained what is known as a true corpus lutum, and was badly adherent, and the tube on this side contained about one dram of pus. The appendages were carefully removed, the pelvis carefully cleaned with gauze, and the abdomen completely closed. She made a good

recovery, and on the 24th of the following December was delivered by forceps, after a tedious labor, of a still-born child. Her confinement was in the obstetric ward of Dr. A. F. King, in Columbia Hospital. She made a good recovery after labor.

Results.—But one woman among the 38 operated died, a mortality rate of 2.6 per cent.; 23 of them were delivered at or near full term, two having premature children that thrived. One of the full-term cases had living twins. Four cases aborted, all within the first seven weeks after operation. In one the uterus was emptied at the end of five months' gestation, three months after operation, for fear of difficult labor from uterine fixation—a very questionable indication. In two no result is given, and in another the report was made too early for results. In another case a hydatiform placental mole was passed shortly after the operation. We can, therefore, consider but 32 cases as to results. Of these 12½ per cent. aborted, and in one abortion was averted by the operation. Two were delivered at full term by forceps and of still-born children. We then have 32 cases with 32 living mothers and 26 living children, a result so good that comment is unnecessary.

In abdominal operations during pregnancy, it is extremely important to molest the uterus as little as possible. Even handling it may excite uterine contractions, ending in abortion. Certainly it should not be grasped by forceps or vulsellæ. There would seem to be more danger of interruption of the pregnancy in removing the appendages for tubal disease than for ovarian conditions, as in the latter the pedicle may be left longer, and the ligature placed farther from the uterus. The beginning of uterine pains should be a positive indication for the free use of morphia.

DISCUSSION.

Dr. I. S. Stone congratulated Dr. Bovée for having presented a very interesting paper, and thought the subject a very important one. He was not aware that so few cases had been reported, and thought many cases were not especially mentioned, and were lost amid the large number of sections reported by abdominal surgeons. Personally, he had operated several times upon the pelvic organs during pregnancy, yet had not made such work the subject of a special report. One case he recalled, which was pregnant at the time of operation, and was safely delivered afterwards by Dr. Medford, who was then resident physician. Another case would be reported with a series

of myomectomy cases which he had ready for publication. He was confident that these operations should always be avoided, unless the presence of the growth endangered the life of either mother or child, before or during labor. He had not seen a case of double dermoid ovarian cysts.

Dr. Bovée, in closing, said that he was glad Dr. Stone had added another case. There are only 37 cases reported. Baldy's case was an abscess of the uterine wall. Double dermoids are extremely rare.

THE PHYSIOLOGICAL TREATMENT OF TYPHOID FEVER.*

By T. S. DABNEY, M. D., New Orleans, La.,

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"Nulla in re proprius accidunt homines ad deos quam salutem hominibus dando."—*Cicero.*

According to Victor C. Vaughan, about three hundred thousand cases of recognized typhoid fever occur annually in this country. Of this number, fifty thousand die of the disease, and, according to life insurance statistics, sixty-two thousand five hundred of those alleged to have recovered die prematurely of consumption on account of their impaired vitality. Many of the remainder go through life with some defect or other. Should not typhoid fever therefore justly be called the opprobrium of medicine?

It is the purpose of this paper to lay the blame where it belongs—to the treatment rather than to the disease itself.

To prove that the subject of typhoid fever is of absorbing interest to the profession, it is but necessary to pick up almost any journal. The March 3, 1900, of the *Philadelphia Medical Journal* has eighteen original articles devoted to it. The literature on this disease, since it was given a name in 1829, would constitute a large library. Unfortunately, very many physicians are more prone to read the literature sent out by the great pharmaceutical houses, vaunting the special efficacy of drugs manufactured by them, than the mode of treatment found in the journals.

Another common mistake is the too frequent ignoring of the personal equation in the treatment—the patient being totally ignored in the treatment of the disease. As soon as the diag-

nosis of typhoid fever is arrived at—and Heaven knows that this is frequently not done until the golden opportunity of treating the patient successfully has passed—a regular onslaught is made on the fever itself, utterly ignoring the fact that the pyrexia is a symptom, possibly a conservative one, and not the disease itself. But few physicians stop to consider how readily pyrexia may be caused by simple indiscretions in diet, by local chillings, by auto- and other intoxications, and the lessons to be gleaned from this knowledge. Certain drugs, notably the aniline series, have marked apyretic powers; hence their popularity in typhoid fever, in spite of the repeated warnings of their deadly qualities on the patient. Dr. Sangrado was wont to bleed his patients for fever until they fainted from weakness, and then he bled them for the weakness. The fevers were cured, but unfortunately the patients were left too weak by the treatment, and usually succumbed. The modern Sangrado in the drug treatment of typhoid fever first makes a wreck of his patient, and then endeavors to undo his own work by the administration of strychnine, nitro glycerine, alcohol, beef extracts, etc., for the purpose of restoring tone to a heart he has paralyzed, to build up a system he has deliberately undermined; and so wonderful is the *vis medicatrix nature* that three-fourths of the patients, like Gil Blas himself, actually survive in spite of the disease and the physician.

To proceed rationally, in the treatment of a case of typhoid fever, we must bear certain salient points always in mind, namely, that we are dealing with a general toxæmia, which no known drug can eliminate; next, no drug can abort, cut short, or terminate this self-limited disease. Next, we must bear in mind Virchow's dictum, half a century old, that fever is a condition of vaso-motor paresis.

In typhoid fever, this is pre eminently the case; hence the absolute necessity of adopting a line of treatment that would stimulate the vaso-motor system, and we must be equally careful to avoid giving remedies that tend to lower cardiac or vascular tension.

With the discovery of the bacillus typhosus, many plans of treatment, based on intestinal antiseptics, were inaugurated; notably, the one known as the Woodbridge treatment. Unfortunately, later investigations showed that Eberth's bacillus was ubiquitous, and did not confine himself to solitary or agminated glands, but had a way of invading the lymphatics, the blood, the meninges, the tissues—in fact, the patient. However, I cannot pass

* Read before the Louisiana State Medical Society during its session, April, 1900.

Dr. Woodbridge by without feeling profoundly grateful to him for supplying a ready made and perfectly innocuous "treatment," to all those who do not wish to think for themselves. The Woodbridge treatment has taught all of us that a large percentage of patients will recover if only let alone. Thousands of lives have been saved by the "masterly inactivity" of this treatment.

In 1861, Brand published to the world his treatment with cold baths. Winternitz gave the physiology of the treatment, and showed conclusively that the brilliant results claimed had a sound scientific basis. In 1889, Baruch strongly called the attention of the profession in America to this strictly physiological treatment. Yet he had but few followers, and those that adopted the hydropathic measures recommended did so in such a slovenly way that they retarded, rather than advanced, this most scientific of all treatments.

To fully appreciate the value of the bath in the treatment of typhoid fever, we must recall that the skin is a very large gland, permeated by nerves, possessed of secretory as well as excretory functions, and immensely vascular, and capable of containing from 30 to 35 per cent. of all the blood in the body. The sympathetic as well as the cerebro-spinal system furnishes it with nerves that preside over sensation, secretion, and heat regulation. It is now known that the proper application of water to the skin restores the heart when neither strychnine nor digitalis will. It will also expand the lungs and bring color to a pale cheek. According to Rhemberg and Passler, as quoted by Sprague in the *Philadelphia Medical Journal*, the failing heart, so common in fevers, is not really changed in its muscular quality, but is simply a result of a lack of tone in the peripheral vessels, caused by vaso-motor paralysis. Restore this tone by means of cold water, the heart fills better, and speedily regains its force.

It has long been known that the skin was a respiratory organ, but few of us were prepared to believe in the "skin heart" so lucidly explained by Woods Hutchinson, who so clearly explains so many hitherto inexplicable phenomena. When the kidneys are crippled, the vicarious, as well as the reciprocal action of the skin, is called on to relieve the system of urea. Obstruction in the liver or its ducts is promptly met by the skin, and its icteric tinge shows its vicarious action here. But it was left to Prof. Hutchinson to advance the theory that the terminal arteries contract and expand rhythmically, at times independently of the vaso-motor system, and thereby save the heart en-

feebled by disease or drug. Accepting this theory as true, the extraordinary effects of hydropathic measures on the heart are readily explicable.

It must be borne in mind that there is nothing specific in the cold bath, and above all things its object is not primarily to lower temperature, but is given, solely, to aid in eliminating the toxins.

According to Winternitz, three special laws of hydropathics must be kept in mind: (1) the brief application of water, hot or cold, is stimulative; (2) the prolonged use is sedative; (3) the degree of stimulation or sedation is in direct proportion to its temperature above or below that of the body.

It is not my purpose to advocate the Brand treatment, nor any routine treatment. I merely call attention to it on account of the physiological action of water on the paretic vaso-motor nervous system, and to urge all of you to study the laws of hydropathics as carefully as you do those of medicinal therapeutics. Plunging a patient in cold water is as irrational as throwing him into the fire. Besides, few of our patients are provided with the conveniences of the full bath; yet no one can ever go back to the old drug treatment who has treated a dozen cases hydrotherapeutically.

The bath stimulates the nervous system, the circulation, the respiration, and directly and indirectly reduces bodily temperature. The temperature of the water should never be below 65°, and 85° is preferable. Water at 85° will reduce the temperature more rapidly than that at 65°. Large quantities of cool—not cold—water should be given the patient to drink to flush the kidneys through which an enormous amount of the toxins are eliminated. Large colonic flushings of normal saline solution should also be given for washing out excrementitious matters, for increasing arterial tension, for stimulating the splanchnic centres as well as for distending the soft and partially collapsed blood vessels that are being constantly depleted, to supply draughts made on them by the skin and intestines.

The successful treatment of enteric fever depends much upon properly nourishing the patient. By nourishing, I do not mean the system of superalimentation practiced by many in this disease. As a matter of fact, the steady emaciation so often witnessed in typhoid fever, in spite of the vast quantities of milk, eggs, whiskey, broths, etc., that are systematically poured into him, goes to prove that the average patient is over-fed and undernourished. To pour food into an alimentary tract, all of

whose functions are badly crippled, is not only unphysiological and irrational, but it is defeating the very aim of food—namely, sustenance. All of us, when treating the summer diarrhœas of children, know that a fast of from one to two days is the preliminary to success—the very basic principle of proper therapeutics. Yet, in an analogous condition in enteric fever, many of us stuff, rather than starve, the patient. As the best governed people are those least governed, so are the best fed typhoid fever patients those that are least fed. Practical experience of hundreds of years in all countries formulated the sound dictum of "Starve a fever and stuff a cold." That this dictum, like all dicta, was formerly, as now, carried to extremes, and that many fever patients may have died of starvation, as claimed by Graves, of Dublin, is not at all improbable, and Graves' modest epitaph, "He fed fevers," served as a warning to the extremists. However, we are not told that Graves stuffed fevers.

When Phaeton assumed charge of the Chariot of the Sun, his father's parting words were, "*In medio tutissimus ibis*"—an admonition which many of us, like Phaeton, too often disregard. The pendulum has swung back, and we neither any longer stuff our dyspeptic consumptives, nor do we starve our fever patients; we endeavor to nourish each class. All food that is not thoroughly digested is broken up into various and noxious gases which, besides being toxic themselves, serve as excellent media for the culture of the bacillus typhosus. Animal broths are among the best culture media, and on that account should never be administered to typhoid patients. Meats, for the same reason, should be interdicted. It has long been known that man and animals can live several weeks without a particle of food, provided water in abundance is furnished. It is also a fact that the torrid heat of summer has no injurious effects on plants, provided they be bountifully supplied with water. Plants turn yellow, wilt and finally burn up in mid-summer in a long drought, not on account of the intensity of heat, but from the lack of water. We should profit by these observations and give water freely, lavishly, systematically, and at regular intervals, to our fever patients, but we should be niggards in feeding. Buttermilk, whey, soft eggs, malted milk, toast-water, barley-water, should constitute our main diet-list during the febrile stage of the disease, and these should be given in small quantities and at long intervals, the first ten to fifteen days.

A patient suffering from typhoid fever can-

not digest and assimilate as much food as a well man, hence it is pre-eminently unscientific and irrational to give him double the amount. The waste to one lying in bed, even though he be suffering from fever, is less than to a man engaged in hard labor, yet what laborer on our levee has a digestive apparatus that could stand the daily ration given the average typhoid fever patient day and night for many consecutive weeks? I do not go as far as Dr. Charles E. Page of Boston (*vide N. Y. Med. Journal*, March 3, 1900) who recommends an absolute fast of from one to two weeks in the beginning; but my experience in typhoid fever leads me to assert as my opinion that water is the best food, and the next best are the watery ones—namely, buttermilk, whey, toast water and barley water, and albuminated water. Soft eggs seem to be bland and appear to be fairly well digested, but not more than half an egg should be given at one meal. Intervals of from four to six hours should elapse between the administrations of food, and under no circumstances should a patient be awakened for the purpose of administering food. Barley water and toast water can be given *ad libitum*. Whey can be given in six ounce doses, and buttermilk in the same quantity. Albuminated water, the white of one raw egg stirred in a glass of cold water, can be given by the glassful. From four to six ounces of malted milk may be given at a time. I never give sweet milk except from necessity, but when I do give it I want it pure, fresh, abundantly covered with cream, and not very cold. Iced milk is not as digestible as that *au naturel*.

It must be borne in mind that this low diet is intended for the stage of ascending or high temperature. When the temperature reaches its zenith and gradually begins to descend, and all symptoms are improving *pari passu*, and the digestion is daily getting better, as is evinced by the keen relish for food, then the quantity can gradually be increased. Later, custards, calves' foot jelly, a bit of rare steak, some milk toast, shirred eggs, etc., can be added to the bill of fare.

Patients treated as above recommended will seldom need alcohol, strychnine, ammonia, or nitroglycerine, though I would not hesitate to use any or all of those potent remedies if there were need for them, as there unquestionably is at times. It is hardly necessary to state that the patient should always be in a large sunny room, with abundance of sunlight and air at all times. Free ventilation, rain or shine, is necessary. Where the patient's circumstances

permit, he should have two beds, one for the day and one for the night. His gown and sheets should be changed every day, and, if perspiration be free, oftener.

The technique of the treatment of a case of typhoid fever is as important as that for a laparotomy. The modern surgeon is not one whit more clever than those that taught him. It is in detail where he excels. Every surgeon of to-day carefully studies the minutest details in the technique of any operation, and herein lies the key to the rapid strides of surgery. A few years ago physicians would not associate with surgeons. If we do not study details more and profit by the successful treatment of others in diseases wherein we are deficient, the surgeons will turn the tables on us and cut our acquaintance.

The proper treatment of a patient suffering from typhoid fever necessitates the careful taking of temperature and pulse from two to four times daily. We must ever be on the alert for the many complications incident to this disease, any one of which may carry our patient off when we think him fairly on the road to convalescence. The most usual complications are pneumonia, pleurisy, pericarditis, meningitis, nephritis, pus formation in the middle ear, spleen, liver, brain, perforation, hemorrhage, peritonitis. A careful examination of the blood is of incalculable benefit in the treatment of these cases, a marked leucocytosis invariably presaging complications, and often pointing to a deep seated abscess. In typhoid fever we need to study the pulse carefully, and notice its tonus, especially. The temperature should also be carefully studied, not so much for its morning remissions and its evening exacerbations, but for its irregularities—its regular irregularities; as, for instance, toward the close of the attack you will have a rhythmical morning exacerbation with an evening remission. Here the plasmodium malariae, which is present in many, if not in most cases of enteric fever in New Orleans (*vide* P. E. Archinard, *Philadelphia Med. Journal*, March 3, 1900,) finding the patient enfeebled and unable to resist him, makes an attack. The prompt administration of quinine will usually have a most happy effect. If we read the excellent reports of Johns Hopkins, we would be led into a grave error as to conditions obtaining here. Osler's dictum about the presence of the plasmodium malariae being proof positive of malarial fever, is contradicted by our every day experience.

In this climate, the malarial germ seems to lie in abeyance until the bacillus typhosus has

about spent his force, and that of the patient as well, and then it frequently becomes suddenly aggressive. Again, after the attack of fever shall have about subsided, the patient commences having rigors, with or without sudden rise of fever at night, and usually about midnight; explore for pus.

Don't give quinine, for you are not dealing with malaria.

To briefly epitomize the physiological treatment of enteric fever, I would state that the indications are: (1) clean intestines by mild cathartic, (2) stimulate the vaso-motors by the regular application of cold water with constant friction, (3) colonic flushings, (4) abundance of cool water to drink, (5) clean sheets, clean gown daily, (6) sunlight and air in abundance, (7) spare and readily assimilable diet at long intervals, (8) eternal vigilance for complications, (9) careful study of pulse and temperature, (10) never give any remedy that increases vaso motor paresis, the coal-tar series in particular are to be avoided, (11) avoid the use of all stimulants as a routine practice. I refer especially to alcohol, strychnine, nitroglycerine, and ammonia. There are times when we may need stimulants badly, but the average cases, if properly treated, seldom need them. The use of digitalis, though endorsed by many good men, I deem unphysiological, and at times positively dangerous, in this disease.

1496 Magahin's Street.

Estimation of the Leucocytes of the Blood as an Aid in Diagnosis.

Head (*Pediatrics*, February 1, 1900) calls attention to the great value of the estimation of leucocytes in the diagnosis of diseases in children. Leucocytes are present in the circulating blood of children in greater numbers than in the blood of adults. The blood of an infant at birth will count from 17,000 to 21,000 white cells to the c. mm. That of a baby of six months, 12,000; a child of one year, 10,000; one of four years, 9,000; while from six years onward the leucocyte count is practically that of adult life, namely, 7,500 white cells to the c. mm.

The following diseases are accompanied by a more or less marked leucocytosis: Suppurative otitis media, suppurative appendicitis, osteo myelitis, pneumonia, meningitis, pyemia, scarlatina, and infectious diarrhoea. An absence of leucocytosis is found in influenza, tuberculosis, typhoid fever, and measles. Ton-sillitis, diphtheria, and rheumatism are usually accompanied by a leucocytosis.—*St. Louis Cour. Med.*, April, 1900.

CASE OF MORPHINISM, CIGARETTE SMOKING, DROPSY, CONVULSIONS.

Six Weeks Coma, Emaciation of Two-thirds Normal Weight, Paralysis of Lower Extremities, and Final Recovery.

By W. P. CARR, M. D., Washington, D. C.

The case I report to you to-night is one of the most puzzling and interesting I have ever had to treat. It is that of a young lady who first came under my care in 1890, when I was called to see her with a view to operating upon a sinus near the left knee-joint.

She gave the following history: She was born in England and brought to this country by her parents when a small child. Her father died of phthisis at the age of 59, and her mother of apoplexy at the age of 62—both being in robust health until a year before death. She had no brother and but one sister, who is still living and in good health.

She was raised on a farm in Virginia, and spent most of her time out of doors; was very robust, athletic, and a great horseback rider. Normal menstruation at the age of 15, and no serious illness of any kind until 1889, when, at the age of 23, she went to Baltimore to live.

Soon after removing to that city she developed an arthritis (supposed to be tubercular) of the left knee; was confined to her room for a year or more, and suffered a great deal of pain. She was treated at that time, I have subsequently learned, by a physician who did nothing but give her hypodermics of morphine.

She left Baltimore in 1890, and came to Washington to live. Her physician at that time gave her a hypodermic syringe and a supply of morphine, with instructions to use it whenever she had pain. She found herself becoming a morphine habitué, and refused to take the drug any longer; but her physician then gave it to her in tablet form, declaring that it was not morphine, and she continued its use for years in increasing doses, although it was not long before she found out that it was really morphine, and although her arthritis was practically well.

When I first saw her in 1891 she was a tall, rather slender, but muscular girl, with good ruddy complexion, good appetite and digestion, although at that time she had a sinus in the left popliteal region, constantly discharging a small quantity of pus. She had not been out of her room for nearly two years, and

was taking 3 or 4 grains of morphine daily and smoking a great many cigarettes. The sinus did not seem to communicate with the knee-joint, and the inflammation in the joint had at that time entirely subsided. The sinus finally healed, but for several years would occasionally re-open and discharge a few drops of pus.

In February, 1898, she had an attack of capillary bronchitis, but recovered completely.

In July, 1898, she became weak, lost her appetite, and complained of dyspnoea and palpitation. Her pulse was 120, irregular, with one or two intermissions per minute.

She had been living a very indolent life since the attack of arthritis, spending most of her time in bed smoking cigarettes, and seldom leaving her room.

She was taking 10 grains of morphine a day by the mouth, but this I did not know at that time. My diagnosis was tobacco heart. I gave her hydrochloric acid and strychnia, and told her she must stop smoking; otherwise nothing would do her any good, and she would not live much longer. She asked me how long she would live if she continued smoking. I told her it might not be more than a month. She said she would try to stop, but did not think she could.

I was absent from the city during August; and upon my return, September 1, 1898, found her much worse. She had some ascites, and œdema of the ankles; pulse 130, very weak, and intermittent; temperature, normal. She had a fainting spell the day after my return.

Physical examination at this time showed no enlargement of the heart, and no murmur. There was slight dullness over the apex of the left lung, and broncho vesicular breathing. Expectoration was muco-purulent, and rather abundant. Coarse mucus râles over upper half of left chest, and a few moist râles could be heard all over both sides at times. Urine normal. Bowels constipated. No enlargement of the liver could be detected. Ordered absolute rest in bed, with strychnia, digitalis, iron, and small repeated doses of salts; nourishing easily digestible diet.

These directions were not followed. She promised to quit smoking entirely, but would get out of bed to steal cigarettes, and several times fainted when doing so. She ate cheese, candy, and other improper articles of diet, and would not take the digitalis mixture, which she said gave her a feeling of suffocation. She had an old family servant who nursed her, and I could not get her to go to a hospital or have another nurse who would enforce orders. She

* Read at the meeting of the Medical and Surgical Society of the District of Columbia, Jan. 4, 1900.

was supported by her sister, who indulged her in everything. She became unable to lie down without great dyspnoea, and for days slept propped up in an easy chair with pillows. She became greatly emaciated, and her abdomen and legs much distended with fluid.

November 5th, 1898.—I tapped her abdomen, and drew off a gallon of clear straw-colored fluid. She was now unable to walk, but remained day and night in a sitting position, propped up with pillows, and could not be induced to lie down. There was no heart murmur, nor could I detect any signs of pericarditis, though her pulse was now 140 and difficult to count because of weakness and intermissions.

She complained much of insomnia, and I got her to take 15 drops of digitalis, with $\frac{3}{4}$ gr. of morphia, every two hours. She discovered in some way that this mixture contained morphia, and, after two doses, went to sleep and slept twenty-four hours. She said it affected her head and made her giddy, but I continued it—not knowing that she was a morphine habitué. Her abdomen soon re-filled, and general anasarca appeared. Face, arms and legs were swollen. She continued smoking a few cigarettes—about a box a day. I made no further effort to stop her, as I considered her case hopeless.

I scratched a number of places on her legs with a pin-point, and a large quantity of serum ran from them daily for some weeks.

At the time she was tapped the trocar seemed to come in contact with a solid tumor, and after removing the fluid I distinctly felt what I took to be a fibroid tumor of the uterus as large as a cocoon.

I tried to make a vaginal examination, but found the opening in the hymen too small to admit my finger. Subsequent developments proved beyond doubt that there was no such tumor, and I am still much puzzled to know what I felt. I am sure it was not a fœcal impaction. I was so certain of my diagnosis that I told her sister she had a fibroid.

About this time her urine became very dark and of an offensive cadaveric odor. Examination showed it to contain bile, pus and a trace of albumen that may have come from the pus which was abundant.

November 22d, 1898, she had a sudden and violent convulsion—screaming and jerking, and with a wild frightened expression. I saw her half hour after and found no change in her condition except that her eyes were blood-shot and bulging, giving her a horrible, wild appearance. Her skin had become very yellow

quite suddenly, and she complained of severe headache.

Next day she had another convulsion, and continued screaming and jerking her limbs with clinched teeth and wild, staring blood-shot eyes for several hours, until finally relieved by hypodermics of morphia amounting to about two and a half grains. Late that night, when the morphia wore off, the screaming and clonic spasms of the whole body returned. Hyoscine quieted her at once, and she went into a coma vigil. For several days, however, hyoscine hydrobromate had to be given every few hours to prevent screams that could be heard across the street. Finally, she went into profound coma, which lasted without intermission for six weeks. Her temperature was taken shortly after the first convulsion and was 101.5° F., and during the six weeks of coma it ranged from 100 to 103—being very irregular and atypical—sometimes highest in the evening, sometimes in the morning. A bed-sore rapidly formed over the lumbar region ten inches in diameter and thirty-one inches in circumference, which, when the slough separated, freely exposed the spines and laminae of the vertebrae. A smaller one appeared on the left hip and one on the right heel. An immense quantity of serum ran from these sores—so much that the dropsy entirely disappeared in a few days. It was then seen that the patient was very much emaciated. She soon looked like a skeleton covered with yellow parchment, but with bulging, staring bloodshot eyes and fetid breath. Her tongue was shrunken, brown, and cracked. Teeth and gums covered with sordes; pulse scarcely perceptible—too weak to count. An offensive purulent discharge flowed from the vagina. Urine coffee-colored and very offensive, containing bile, mucus and pus, with a trace of albumin. Her urine had to be drawn with a catheter from the time of the first convulsion until convalescence. She lay in coma in this condition from November 27th until the 6th of January following—a period of forty-one days.

About the first of December, I asked my assistant, Dr. P. E. McDonald, to stay all night at the house, feeling sure that she would die during the night. He stayed that night and the following five nights, feeling sure that each would be the last. Her condition, however, remained the same—neither improving nor growing worse.

During the six weeks of coma no food was taken except a few teaspoonfuls of beef juice a day and little or no water, as it was impossible to get her to swallow, and I did not con-

sider it of any importance to give nourishment, as I fully expected every day to be the last.

For the same reason no effort was made to move the bowels, and they were not moved for five weeks. At the end of five weeks, however, her pulse improved so much that it could be counted at the wrist about 160. I then ordered an enema, which was followed by a number of copious movements—the first containing hard lumps. This was followed for several days by a continuous dribbling of liquid fæces. She still remained in profound coma and would swallow no food. Nourishing enemata were tried but were immediately ejected, even when preceded by cocaine and morphine suppositories. The urine gradually became normal in appearance and the offensive odor left it.

Finally, on the 6th of January, 1899, after forty-one days of coma, *without food or water*, she suddenly awoke as from a deep sleep and began to talk rationally, but only a few words and in a whisper. From this time she rapidly gained strength and flesh.

She was almost completely paralyzed from her waist down, had a bed-sore as large as a dinner-plate on her back, which was two inches deep in places, and which freely exposed her vertebra; a bed sore on the left hip, which had undermined the skin for a space the size of my hand; another on her right heel, exposing the os calcis and several small ones on her leg.

She was emaciated to an extreme degree, and of a peculiar greenish-yellow color. Her abdomen was flat and her spine and aorta could easily be felt. It seemed only two inches from her navel to the bottom of the bed-sore on her back. There was no tumor or enlargement of the liver or any abdominal organ. The râles and broncho-vesicular breathing had disappeared, and her pulse in a day or two became quite strong and regular at about 110 to 120.

She developed a good appetite and splendid digestion. Bowels moved naturally every day, and the bed-sores, which were dressed with ichthyol ointment, began to granulate rapidly. She complained bitterly of pain in her hips, legs and feet, and could not bear the slightest touch on the skin or the dorsum of her feet, while there was almost complete anæsthesia of the skin of the legs.

I found it necessary to give her morphine for this severe pain; and then learned for the first time that she had been taking this drug for ten years, and had gotten up to ten grains a day by the mouth. I was obliged to give her five grains a day for some weeks, and then

it was gradually diminished without her knowledge.

By the middle of February she was looking well, had a good complexion, was plump and strong in the arms and above the waist, and was able to get out of bed into a chair without assistance. Her paralysis improved very little, however, and was almost complete below the ankles.

About this time, Dr. W. W. Johnston saw her in consultation with me, and advised lumbar puncture and iodide of potassium. She was put at once upon iodide of potassium, and she improved so rapidly that no lumbar puncture was done. Morphine was entirely stopped about the first of March, and she has taken none since, although there is still great hyperæsthesia of the feet and ankles, and she says she sometimes cries with pain in them.

By the latter part of August she could walk, and was soon able to go all over the house and to take carriage rides. The large bed-sore by this time was not more than two inches in diameter, and looked healthy; and the one on her hip was healed, but that on her heel showed little improvement. It neither got better nor worse.

I saw her last on January 3, 1900. She was then able to walk as well as ever and looked better than I had ever seen her look, and weighed 149 pounds. At one time I do not think she could have weighed over 50 pounds. She still complains of pain in the ankles and feet, which is very severe at night, and she cannot bear the touch of a feather on the dorsum of her foot. She says, however, that the pain is much better than it was several months ago.

I put her upon iodide of potassium again, as she had taken no medicine at all for three months. She is now perfectly well in every way except for the hyperæsthesia in her feet. This, I feel sure, will disappear in a few more months.

There was no history of syphilis, either hereditary or acquired; and I satisfied myself by physical examination that she is a virgin.

Although self-indulgent and excitable, she has never been hysterical.

Three months ago, she began smoking cigarettes again, in spite of all warnings and protests, but declares that she only smokes two or three a day, and that she takes no morphia at all. She is a devout Catholic, and gives half the credit of her recovery to me and half to the prayers of her friends. I myself give all the credit to nature, with a little help from antiseptics and iodide.

Looking back at the case, I find many interesting questions arise: What was it? and what was the cause? What was the tumor? Did she have pericarditis and cerebral meningitis, as well as spinal meningitis? How long can a patient live in coma without food and water?

THE TREATMENT OF PNEUMONIA*.

By J. C. WALTON, M. D., Reidsville, N. C.

"Croupous pneumonia is an acute infectious disease produced by the local action on the lungs of the pneumococcus; from the primary pulmonary focus there originates systemic toxæmia, producing constitutional symptoms. In not a few cases there is in addition an invasion of neighboring tissues by the pneumococcus with resulting inflammation or metastatic infection. After a certain period, averaging about seven days, there is produced an antidotal toxin, the anti-pneumo-toxin, which, overcoming the effects of the toxin, causes the well known clinical crisis." (Herick).

Debilitating or depressing diseases offer favorable conditions for the invasion of the pneumococcus. Pneumonia is frequently the terminal affection in a great many chronic diseases, such as alcoholism, Bright's disease, typhoid fever, etc. Injuries to the chest may be followed by pneumonia. Exposure to cold and dampness is the history of many cases, but sleeping and living in illy ventilated, hot, stuffy rooms, with its resultant bad air, offers favorable culture fields for the development of the pathogenic germ, and by lessening the resisting power of the lung tissues, render them more susceptible to the pneumococcus. It is oftener bad air than it is cold and exposure that causes pneumonia, and people who are accustomed to sleeping in cool rooms and taking cold baths are, as far as my experience goes, the ones who are most apt to escape pneumonia.

Treatment.—The hope for a specific lies in the direction of serum therapy, but I have had no experience in this kind of treatment. I will simply give a brief outline of a treatment that nearer approaches a specific than any other that I am acquainted with. Delicate individuals should take abundance of exercise in the open air, and sleep in cool, well ventilated rooms, and avoid unnecessary contact with patients ill with pneumonia, as it is probable that pneumonia is as infectious as typhoid

fever or consumption. The infecting pneumococci are found in the sputum, which latter should always be disinfected and destroyed; the mouth and throat should be frequently rinsed with an antiseptic solution, as the pneumococci can be frequently demonstrated there, and some authorities think this is the cause of reinfection. The patient should be strictly confined in bed in the recumbent position, avoiding all unnecessary exertion, mental or physical, clad in light flannels, in a bright, sunny, well ventilated, cool room; do not allow more than one or two persons in the room at a time. The patient should be well sponged with tepid water and vinegar, one or more times a day; the diet should consist of liquids, milk, soups, lemonade, etc.

In the treatment of pneumonia, as in all other diseases, treat your patient and not the disease. Remember that a drug which is indicated in one stage may be contraindicated in another. If a robust patient is seen at the very beginning of an attack, do not hesitate to employ the lancet, as it will sometimes cut short the disease, and will add greatly to the patient's comfort. Give a brisk mercurial purge, for its derivative effect, and one or two large doses of quinine. "Quinine will sometimes abort pneumonia." Flint.

But the drug that I most rely on is Norway's tincture of veratrum viride, two to four minims every two hours or oftener, watching its effect upon the pulse, gradually bringing it down to seventy or eighty, and holding it there until the disease is under control. Aconite has not given satisfaction in my hands, as the pulse rate gets faster and weaker under its use, while veratrum reduces the pulse rate, but does not unduly weaken it. If too much sedation occurs from its use, it is promptly relieved by alcoholics. Although I have given it frequently for years in this disease and in puerperal eclampsia, I have never seen any untoward effects from its use. I feel that I cannot say too much in its favor. In combination with ice, it more nearly approaches a specific than any other treatment. Ice-bags constantly applied over the inflamed lung, and over the heart, not only for its effect in reducing the temperature and in bringing down the pulse and respiration, but for its constricting effects on the capillaries—reducing pulmonary congestion, relieving pain, adding greatly to the comfort of the patient, and frequently aborting or cutting short the disease. If the treatment should fail to arrest the disease, the subsequent stage is milder and more easily managed. If it goes into the second stage, give ammonium carbon-

* Read before the Tri-State Medical Association of Virginia and the Carolinas, during its session in Charleston, S. C., February, 1900.

ate, 5 grs. every two hours—not only for its stimulating effect, but because it is the best absorbent we have. By thinning and dissolving the tenacious secretion, the patient is enabled to expectorate without difficulty, adding, when necessary, especially if the first sound of the heart is weak, alcoholics. Strychnine is the best stimulant and tonic that we have, and should be used freely when indicated. Digitalis is of great service when the pulse is weak and rapid. Transfusion of normal salt solution should be used in bad cases, and opiates to relieve pain, if necessary. I have had almost uniformly good results from this treatment, never losing a case, except in elderly people and very young children, in alcoholics, or when the disease was the terminal affection of some other grave malady, and many of my conferees have met with like success.

I am well aware that there is nothing new in this treatment, but as some ancient sage has said, "The world does not need to be taught new truths, but to be reminded of the old." When we consider that pneumonia is the most widespread and most fatal of all acute diseases—ranking next to consumption—any treatment that offers any palliation or hope of relief is well worthy of trial.

THE LIABILITY OF MISTAKING LOCOMOTOR ATAXIA FOR RHEUMATISM.*

By E. L. TOMPKINS, M. D., Washington, D. C.,

Professor of Nervous Diseases in the Columbian University;
Attending Physician for Nervous Diseases at the Central Dispensary and Emergency Hospital.

Mr. President,—My attention has been especially called of late to the great importance of making a correct diagnosis very early in cases of locomotor ataxia. Every person with this disease, that I can recall, in private and hospital or dispensary practice, for some years back, has stated that he had rheumatism, and came to be treated for that, or that his physician had treated him for rheumatism, and in looking over my case books I find that to be true.

So I have thought that I would bring this subject before you to-night, as much for discussion as anything else, as I am sure it is of the greatest importance to general practitioner and specialist alike. In fact, I consider it of more importance to the physician in general practice, because it is to his family physician that the patient first applies, when the first symptoms make their appearance, and when

practically it is the only time that something can be done for his benefit, I do not mean, however, that a patient because he presents himself in the later stages of tabes for treatment, should be told that his was an incurable case, and nothing could be done for him. I think that very often he can be made more comfortable, and, perhaps, the progress of the disease stopped for awhile at least.

But it is not of the treatment of either locomotor ataxia or rheumatism that I would speak to-night, but of the liability of mistaking the former for the latter in making an early diagnosis.

In order to discuss these two diseases, it is necessary to compare their causes, symptoms and pathology.

Syphilis seems to stand first among the causes of locomotor ataxia in the great majority of cases. Church and Peterson say that it is the principal factor in the etiology of tabes dorsalis, but that it is impossible at present to say that it is an indispensable element in a given case, because chronic intoxication with ergot may induce tabetic features and similar degeneration. "It is safe to say that practically nine out of ten cases are syphilitic, and that the tenth case is open to very serious doubts, if it occurs under the ordinary circumstances of life." They go further as follows: "It is rare for tabes to develop before the age of 25 years, just as it is rare for syphilis to be acquired before adolescence. In cases appearing in childhood, hereditary syphilis is present." "The male sex is about ten times as frequently affected with tabes as the female. The same proportion obtains for syphilis." "The race question tells the same story. In rural communities and among the orthodox Jews cases of syphilis are comparatively rare, and tabes equally infrequent. Excessive venery has been accused of producing tabes. Its relation, if it has any, is by the increased exposure to luetic infection it entails."

"*The bearing of occupation* is that related to syphilis. Artists, actors, journalists, and soldiers are frequently affected; physicians and surgeons not infrequently, clergymen most rarely. Country laborers so greatly exposed to traumatism and exposure very seldom present tabes or syphilis." They finally say that they call tabes a parasymphilitic disease.

Hammond states that in the majority of cases no cause can be reasonably assigned, but mentions excessive venery, injuries, exposure to cold and dampness, alcohol and syphilis.

Potts, of Philadelphia, gives syphilis as the main cause, also excessive fatigue, sexual ex-

* Read before the Clinico-Pathological Society of Washington, D. C., May 1, 1900.

cesses, exposure to cold and wet. Landon Carter Gray, of New York, states that syphilis is the most frequent of all the causes, but that trauma is the cause of some of the severest forms, and that alcohol is more apt to set up the peripheral form.

A number of other well-known authors that I have consulted practically agreed that syphilis was the chief cause of locomotor ataxia.

In the majority of cases that have come under my own observation and treatment, the cause was syphilis, but I could not in every case get them to confess to syphilis. And, moreover, I believe that many times the patient will deny having had syphilis although he may be told that it is to his advantage to have had it.

Many patients who are suffering from locomotor ataxia in its incipency firmly believe that the lancinating pains are those of rheumatism. F. S. Pearce, in the *Pennsylvania Medical Journal*, September, 1898, reports 194 cases of tabes. The cause given by the patient was rheumatism in 25 cases, and exposure to cold and wet in five cases. He states that "rheumatism follows exposure to cold and wet, and may act as syphilis in producing endarteritis, anæmia and sclerosis of the posterior columns. Tables show sufficient number of cases of tabes following exposure to confirm this"

The fact that they are sometimes exposed to cold and wet makes them more positive that their suffering is due to rheumatism.

But this is the very mistake that we wish to avoid, and I am sure that if physicians, instead of accepting the patient's diagnosis of rheumatism, were to inquire into the character of the pains, their duration, etc., fewer mistakes would be made. I make it a rule now, when a patient suffers from pains of any sort, to look for locomotor ataxia.

Dr. J. T. Eskridge, of Denver, in the *Charlotte Medical Journal*, Vol. 13, has so nearly expressed my sentiments that I will be excused for quoting him quite freely: "One fault that few of us can claim entire freedom from is in allowing a patient to make his own diagnosis. This is especially true if he happens to complain of rheumatism. The physician may be busy or tired and a patient consults him saying, "Doctor, I am suffering from rheumatism in my legs; can't you help me?" "How few hesitate to prescribe for rheumatism under these circumstances? The medicine is taken, and the patient is relieved for a few weeks, or it may be for months, when he again returns—is given anti-rheumatic medicine, is relieved after a day or two, for a longer or shorter pe-

riod. The physician under these circumstances observes that the weather has a great deal to do with the patient's suffering. When it is stormy, or damp, the pains return with greater frequency. The physician is consulted for several times, but finding that relief is only temporary, he consults some one else, and undergoes somewhat similar treatment with his second physician. And in this way physician after physician is consulted for the relief of supposed rheumatic pains for years, in cases in which the pains are one of the most obtrusive symptoms of locomotor ataxia." He then narrates accounts of two cases in point. (1) "A man who had, for 15 years, traveled over Europe and America, and been treated by numerous physicians at various watering places for neuralgia, stomach trouble, and rheumatism, had just consulted him, and a careful examination revealed locomotor ataxia in an advanced degree. There was pronounced optic nerve atrophy, loss of knee-jerks, and iritic reflex and shooting pains were present, but ataxia was present only to a very slight degree. (2) A man consulted him for rheumatism, which he said he had had for five years, and been treated by many physicians at various springs without relief. This man had a typical case of locomotor ataxia. He states that four out of every five cases of locomotor ataxia that he had seen had been treated for rheumatism.

Nobody would be likely to make a mistake when the patient presents himself walking with two canes, and in the advanced stage of ataxia, but let us look for some of the earlier symptoms.

We know that syphilis is a recognized cause, and that tabetic symptoms do not usually appear before ten or fifteen years after the initial lesion, although it is said by some that the time is from five to thirty-five years, and we also know that the disease after making its first appearance usually extends over a long period of time.

The symptoms are divided into groups, each author arranging them to suit himself. In this paper we are mainly interested in the early symptoms, although the ataxic and the paralytic stages are interesting. Nearly every organ in the body and every function may be affected.

Church and Peterson divide the symptoms into motor disturbances and sensory disturbances. The motor disturbances consist of (1) disturbance of the muscular sense, (2) involuntary movements, and (3) palsies. Potts, on the other hand, arranges them into (1) incipient or preataxic, (2) ataxic, (3) paralytic. Gray,

into the pathognomonic, non-pathognomonic, and symptoms merely associated with the disease.

The muscular sense disturbance referred to is the inability to recognize, with eyes closed, the position of a limb. It is the non conception of location. It is tested for very easily. You simply make the patient, with eyes closed, touch a particular part of the body, or describe the exact position of a limb. I am in the habit of making the patient, with his eyes closed, touch the end of his nose with the end of his finger. The inability to do this is one of the early symptoms of locomotor ataxia.

Pain is one of the important and frequent early symptoms. It is characteristic, sharp, shooting, lancinating, electric-like, and it is on account of pain that the patient so often thinks he has rheumatism. A gentleman under my care now in the early stage of locomotor ataxia had been treated for sciatic rheumatism and attacks of indigestion. I found that there was absence of knee jerks, slight ataxia, which was especially noticeable on going up and down the stairs, and which caused one of his neighbors to say that he was drunk. He also has to look at his feet all the time when walking, and the Romberg symptom was well marked. The so-called sciatic rheumatism was the lightning pain of tabes and the attacks of indigestion were gastric crises. Another case, seen recently in consultation for attacks of stomach trouble, presented severe attacks of gastric crises, lightning pains, absence of knee-jerk, and commencing optic atrophy.

A third case, referred to me by Dr. Wilmer, who recognized the disease at once, presented the following history: He consulted Dr. Wilmer for his *failing sight*; had been operated on for "cross eyes" by an oculist in Baltimore, and had been treated for neuralgia and muscular rheumatism, and rubbed with liniments, but no treatment had given relief; had a chancre 20 years ago. Present condition: Age, 55; married, but has never had any children, walks with a cane, stamping gait, feet wide apart to widen base of support, optic nerve atrophy, Argyll-Robertson pupil, incoordination, Romberg symptom, loss of knee-jerk, urination slow, and severe pains in the bladder, lancinating pains in the legs, which commenced only two years ago, and impairment of gait commenced about 15 months ago, no girdle sensation; sensory symptoms, as a burning sensation in the legs; can't walk in the dark, and has to look at his feet all the time, else he falls. I mention this case in re-

ference to the early eye symptoms, and for which he apparently had sought relief.

An early, and one of the most significant symptoms is the *loss of the knee jerk*. Sometimes it is only on one side for awhile, and then gradually the other side is affected. I have never seen a case of locomotor ataxia where this symptom was not present, partial if not complete.

Ocular symptoms are usually classed among the early ones, but I have not always found it so. It is said that optic atrophy occurs in about 10 per cent. When they do occur, they consist of paralysis or some of the muscles, manifested by squint, ptosis, diplopia, optic nerve atrophy with consequent blindness, Argyll-Robertson pupil or a paralysis of the iris for light and shade. The pupils may be contracted and unequal or more rarely dilated. Some of the "crises" are usually among the early symptoms. I think the gastric crises is the more common, although any of the viscera may be affected, such as the larynx, kidneys, rectum, bladder, urethra, clitoris or intestines. There is usually violent paroxysms of pain referred to the organ affected; if the larynx, there is pain and dyspnoea, or if the stomach, pain and vomiting. The pain is very severe and the vomiting begins suddenly and ends suddenly, and is incessant.

There is usually *loss of sexual power and desire*, and with the loss of this power and desire there is loss of the "virile reflex" of Hughes. The large majority of tabetics have *auditory derangement*, dulness of hearing or complete deafness.

Tabes is extremely liable to be mistaken for parietic dementia. A man whom I had treated in my clinic at the Emergency Hospital for locomotor ataxia, went to another dispensary, and his case was there diagnosed as parietic dementia. The physician came to see me about him, and told me that he had parietic dementia; the patient finally came back to me, but I found no reason for changing my diagnosis.

Trophic disturbances may or may not be among the early signs. They consist of an enlargement of a joint (Charcot's joint) or an ulcer of the foot. These arthropathies resemble and are considered by some to be the same as arthritis deformans.

The girdle sensation, or feeling of a tight band around the waist, is sometimes present and sometimes absent.

The next stage, or ataxic stage of locomotor ataxia, is more easily recognized. In it we

have the *Romberg sign* or the inability to stand with eyes closed and feet together without swaying; the patient will sway violently if he tries to walk with his eyes closed; and it will be found that such a person watches his feet when he walks; consequently he cannot walk in the dark and does not go out much at night, because he cannot see his feet. The characteristic gait is also present in this stage; the patient walks with his feet wide apart, lifts his feet high from the ground, and usually the heel is brought down first. He usually walks with a cane, and sometimes two of them. There is incoordination of the legs or arms, according to the portion of the cord first affected.

The loss of knee-jerk, Argyll Robertson pupil, loss of muscular sense, ataxic gait, sensory disturbances and mental symptoms, also optic nerve atrophy, crises and arthropathies, all exist during this stage. This second stage lasts for many years, and then the third or paralytic stage begins, in which the patient is bed-ridden and helpless. This stage may likewise last for years, and the patient may die from some intercurrent trouble.

The sensory disturbances are interesting and important, for often they are the earliest symptoms to show themselves. They vary in character and degree from the severe pains in the limbs, in which they are described as burning, boring, twisting, and the painful crises of the viscera, to simply feelings of discomfort, like the girdle sensation, and also even absolute loss of feeling (*analgesia*). This affects not only the skin but even the muscles, bones and joints. A needle can be thrust into the limb without the patient feeling it, and it is said that a bone may be fractured or dislocated without pain.

Then there may be, on the other hand, *hyperalgesia*, or a modification of the two, in which there is retarded sensation and quite an appreciable time elapses before the patient feels the prick of a pin or other stimulus. I have known of two cases where the patient was severely burned before he knew it. One was that of a man who put his feet in very hot water to wash them and did not realize how hot it was; and the other case was that of a man who put his feet and legs against a radiator to warm them and was so severely burned that he died from the effects.

I have consulted the Surgeon General's Library, and, of course, there is an enormous lot of literature on this subject. Some of the reports of the early symptoms of locomotor ataxia I would like to mention.

F. S. Pearce, mentioned above as reporting

194 cases, states in reference to the pupillary changes, that "precocious cases, more constantly than the usual later developing forms, do not so often present the Argyll-Robertson sign, but do the Romberg symptom proportionately greater, as though the lower peripheral neurons were more affected in young persons and by wider spread lesions for the anatomico physiological reason of vascular resiliency given. The Reber and Wilmarth theory of the explanation of the Argyll-Robertson pupil as due to circulatory disturbances from occlusion of the arteries in the finer vessels between the optic and oculomotor centres, seems plausible (likewise does an early occlusion of these finer vessels of the cord, together with the important factor of the length of the reflex arc, explain the early absence of the knee-jerk), and this, we mention, is the reason for the less frequent Argyll-Robertson phenomenon in young persons. Their more resilient vessels are not so quickly occluded from carrying nutriment to the eye centers. Sudden onset of tabes is likewise less frequently associated with the Argyll-Robertson pupil, pointing again as though the cord were much earlier involved in rapidly developing cases than the oculomotor centers. The Argyll-Robertson pupil was found in 156 cases and much less in young cases."

W. H. Riley, in the *Journal of Nervous and Mental Diseases*, N. Y., 1898, reports 61 cases. History of exposure to cold and wet was given in 7 cases. In 37 cases, the initial symptom was pain in some part of the body, and was usually described as rheumatic. "Another fact that may be noticed in this connection, is that the knee-jerk is not always absent in locomotor ataxia, as is usually supposed. Of these 61 cases reported, it was found absent in 55 cases. Of the 6 remaining cases, it was present and apparently normal. Weir Mitchell reported a case in which the knee-jerk was exaggerated, but symptoms of ataxia were in the upper extremities. In 8 cases, the pupils were dilated instead of contracted." He says that not sufficient importance is given to the symptom of skin reflexes in the early stages of the disease; that he has found the exaggeration of the skin reflexes of great diagnostic value, and that they diminish as the malady progresses and finally disappear entirely. For example, he cites a case where "the only symptom pointing to incipient locomotor ataxia, with only the slightest suggestion of incoordination, was decided skin reflexes, particularly the plantar. The knee jerk was present and all the other symptoms of the

disease were absent." The diagnosis of incipient locomotor ataxia was made. The patient remained under his observation for two years, and he saw the other symptoms of the disease make their appearance.

"Poisoning from substances formed within the body in gouty, rheumatic and diabetic diatheses, is sometimes followed by symptoms of locomotor ataxia." "I do not believe that mechanical injury, exposure to wet and cold, overwork of sexual excesses, without infection, can be regarded as an exciting cause of tabes dorsalis, *per se*."

"The essential thing is a toxin in the blood, which may be a ptomaine, a leucomaine or a chemical poison either organic or inorganic."

"Much valuable work has been done recently with reference to the pathogenesis of tabes. The old theory which considered the primary lesion in tabes as a degeneration of the posterior columns of the spinal cord, will, in the light of recent research, hardly hold. That there is a degeneration of the nerve fibres of the posterior columns of the cord, is a well established fact; but is this primary? or is it the result of another lesion which, at least in a causal relation, antedates it?" "He quotes Rindfleisch as ascribing the origin of tabes to a slightly progressive inflammation of the pia mater, which, by reason of tissue continuity, gradually extends to the connective tissue of the cord, and there forms an interstitial myelitis, which results in a secondary degeneration of the nerve fibres of the cord." He also states that "Obersteiner and Redlich made oblique sections of the spinal roots in the direction in which they enter the cord, and found that normally the roots are constricted by a circular band of connective tissue of the pia mater. In the early stages of tabes, the roots on the spinal side of the restriction are found to be degenerated; the cause of this degeneration is a hyperplasia of the connective tissue, which forms the constriction. This presses on the nerve fibres and leads to its degeneration. The reason that the nerve fibres in Lissaur's boundary zone of the spinal cord differ so in the disease, is that in the spinal roots these fibres are located in the periphery and consequently suffer most from the constriction."

He also quotes Nageotte's views "that the initial lesion of tabes is a perineuritis, which affects the posterior spinal roots between the spinal ganglia and the point where the roots enter the subarachnoid space. The perineuritis at first partakes of the nature of an embryonic process, but later is fibrous in character.

Following the inflammatory process is a degeneration of the root fibres, which extends into the posterior columns of the cord. The anterior as well as the posterior spinal nerve-roots are affected by the inflammation; but as they seem to have greater resistance, the motor nerve fibres are less liable to degenerate."

"Professor Leyden, as early as 1863, expressed the opinion that the lesion in tabes begins in the posterior roots, and that the degeneration in the posterior columns of the cord is secondary."

As Riley says: "It seems quite well established, therefore, that the disease begins in the posterior spinal roots, either in the nerve fibres or the ganglia, the nature of the lesion being at first inflammatory and affecting the connective tissues, and later degeneration, affecting the nerve fibres. The nerve fibres which form the posterior columns of the spinal cord are but the extension of those which make up the posterior spinal roots. A lesion affecting the fibres of the posterior spinal roots would likewise affect those of the posterior columns of the cord. A lesion of the posterior roots would interfere with the nutrition of the fibres of the posterior columns of the cord by cutting them off from their centres of nutrition, which are the spinal ganglia of the posterior roots"

F. F. Ward (in *Med. Rec.*, N. Y., Oct. 8th, 1898,) reports a case in which, among other symptoms, there is optic nerve atrophy with total blindness: "The curious point is, although the patient is perfectly blind, he can stand with his feet close together quite well, with only slight swaying, but the moment he closes his eyes he begins to sway, and would topple over if left to himself. The symptom (Romberg) seems to be brought about only by the act of closing the lids, and not simply from shutting out the light. He naturally raises the question, Is the symptom of Romberg produced or brought out in any case, even when the optic atrophy is not present, by shutting out the light or by the act of closing the lids?"

W. C. Krauss, of Buffalo, in the *Journal of Nervous and Mental Diseases*, N. Y., 1898, Vol. 26, reports a case of locomotor ataxia, with hepatic crises: "For ten years the patient had periodical attacks, four or five weeks apart, of jaundice, with intense hepatalgia, clay-colored stools, with bile pigment in the urine; hepatic area not enlarged; no gall-stones found in feces. All the other symptoms of locomotor ataxia were present. Antopsy: Characteristic changes of locomotor ataxia in spinal cord,

liver weighed 3½ pounds, and showed no new growth of any kind; gall-bladder filled with bile, but no gall-stones; ductus choledochus and accessory ducts unobstructed."

In the same journal, H. M. Thomas, of Baltimore, reports 111 cases of tabes at the Johns Hopkins Hospital: "Pain occurred in 57 cases as the initial symptom, ataxia in 24, numbness of extremities in 6, paralysis of the bladder in 5, nausea and vomiting and gastric crises in 4."

Dr. Starr, of New York, in discussing the paper, stated that he had tabulated 273 cases; 27 had gastric crises. The most frequent symptoms was pain, and next ataxia.

Dr. C. L. Dana, at the same meeting, reported 50 cases, and said that he had seen gastric crises as the initial symptom last for several years before the other symptoms of the malady were recognized. Among the early symptoms, Dana puts down pain, ataxia, sensation of great weariness, and optic nerve atrophy. The Argyll-Robertson pupil is also put down by him as among the most common of early symptoms.

Dr. Edw'd D. Fisher stated that in his experience the early symptoms had been slight pains of a rheumatic character, associated with ataxia.

Dr. Joseph Collins said that in his experience the bladder symptoms and numbness of the lower extremities had been the more common initial symptoms; next to these came pain, and next in order the giving away of the legs.

Dr. Onuf, in the same journal, but for 1899, reports a case of superior tabes. The first symptom was a feeling of cold over both patellæ. One year later, he was struck in the right popliteal region, and two or three days later his right leg was stiff. Sensation of face markedly impaired and analgesia extended to the mucous membrane of the mouth. Kneejerks were present; the ataxia was in the upper limbs; visual fields on both sides contracted, and both optic nerves atrophied.

Prof. H. Curschmann, of the University of Leipsic, in the *International Clinics*, for 1899, Vol. 4, presents an interesting case of locomotor ataxia: "The man was 72 years old, and had pains for thirty years. He had typical tabetic lightning pains for twenty years. In all other respects, he had been extremely healthy. Nine years before his sight began to fail, and examination showed atrophy of the optic nerve with deep excavation of the papilla."

At the time that Prof. Curschmann presented the case to his students, he had developed

other well marked symptoms, such as girdle sensation, swaying on walking in the dark, absence of patellar reflexes, "high steppage" gait, etc.

He finishes the description of the case by saying: "When the trouble first set in with pain, the explanation so often given for tabetic pains, when they are an isolated symptom, was suggested, namely, rheumatism; but this is so long ago that we are unable to gather any precise information as to the situation of the pains, and whether they followed the course of any nerves or not."

He also states that "the case is evidently tabes dorsalis, beginning with lightning pains and optic atrophy, gradually leading up to the development of the other symptoms. It has taken a long while for the other symptoms to develop, but it has been noted before that when the eyes were attacked early the course of the disease was often slow, and there were no acute exacerbations."

J. M. Aiken, in the *Journal of Am. Med. Assoc.*, 1898, Vol. 31, says that "an early recognition of tabes is desirable not alone in our treatment but for prognosis; yet the wider our observation of cases the greater is our surprise at the multiplicity of the symptoms and their order of appearance, often causing the most accurate observer some anxiety in making a diagnosis, until he has made repeated examinations, or at one sitting can get a complete and intelligent clinical history covering a long period of time; for until degeneration has begun in the cord, symptoms, presenting indisputable evidence of the malady, are wanting. The sensory symptoms, so often preceding any motor manifestations, are frequently regarded as rheumatic, and if accompanied by digestive disorder with occasional vomiting, may cause our attention to be fixed on chronic gastritis with muscular rheumatism.

We would be surprised at our easy transition to a different conclusion, if on close examination we have revealed to us the fact that the pains are confined to the lower extremities, intermittent in time and lancinating in character, while the vomit appeared at intervals wholly independent of the time when food was taken, and was not immediately preceded by nausea or gastric distress. In the event of such evidence, we may justly suspect a case of tabes. Moreover, symptoms essential to the complete clinical picture, but as yet not fully developed, or, having appeared, are forgotten, or considered by the patient as being wholly unimportant, may be brought into view by a careful retrospective history of the case. If the

ataxic condition is uppermost in the patient's mind, and is especially annoying during his nocturnal excursions, he, being entirely unconscious about the occasional darting pains in the bladder, bowels, rectum or anus, and ready to explain the paroxysms of dyspnoea or motor impairment of the glottis as a result of "a little cold," but in the absence of pulmonary, cardiac, cystic or bowel disease, such symptoms having existed or now present, should form collateral testimony of positive value in the tabetic. If the peripheral limitations of vision are noticed, the onset being rapid, then gradually retarding in progress until months pass before perceptible changes in the field of vision are noticed, the seeming stay in progress should not lend strong hopes for a favorable issue, since gray degeneration of the optic nerve in tabes is first rapid, then retarded and usually centripetal in course. Pupillary reaction to light is lost. As between the hyperæsthesias, anæsthesias, paresthesias and pains of tabes, we might rightly regard the latter as earliest to appear, most annoying in character and persistent in duration. They are lancinating, come without warning, and are prone to greater severity at night, but unaccompanied by febrile disturbance and not of the short duration commonly seen in the early stage of multiple neuritis. Impairment of sensation, though most frequent and of the greatest severity in the lower extremities, may first appear elsewhere."

F. W. Mott, in the *Clinical Journal*, London, Vol. 12, June 29, 1898, reports five cases. In case one, gray atrophy, lightning pains and squint were the early symptoms. He says that "it is very curious that these people, who suffer with gray atrophy, remain in the pre-ataxic stage for a long time—many years." Case three had Charcot's joint, that is a sudden and painless swelling of a joint. Case five had gastric crises as the earliest symptoms; he was sick without food in the stomach.

Frank Fischer, of San Francisco, in the *Occidental Medical Times*, 1898, Vol. 12, reports a number of cases. In eleven cases the disease began with lancinating pains in one or both extremities. In thirteen cases the first symptom was some difficulty in locomotion, described as weakness in legs, stiffness of knees or incoordination. Twelve cases began with numbness generally in lower extremities; in one the numbness began in hands; another in perineum and scrotum, and others in feet, legs and thighs. Two cases began in rectum, a fullness of rectum, inclination to movement of bowels without actual movement. Three cases

began with failure of vision. He said that his cases did not prove the claim that early optic atrophy was not ever followed by pain and ataxia. Sometimes the claim is true, however."

E. F. Trevelyan, in the *Quarterly Medical Journal* of Sheffield, July, 1898, reports twelve cases. Speaking of early symptoms, he says: "One of the most striking of the early symptoms of tabes consists in the eye changes." He also draws attention to the fact that the pupils may be irregular: "It is sometimes taught that this is a characteristic symptom of general paralysis, but at the present day many authorities admit that it may occur in tabes. I have certainly seen it myself in two cases" "It is recognized that in the presence of this atrophy (optic) the disease develops more slowly; and yet if the atrophy supervenes late in the disease, it exercises no appreciable staying effect upon the subsequent course. The ataxia is often absent here and the pains are quite the exception." "Bladder symptoms are undoubtedly among the earliest manifestations of tabes—become less marked as the disease progresses, to be again prominent in the later stages. Irritability is most frequently noted."

Emil Altman, in the *Post-Graduate*, N. Y., Vol. 13, 1898, reports a case of tabes. "Personal history; never had any disease except those of childhood. In 1880 he contracted a chancre; six weeks later secondary syphilitic manifestations appeared, lasting only two months. He was under the care of a good genito-urinary surgeon. Treatment was kept up for two years. In October, 1895, he began to complain of rheumatic pains and was treated for rheumatism. As the pains did not diminish under anti-rheumatic treatment, he changed his physician."

D. J. Roberts, in the *Clinique*, Chicago, September 15, 1898, reports a case of tabes which he says if not caused by uric acid was influenced by it. The case was in the second stage. "Over indulgence in nitrogenous food. Rheumatic complications suspected. Tests were made but only small quantity of acid found. Retention of acid being suspected, treatment favoring the elimination of acid was tried and much acid was passed. Marked improvement took place, the pains disappeared and the limbs became more dexterous. He also had history of syphilis ten years back."

I think, Mr. President, we will all admit that in the early stage of locomotor ataxia, mistakes in diagnosis are at least possible. But before closing this paper I want to say a few words about rheumatism. There are several differ-

ent varieties of rheumatism, viz., acute articular rheumatism, in which the blood is charged with excess of lactic acid and the joints are swollen and painful, reddened and hot. It usually begins with a chill and high fever, great thirst, profuse acid sweats and scanty, high-colored acid urine. Then there is muscular rheumatism, acute or chronic. It is characterized by pain, tenderness and stiffness of the affected muscles. It is a disease of adult life, and is almost always due to cold or damp or a draught of cold air. There is no fever. It has several subvarieties, named according to the location affected, such as cephalodynia, torticollis, pleurodynia, lumbodynia, or lumbago. Of this form of rheumatism, pain on motion of the muscles is the chief symptom and it is this form also which is most likely to be taken for locomotor ataxia, although the next form, rheumatoid arthritis, or arthritis deformans, on account of the peculiarity of the affected joint, may be confounded with the arthropathic joint of locomotor ataxia. The disease, however, is more common in women, while locomotor ataxia is much more common in men.

Hughes, of Philadelphia, says that this disease is not rheumatism, as the blood has no lactic acid in it, and it is not gout, as uric acid is not found in the blood, nor urate of sodium in the joints. He states that "the neurotrophic theory, as advocated by J. K. Mitchell, and supported by Charcot, is accepted as the predisposing cause."

Osler says, in this connection, that "the acute and chronic forms of arthritis may occur with gross lesions of the cord; the former are found in acute myelitis; the latter with sclerosis of the posterior columns. The acute spinal arthritis presents anatomically inflammation of the synovial sheaths and the fibrous investment of the articulations. The chronic arthritis, which we see in syringomyelia, tabes, and hemiplegia, presents a combination of atrophy and hyperplasia of the bones, with thickening of the ligaments, and more or less effusion."

The following are the main points urged in favor of the nervous origin of the disease: (1) The articular changes are similar to, if not identical with, those of the chronic spinal arthropathies. (2) The frequent association in arthritis deformans of dystrophies of the skin (glossy skin), nails, bones and muscles—changes which are evidently of neurotic origin. (3) The symmetrical onset and progress of the disease. (4) The implication of nerve trunks."

In regard to acute rheumatism, many authors of late have maintained that it was caused by certain bacteriological elements. Osler, after naming a number of authors, says that "a review of their work, however, justifies the conclusion that no positive proof has as yet been offered of the constant association of any special micro organism with the disease. Singer, in an extensive monograph, attempts to show that in rheumatic fever the organisms, consisting chiefly of staphylococci and streptococci, are discharged in numbers in the urine. Special stress has been laid on the tonsils as a point of entrance of the infection. It has been long known that tonsillitis is a very frequent initial symptom in the disease—28 out of 66 in Singer's series. Indeed, some have gone so far as to say that there is always a primary infective trouble in the lacunæ of the tonsils, to which the rheumatic fever is secondary, arising from microbes or their products. Other views as to the nature of rheumatism are the metabolic or chemical; that it depends upon a morbid material produced within the system in defective process of assimilation. It has been suggested that this material is lactic acid (Prout) or certain combinations with lactic acid (Latham). Richardson claims to have produced rheumatism by injecting lactic acid and by its internal administration."

In reference to the nervous theory of acute rheumatism as advocated by J. K. Mitchell, Osler says: "According to this view, either the nerve centers are primarily affected by cold, and the local lesions are really trophic in character or the primary nervous disturbance leads to errors in metabolism and the accumulation of lactic acid in the system. The advocates of this view regard as analogous the arthropathies of myelitis, locomotor ataxia and chorea."

1512 Q Street.

"What happens to be the matter with your father?" inquired the doctor, as he hastily put his clothes on.

"He's got the lumbago," replied the boy. "I think that's what maw says it is."

"Pain in the small of the back, I presume," said the doctor.

"No, sir; he hain't got no small of the back. My paw weighs 284 pounds."

CLINICAL SIGNIFICANCE OF ALBUMINURIA AND TUBE CASTS.*

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In the presentation to you of a paper on this subject, I realize fully the amount of investigation in this line that has been made, and the more thorough research that is now in progress, both in the laboratories of our colleges and hospitals, and also in those of the scientific physician of the present day; and I can but hope that we may, at an early day, bring order out of what seems to me to be a great state of confusion. When we are told by eminent authorities that the presence of albumin, and especially of the casts of the renal tubules, in the urine is of grave significance whenever found, at least for a continuing period, and their statements backed by limitless numbers of cases resulting seriously; and, on the other hand, men equally worthy of credence and fully as prominent as scientists in this line make the positive statement that neither the presence of albumin nor casts is pathognomonic of renal or other disease, and that their absence is not to be construed as evidence that the most serious does not exist, what then is the general practitioner to conclude?

I propose to discuss, first, the significance of albumin alone; secondly, of the casts with the presence of albumin, and thirdly, of casts occurring alone, or, at least, when our usual tests fail to detect the presence of albumin.

As to the tests for albumin, I consider that the most satisfactory in general practice are Heller's contact test, the heat and nitric acid, or the "crucial test," and the nitric magnesian, which is more delicate than either of the other two, and has the advantage of not producing to so great an extent the many colored rings at the point of contact of acid and urine, formed by the action of nitric acid in the various urinary coloring matters, which obscure the albumin ring when it is not strongly marked.

It is well known that in applying Heller's test we often mistake for albumin the ring caused by other substances; first of which I mention the urates, or, as it is said by Thudichum, the hydrate of uric acid. The ring produced by this substance, on careful inspection, is seen not to be at the point of contact of acid and urine, but as a broad haze some distance above the contact zone. Secondly, various

resinous substances, such as copaiba, turpentine, santal oil, etc., cause a ring of resin to be precipitated when this test is applied; and it is reasonable to suppose that foods containing resinous matters which are excreted in the urine, produce the same results. The application of heat in the former and alcohol in the latter will clear up the urine, should the cloud be due to either.

Better and more delicate than the above is the heat and nitric acid test. Great care should be taken in this not to use an excess of acid sufficient to dissolve the albumin, which would, on the addition of the proper quantity, only be rendered more intense. For several reasons, it seems preferable to apply heat first, then to add the acid drop by drop, the reasons being that the addition of the acid frequently produces various changes of color, which may render the albumin cloud indistinct; an excess of acid may be added and the albumin dissolved; hot acid will sometimes dissolve albumin, when cold will not; and, too, phosphates may be tested for at the same time, as they will be precipitated by boiling, if no acid has been added. Better than the ordinary way of boiling one or two drachms of urine in the test tube and then adding the acid, is to fill a medium size tube about three-fourths full and boil only the upper portion, which may be done without difficulty.

This leaves the lower portion for comparison and renders the slightest haze perceptible, and in no way interferes with the subsequent addition of acid to confirm the test. Phosphates readily disappear when the acid is added, and instead of the brown or reddish purple color which not infrequently renders the test, when applied in the usual way, uncertain, we have nothing of the sort to contend with. By this test, we may readily detect albumin in proportion of 1 to 100,000 and less.

The Nitric magnesian Test.—(Test solution consisting of one part of strong nitric acid to five of a saturated solution of magnesium sulphate.) This solution is perfectly clear and white, and, having a specific gravity of 1240, is readily applied by contact method. It has the advantage of not fuming, is not corrosive, and the ring precipitated by the presence of albumin is seen in uniformly clear and colorless fluid not obscured by the coloring matter of the urine. By it, albumin in proportion of 1 to 150,000, or less, can be perceived.

Having discovered albumin, and that beyond question, what conclusion are we to draw? I am convinced that its mere presence is of very little significance, and of no more

* Read before the Richmond Academy of Medicine and Surgery, April 24, 1900.

value in the diagnosis of renal disease than many of the other symptoms to which we attach minor importance. Excluding semen, pus, or blood, as a possible cause—for it is clear that their presence, from whatever source, will give us a reaction for albumin, and having fully determined that the urine was albuminous when it left the kidney—let us look for causes other than renal disease.

Are we to diagnose nephritis in every case of albuminuria occurring in pregnancy? If not, then how can we account for the albumin? We can readily see that in the latter stages, when the uterus, distended by its contents, presses upon the blood vessels of the return circulation, thus obstructing the flow of blood from the kidney, a passive congestion is produced—hence the leakage. That there is no kidney lesion is evidenced by the speedy return of the majority of these cases to normal after labor, at term or before. Under this same class may be mentioned the albuminuria of other forms of obstructed or impeded circulation, such as we find in various valvular cardiac lesions, and degenerations of the heart muscle itself, all of which produce congestion of the kidneys to a greater or less degree.

Next, I will mention the albuminuria attendant upon various febrile diseases, especially typhoid fever, in which disease it is said by some investigators to be a constant symptom. However, I am forced to disagree with those who hold to this theory, as I have been unable in a number of cases to detect even the merest trace, while in others, albumin was present in variable amounts. Is there necessarily renal lesion in these cases? It has been observed that during the progress and convalescence of cases treated by the Brand method, albuminuria is very constant. We can certainly account for its presence by the hyperæmia of the kidneys produced by the fever itself in the former, and, in the latter case, especially by the temporary surface anæmia and resulting internal hyperæmia caused by the cold baths. This symptom disappears as convalescence progresses, without treatment directed towards the condition itself, and with, in the vast majority of cases, absolutely no evil consequences resulting.

It is held by some that Bright's disease is produced by defective diffusion of the blood and faulty assimilation causing the albumin to be excreted as waste matter through the kidneys, and that this abnormal work ultimately produces change in the organs themselves. Should this theory be true—and there are many points to substantiate it—could not this

condition, in a minor degree, produce albuminuria for an indefinite period before causing perceptible change in the kidneys themselves, or symptoms pointing to their involvement?

That we have an albuminuria from nervous influences is evidenced by its occurrence after epileptic seizures, insanity, delirium tremens, and paralysis. Injury to the floor of the fourth ventricle has been shown to produce this condition also, the exact method of production, however, being still disputed—whether it is due directly to the injury itself, or whether it is a secondary result from faulty circulation produced by the injury.

Then, too, we not infrequently find albumin after violent muscular exercise, as in long distance running, and in children, especially healthy boys, living in a constant state of activity, in many of which cases the condition of albuminuria is discovered accidentally. Such instances suggest the temporary suspension of the function of preventing the leakage of albumin on the part of the capsular and tubular epithelium caused probably by the rapidity of the circulation, and resulting hyperæmic conditions. The above and similar conditions are probably responsible for the belief that normal urine may contain albumin, as expressed by Senator, Stewart and others, whereas it is shown by Leube and Winternitz that the urine of persons under strictly normal conditions contain no albumin whatever. It is clear, therefore, that there are many cases in which there is no renal disease although albumin is present; but that it is a purely physiological result, cannot, I think, be established. There must, at least, be an abnormality either in the composition of the blood or in its circulation.

As to the daily quantity of albumin excreted, we often have exaggerated ideas. We not infrequently obtain by boiling, a precipitate of albumin apparently equal in bulk to one-half or three-fourths of the urine tested. Should the fluid consist of pure blood-serum, the amount of albumin would be only seven or eight per cent., of which four and five-tenths per cent. is serum-albumin, and two and five-tenths per cent. to three and five-tenths per cent. serum-globulin; therefore, the maximum amount that urine can contain cannot be greater than three per cent. or four per cent. Supposing a maximum of four per cent. to be present, and the daily urine excreted to be forty ounces, the albumin eliminated will be about one and a half ounces per day; so that a pound of beef would replace the amount of albumin excreted in a week. The quantity of albumin in ordinary cases is not greater

than one per cent. Therefore, we readily see that the drain on the system is due not so much to the amount of albumin lost as to the disease of which albuminuria is a symptom.

Turning to the casts, or "cylinders," as they are sometimes called, they are most accurately and conveniently found by examining with a moderately low power (one-half or three fourths inch objective) a drop of the precipitated sediment on a dry slide and using no cover glass. It is of primary importance that we should understand their mode of formation and composition.

The theories that hyaline, and the basis of granular and epithelial casts, etc., are composed of secretions from the epithelium of the tubules, and, by others, that they consist of the fibrin of the blood, are giving place to that of the coagulation of the albumin in the renal tubules (Neubauer and Vogel, *Urinary Analysis*, 9th edition; Millard and others.) According to this theory, which is most probably the correct one, the presence of a few hyaline casts may be expected whenever there is renal albuminuria continuing for any considerable period, and their presence in small number and without pus, blood, or renal epithelium, must be of very little moment.

Of vastly more importance, however, are the granular and epithelial casts. For their presence there must, of necessity, be some change in the parenchyma of the kidney itself. The epithelial form necessarily results from a denudation of the tubules, and the granular from a breaking down or granular degeneration of the kidney substance. The presence of hyaline casts containing oil droplets, pus, and epithelial cells in any considerable quantity, may be considered pathognomonic of renal disease. That waxy casts only occur in the grave chronic and deep-seated renal affections is accepted by authorities generally. My own experience seems to be in accord with that theory.

Occasionally, in examining non-albuminous urine microscopically, we are surprised to find hyaline casts in varying quantities. This condition has probably produced the belief that these casts were not albumin, but fibrin, or the product of inflammatory irritation of the epithelial cells, resulting in their disintegration. Such a state of affairs may be readily accounted for by an albuminuria existing at a prior time, however transient it may have been; or that, in some cases, the tests for albumin applied were not sufficiently delicate to detect the small amount present. It is stated that any cause which will be productive of albuminuria will also produce casts. Let us not,

nevertheless, consider that their presence is purely physiological in any instance, but abnormal, however transient may be the stimulus producing them.

In conclusion, therefore, let us weigh carefully all symptoms, not jumping at once at a diagnosis when we find casts and albumin. Nor should we exclude the most serious renal disease when we fail to find them—for it often occurs that in an advanced stage of chronic interstitial nephritis they may both be absent for an indefinite period, but by careful and repeated examinations, take their presence or absence, variety, quantity, or quality, all into consideration, lending not too much importance to these alone; but by adding them to the other symptoms, diagnose accordingly.

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AN IRREGULAR CASE OF CEREBRO-SPINAL MENINGITIS.*

By WADE H. ATKINSON, M. D., Washington, D. C.

To-day our literature is well stocked with many long and most valuable articles upon epidemic cerebro-spinal meningitis. But the case I wish to report to-night, owing to the very unusual symptoms, seems to possess some points of clinical interest; hence my excuse for writing upon this subject.

Meningitis is inflammation of the pia-arachnoid, the membrane which forms the immediate investment of the brain and spinal cord. Considered as a single membrane, it consists of a serous surface (arachnoid) in contact with the dura, forming one side of the sub-dural space, and beneath this a loose connective tissue (pia mater) containing numerous and large lymph spaces, carrying the blood vessels to the brain and cord. [The author here exhibited some plates by Councilman, taken from the "Report of the Massachusetts State Board of Health, 1898, on *Epidemic Cerebro-Spinal Meningitis*, a most valuable and complete contribution to the present literature.]

The earliest account of epidemic cerebro-spinal meningitis was given by Viessaux. The epidemic occurred in Geneva in 1805.

* Read before the Medical and Surgical Society of the District of Columbia, December 7, 1899.

The first epidemic in the United States was in 1806, and occurred in Massachusetts.

Hirsch divides the history of the disease into four periods. *In the first period*, from 1805 to 1830, there are accounts of the disease in epidemic form in various parts of Europe, but it prevailed more generally in the United States. *In the second period*, from 1837 to 1850, the disease prevailed in widespread epidemics in France, Italy, Algiers, the United States, and Denmark. *During the third period*, from 1854 to 1875, it reached its widest diffusion throughout most of Europe, the adjoining countries of Asia, the United States, and the greater part of Africa and South America.

The accounts during *the fourth period*, from 1876 to the present day, show a return in slight epidemics of more or less groups of cases in various countries, particularly the United States, Germany and Italy.

The most severe epidemics in the United States seem to have appeared during war times, and among the soldiers. During the Civil War, from 1861 to 1864, the disease became widely spread. In the winter of 1861 and 1862, it appeared in the Army of the Potomac and in camp near Washington, and was severe among the negroes sent to Memphis by the Confederates. In 1862 and 1863, it was prevalent in the camps in and around Newberne, N. C. It was present in Pennsylvania in 1863. Also a very extensive and severe epidemic appeared in New Orleans in a regiment of recruits which had come there from Mississippi.

Councilman and others assert that in almost all cases it appeared first among the troops, and from these it extended to the civic population.

Epidemic cerebro spinal meningitis is caused by a micro-organism, and was first described by Leichtenstein as the *diplococcus intracellularis*. Osler says over exertion, prolonged marching in the heat, depressing mental or bodily surroundings, and misery and squalor of the large tenement houses, are predisposing causes. It occurs usually in winter and spring, and young adults, male and female alike, seem to be most frequently attacked. In a widespread epidemic in Boston, it was observed that often two in the same family were victims of the disease, although the cases were generally scattered over the city. A great many observers think the disease but slightly contagious, if at all.

The manner of infection is unknown, but some observers seem to think it occurs through the air passages from the frequency with which the *diplococcus intracellularis* has been found in the nose.

The period of incubation is not yet known,

but as the micro organism is now definitely proven, it is very probable that the incubation period will soon be established.

Osler divides the symptoms into three clinical classes: (1) *Malignant form*; (2) *Ordinary form*; (3) *Anomalous form*.

The latter is subdivided into three types, which are explanatory within themselves: (a) *Abortive type*; (b) *Intermittent type*; (c) *Chronic type*.

To this subdivision I wish to add one more: (d) *Unusual type*

And to this type I believe my case should properly be classed.

It will be well for us to briefly consider the symptoms of the above classification.

First. Malignant form.—This fulminant or apoplectic type occurs with variable frequency in epidemics. The onset is sudden, usually with chills, headaches, somnolence, spasms in the muscles, great depression, moderate elevation of temperature, and feeble pulse, which falls to fifty or sixty in the minute. Purpuric rash usually appears, and death occurs in a few hours.

Second. Ordinary form.—The onset may be sudden, or have premonitory symptoms, as headache, pain in back, and loss of appetite; but usually the onset is with headache, severe chill and vomiting; temperature rises to 101°–102° F.; pulse full and strong. An early and important symptom is a painful stiffness of the muscles of the neck. The headache increases, and there is photophobia and great sensitiveness to noise. In severe cases, there is contraction of the muscles of the neck, head drawn back, and opisthotonos. Pain in the back and limbs may be severe; and there are tremors of the muscles, with tonic or clonic spasms of the arms or legs. Rigidity of the muscles of the neck, and the head is drawn back almost between shoulder-blades. Cases have been described where the stiffness and rigidity was great enough to move the body like a statue. Paralysis of the trunk muscles is rare, but of the face and eyes is common. There is delirium at first, which deepens into coma. The temperature varies so much that it is of no diagnostic value; sometimes it reaches 105° or 106° F., and even 108°, before death. Pulse is full and strong at first, but often is remarkably slow—fifty to sixty per minute. The petechial rash is also variable.

Third. The anomalous form, with its subdivisions—(a) *Abortive*; (b) *Intermittent*; (c) *Chronic* (which are self-explanatory), brings us down to (d) *Unusual type*, to which the case I have to report belongs.

CASE.—My patient was white, male, nineteen years old, high school cadet. First visit, *April 30th*, 7 P. M. Patient presented dry, feverish condition, tongue coated, bowels constipated, complained of aching in head and limbs and general malaise, which had existed several days. I prescribed calomel and soda, followed by malarial prescription containing quinine, etc.

First day.—Bowels acted freely, fever and headache relieved, but patient called my attention to dimness of sight in his right eye, which he had discovered the previous day while walking. He also complained of retention of urine; catheter used and large quantity obtained, examination of which showed sp. gr. 1030; no albumen; no sugar; acid reaction. Later in the day, as dimness of patient's sight was increasing, I took him, in my buggy to Dr. Wilmer's office. On examination, the latter found in the right eye partial paralysis of the third nerve, with marked choked disk; left eye beginning choked disk. Dr. Wilmer advised absolute rest, cold application to head, and further consultation.

Patient was immediately put to bed, and Dr. W. W. Johnston called. He advised administration of mild chloride of mercury, to be followed by a saline and iodide of potassium, 5 gr., t. i. d., and liquid diet.

Second day.—Blindness in right eye and increased dimness in left eye; loss of sensation on surface of right leg. A numb wave, that was depressing, would start at feet and gradually extend up the limbs and over the body to the line of the nipple. These waves came at frequent intervals, and within twelve hours the right leg could only be used with an effort. Bladder was completely, and bowels partially, paralyzed; pulse rather slow.

Third day.—Patient very restless; constantly moving hands and arms; numbness more pronounced over the body, and during numb waves pulse ran down to 50. Loss of sensation in right leg to upper middle thigh; complained of pain in eyes, and full rushing sensation in head when ice cap was removed long enough to be refilled. Second examination of eyes by Dr. Wilmer showed continued blindness in the right eye, but pressure seemed a little less at optic disk; increased pressure on left optic tract.

Fourth day.—Temperature 98° to 100°, pulse 60 to 130, respiration 16 to 32. Entire loss of motion at times in legs. Involuntary movement of urine and feces; skin cold and clammy, with occasional hot flushes; mind not quite clear, and stammers some on awakening.

Fifth day.—Patient very nervous; loss of motion except in toes, arms and hands; grip in left hand nearly lost; breathing and expectoration difficult. Lumbar puncture was made at 10.30 A. M. One hour later patient claimed relief from dead, heavy feeling, and thought he could see streaks of light; mind clear, but very talkative. By night had lost movement of toes.

Sixth day.—Temperature 100°, pulse 100 to 120, respiration 30 to 32. Patient nervous, and wished to be moved frequently. Pain in neck and back of head; complete paralysis in lower extremities, bowels and bladder; partial paralysis and loss of sensation over abdomen and chest. A blister appeared on right great-toe joint.

Seventh day.—Temperature 98½, pulse 86, respiration 20. Complete paralysis from the nipple down; general sensibility absent; sensation perceptible in left leg and thigh; grip partially lost in both hands—more marked in left. Sight slightly improved; sensitive to noise and irritable.

Eighth day.—Temperature and pulse normal; symptoms unchanged.

Ninth day.—Temperature 98½, pulse 84 to 86, respiration 20 to 26. Symptoms unchanged, except constant coughing; respiration irregular and color bad. Ice cap removed for short time and hypodermic of strychnine given. Cough was controlled with morphia ⅛ gr., and atropine ⅒ gr., given hypodermically.

Tenth day.—Temperature 102°, pulse 120, respiration 36 to 38. Generally much weaker; body cold and cyanosed; unable to clear throat or expectorate; mind clear enough to answer questions. Called members of the family and bade them goodbye. In the evening had a chill, and temperature went up to 104° and later to 105.4°; pulse 160, respiration 36. Throughout day hypodermics of morphia and atropine were administered every two hours to relieve cough and give rest. Iodide of potassium was stopped, as patient's death was hourly expected.

Eleventh day.—Temperature 104°–105°, pulse 135, respiration 26. Patient made comfortable, and cough controlled with hypodermics; turned occasionally in bed; breathing was very shallow, and patient was apparently dying. Cold sponging reduced temperature very little, so ice caps were placed to head, ice collar to back of neck, large bags filled with ice water to back between shoulders, one under lumbar region, and cold compress to forehead. Thus you will notice ice applications extended from waist line up spinal column to forehead, which gave patient great comfort,

and in this way temperature was kept at about 100° F. Iodide of potassium was resumed.

Twelfth day.—Temperature 100°–104, pulse 100, respiration 26. Symptoms slightly improved; sensation of cold observed; could expectorate a little; breathing better.

Thirteenth day.—Temperature 99°–100°, pulse 100, respiration 30. Sensation increasing; cold applications removed at times and heat applied to limbs when indicated. Spots resembling a beginning bed-sore over ankles, and vesicles of yellow fluid over face and chest, such as are observed from the use of iodides. Twitching of muscles of legs; normal grip in hands; dripping of urine and pus from bladder, which was thought to be the result of repeated catheterization.

Fourteenth day.—Temperature and pulse nearly normal. Patient nervous and wanting to be rubbed constantly; better movement in limbs; hands stronger and sight returning. Considerable puffing around lumbar puncture.

From this date on convalescence continued without any marked interruption. Patient was able to turn himself in bed on the twenty-sixth day, and was up about thirty-first day. At present time patient is well, with exception of impaired sight in right eye and weakness of bladder.

To briefly recapitulate:—Patient began with general malaise, dimness of sight in right eye, weak and dizzy, pressure of blood in brain, complete paralysis of sphincter muscles of bladder and bowels. Pressure continued in brain until there was complete blindness, and at the same time depressing numb waves started at feet, extended up limbs, abdomen and chest to line of nipple; these continued until paralysis was complete over field of view. At the height of the disease, patient was completely blind, entirely paralyzed from line of nipple around body down; arms partially paralyzed with exception of slight grip in left hand. Temperature went up to 105.4°; respiration, 38; pulse, 170; shallow breathing; dark ash-like complexion, and such paralysis of muscles of respiration and throat that breathing was but a mechanical movement, and patient was unable to cough or clear mucus out of throat. Was unconscious to surroundings, but could answer questions when aroused, in which condition he remained for forty-eight hours. After all this, the pressure seemed to gradually disappear—the last muscles paralyzed being released first. Grip in left hand grew stronger as sensation returned in limbs and body. Rays of light were visible in left eye; motion and

grip in right hand; motion in lower limbs; sight returned in left eye, rays of light were visible in right, and finally release of sphincter muscles and return of sight in right eyes.

Diagnosis by exclusion.—In the above case, we excluded meningitis due to the pneumococcus, for there existed no pneumonia, bronchitis, endocarditis, or other source of infection. There was no primary disease whereby streptococcus infection might arise.

Tubercular meningitis was excluded both by family history and physical examination. Anthrax meningitis was likewise excluded. There is, therefore, only left *cerebro-spinal meningitis as the diagnosis of my patient's disease*, unless he might have a meningitis of the cord and brain, caused by excessive heat, fatigue, and possibly jarring while drilling, for days prior to his illness, in preparation for competitive drill, he was drilled for four hours without rest, in the hot sun, and some of the movements required cadets to drop heavily to the ground, which necessarily caused considerable jar.

Drs. Allen Starr, of New York, W. W. Johnston, and Wm. H. Wilmer concurred in diagnosis of cerebro-spinal meningitis.

Lumbar puncture.—The lumbar puncture was made between third and fourth lumbar vertebrae, and about one and a half ounces of clear fluid drawn, which was examined by Dr. Carroll, of Army Medical Museum, with negative result.

The operation is a comparatively easy one; the back of the patient, as well as the needle and hands of the operator, should be sterilized. Patient should lie on right side with knees drawn up and the uppermost shoulder so depressed as to present spinal column to the operator. This position permits operator to thrust the needle directly forward rather than from side to side. If the point of the needle meets with bony obstruction, it is advisable to withdraw the needle somewhat and to thrust again, directing point of needle towards the median line. A strong slender needle, about four inches in length, is the desired instrument with which to make puncture. The small trocar-cannula is too blunt to penetrate the dense tissues. No ill effects have yet been reported from this operation, and a great many observers believe the withdrawal of the exudation is of positive value to the patient, and should always be made for diagnostic purposes, although in this case it proved negative. In a series of fifty five cases in the Boston General Hospital, seventeen punctures gave negative results. My patient seemed to have been temporarily benefitted. For five days following

operation temperature was nearly normal. Just after the fifth day the highest rise occurred, and I now believe that a second puncture was at this time indicated.

Treatment.—Regarding the treatment of a disease with such irregular symptoms, I have but little to say. The disease is so apt to run a long course, if patient recovers, that the strictest hygienic measures, both as to the body of patient, as well as to the surroundings, are of paramount importance from the very first. Appropriate diet and a careful record of quantity should be kept. The old methods of cauterizing the spine, cupping, leeching, purging and mercurials have not given good results, and should be discouraged, for they depress the general constitution as well as make the patient very uncomfortable. Noise and light should be excluded.

The symptoms should be watched and treated as they arise. Nervous symptoms are often relieved with bromides, or some sedative that should be selected according to case. Opium often has to be used, and I think hypodermically is the best manner of administration. When the inflammation has subsided, and convalescence is established, tonics and stimulants are indicated as in other debilitating diseases.

Thirty years ago Tanner said, "With regard to medicines directly influencing the morbid action, I know of only one in which the least reliance can be placed—the iodide of potassium."

Valter asserts that iodide of potassium is almost a specific. Biddle, Wood, and Hare, in their text books, do not refer to iodide of potassium in this disease. Osler is quoted as merely remarking that "It is warmly recommended."

H. A. Moody, of Alabama, reports a number of cases in which iodide was given in large doses from the very beginning of the disease with most favorable results. He claims not to have lost a case when he could begin the iodide early after onset of the disease; he also used fly-blisters to back of neck, gave ergotin, excluded light, and comforted the patient by hypodermics of morphine.

In the case reported to-night, I wish to lay particular stress upon the continued use of iodide from the beginning, and with increasing doses; constant application of ice to head, and when fever indicated, a succession of ice caps and large water bags filled with ice water were applied from the forehead to the lumbar region. These were constantly refilled, and it was surprising to note how quick the ice melt-

ed. Patient complained that the head felt full and grew hot during the short time it took to fill caps with ice kept in room, and would beg the nurse to hurry.

Lastly, I wish to express the opinion that lumbar puncture is of therapeutic as well as diagnostic value.

805 Twelfth St. N. W.

DISCUSSION.

Dr. William B. French felt restricted to some extent in his discussion of the case, as he could not anticipate a report on the subject of this disease which he had made to the Health Department, but which had not yet been published. The plates made by Councilman and shown by Dr. Atkinson were perfect reproductions of the condition of the brain, and were not exaggerated in coloring. They represented a rather severe form, however—the exudate usually being less extensive and not of the dirty, greenish yellow as seen in the drawing. The diagnosis in a well defined case, especially in the presence of an epidemic, is not difficult, but isolated cases or sporadic cases would present great difficulty—the trouble being to distinguish them from tubercular meningitis. If lumbar puncture were done, and the diplococcus intracellularis found in the fluid, or by cultures from the fluid, the diagnosis would be positive, of course. The diplococcus, however, is not easily grown, and its absence in cultures would not be conclusive. The disease usually begins abruptly with chill, high temperature, headache, and vomiting, hurried pulse, followed in severe cases by coma, and, perhaps, death in a short time. The temperature was not characteristic; it usually fell on the second or third day, even when not specially treated, frequently to normal or below, and in some cases there was a terminal rise to 108° or 110° just before death. The series of cases which the doctor had studied showed conclusively that the organism producing the disease was the diplococcus intracellularis, and not the pneumococcus. The various types—fulminating, acute, chronic, and abortive—were all seen, though the latter was not demonstrated scientifically—that is, by finding the specific organism. There seemed to be no dangers in lumbar puncture properly done, and the evidence generally furnished by that procedure was so valuable that it should always be performed for diagnosis if for no other reason.

There is no doubt in the doctor's mind that Dr. Atkinson's case was a typical example of the epidemic type, and he is to be congratu-

lated on its recovery, for the mortality is something frightful. Treatment of this disease is anything but satisfactory, and leaves much to be desired. Serum therapy seems our only hope.

THE ADVANCED REMEDIES OF TO-DAY.*

By W. P. C. HAZEN, M. D., Washington, D. C.

There appears no subject more interesting to the general practitioner than a study of the remedies which are constantly being placed before him in connection with their physiological action and the many improvements and substitutes which are crowding the older remedies into the background. Our new remedies are constantly increasing in number and complexity, so that it is an almost impossible task for any one except the specialist to really become acquainted with them. The present field is already large, and, with the rapid increase, it is extremely difficult for one to follow their solubilities, incompatibilities, medicinal properties and doses.

In a paper limited as this must necessarily be, we cannot enter in detail into the source and properties of many of these drugs, and I must restrict myself to comments upon a few of the leading ones, those which have been brought prominently into notice, without seeking to specially recommend their claims to public favor.

SYNTHETIC REMEDIES.

About eighteen years ago, the discovery of *kairin* disclosed to us new possibilities in synthetic remedies. It appeared to be possible to follow in this line and obtain remedies similar in action to those found in nature; following this, were found what was assumed to be antipyretic qualities in *acetanilid*. There are upon shelves of the wholesale pharmacists a very large number of synthetic products, and they are there because it has been found that certain chemical groupings entertained physiological action; and, as stated by Dr. Coblentz, "As a rule, most of nature's medicinal products have been not only successfully imitated, but decidedly improved upon; in fact, the most exacting requirements of modern medicine are being made in the construction of synthetic medicinal products."

Having found that our favorite local anæsthetic, *cocaine*, has objectionable properties, it was followed by *eucaine*, *holocaine* and *orthoform*.

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

The well known atropine was improved upon by the production of *hom-atropine*, etc.

As substitutes in *gout* and *rheumatism*, lithium is supplanted by piperazin, lycetol, and lysidine.

The secondary effects of acetanilid have been avoided by such changes as resulted in the production of *phenaceline*, and the undesirable properties of this resulted in *phenocoll*, *citrophen*, *apolyisin*, *phesin*, etc.

In the line of hypnotics, strong endeavor has been made to supplant opium by a long list of substitutes. I have no desire to inflict upon you a painful list of antipyretics, but, beginning with the well-known *antifebrin* (acetanilid of course), we have also *antisepsin*, *iodo-antifebrin*, *acet* (para- and ortho-) *toluid*, *methacetin*, *exalgin*, *cosapyrin*, *diacetanilid*, *benzanilid*, *bromamid*, *para phenidion*, and derivatives thereof, such as *phenacetin*, *phenocoll*, *lactophenin*, *sedatin*, *saliphen*, *triphenin*, *apolyisin*, *citrophen*, *kryofin*, *malarin*, *phesin*, *amygdophen*, and the *dialzo* derivatives, as *hydracetin*, *antithermin*, *agathin*, *orthin*.

In the opinion of many, the oldest and best febrifuge is *quinine*, and this with them still stands at the head of the class. The making of quinine artificially, although repeatedly announced, has not yet been accomplished, and its great abundance and low cost appear to have taken away the incentive to make it synthetically, because, even if so made, it could not be so very much cheaper than that obtained from the natural sources. But the modern research in this direction has yielded very interesting and important results in addition to the still increasing lists of substitutes. A brief notice of only the more prominent substances is all that can be undertaken here, and all the material for this is compiled from the numerous authorities on the subject. I find myself much indebted to the writings of Drs. Squibb and Coblentz, who have entered fully into this subject.

Kairin seems to have been the first of the antipyretics that was started as such, and it was more largely used for a time than any of its predecessors, and it did more to introduce the fashion upon which its successors were to be still more largely used. It was soon found, however, that this substance possessed some exceedingly unpleasant results, and, owing to these unpleasant secondary effects, the *kairins* were soon abandoned.

This led, however, to a careful study of *quinolines*, resulting in a number of new substances, among which was Skraup's *thalline*,

the sulphate and tartrate of which possess antipyretical properties.

To this same class of quinolines belongs that excellent antiseptic *loretine*, the substitute for iodoform and carbolic acid, and which, when mixed with a few per cent. of magnesia, is found to be an excellent dusting powder.

Antipyrin, although extolled by many, is taborred by others. I find that, although large amounts of it are used in this country, it is practically prohibited in France.

Salicylic acid and its derivatives—*euphorine*, *neurodine* and *thermodine*; *benzacetine* and *salophen*—have been placed under the group of urethanes. These bodies are classed under the hypnotics.

An interesting group of local agents is found in the silver compounds, such as *actol*, *itrol*, etc., suggested by Cr  d   and Beyer, the first of which is the name given to the silver lactate. Cr  d   found that apparently the silver combined with the secretions of the micro-organisms containing lactic acid, forming *silver lactate*, which, in turn, is very destructive to them. Though this had been pointed out by previous observers, apparently no practical use of it had been attempted. *Actol* is a fine, colorless and odorless powder, without toxic properties, and giving little irritation when used on open wounds. The citrate, under the name of *itrol*, is to be preferred as a dusting powder, as the first has a tendency to cake. In this line are silver gauze, *hydrogol*, a solution of colloidal silver; *protargol*, protein silver, 8 per cent. silver; *argonin*, casein silver; *largin*, silver albumen; *argentamin*, ethylene diamine silver phosphate, 6.5 per cent. silver and argen-tol, silver quinaseptolate.

A large number of bismuth salts have been brought to notice, such as *bismal*, *helcosol*, *dermatol*, *markasol*, *airol*, *thioform*, etc.

Some valuable additions appear in the *formaldehyde* preparations, such as *glutol*. This appears in the form of a fine powder, which acts well when brought into contact with the animal tissues. It is free from toxicity, and one good quality it possesses is the freedom from itching during the whole process of healing. It has been suggested that capsules might be made of glutol for administration of such drugs as are intended to act on the small intestines, for it is found readily soluble in the pancreatic fluids, but only sparingly so in the gastric juice and bile. In addition to the gelatin compound, there are *formalin casein* and *formalin starch*. Formalin has been added to infusorial earth under the name of "*formalith*," where its use in the dry form was desired.

The *guaiaicol compounds* continue to receive marked attention, including the *carbonate*, the *benzolate*, known as *benzosal*; the *cinnamate*, or *styracal*; *guaiaicol salol*, *phosphate* and *succinate*. Under the term *guaiaquin*, we have a salt comprising an alkaloidal base, such as quinin and *guaiaicol-sulfonic acid*. This is held to possess the antipyretic properties of quinin and the antiseptic and antifebrile qualities of *guaiaicol*. The *salol* compound has been found to materially aid digestion in phthisical patients.

The *animal extracts* still receive considerable attention. The powdered extracts are generally prepared by expressing the juice, mixing with a definite quantity of sugar of milk, spreading in thin layers on glass and drying at low temperature. These are made so as to represent a definite quantity of the fresh organ, and are expected to be of two or three times the strength of the liquid extract. In other instances the cleansed glands are comminuted and dried entirely, at low temperature, with precaution as to sterilization. It is perhaps needless to suggest that either preparation should be kept in a cool place.

Somewhat of a similar character are the astringent agents, *tannal*, *tannalbin*, *tannigen* and *tannoform*. The first of these is yellow or brownish yellow powder; the insoluble variety being aluminum basic tannate; the soluble a tannic tartrate. These are useful in catarrh of the respiratory organs.

Tannalbin (Gottlieb) is albumen-tannin, or, as he calls it, albuminate of tannin. This is said by its slow action to be free from the inconveniences of digestion which a raw dose of tannin is apt to cause. It is stated to operate only on the intestines, and will escape absorption in the stomach.

Tannigen is a diacetyl-tannin obtained by the action of acetic anhydride on tannin, and intended for *chronic diarrhoea*, acting as an intestinal astringent, owing also to its insolubility in the gastric juices. This may be given in doses of from two to five grains.

Tannoform (Durkopf) is a reddish white light powder, obtained from reaction upon tannin with formic aldehyde in the presence of a condensing agent, and said to be highly useful in *eczemas*.

Something in the same line is the *iodoformogen*—*iodoformalbumen*—which is obtained by combining *iodoform* and albumin. It occurs as a fine, brownish yellow powder, which is insoluble in water, does not become lumpy, and is practically odorless. It is reported to have a pronounced antiseptic action.

A problem quite often attempted is the

obtainment of tasteless quinin preparations. The bitter taste of these alkaloids and their salts has hitherto been a great objection to their use; and the means hitherto tried to counteract the bitter taste have consisted in capsuling, addition of syrups, saccharin, glycyrrhizin, and the formation of such salts as the tannate. Weller has given us a product which is called "*Euquinin*," quinin-carbonic ether, which he says is entirely free from any objectionable taste and yet readily dissolved in the stomach. This is in the form of delicate white needles, readily soluble in alcohol, ether and chloroform. It has the property of forming salts with acids.

I shall omit any criticism upon Claus' meta-dinorho-oxy-quinolin-ana-sulfonic acid. I am perfectly indifferent as to "the great ease with which it combines with the halogen atoms in the so-called 'meta' position of the quinolin nucleus."

It is a yellow powder intended for external use and applied to the parts in the same manner as iodoform.

Another iodoform substitute is obtained from methylene-bisphenyl-dimethyl-pyrazolon and bromin. This is Schuftan's work. This is a light yellow powder, having a faint smell resembling iodoform. It is applied in the same manner.

DISCUSSION.

Dr. Atkinson was greatly interested in the paper. By the newer remedies many of the objectionable properties of our old drugs had been removed.

Guaiacuin, instead of the quinine salts, deserves special mention. In old cases of gonorrhœa and the sore eyes of infants (ophthalmia neonatorum) *protargol* had been quite useful.

Cystogin, by its giving off the formaldehyde gas at temperature of body, has proven of benefit in cases of renal calculus, also preventing decomposition of urine in cystitis.

Dr. Mayfield said he was inclined to be a little old-fashioned, and his experience with the new remedies was not very extensive. He had often used acetanilid in influenza and like affections, but has found that while prompt relief is often obtained yet it is at the expense of a prolongation of the sickness. Has found all the coal tar products to be depressants and dangerous, and as an invariable rule prescribes strychnia in combination. Has found tannigen of great value in intestinal troubles, as also dermatol, than which there is no more efficient remedy in diarrhœal diseases.

Piperazine had proven a failure in his

hands, particularly in this respect, that he had not found his patients able to continue its use on account of the nausea induced.

Dr. Bovée: Some of the newer drugs brought forward are valuable, but they are dangerous. Has had no good results from cystogin or urotropin. Is opposed to the idea that we should reduce fever *per se*; the fever is simply indicative of some process taking place in the body. Has used phenacetin, not to reduce fever but to relieve pain. Had used glutol, but abandoned it as well as all practically dusting powders for wounds. Salol was useful in rheumatism, alone or combined with phenacetin, strychnia or caffeine, in cases of acute cold. Thinks we should be careful in regard to extending our pharmacopœia instead of thoroughly studying the effects and physiological action of a few. His individual pharmacopœia consists of not more than two dozen drugs.

Proceedings of Societies, etc.

RICHMOND ACADEMY OF MEDICINE AND SURGERY.

Regular meeting held April 24, 1900. W. T. Oppenheimer, M. D., President, in the chair. Mark W. Peyser, M. D., Reporter.

Dr. A. L. Gray read a paper on the

Clinical Significance of Albuminuria and Tubercasts.

DISCUSSION.

Dr. Jacob Michaux said the diagnosis of some of the most obscure cases he had ever had were made clear by urinary examination, chemical and microscopical. A case in point was that of a man who had had digestive, cardiac and nervous disturbances, and who claimed to have found peculiar worms in his stools. Examination of the latter showed the worms to be maggots due to flies depositing their eggs on the exposed feces. Analysis of the urine made by *Dr. Hoge* revealed interstitial nephritis; and, under proper treatment, the patient lived fifteen years, although at times suffering from acute exacerbations.

Dr. J. N. Upshur said that medical examiners for life insurance companies had awakened to the fact that although albumin and tubercasts had been found in the urine, their presence did not necessarily bar the applicant from insurance. One company in this city had instructed its examiners (when albumin was found) to refer the applicant to an expert, who was to make urinary analyses at certain inter-

vals and report their findings to the chief examiner. It was significant that often the first hint of kidney lesion a man had was the discovery of albuminuria by a medical examiner; or he may have had some vague symptoms, or merely suspicions, arising, for instance, from the fact of his having to get up in the night to pass water. Ten years ago he rejected for insurance an applicant, the progress of whose disease was so slow that it did not debar him from work. Treatment was of no avail. Two or three years after his rejection, he was found in convulsions; and in five years he died. Dr. Upshur said that in interstitial nephritis, he looked upon albumin and casts as simply links in the chain of symptoms. He was convinced of the presence of the disease even without urinalysis, when there was high tension pulse and cardiac hypertrophy grouped with asthma and persistent nausea.

Dr. M. D. Hoge, Jr., stated that before testing urine he always filtered it; and that he generally used three tests in satisfying himself of the presence of albumin. He had discarded nitric acid almost entirely, using in its place acetic acid, of which one drop was put in a test tube nearly full of urine, and the upper third boiled. The second test was made with ferrocyanide of potassium and acetic acid; and the third with Tanret's solution. The last was a delicate test (delicate tests were sometimes untrustworthy), and precipitated oleo resins, which were cleared up by alcohol, and albumin, which was not cleared up by heating. One of the confusing conditions mentioned by Dr. Gray, concerning the presence or absence of albumin, was largely due to its differing behavior when arising from differing circumstances. It was for this reason that he used multiple tests. He was of the opinion that medical examiners looked at the applicant for insurance too often, through the haze of tests, instead of at the individual directly. In forming a prognosis, he did not depend so much upon the presence of albumin, nor of casts, either alone or with albumin, for these often disappeared with treatment; but he tried to make it bear upon the prevailing habit of the patient, such as worry, labor, immoderate eating or drinking, or both, etc. His reason for so doing was based upon actual experience in the treatment of the individual, and upon life insurance examinations. He was inclined to think that if albumin was constantly found, and associated with casts in chronic parenchymatous nephritis, the condition was serious, but not so much so as in chronic interstitial nephritis. In many cases of the latter disease,

chemical and microscopical examinations were negative. Then repeated examinations were necessary, and the diagnosis could be furthered by watching the specific gravity and the circulatory system. Regarding the significance of casts, he attached little importance to the hyaline variety, because they were so often found in the apparently healthy; but he did to the granular, especially the coarse form, in which the prognosis was always serious. The rarer forms seldom came under observation. The causes that led to albuminuria were almost as multiple as the individuals; and we were only concerned when it was due to renal disease. He did not believe in transitory, functional albuminuria any more than he did in functional heart diseases. Our methods of diagnosis were not keen enough to determine faulty mechanism in either.

REPORTS OF CASES.

Dr. R. D. Garcin reported the following: About the first of December, 1900, he was called to see Mr. L.'s infant, not more than two months old. It was bottle-fed and badly nourished, but the feature of the case, and that which called for medical aid, was convulsions, nearly continuous, varying in number from twenty to fifty in twenty-four hours. A careful examination of the child's head revealed a nearly horse-shoe-shaped depression of bone, anterior to the fontanelle, nearly one and one-half inches in circumference. He gave as his opinion that the convulsions were due to cerebral pressure, with possibly some injury to the cerebrum itself at the time of birth, and that nothing but an operation would give relief; and that probably, that might not do so because of cerebral injury. Dr. Garcin stated the depression was due to the application of forceps in delivering by another practitioner. Treatment at first consisted in dietetic regulation, and the administration of the iodide and the bromide of potassium in suitable dosage. The patient for about two months improved wonderfully in general health, and the number of convulsions decreased to some extent, but they never ceased altogether. About February 15, 1900, the convulsions increased both in number and severity for no apparent reason, and at his request, Dr. Boshier saw the case in consultation. He concurred in every particular with Dr. Garcin, but neither of them advised an operation because of the infant's age, and other conditions present. The convulsions steadily increased in number during March, and on the twenty-seventh of that month the parents requested an opera-

tion, saying that if the infant died from it, it would be better than having it an idiot or an epileptic. Accordingly, on March 29th, the little one was operated upon by Dr. Bosher at the Old Dominion Hospital. The depressed bone was removed, the wound afterward healing nicely and up to this time (April 24th) the baby had had no recurrence of the convulsions.

Editorial.

The Medical College of Virginia, Richmond, Va.,

Held its sixty-third annual commencement exercises at the Academy of Music on night of May 10, 1900. After prayer by Rev. Dr. J. B. Hawthorn, Dr. Christopher Tompkins, Dean of the Faculty, made a few remarks concerning the satisfactory work being done, and also alluded to its prosperous condition. Dr. J. B. McCaw spoke for the Board of Visitors, and thought the resolution they had adopted requiring the four years' graded course deserved special mention.

The various degrees were then conferred by the Dean upon the following graduates:

Graduates in Medicine:

Doctors M. L. Anderson, Virginia.
 J. C. Blanton, Virginia.
 Michael Block, New York.
 R. S. Bosher, Jr., Virginia.
 A. E. Buchanan, Virginia.
 S. A. Draper, Virginia.
 J. N. De Shazo, Virginia.
 E. M. Easley, West Virginia.
 F. J. Eiseman, Virginia.
 W. F. Ferguson, Virginia.
 E. L. W. Ferry, Virginia.
 C. O. Fontaine, Virginia.
 W. A. Gills, Virginia.
 J. C. Gregory, Jr., Virginia.
 J. C. Green, North Carolina.
 J. H. Hagy, Virginia.
 E. T. Hargrave, Virginia.
 John E. Harris, Virginia.
 James O. Hart, Virginia.
 B. L. Hume, Virginia.
 H. H. Hunter, North Carolina.
 W. L. Hunter, West Virginia.
 E. L. Lawrence, Virginia.
 W. K. McCoy, Virginia.
 R. T. McNair, North Carolina.
 Albert Pilkington, England.
 J. J. Purdy, Virginia.
 F. B. Quincy, New Jersey.

Doctors J. F. Ragland, Jr., Virginia.
 W. S. Shepherd, Virginia.
 D. S. Solliday, Virginia.
 Geo. H. Sparks, Virginia.
 Thomas F. Staley, Virginia.
 E. H. Terrell, Virginia.
 J. E. Tilman, Virginia.
 H. L. Tutwiler, Virginia.
 Z. L. Weaver, Virginia.
 R. M. West, North Carolina.
 C. A. White, Pennsylvania.
 John E. White, Virginia.

Graduates in Dentistry:

Doctors H. D. Atkins, Virginia.
 C. L. DeVaney, Virginia.
 S. F. Hart, Virginia.
 E. W. Shackelford, Virginia.
 W. M. Smith, Virginia.

Graduates in Pharmacy:

Messrs. M. M. Sauls, North Carolina.
 L. T. Wright, Virginia.

Hospital Appointments were then announced to the following:

Drs. M. C. Anderson and J. N. De Shazo, *Old Dominion Hospital*; Dr. R. T. McNair, *Treat for the Sick*; Dr. J. E. Harris, *St. Vincent's Hospital*, Norfolk; Dr. E. H. Terrell, *Protestant Hospital*, Norfolk; Drs. J. C. Gregory, Jr., and Thomas F. Staley, *United States Marine Hospital*, Boston; Dr. W. A. Gills, *City Almshouse*, Richmond.

Dr. Charles A. L. Reed, of Cincinnati, O., was then introduced as orator of the occasion—taking as his subject, "What would be the condition of society if there were no medical profession?" The address was well received, his touches of humor and wit calling forth frequent applause.

When the exercises at the Academy were concluded, the graduating classes and visiting alumni, together with numerous friends of the institution, adjourned to the Jefferson Hotel, where they were tendered a delightful banquet by the Faculty.

The Alumni Association of the Medical College of Virginia

Held their annual meeting May 9th in the lecture room of the college. In the absence of the President, Dr. W. E. Anderson, of Farmville, Va., the meeting was presided over by the Secretary, Dr. D. A. Kuyk, of Richmond.

Dr. W. S. Beazley, of this city, delivered the annual address, taking as his subject "Medical Advance." Dr. S. B. Barham, of Surry, Va., was scheduled to read a paper on Cerebro-Spinal Meningitis, for general discussion. In his absence—due to illness—the paper, which

had been sent in, was read by the Secretary. Discussion of the subject by Drs. Levy, Gargin, Baker, Williams, and others then followed. After certain routine work had been finished, the meeting adjourned *sine die*.

The American Pharmaceutical Association

Held their forty-eighth annual session at the Jefferson Hotel in this city during the week ending May 12th. There was a large attendance present, and much business was transacted. Many scientific papers were read and discussed, but the programme was so arranged that a goodly portion of time was set apart for recreation and amusement. The Committee on Entertainment provided carriage drives, concerts, a trip to Old Point Comfort, Va., etc.

The next annual session will be held at St. Louis, Mo., during May, 1901. The officers for the ensuing year are: *President*, Mr. John F. Patton, York, Pa.; *Vice-Presidents*, Messrs. J. H. Beale, Scia, O.; J. W. Gayle, Frankfort, Ky.; E. M. Rudleman, Vanderbilt University, Nashville, Tenn.; *Treasurer*, Mr. S. A. D. Sheppard, Boston, Mass.; *General Secretary*, Mr. Charles Caspari, Jr., Baltimore, Md.; *Reporter on Progress of Pharmacy*, Mr. C. L. Diehl, Louisville, Ky.

Dr. Hunter McGuire

Has not improved. He is at his country home on Brooke Road, about three miles from the city. In the meantime, St. Luke's Hospital keeps well filled with patients under the medical and surgical charge of Dr. Stuart McGuire, who, for years, has been his father's able Assistant.

Officers of Section on Materia Medica and Therapeutics, American Medical Association.

It is rumored that representatives of some of the foreign chemical houses will attempt, during the session of the Association next month at Atlantic City, to elect certain physicians who are known to be favorable to their products as chairman and members of the Section on Materia Medica, etc. The question at issue has nothing whatever to with the merits of any foreign or American products. We can not believe that members of the profession, who lay claim to lofty ethical principles, can lend their countenance to such a nefarious piece of business. Whatever may be said in favor of some of the products of certain German dye-houses, it seems strange that reputable doctors could permit themselves to become the dupes of the foreign manufacturers, or would lend their aid to any such underhanded scheme as that alluded to. We trust the rumor is without foundation.

Obituary Record.

Dr. Landon Carter Gray

Died at his home in New York city, May 8, after a protracted illness. He was born in that city April 3, 1850; but was a direct descendant of old King Carter, proprietor of the famous colonial estates of Westover and Shirley, in Tidewater Virginia. He graduated in medicine from Bellevue Hospital Medical College, 1873, and became Assistant to the late distinguished Surgeon, Dr. James R. Wood, of New York city. Directing his attention to Neurology, he was made Professor of Nervous and Mental Diseases in the Long Island College Hospital, Brooklyn. He afterwards was one of the founders of the New York Polyclinic, and filled the chair of Nervous and Mental Diseases in that institution. He filled many places of distinction in the profession—such as Chairman of the Executive Committee of the Congress of American Physicians and Surgeons, President of the New York County Medical Society, President of the American Neurological Association and the Society of Medical Jurisprudence. Columbia University conferred on him the honorary degree of Master of Arts. He was the author of a standard work on *Mental and Nervous Diseases*, which is a favorite with the profession, and a text-book in some of the medical colleges. In person, he was a genial, warm-hearted man—always ready to help those of his profession in need of advice.

Dr. C. W. Sydnor

Died at his home in Strasburg, Va., May 11th, after a brief illness. He was well known throughout the State, and in Richmond where he spent considerable time during the last session of the Legislature, he was quite popular with all who knew him. During the Civil War Dr. Sydnor served with the famous Stonewall Brigade. He was a member of the Medical Society of Virginia from 1884 to the time of his death.

Dr. Sherrard Rutherford Tabb,

Of the U. S. Marine Hospital Service, committed suicide at Savannah, Ga., presumably April 30, by the self-administration of chloroform. The body, however, was not found until May 10. He was about 30 years of age. Previous to his appointment in 1896 to the Marine Hospital Service, he practiced medicine in Richmond, Va., where he had many friends. Temporary mental unbalance, due to recent illness, is the only cause assigned for his rash deed.

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Original Communications.

COLONIAL TREATMENT OF EPILEPSY.*

By DANIEL R. BROWER, M. D., LL. D., Chicago, Ill.,

Professor of Mental and Nervous Diseases, Rush Medical College, and in the Woman's Medical School of the N. W. University, etc., Chicago.

Epilepsy is one of the most ancient of recognized diseases. Hippocrates wrote about it learnedly, and by irrefutable arguments opposed the idea that in his day had universal recognition—that is, was a sacred disease, and that its victims were either the special recipients of divine favor or of demoniacal possession.

Notwithstanding the many years of clinical experience the disease has, until very recently, almost baffled our efforts in treatment, and we are still ignorant of its real nature. We readily recognize its clinical aspects, but the pathologist and the chemist alike fail to explain satisfactorily the phenomena.

We know *heredity* plays an important part in its etiology; and an encouraging sign of the times is the fact that the Commonwealths of Connecticut and Pennsylvania have each passed *laws regulating marriages*—not very comprehensive, it is true, but if enforced, they will diminish the production of epilepsy and insanity.

We know that *the proportion of epileptics to the population* is about one to five hundred. The Board of Public Charities of Illinois, in a recent report, estimates the number in this State at about 8,000.

We know that *the treatment of the epileptic* in his own home rarely results in cure, because the complex disorder demands more than pills and powders for its removal, and must have associated with these a carefully planned hygiene with judicious occupation and training. The mere prescribing of the drugs is

often easy enough, but to secure the other essentials is usually impossible. Much better results can be had in a general hospital; but you cannot immure them long in such an institution.

The condition of the average epileptic is deplorable. He is a constant source of solicitude to his family—practically an outcast in society—for who would care to employ as a domestic, as a coachman, as a clerk or what not, a known epileptic? Who would encourage them in any of the trades? What prospect have they in medicine, law or theology? and the great question is, What shall we do with them?

This important question has been answered satisfactorily in some places by the establishment of special institutions for their care and treatment, and especially in those conducted on the colony plan. This colony plan consists in locating them in cottages, accommodating from twelve to twenty, upon large tracts of land, provided with every means for rational employment, education, amusement, with such drug treatment and diet as each case demands.

The first effort towards the special care of epileptics was made by the Bishop of Wurzburg in 1773. The first practical colonizing of epileptics was made by a clergyman, John Bost, at La Force, in France, in 1862, where the work is still carried on creditably. The most noteworthy of these establishments is the Bethel Colony, near Bielefeld, Germany. The work was begun here on a small scale in 1867. In 1872, a German nobleman and clergyman, Friedrick von Bodelschwingh, took up this work, and has made it a marvelous success. There are gathered together about 1,500 patients, and during the thirty years, 5,028 have been cared for, of whom 388 have been discharged as cured, 1,099 as improved, and 991 have died. The estate on which the colony is located contains about three thousand acres. There are eleven physicians and six pastors connected with the colony. The patients are separated into 130 families, with from ten to twenty in a family. They are located in up-

* Read before the Illinois State Medical Society, May 17th, 1900.

wards of fifty houses. Patients are given outdoor employment at farming, gardening, and in over twenty shops, where printing, book binding, shoemaking, tailoring, saddlery, cabinet work, iron foundrying, blacksmithing, brickmaking, etc., are carried on. Some part of each day is devoted to recreation and to school-room work.

The Wuhlgarten Asylum, near Berlin, conducted somewhat after the plan of the Bethel Colony, contains about a thousand patients, but with only 222 acres of land. The cottages are planned to accommodate from 30 to 40 patients, and the medical service is directed by six physicians.

There are three similar institutions in Switzerland; the most important of these is at Zurich. There are three buildings in this colony, with 150 patients, and 25 acres of land.

In England, there are similar institutions, noticeably the National Hospital for the Paralyzed and Crippled, in Queen's Square, Bloomsbury, with a convalescent home for epileptics. The home for epileptics at Mayhull, near Liverpool, has two buildings, one for males and the other for females, with 120 patients, and 41 acres of land. The Chalfont, St. Peter's Colony, near London, contains 135 acres of land, seven houses for the residence of patients, and workshops, recreation halls, farmhouses, farm buildings, and accommodations for 160 patients. A very commendable institution is the Meath Home of Comfort, an institution started by the Countess of Meath, out of her own private funds, for female epileptics. It has accommodations for about 80, and with every reasonable provision for medical treatment, occupation, education, etc.

In our own country, Ohio was the first of the States to make provision for the epileptics. This hospital was opened near Gallipolis, on the Ohio river, in 1893. It has a capacity for 900 patients, and it has been doing excellent work under the administration of its accomplished superintendent, Dr. Rutter, and his able pathologist, Dr. Ohlmacher.

The next State to take up this important work was New York, and Dr. Frederick Peterson, of New York city, is entitled to great praise for his self-sacrificing devotion to the accomplishment of this great result. The institution, and a model it is in all respects, is the Craig Colony, located near the town of Mount Morris, on a tract of about 1,800 acres. They aim to accommodate 630 patients. There are some 400 in residence at present. This colony is under the able administration of Dr. Wm. P. Spratling.

The Massachusetts Hospital for Epileptics was opened in 1898. It has about 200 patients and 237 acres of land. There is another epileptic institution in Massachusetts called the Hospital for Epileptic Children, which limits its privileges to children under fourteen years of age. They have 130 children and 200 acres of land, and Dr. Flood is doing a remarkably successful work there.

The State of Michigan has a home on the cottage plan for the treatment of feeble-minded and epileptics at La Peer.

New Jersey has purchased a site, and is actively engaged in founding a colony on the Craig colony lines.

Texas has accepted a site of 640 acres for the establishment of a similar colony.

Pennsylvania has made no distinct provision for these invalids, but there are two excellent private corporations, one located near Westchester in the eastern part of the State, with 110 acres of land, and the necessary buildings provided by three philanthropic individuals of Philadelphia, who have interested many others in Philadelphia, and the foundations have been made for what will doubtless be a very useful institution. The other corporation, in the western part of the State under the German Lutherans, has a substantial foundation and bright prospects.

Maryland has a small, but excellent institution at Port Deposit, which was started and is managed by an association known as the King's Daughters.

Missouri has passed an act and appropriated a small sum of money for the founding of a colony on the Craig plan.

At Emmaus, in Missouri, the German Evangelical Synod started in 1893, a colony on the Bethel plan, that now has about fifty patients and 240 acres of land.

Virginia, the first of the Colonies to establish a Hospital for the Insane on this continent (for what is now the Eastern Lunatic Asylum at Williamsburg, Va., received its first patients in 1773), is not much behind in this work of making special provision for the epileptics. The efficient superintendent of the Central State Hospital, Dr. W. F. Drewry, did magnificent work in arousing the people of that State to this necessity, and soon this great State will have a colony.

California has at Eldridge, Sonoma county, an institution for which she may well be proud, the Home for the Care and Training of the Feeble Minded. It is under the most efficient superintendency of Dr. A. E. Osborne, and has connected with it a department for epileptics.

This institution has 1,800 acres of very valuable land. Dr. Osborne, whose long experience and successful care of the feeble-minded makes his opinion of great value, thinks that there is no good reason for the separation of the feeble-minded from the epileptics. A personal visit to his institution last summer was a revelation. Certainly the work of combined treatment is there being carried on with a marvelous success.

The Legislature of our own State has committed itself to the epileptic colony by appropriating a small sum of money for its beginning under the direction of the Board of Public Charities, and the next Legislature is in duty bound to make the necessary appropriation that will purchase the site, and begin the erection of suitable buildings; and it is the duty of every member of this Society to see to it that provision is made on the same liberal scale as is found in the Bethel and Craig Colonies. Provision should be made for at least 1,000 patients, and a site of at least 1,500 acres should be purchased in Northern Illinois so as to be near the larger population. This site should be well watered, adapted to farming and gardening, and it should have upon it numerous buildings for the residences of the patients, for every possible industrial pursuit, with barn buildings for cows and other stock, with the suitable administration buildings, a hospital, a laboratory, with a mortuary, and a complete outfit for the care, treatment, and scientific study of the epileptics. Its organization should be free from politics, the Board of Managers should be selected equally from the two dominant political parties; its medical superintendent should be a man of administrative ability and of recognized skill in the treatment of nervous and mental diseases. Illinois, usually in the front rank of progress, is now well in the rear, and should as speedily as possible take that position in the great procession of progress to which she is entitled, by such liberal legislation as will establish an epileptic colony that will be a credit to her citizens and a benefit to these unfortunates.

Office: Suite 1214-1218; 34-38 Washington Street.

"I'm afraid I have lost a patient," said the young physician who realizes the value of making an impression.

"Didn't you know what remedy to prescribe?"

"Perfectly. That part of it was simple enough, but I couldn't think of the Latin for 'mustard plaster.'"

THE EARLY AND NON-SURGICAL TREATMENT OF THE DISEASES OF WOMEN.*

By WALKER BOURNE GOSSETT, M. D., Louisville, Ky.,
Instructor in Obstetrics, Louisville Medical College, etc.

In the *American Journal of Surgery and Gynecology*, October, 1899, the editor has this to say, "Modern gynecology belongs practically to the field of operative surgery; the gynecologist of the near future will be the general surgeon; gynecology is but a minor department of the great field of surgery, and is to be doomed as a specialty."

What a mistake to make! Modern gynecology should be as far from surgery as the general practice of medicine.

The general practitioner often turns a case over to a surgeon to be operated upon by him, but that is no reason that the general practitioner of the future will be the general surgeon.

Gentlemen, gynecology should be classified as far from the surgeon as the practice of medicine.

If gynecology is to mean surgery then let us use another term for the systemic and local treatment of the diseases of the female organs of generation.

Gynecology should be looked upon as a special branch of medicine and not of surgery.

The definition of gynecology is a treatise on, or the doctrine of, the nature of diseases of women.

Prophylaxis in gynecology—a new field within the specialty—will render a great deal of surgery unnecessary. *Medical or non surgical* gynecology should be taught in our medical schools as a separate branch from surgical gynecology, and not merged into surgery as it is to day.

"If our best men would turn and give the same study to the pelvic organs of our young women of to-day, as they are giving to those whose organs are so diseased that they must be removed, would not a few years make a great change?"

First, I will speak of the *early treatment of the diseases of women*. This treatment should begin with the teaching of the mothers of our young girls.

One great and frequent cause of the diseases of women is unquestionably a faulty mode of education.

"The child is the mother to the girl," and principles implanted in her bosom will bear

* Extract from a paper read before the Kentucky State Medical Society, May 10, 1900.

fruit in after life. Neglect of proper and adequate early education is the cause of much suffering, and the gravest responsibility rests with parents, especially mothers, whose imperative duty it is to impart to their offspring a thorough knowledge of themselves, of all physiological facts pertaining to herself as a human being, in terms unmistakably simple and scientifically exact.

In every high school, or just before the age of puberty, girls should be taught the anatomy and physiology of the female organs of generation, and the care of themselves during menstruation. This could be done by having a physician to give a course of lectures in the high schools and private schools.

The girls must bear the burdens of gestation, of parturition, of lactation—of maternity. She must have the utmost perfection of physical development. The growth and well being of her body should be as carefully looked after as the growth and well being of her mind. There should be a co education of body and mind, the one helpful to the other. From the age of eight to fourteen girls spend too much of their time in the school room, poring over their books, when they should be out in the open air, and enjoying themselves as only children can.

Then just as the menstrual period is beginning, just as puberty is struggling to assert itself, comes the examinations to promote them to the high school. Then four years of hard study and intellectual rivalry now follows, four precious years—years that are very needful for the perfect development of the reproductive organs, and for the full establishment of their functions, but these four years are spent in an endless antagonism between brain growth and body growth.

Too much attention, in proportion, is paid to the growth of the mind than of the body. So our public schools, and boarding schools, and female colleges are liable to become the hot-beds for nourishing sickly and undeveloped girls.

The break-down in school comes from a combination of causes: To the mode and quality of their education, to long confinement in impure air, to the close fitting female dress, and to an unwholesome diet of sweetmeats and indigestible foods. Also it is especially due to an utter disregard of the *menstrual* week, when by their own sensation and feeling women are unfit for exhausting brain work or fatiguing body work.

After this weary, worn-out, rest-needing girl is released from the school desk, she launches

into the dissipations of society. She marries some youth, who is bewitched by her face and charmed by her intelligence, but sees not the frail body. After marriage the man sees she is unfit to assume the duties and responsibilities of a married life, and has a large outfit of backaches, spineaches and headaches.

Unequal to the obligations of marriage, she at first tolerates them, then loathes them. After a while aversion and hate follow. The husband is driven to unfaithfulness, and finally the domestic drama ends in separation or in divorce.

Directly after marriage, if the husband finds the wife unfit to fulfill the duties of a wife, in manner mentioned above, they must be taught by us, both the husband and the wife, that this is the time that the wife should be placed under the care and treatment of the *gynecologist*, and not the surgeon.

Undoubtedly some of the worst forms of women's diseases come from the specific infection of wives by their husbands, and criminal abortions. Whenever the woman has great weariness, more or less nervousness and wakefulness; inability to walk any distance; a bearing down feeling; then headache, napeache and backache, the doctor may look out for some disease or disorder of the female organs of generation, or else general bad health, requiring tonics, etc. Next comes scanty, or painful, or delayed, or suppressed menstruation; cold feet and an irritable bladder; general spinal and pelvic soreness, and pain in one ovary or both. The sense of exhaustion is very pronounced; the woman is always tired; she spends the day tired, she goes to bed tired, and she wakes up tired—often more tired than when she fell asleep. She sighs a great deal, she has low spirits, and often fancies that she will lose her mind.

All these symptoms may be the outcome of sorrow, but more often some trouble of the generative organs. The woman may just need medical treatment for her general health, but in all these cases it is a good rule to examine for some troubles of the generative organs.

Irregular, painful and suppressed menstruation, prolapsus, leucorrhoea, ulcerations, chronic inflammation, and congestion and enlargement of the uterus cause more irritability, unhappiness and misery than is dreamed of by the laity, and diseases of the female organs of generation are becoming so common that it is seldom that we meet a woman who has not some trouble.

"The procreative system of woman is so intricate and so delicate, at the same time so

closely allied to every organ of the body, by means of its nervous branches, that when it is diseased it affects the whole general health. Still the physician who recognizes the complexity of woman's nervous organization and appreciates its tyranny, will touch her well-being at more points and with a keener perception of its wants than the physician who holds the opinion that woman is woman because she has a womb."

It will be admitted that the organs forming the series engaged in the reproduction of the species are, next to the brain, the most complex in their mechanism and most profoundly physiological in their function. I admit that derangements of the brain will sometimes affect the functions of the sexual system; but on the other hand, I emphatically affirm that disorders of the sexual organs will produce disturbances of the brain ranging from mild mental unrest to the most severe attacks, of insanity.

We know there does exist a certain interdependence between the organs of reason and those of generation. Is this brought about by reflex action, changed internal secretion, or what?

In the early treatment of the diseases of women we will have the following conditions to overcome: Inflammatory troubles; ulcerations, lacerations, displacements, prolapsus, sympathetic disturbances and venereal diseases.

When these conditions are attended to we will not have so many unsexed women, nervous wrecks and invalids. The surgeons will not see so many cases that can only be relieved by an operation.

I hail with joy anything that will lessen the unnecessary operative treatment upon women. There is no doubt in my mind that heretofore the knife has been used too often, and then after the use of the knife, in a large majority of cases, the patient is left in a nervous condition that is even worse than the preceding one. Of course there are cases where operative treatment—removal of the organs—is positively necessary. Women are afraid of the knife, and believing that the removal of these organs is the only thing that can be done, they will not consult a physician until it is positively necessary and when it is too late for other treatment to cure or benefit them. We must now educate the woman to the idea that a great deal can be done for them by *non-surgical* treatment.

All cases of dysmenorrhœa should receive attention. It is not always necessary to make

a vaginal examination of the virgin. Let her first be placed upon a uterine sedative during the men-trual week, and in the interval upon a uterine tonic; and by this care we will prevent many of the old chronic cases.

Some time ago, a professional nurse came to me and said that she supposed she would have to have her ovaries removed, as they were paining her a great deal. I asked her why? She said that Dr. ——— (mentioning one of our leading practitioners of Louisville) had told her there were no drugs that would act directly upon the reproductive organs.

We certainly have sedatives and tonics that act directly upon these organs—drugs that will relieve the inflamed and congested organs, and also those that act as direct tonics, just as we have heart sedatives and tonics.

"We can increase the size of a dilated heart; we can make the flabby solid of flesh; increase chest expansion, clear up brick dust urine, stop palpitation; change the color of the skin, the lustre of the eye, the strength of the heart's impulse; tone up various varieties of ptosis, remove the symptoms of retrodeviation, when all this can be done without the use of the knife, am I not justified in protesting that there *is* an important *medical* side to gynecology."

Modesty is often a great barrier to the treatment of the female reproductive organs, but there are varieties, false and true. Our daily papers have a great deal of trash concerning women and their different complaints, the gist of which is that they cannot bring themselves to give full information regarding themselves to a physician, especially if he is of the male sex. This is all nonsense. But I advise you never to treat a case without a thorough examination of the organs of generation, unless in a very young girl, and then that depends upon circumstances. In the young girls, local treatment is very rarely necessary.

In order to manage and treat a gynecological case successfully, it is not only necessary to treat local troubles, but carefully look after the general health, the diet, function of the bowels, of the skin, surroundings and medication; not only internal medicine for the general health, but sedatives and tonics that act directly upon the generative organs, and last, but not least, both irrigations and local medication. By the local medication, I don't mean the old-time treatment of caustics, iodine applications and glycerine tampons.

There is a broad field in gynecology for the use of the glandular extracts, such as the ovarian, mammary, parotid, thyroid, etc.

A SINGLE IMPRESSION MADE UPON THE MIND OF A NON-PREGNANT WOMAN

Causes Defects in Her Eight Subsequent (not Successive) Pregnancies, Extending Over a Period of Fifteen Years—Eight Albinos, Four Well-Developed, Four Anencephalous, Four Breech Presentations.*

By P. B. McCUTCHON, M. D., New Orleans, La.,

Second Vice-President Louisiana State Board of Health.

There seems to be a well founded popular belief that impressions made upon the mind of a *pregnant* woman would cause defects in the child with which she is pregnant at the time. But the history of the case which I here present differs in so many respects from those usually given as to render it very unique.

A newly married woman, brunette, and her husband, who is also a brunette, went to a museum, where they saw a male *albino*, which interested them both very much—in fact, made an *impression* upon them. They thought a great deal of him, and often spoke of him to their friends. About one month later she became pregnant (she insists that she was not pregnant when she saw the *albino*), and in the eighth month of pregnancy she was delivered of a girl with black hair and eyes. It was still-born—due, as the mother believes, to her carrying a heavy bundle.

Nothing remarkable in this; but let us continue to follow up the developments as they occur.

Eleven months later a well developed boy is born, whose *hair is white and eyes are pink—a perfect albino*—like the man they had seen in the museum. This child lived until he was seventeen months old, when he died from "*teething*."

The third child is another boy, who, like the first one, has black hair, but blue eyes. He lived thirteen months, and died from the effects of being scalded with hot milk.

The fourth child, a girl, a perfect *albino*, lived a few minutes; death was due to slow delivery, as she presented by the breech.

The fifth child was an anencephalous, *albino* boy, still-born; breech presentation.

The sixth child was also an anencephalous, *albino* girl; she lived a few minutes.

The seventh, a boy with black hair and eyes, was well developed, and lived two months. Death was due to colic.

The eighth, an *albino* boy, lived a few minutes.

The ninth, an *albino* girl, lived three months. Cause of death—(colic also).

The tenth, an *albino* girl, lived one year. Most probably death was due to congestion of lungs.

The eleventh, an *albino* girl, was born on March 20, 1900, and is still alive, April 21st. The presentation was the left knee (breech), and the labor was long and tedious, and it was only by quick delivery, after I ruptured the membrane—which I was careful not to rupture until there was complete dilatation of the parts—that I succeeded in saving its life.

Thus, we have the remarkable fact that an impression made upon a *non-pregnant* woman causes defects (bodily) in her eight subsequent (but not successive) pregnancies; for we see that the first, third and seventh children were without defects, and that there have been born to this couple during the past fifteen years eleven children—five boys and six girls—of whom *eight—five girls and three boys—were albinos*.

Three—two boys and one girl—had black hair and eyes. Four breech presentations. Four anencephalous children, two of which were breech presentations.

All the children have died except one (now one month old). The longest time any one lived was seventeen months.

The father is now forty-three years old and the mother is thirty-nine years old, so that their child bearing period is not yet closed, and this same impression may manifest itself upon children still to be born.

I delivered the fifth, sixth and eleventh child, and can therefore vouch for the accuracy of their condition, and have no reason to doubt the statements made by the parents about the others and the cause which, they believe, produced them.

Can that peculiar condition of the mind which enables it to receive impressions and transmit them to the offspring be inherited?

This is a question which may throw considerable light upon the cause of maternal impressions.

In this case we are told that an uncle's wife had two deformed (bodily) children; one's head was split open (breech presentation still-born). This deformity was caused by the mother seeing a hog with its head split open. Some one in trying to kill it, hit it in the head with an axe, and it ran off in an alley. This woman heard it squealing, opened the window and saw it.

* Read before the meeting of the Louisiana State Medical Society, in session May, 1900.

The next baby had six fingers on each hand and six toes on each foot, cause not ascertained. These children my patient had never seen, but was told of them.

My patient's mother during her pregnancy with her eldest daughter examined a dead baby whose right hand was smaller than the left, and the right arm was shorter. She was born with the same deformity; this lady is still living. Therefore we may have some foundation for the suspicion that she inherited a certain condition of the mind to receive and transmit impressions to her offspring.

Again, what influence can consanguinity produce upon the minds of the parents? This man and his wife are first cousins. Husband's mother and wife's father were sister and brother.

Then, again, is it possible for an impression made upon the mind of the father to influence the fœtus? My patient says that her husband thinks and talks about her having albinos much more than she does.

I have not been able to find any mention of this phase of the subject, unless we draw a different conclusion, than the author, Barton Cooke Hirst, M. D., does.

From an article entitled "Diseases of the Fœtus," I extract the following: "I have recently been told of a remarkable case. A lady was obliged to pass the bridal night with an intoxicated bridegroom; conception occurred, and the child became an idiot; three subsequent children were also mentally defective although there was no taint of insanity on either side of the house.

The impression of deep disgust experienced at the first conception exerted an influence on the development of the subsequent children."

Dr. Hirst concludes that the impression of deep disgust made upon the mother was the cause of the children being defective, but why can it not be the fault of the father; we are too prone to put the fault upon the mother.

Here we have the husband's brain (nervous system) profoundly influenced, the mother was not pregnant, he says "conception occurred," but it may not have taken place that night—her child became an idiot, three subsequent children were also mentally defective, nothing is said about the bodily development. This case is very similar to mine, and the cause appears to me to be the condition of the husband rather than the wife and the influence is transmitted to three subsequent, does not say successive pregnancies.

Impressions made upon the pregnant woman are every day occurrences, and we can give a

number of cases of defective children traced to influences upon the mother.

Dr. W. C. Dabney, in an exhaustive article on "Maternal Impressions"† gives a table of ninety cases—all of which were produced upon the pregnant woman. Only one woman (four months pregnant) saw an albino at a circus, result—the child had a patch of white hair on its head—nothing is said about subsequent pregnancies.

The following are his conclusions:

"With the facts before us the following conclusions with respect to "Maternal Impressions" seem to me to be warranted:

1. Impressions made upon a pregnant woman are capable of causing mental and bodily defects in her child.

2. Neither mental nor bodily defects are often (comparatively speaking) attributable to mental impressions.

3. The defects attributable to mental impressions may be either errors of development or "marks" which are apparently due to circulatory or inflammatory disturbances.

4. The defects due to errors of development have, as a rule, been attributed to impressions made at a period of pregnancy when such errors of development are known to occur.

5. The other defects (marks, etc.) have, as a rule, been attributed to impressions made at a later stage of pregnancy, when circulatory and inflammatory disturbances would be most reasonably expected.

6. In a very large proportion of cases there is a striking similarity between the object causing the impression and the defect in the child.

7. It is not necessary for the woman to be conscious of the impression, or to expect a defect, for such a defect to occur.

8. In a very considerable proportion of cases the woman has stated the nature of the impression, and the anticipated defect before the birth of the child.

9. The impressions are generally due to emotional disturbances, which are nearly always of an unpleasant character, but physical pain is capable of producing impressions which may induce defects.

10. An impression of considerable violence may produce an impression in a short time; even a few hours—but as a rule, the duration is probably much longer than this.

11. Maternal impressions are capable of producing defects in the lower animals.

12. Defects traceable to maternal impressions are sufficiently numerous, and suffi-

† *Cyclopedia Diseases of Children.*—Keating.

ently serious in character to necessitate the avoidance by any pregnant woman of all violent emotional disturbances, especially those of an unpleasant character."

In all of these ninety cases the women were *pregnant*.

In XXX chapter of Genesis we find:

"And Jacob took him rods of green poplar, and of the hazel and chestnut tree; and pilled white streaks in them, and made the white appear which was in the rods. And he set the rods which he had pilled before the flocks in the gutters in the watering troughs when the flocks came to drink, that they should conceive when they came to drink. And the flocks conceived before the rods, and brought forth cattle ring-streaked, speckled, and spotted."

Now these flocks were impressed *before* or during the very first days of conception, and this influence was most likely upon both males and females, and the result was that the cattle were *marked* in a manner similar to the thing producing them.

204 *Carondelet St.*

THE EFFECT OF FREEDOM UPON THE PHYSICAL AND PSYCHOLOGICAL DEVELOPMENT OF THE NEGRO.*

By J. ADDISON HODGES, M. A., M. D., Richmond, Va.,

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The development of any people is an interesting study. Many varying circumstances modify the process of that development, and to properly estimate the advancement or decadence of a people, it is necessary to know the epochal periods of their history, the elements of their heredity, the environments of their life, and, in short, all the factors affecting their mental, moral and physical constitution.

In our midst, and in daily association with us of the South, there lives a people, the study of whose racial history and development claims the interest, if not the enthusiasm, of every scientific student of medicine and sociology.

NEGRO POPULATION.

Two hundred and fifty years ago, an untutored savage, and a native of the West Coast of Africa, with fifty generations of unalloyed savagery behind them, then a slave in America

from 1620 to 1865, and now, for thirty five years, a freedman, with all the high responsibilities and duties of a citizen of this continent. Such, in brief, is the history of that people, a nation literally born in a day, of which I would speak to you this evening—a people whose every step in the progress of development has been followed by the eager eyes of a wondering world.

At the time of the first census in 1790, there were only 697,890 negro slaves in the United States, but the next census will probably show that there are nearly eight million negroes in the Southern States, and nearly ten million in the United States, a population lacking but two million of being as large as the whole population of Mexico, and nearly twice as large as that of Canada.

Naturally, in the investigation of the racial history and tendencies of this people, there must be much of interest to enchain the attention of the student of sociology and political history, but, relegating to others the task of discussing the many vexed questions embraced in the so called negro problem, the alienist and student of scientific medicine may well enquire with me: What has been the effect of freedom upon the physical and psychological development of the negroes of the South?

Has it been damaging, or otherwise? Has the negro, since emancipation, the critical and epochal period of his history, improved his physical health and mental and moral condition, or has he retrograded both physically and mentally?

NEGRO OF THE PAST.

To answer this question intelligently and authoritatively, it is necessary to know accurately the health of the negro prior to emancipation, and, also, something of his mode of life, as well as something of his natural and inherited tendencies.

Unfortunately for us, as some writer has said: "The South has made much history, but has written little," and, consequently, exact data as to these points are obtainable only from widely scattered authorities, but the consensus of professional opinion seems, unquestionably, to be that the negro during slavery enjoyed a remarkable immunity from disease. Indeed, it is doubtful, says Dr. Miller, if any race of men "ever lived under better hygienic restraints, or had governing their lives rules and regulations more conducive to physical health and mental repose. Their habits of life were regular, their food and clothing were substantial and sufficient, as a rule, and the

* Abstract of an address delivered by invitation before the American Medico-Psychological Association, during its Annual Session in Richmond, Va., May 22-25, 1900.

edict of their masters restrained them from promiscuous excesses and the baneful influences of unrestricted indulgence."

Under these environments, the negro "had no thought for the morrow," nor did the claims of family and household press upon him to worry and affect his mind; neither did avaricious dreams nor ambitious hopes as to the possibilities of the future stir his brain, but "secluded from the maddening crowd's ignoble strife," he spent his quiet and peaceful days, an humble life in an humble home, with a master to care for every want of self and family, and in health and in sickness."

The negroes, unadulterated with alien blood, had no heredity of disease, and to some extent were considered immune to the climatic diseases of the South, and thus under the restraining and inhibitory influences of the institution of slavery, they developed into magnificent specimens of physical manhood.

TRAITS OF CHARACTER.

Independence of thought and action with them was more theoretical than practical. They were accustomed to obey the dictates of their owners, whatever those dictates may have been; privation and want—those frequent causes of degeneracy—were unknown to them; their environment, it is true, was narrow, but a marvelous attachment to the families of their masters prevailed because of a general sense of obligation to the latter for their sustenance. These conditions of life, and the resultant traits of character that were formed, were largely the conservators of that healthfulness of mind and body which characterized the negro slave.

Certain of the diseases which are now the bane of the negro's existence were then comparatively unknown, and this is notably true of insanity and tuberculosis. According to the testimony of travellers and natives, consumption and mental disease is almost unknown among the savage tribes of Africa. Among the slaves of the Southern States, also, these diseases appear to have been conspicuously rare according to the experience of individual observers. In fact, there are many intelligent people of competent authority and of full acquaintance with the negro, who unhesitatingly state that they never saw a consumptive or insane negro of unmixed blood in the South prior to emancipation. This fact I believe to be so well established, although owing to the lack of authoritative statistics taken at that time, it cannot be verified by actual figures, that I will not add to this discussion by the introduction of additional personal testimony

to this effect, but will enquire what is and has been the history of the negro as to these diseases, insanity and consumption, since emancipation.

Abundant testimony from reliable sources is not wanting to establish the fact that negroes now no longer enjoy immunity from these maladies, but that they are dying much more rapidly from them than the whites.

For the verification of this statement let us look at the census returns and at the testimony of our hospitals for the insane.

INCREASE OF INSANITY.

No one in this day places a too implicit confidence in statistics, and in the figures that I shall cite they have only a relative significance, but as a just comparison between the whites and the blacks in the different census enumerations, they have a reconciled value, and show unmistakably that brain diseases have become more common in the negroes as compared with the whites.

According to the figures of the Census Office, the colored insane of the United States were: In 1860, at a ratio of 169 per million inhabitants; in 1870, at a ratio of 367 per million inhabitants; in 1880, at a ratio of 912 per million inhabitants; in 1890, at a ratio of 886 per million inhabitants; or, stated in another way, the ratio of insanity per million among the negroes has increased from $\frac{1}{2}$ as common in 1870 to $\frac{1}{2}$ as common in 1890—a number, as these accumulated statistics show, alarmingly large and on the increase.

In speaking of the increase of insanity in the colored population of Georgia, Dr. Powell, superintendent of the Georgia Lunatic Asylum, makes the following comments: "There has been a radical change in the susceptibility to certain diseases, notably insanity, phthisis and similar maladies in this class of our population, from which they were almost entirely exempt up to 1867. The census of 1860 will show that there were only 44 insane negroes in the State of Georgia, or one insane negro in every 10,584 of the population, and consumption in the full-blooded negro was rarely seen. The census of 1870 shows 129 insane negroes in this State, or one to every 4,225 of the population. The census of 1880 gives 411 colored insane, or one to every 1,764 of the population; while in 1890 there were 910 colored insane, or one to every 943 of the population."

VIRGINIA'S INSANE.

Dr. Drewry recently stated that "the ratio of insanity in the whites is slightly larger in Virginia than in the negroes, though in recent

years insanity has increased more rapidly among the latter than the former, and that there are now 870 negro insane under hospital treatment in Virginia; and that during the past two years 170 insane have died in jail or at their homes waiting for room to occur at the Central Hospital." He very significantly remarks that the above figures do not cover all the negro insane in this State.

By other authorities it has been claimed that the increase of insanity among the negroes in Virginia has been for 25 years at the rate of 100, or more, per cent. every ten years.

As a summary of the foregoing, it may be briefly stated that "in the returns from death from consumption in the last five years the colored death rate is very nearly triple that of the whites," and that the increase in insanity among the negroes now nearly approximates that of the whites—this alarming increase in the former being especially notable; if we remember that in one hospital in this State at present there are 105 more insane negroes than there were in the entire United States in 1880.

The testimony that has been adduced, then, appears to me ample and conclusive as to the following points:

(1.) That insanity and consumption were comparatively infrequent in the negro race before the war.

(2.) That both of these diseases have disproportionately increased in the same race since the war.

(3.) That the causes that gives rise to one of these diseases also produce the other; and

(4.) That the negro race is especially liable to certain forms of nervous diseases.

The question now naturally arises, what is the cause for this rapid and remarkable transformation in the health of these people during the short period of three decades? Why should insanity and consumption develop side by side, and at an equal pace? Have the changes in the environments of the negro had ought to do with this state of things; or, in other words, what is the relation of freedom to these diseases?

LAWS OF SLAVERY.

To arrive at a correct solution of these questions, and to appreciate the effects of the changed political and social relations, because of freedom, on the mental, moral and physical constitution of the negro, it is necessary to know his manner of life during the ante-bellum and post-bellum periods of his history.

Up to 1865 it was to the interest of the owners of Southern slaves not to allow them to

violate laws of health; therefore their hygienic surroundings were carefully and cautiously guarded from their youth through life. Their lives, from necessity, were regular and systematic, and they were absolutely restrained from all dissipation and excesses, and when sick they promptly had from the family physician the very best medical attention and nursing, and were carefully treated in every respect until pronounced fully restored by the physician.

Freedom came to him, and a change came over his entire life. Freedom removed all hygienic restraints, and they were no longer obedient to the inexorable laws of health, plunging into all sorts of excesses and vices, leading irregular lives, and having apparently little or no control over their appetites and passions. It is very manifest that these morbid tendencies and susceptibilities have been growing and taking deeper root for the past thirty years; hence their unstable condition and their susceptibility to and inability to resist attacks of disease that were formerly almost unknown among them. (Powell.)

In the wholesale violation of these hygienic laws after the war, as previously stated, was laid the foundation of the degeneration of the physical and mental constitution of the negro. Licentiousness left its slimy trail of sometimes ineradicable disease upon his physical being, and neglected bronchitis, pneumonia, and pleurisy lent their helping hand toward lung degeneration.

PSYCHOLOGICAL TENDENCIES.

Now, ladies and gentlemen, having shown the effect of freedom upon the physical and mental health of the negro, I would depict some of the psychological tendencies of this race, did I not feel that I have already far too long craved your generous indulgence.

In this presence, however, with the story of the past sounding in my ears, and at this time when the future of this race is so much discussed, I cannot forbear to trace for a moment the developmental tendencies of this unique and peculiar people. What I shall say shall be said with an open frankness, an unreserved candor, and a deliberateness of mature conviction that is born of a desire to do justice to this important subject.

In many of the public discussions of late there has been too much of sentiment, too little of scientific truth; and what I shall say applies to the race as a mass and not to individuals, and is spoken in no carping or censorious spirit, but in a sense of fairness and jus-

tice to all concerned. I am not yet old enough to have forgotten the companionship of other days, the black boy who was raised by my side, nor the comradely sympathy of my old black mammy, now dead and gone to rest, who soothed me with her crooning lullabies and led me snailing into sleep; nor have I forgotten the true soul of the trusty slave, keeping a faith which hath no parallel in history.

A MORAL BEING.

Science has demonstrated that he is a moral being, without the high moral character or broad brain abilities of the white man, it being an anatomical fact that the average weight of the negro's brain is 42 ounces, while 49 ounces is the recognized average of the Caucasian; that his mental calibre is small, his brain convolutions being few and superficial, and his forms of insanity, principally mania, showing the involvement only of the lower physical strata of the brain.

If science thus demonstrates the negro's mental inferiority, certainly history, dating as far back as to the time of Papi, of the VI Dynasty of Egypt, 2,500 years B. C., proves his phylogeny to have been of an inferior type, and that the general characteristics of the negro of that date were the same as those of the negro of equatorial Africa to-day.

From the time of Genesis and the curse of Canaan: "A servant of servants shalt thou be to thy brethren," the negro has belonged to a subordinate race, and ancient history has left no records of his achievements as warrior, king or councillor, but along its whole pathway he has plod in servitude, even from the day when the Cyrenian was laid hold upon and made to bear the cross of the fainting Christ.

The problem of adjusting and adopting this people to the environments of civilization has been left in these latter days to the white people of the South. Under the environments of slavery and under the tutelage of the whites, their worst character was uplifted and elevated, but under the present conditions of life, and under their own leaders, I do not hesitate to say that the race is degenerating and fast reverting to their original types of savagery. Under the old regime, the negro had for his preceptor and educator the most highly educated and moral class of the white people; at present, under the fancied antagonism of classes, and because of radical prejudices, the negro is used only for temporary purposes, and without regard to his future welfare or improvement. In domestic service, the mothers and fathers yet have the advantage of attrition

to the whites, but their children are being raised by superannuated members of the family who have neither the mental nor moral qualifications, nor the proper self-control to educate and restrain them.

NEW ISSUE OF RACE.

This "new issue" of the race, essentially ignorant and superstitious, vicious and impulsive, idle and improvident, mentally never more than a half-grown child, without self-confidence or ambition, without originality or persistency of purpose; descended from the most inferior and degraded race of West Coast Africans, not at all equal to the Kaffirs or Zulus of South Africa or the Soudanese of Northern Africa—this type of the second generation, which to day confronts our Southern civilization, is to any unbiased mind worst than the first.

Can they, with their history, with heredity, with their character, measure up to the necessary standard and the high requirements of this day? I answer no and I answer yes—no, if they continue the experiment under their own leadership; yes, if they are willing to trust, faithfully and obediently, their leadership in education, in morals, and in government of State to the best thought and talent of the whites.

MENACE TO THE SOUTH.

The negro is in the South to remain, and all attempts at expatriation or deportation, or colonization, will be as vain as they are chimerical; he will remain, however, as a parasite upon the body politic, and unless led with consummate skill through the dangers that confront him he will become a standing menace to the welfare of the South.

The negro is nothing of a peasant; he never develops a country; he has made no material advancement, as their history since the war in the South will show, the race as a whole in Virginia to day not paying 5 cents in the dollar of this State's taxes.

The history of this people in Hayti and Santo Domingo, with complete control of their own government, is too well known as a disastrous failure to require reiteration here. In Jamaica, even under British influences and allowed a fair proportion in the participation of government, they have made an absolute failure, and, from credible authority, have reverted to hoodooism and cannibalism; and the only experiment ever made by England in this country, when in the war of 1812 the English fleet under Admiral Cockburn carried off a

large number of negroes from Tidewater Virginia to Halifax, Nova Scotia, and there colonized them, has been likewise a dismal failure, for I am informed by an eye witness that, though left to themselves and supplied with all the privileges of education, they have dwindled to a mere handful, and are living in a condition of poverty and degradation that will sooner or later end in a state of brutal savagery.

QUESTION OF EDUCATION.

It may be pertinently asked if education would the better fit this race for the responsibilities before them. Surely so, but the history and statistics of the past thirty-five years in the South show that the negro neither desires a full and systematic education, nor has he, as a class, received any substantial benefits from it, for though there may be an occasional gleam of intellectual brilliancy, it is the exception, and the dark pall of ignorance still beclouds the race of Southern negroes, although the public school system, 19.20 of whose cost has been paid for by the whites, has been their common privilege. Before this method of elevating the negro can be relied upon for their material advancement, experience has shown that the methods of education now in vogue must be changed, and that it must be industrial and mechanical, and, above all, that it must be directed by the maturer wisdom of the whites in order that intelligence may give dignity and beauty to his labor, and that, added to this, religion and morality may be weaved into the woof and warp of the practical affairs of the negro's daily life.

In order to uplift this race, the experiment of amalgamation and miscegenation has also been suggested, but Southern civilization stands aghast at such a thought. If such should ever occur, it will be the first time in the history of man that a Teutonic stock has so fallen. The Latin races naturally mingle their blood with any race they touch, but the Teutonic roots never.

And, furthermore, no one need fear that the negro race will so increase that numerically they will drive out the whites, for if I had the time and opportunity, I could prove from statistics that their growth is not so real and so alarming as it may appear, for the enormous increase of the negro since the war has had much to do with his physical and intellectual degeneracy, and in the end, if not counteracted, will react by a reversion to his primitive type.

The Anglo Saxon blood has never yet gone down before any race, and never will. Says Grady:

"The Anglo Saxon blood has dominated

always and everywhere. It fed Alfred when he wrote the charter of English Liberty; it gathered about Hampden as he stood beneath the oak; it thundered in Cromwell's veins as he fought his king; it humbled Napoleon at Waterloo; it has touched the desert and jungle with undying glory; it carried the drumbeat of England around the world and spread on every continent the gospel of liberty and of God; it established the republic, carved it from the wilderness, conquered it from the Indians, wrested it from England, and at last, stilling its own tumult, consecrated it forever as the home of the Anglo Saxon and the theatre of his transcending achievement. Never one foot of it can be surrendered while that blood lives in American veins and feeds American hearts to the domination of an alien and inferior race."

I speak this in no spirit of prejudice or malice I but state a fact, I but speak the truth. Neither do I agree with those sensationalists who think that the day is coming when the Anglo-Saxon will make a holocaust of the negro—such a proposition is simply preposterous, for I am no pessimist, and I have too much faith in human kind not to believe that white supremacy will make itself felt before that day to the everlasting good of the negro race.

No, the negro will remain with us in the South, if he will but give up his aspirations to full citizenship and confide his education and government to the whites, who, in times past, have proved their love for him—remain in peace, remain to fill the offices for which God and nature designed him, remain to be the white man's servant, "hewers of wood and drawers of water." Some kind of restraining and inhibitory influences such as once characterized the institution of slavery, must be thrown around him as a safeguard for many years to come, or there will be a continued degeneracy and a tendency to a reversion to his primitive type as a savage.

He must eliminate himself directly from the body politic, and the education which he is capable of taking will the better fit him to gravitate to his appointed place in the onward march of Southern civilization. This is the problem for the South; to carry these two races in peace, for discord means ruin; to carry them separately, for assimilation means debasement; to carry them in equal justice, for to this she is pledged; to carry them even unto the end, for this is her destiny. This burden no other people bears to-day; on none other hath it ever rested.

AGE AND SEX AS FACTORS IN INTESTINAL OBSTRUCTION.

With Reference to the Relief of Pain and Nausea.*

By C. N. BROWN, M. D., Webster, W. Va.

I have some misgivings as to how well I can present such an extensive and important subject; but I have no apology to make except it may be the means of bringing up a thorough discussion from members present, who have possibly had more experience with these disorders than I. We all know, who have had if it be but a single case of intestinal obstruction, how urgent are the demands for relief, and how important it is for a correct diagnosis to be made; and when we consider the many causes of obstruction and the variety of symptoms, it indeed makes the diagnosis sometimes a most difficult matter.

From a clinical standpoint, we designate a case of intestinal obstruction as *acute* and *chronic*; however, there are cases which seem to stand midway between the acute and chronic forms, and may be called *sub-acute*.

Acute forms of intestinal obstruction must necessarily present distressing and alarming symptoms, and, if not relieved, result fatally in a very few days. The other forms usually present a milder train of symptoms, which may gradually increase in severity, and become engrafted upon the acute form. On the other hand, chronic intestinal obstruction is ordinarily more amenable to medicinal treatment than the acute form; although surgical interference is demanded in most cases.

The most common causes of acute obstruction of the bowels are—

1. *Strangulated hernia.*
2. *Congenital malformations.*
3. *Foreign bodies* or abnormal concretions, such as *gall stones, enteroliths, etc.*
4. *Intussusception* or *invagination.*
5. *Volvulus.*
6. *Incarceration of the bowel, or internal hernia.*
7. *Inflammation* from peritonitis and enteritis.

The most frequent causes of chronic intestinal obstruction are—

1. *Impacted fecal matter.*
2. *Organic constriction* of the bowel.
3. *Chronic invagination.*
4. *Inflammatory change* in the wall of the intestine from external violence.

5. *Chronic peritonitis* often of tubercular origin.

6. *Mechanical pressure of tumors.*

Age and sex are important factors in intestinal obstruction, as may be seen from the following statistics:

Intussusception.—This form of obstruction occurs more often in infants and children before the age of 10 years. Usual seat, small intestines and region of the cæcum—more common in *male* children.

Hernias—more common in adult *male* life.

Foreign bodies—most common in children. Usual seat, œsophagus, stomach, or small intestine.

Congenital Malformations.—This form of obstruction usually occurs about the anus, rectum, or small intestines; and our attention is called to it during infantile life.

Volvulus or *twists* are more common in men than women, and are found usually in the small intestines and sigmoid flexure of the colon.

Stricture of the bowels may be congenital or acquired; when acquired, it is caused by inflammation and ulceration.

Flexion, bands and adhesions of the bowels are more common in the adult, and are caused by ulceration and inflammation of the bowels.

Gall Stones.—These calculi are more common in women than in men, in the proportion of 4 to 1, and give trouble usually after middle life.

"Of the 1,541 cases of intestinal obstruction from various causes, tabulated by Leichtenstein, 41 were caused by gall stones."

Impacted fecal matter is of most frequent occurrence in women, and after middle life. Usual seat, large intestines.

Impacted worms are of rare occurrence, and are found more often in children. Their usual seat is the small intestines.

These are the more common forms of obstruction in which age and sex are factors.

The symptoms ordinarily observed in cases of intestinal obstruction, and which may be acute, sub-acute or chronic in character, are—

Pain, often paroxysmal in character, and frequently referred to the umbilical region.

Vital depression, fever and thirst.

Peristalsis increased, causing borborygmus and gurgling.

Constipation, absolute in character, or possibly a diarrhœic condition, with mucoid and bloody stools.

Abdominal distension.

Muscular rigidity of abdominal muscles, beneath which a tumor may or may not be made out by palpation.

* Read before the State Medical Society of West Virginia, Morgantown, May 10, 1900.

Vomiting—first gastric, then bilious and fecal as the disease advances.

Temperature may be normal, elevated or sub-normal.

Pulse, weak and accelerated.

Urine scanty.

The foregoing symptoms must necessarily predominate in cases of intestinal obstruction, because of the intimate relation and distribution of the sympathetic nervous system; yet, as Doctor Hilton Fagge has said, "Let no one set too much value on any one sign or symptom."

Having tried to point out the causes of intestinal obstruction, together with reference to age and sex as factors in these disorders, I will now take up the second part of my topic.

Pain and *nausea* are distressing symptoms in these cases until relief can be obtained of the obstructed part, and while it is true that surgical interference is the only chance of relief in many cases, possibly 50 per cent., yet, on the other hand, many cases are given over to surgery that could be relieved by other treatment, as Dr. Mathews says in his excellent work on *Diseases of the Rectum*, "impaction of the cæcum has time and again been confounded with appendicitis, and operations have been performed for the removal of the appendix which were unwarrantable."

Some cases belong to the surgeon and some to the physician, and it is a matter of nice discrimination sometimes to decide this.

I do not know that I need refer to the *diagnosis* in these cases. It is sometimes easy and sometimes most difficult, even after an abdominal section has been made; yet when we take into consideration the history of the case, together with the age and sex as factors, and after making a careful recto-abdominal conjoined exploration, we can often arrive at an exact conclusion as to the cause of the obstruction.

The treatment, as ordinarily followed in some kinds of intestinal obstruction, such as the inversion of the body and the inflation of air into the bowel, or the copious injections of medicated water, together with gentle kneading of the bowels, is undoubtedly the proper treatment in many cases. This treatment should, however, be done early, and not deferred until the bowel becomes inflamed or dead from strangulation. I believe in most all cases of acute intestinal obstruction, where there is no marked improvement in from one to ten days (according to the severity of the case), abdominal section should be performed. While efforts are being made to relieve the obstructed

bowels, pain and nausea demand our attention. Usually all food should be withheld or given sparingly, as the nature of the case may be. I have noticed that paroxysms of pain often precede the vomiting. Morphine and atropin in proper doses should be given hypodermically, which will temporarily control it. Hot fomentations should be applied constantly to the abdomen, consisting of turpentine stupes or hot hop bags, as the case may require. This, together with rest in the recumbent position and a quiet well ventilated room, will help the sufferer.

It appears to me that I have tried nearly everything there is for vomiting in these cases, and have found the following to be most serviceable: Bismuth and hydrastis solution, 20 drops every three hours in a little cold water; mustard plaster to the stomach and ice-bag to cervical vertebrae.

The following formula is serviceable where there is gastric inflammations:

℞ Carbolic acid.....	24 drops.
Muc. acacia.....	1 drachm.
Bismuth subnitrate.....	2 drachms.
Oil peppermint.....	2 drachms.
Water.....	q. s. 3 ounces.

M. Sig.—Teaspoonful every 3 hours (shake well).

When the vomiting of pregnancy is associated with bowel obstruction, the condition is most perplexing. Oresine tannate in 4 grain doses should be tried three times daily before meal time. When all medicinal measures fail and the vomiting persists, abortions or abdominal sections should be done.

Dr. Larat, of Paris, who has had a wide experience in cases of intestinal obstruction, speaks of the good results obtained from the use of "electric injections" in cases of bowel occlusion. The bath is mildly charged from the positive pole of a galvanic battery, while the negative pole is held over the intestines. Normal peristaltic action is said to be re-established almost along the entire tract, without increase of inflammatory condition. I have no experience with this treatment, but intend to investigate it.

Washing out the stomach, the use of ice pellets, together with the proper administration in suitable cases of dilute hydrocyanic acid or cocaine hydrochlorate, are remedies more or less of value in this form of nausea.

Strychnine and electricity should be used for those cases of paresis following bowel obstruction.

IF THE CAUSE IS REMOVED, THE CURE WILL FOLLOW.

Treatment of Tuberculosis of the Lungs.*

By W. J. CHENOWETH, M. D., Decatur, Ill.

I have chosen this axiom with the intention of applying it to the *treatment of tuberculosis of the lungs*, a disease caused by the tubercle bacillus, a specific germ. If there is no mistake as to the cause and the axiom is applicable, the disease should be arrested by removing the germ. That contact with the lung usually causes the disease will not be disputed, nor will it be denied that the germ sometimes comes in contact with the lung without developing disease. If the cause of this can be discovered, it may point to treatment which will enable us to arrest, and even to cure the disease. Discovery of the cause or the causes which prevent development must depend on knowledge of the bacillus and of the cells of the tissue as they stand in the relation of aggressor and defendant. The germ cannot cause the disease unless the tissue of the lung is suitable food for its maintenance and increase, and the cells of the tissue are incapable of resisting the attack.

The history of the discovery of the tubercle bacillus is one of the most interesting in the annals of medicine. Pasteur had demonstrated that attenuated anthrax germs introduced into the body of an animal previously injected with virulent germs would prevent the development of the disease. This induced many students to search for the cause of tuberculosis, and so assured were physicians generally that the cause would be found to be a germ, that when Koch announced that he had discovered it, and soon afterwards that he had found a cure, credence was given before demonstration was asked. No occasion has ever given rise to greater rejoicing. The discovery subsequently that tuberculin was not a germicide, and afterwards that the new tuberculin, intended to supersede the old, had not succeeded better than the first, relegated both of them to diagnosis of supposed cases of the disease.

The biological character of the germ has been very carefully studied. While generally classed with bacteria, Hueppe considers it the parasitic form of a pleomorphic mould, the other forms only making their appearance in its saphrophytic existence. It is a single celled vegetable germ, whose natural condition for

nutrition and increase is best met in a certain quality of living animal tissue. Being non-motile, it is limited in acquirement of food to contiguous tissue, from which it obtains subsistence by absorption of soluble substances. If the food is not suitable, or the temperature of the tissue above or below certain degrees, it cannot continue to exist. Outside of the body it may become attenuated by exposure to sunshine for an indefinite time, as also to other conditions not favorable to its life. If it reaches the lung tissue under such circumstances it is too attenuated to germinate, and must perish even though the soil may be suitable. Park says, "We have a culture of the tubercle bacilli which, after having been grown for three years in the body of guinea pigs, will no longer develop on dead organic matter; while a bacillus, which was obtained from the same stock but grown on bouillon for three years, will no longer develop in the animal body." This explains why we escape from the disease after exposure under circumstances apparently favoring its production. A tree planted in ground not adapted to its nutritive requirements, if it lives, will be stunted in size and sterile, and if transferred to suitable soil, will require cultivation to bring it to a healthy and productive condition. Growth in the animal kingdom, physical and mental, is recognized as depending on the kind of food ingested. When Cassius asks, "On what meat does this Caesar feed that he is grown so great?" we look upon it as hyperbole merely. National peculiarities are colored, if not formed, by the food consumed. This is exemplified in the character and position occupied by beef eating and rice consuming nations.

The conclusion is therefore legitimate, that the effect of contact of germ and tissue will depend on both bacillus and tissue. Attenuated germs on a lung fitted for their growth and increase may find feeble support if they escape destruction by the cells of the part, but their capacity to do harm is limited. Even virulent bacilli may fail to establish a colony, because of the want of adaptability of soil to culture. There must be adaptation, or starvation will result. It is a familiar observation that animals susceptible to the disease are not equally liable. This is true of individuals and of classes. A perfectly healthy man cannot be said to be susceptible to an attack, while the sick, the weak, and those abandoned to vicious habits *invite* the disease. The Italians have a proverb which can be parodied to apply to the condition, "The Devil seeks every man, but the lazy man seeks the Devil." Under ordi-

* Read before the Illinois State Medical Society, held at Springfield, May 17, 1900.

nary circumstances, if the bacillus is introduced into a healthy lung the disease will not be developed, but it may result from persistent efforts, or failing to produce the disease may cause an abscess. The resistance of the cells may be overcome by exposure to cold or by fatigue. Change of habits may cause it, if accompanied with increase, or decrease of exercise. Wild animals accustomed to seek their food, by pursuit in the open air, are not susceptible, but are if confined in close cages. In some infectious diseases, immunity is secured by vaccination with the germs causing them. But no such protection is possible with tuberculosis, because of the character of the germ (a parasite) and of the lesions produced by its presence. It might be possible, if no other germs were invited by the lesions incident to their attacks, but as no provision yet known can prevent the presence of virulent organisms causing inflammation, septicemia or other destructive conditions invited by the lesion induced by the tubercle bacillus, it is utterly impracticable.

Permanent conditions which *invite* attacks, may be inferred from temporary conditions which *permit* them, as the usually non-resisting apex, the tendency of badly nourished lungs to decomposition (manifested by offensive exhalations, one of the characteristic evidences of starvation) and also by the facultative character of the bacillus, which outside of the body is easily induced, after being first cultivated on blood serum, itself in a condition favoring decomposition, to live and thrive on dead animal matter. While general debility is not conclusive of susceptibility, it certainly indicates it—the supposition and expectation being that if the body is weak the lung is susceptible. Whether we believe in the unity of the organism, or with Virchow, that it is not an individual, but a social organism, containing cells which are the factors of life, composed of organic chemical substance, not themselves alive, there is yet no reason to infer that one part can suffer while another is entirely exempt. This is shown by the dependence of every tissue in the body, on the blood current which is supplied with food suited to the demands of each and every part. Certainly tuberculosis of the lungs cannot be regarded as a limited local disease, as every impediment placed in the way of oxygenation of the blood, or which can interfere with elimination of carbonic acid, necessarily compromises the functional activity of every other organ, all of them requiring a supply of the one and discharge of the other.

When it was first ascertained that the tubercle bacillus was the cause of tuberculosis, remedies purporting to be bacillicides sprang into existence so rapidly, and with such promises of success, that it seems almost incredible that so many of them have been forgotten, and that so few of those yet remembered command respectful attention. Those which at the time were awarded greatest confidence were extracts of the bacilli, made by men prominent as bacteriologists, and above suspicion of commercialism. And although probably an outgrowth of the homœopathic dogma, "Like cures like," which was ascendant at the time, the partisan strife prevalent had but little effect to prevent their acceptance as curatives. While no longer holding the position then possessed, they still command consideration, and have incidentally unearthed much practical knowledge. The warfare of the bacilli and of the cells of the tissue is but one phase of the battle for food universally prevailing, and which finally ends in the survival of the fittest. When the cells of the tissue are not equal to the demands, one of the most marvelous sights recorded in the battles for life occurs. The white corpuscles (the reserved corps) rush into the conflict and conquer or are conquered as the opposing forces are in the minority or majority in numbers, or the germs are attenuated or virulent in character. The tissues, while in health, are suitable for its natural occupants, but when depressed by sickness become suitable food for their opponents. The bacillus will starve on the healthy tissue; the cell will perish on the sick. If at the beginning of an attack, but a limited part of the tissue is feeble, from want of nutriment or other cause, the invading germs may fail of permanent occupancy, because the cells in the adjoining tissue may be able to destroy them. If on the contrary, as often happens, the tissue cells partake of the weakness incident to the starving condition of the entire body, the white corpuscles being in like condition, the bacilli can easily acquire control; and, with the toxin generated, destroy the contiguous tissue and distribute the poison throughout the body by means of the lymphatic and vascular systems; thus further decreasing the feebleness of the cells while stimulating them to still continue the conflict.

The progress of the germ may be slow at first, but suitable soil and inefficient resistance of the tissue cells soon permit an enormous increase in numbers. Persons having an acute attack of tuberculosis of the lungs live from six weeks to six months, and before death ends the struggle will expectorate, in many

instances, germs in number almost beyond accurate computation. Nutall has estimated that there will be from five hundred millions to three billions cast off in twenty-four hours. Others have made larger estimates. If the illy-nourished cells defending the tissue could not prevent the germs from seizing it, when few in numbers and the area occupied limited, it cannot reasonably be expected that after they have appropriated a larger area and increased in numbers, the impoverished cells can be stimulated by tuberculin, or by any other toxin, to conquer them. We might as well look for an engine to be run by heating an empty boiler. *Credat Judæz Apella non ego*. But admitting that the bacilli are destroyed, we have not reached a solution of the cure. The lesions caused by the toxins must be repaired, and the condition which existed before the attack restored. This can only be done by those cells whose duty it is to repair the daily waste resulting from metabolism, and as good work can only be done by healthy cells, no amount of stimulation can be substituted with hope of success. The repair of lost tissue is not easily accomplished in healthy persons, and if greater repairs than slight lesions near the surface are demanded, the connective tissue is disproportionately increased and the part will not be as completely developed as before. It is not possible, therefore, for badly nourished cells to make repairs, on feeble tissue, which are difficult of accomplishment for healthy cells on healthy tissue.

When Bastian, at a meeting of the Pathological Society of London, in 1875, demonstrated that bacilli could be found in a flask containing an extract of putrid flesh, which had been hermetically sealed during ebullition, he failed to prove that their presence was due to spontaneous generation. But the experiment satisfactorily established that the putrid matter was as responsible for the presence of bacilli as were the germs found by Tyndall and others to have generated them. The dead organic matter was a *sine qua non* to their existence; hence a twin factor. And it holds good in all infective diseases, that food which is necessary to the life and propagation of the germ which causes it, is equally, with the bacillus, a factor to the disease; and immunity can be established if we can ascertain what will render the substance on which it feeds innutritious.

If Koch had succeeded in destroying the bacillus with an extract made from dead germs, the toxin would have been tolerated by the cells; but that the existing lesions could

be removed by the germs because of such stimulation, would be as improbable as that alcohol could restore lost function to a debauchée. If in a lung there are but few foci of limited extent, fit food for the germ, while all other parts are healthy, cure will result from the unaided efforts of the cells to restore the loss. We might expect the death of the bacilli from starvation and that restoration would readily follow. Doubtless many such cases recover without the knowledge of patient or doctor. As determined by *post mortem examination*, at least one third of all persons who die had recovered from former attacks of tuberculosis of the lungs, which was shown by puckerings, cretaceous concretions and cicatrices, and there must have been many recoveries where the lesions were so completely removed as not to be in evidence. Dr. Whalen, in the *Medical Record* of recent date, says that 11 per cent. of all deaths which have occurred in Chicago in the past ten years, were reported to have been tuberculosis of the lungs. Assuming that 10 per cent. is a fair average of deaths from the disease in large cities, not less than one half of the entire population have had the disease at some period of their lives.

As we have no data on which to found the cause of the recoveries, we must give credit to the *vis medicatrix*, immunity, or a healthy condition of the cells of the lungs, all of which mean about the same thing—*ability to resist disease*. We are justified and encouraged to trust to hygienic measures, so fashionable now, as, according to present knowledge, best adapted to meet the requirements. If there should be curtailment or addition to treatment, the common sense of the profession might suggest more respect to "rule of thumb." Practical results are certainly as reliable as theoretical conceptions.

SUMMARY.

Tuberculosis of the lungs results from contact of a specific germ with a lung especially adapted to its nutrition. An attenuated germ cannot cause it. A healthy lung will not permit it. Hence it is irrational to expect to cure the disease by removing the germ. It might be prevented, if we had knowledge of its presence before it caused the disease, but this is not yet possible. After a lesion has been effected, reliance for cure is on the cells which regenerate the tissue caused by the ordinary wear and tear of life's processes. That they can be made to accomplish this by artificial stimulation, is not credible when we reflect that it was their want of ability to de-

stroy the germs which permitted the destruction incident to their increase. There cannot be any better known means of cure than to establish a healthy condition by suitable hygienic surroundings and proper food.

148 South Church Street.

CEREBRAL GOUT.*

By A. G. BROWN, JR., M. D., Richmond, Va..

Instructor of Anatomy in the University College of Medicine.

The term cerebral gout is used by me with great hesitancy. Only a desire to bring out a question which I wish to propound has emboldened me to use it. It is not my purpose to advance any theories of my own, but to epitomize some of the facts that I have seen in my reading, and to ask questions of older and wiser heads.

In considering the cause of gout, let me direct your attention to the predisposing conditions: Heredity plays an important part. As an earmark in the history of families, gout seems to pass from generation to generation. The gout of the father is visited upon the son. The upper classes, where wealth, luxury and an over indulgence at a bountiful table exist, retain this badge of painful honor with a peculiar and aristocratic pride. However, just in these days, we are told that the upper classes can no longer claim gout as a distinctive mark, for what is known as "poor man's gout" is recognized, but of this class I do not desire to speak. Then epicureans, eaters of heavy meats, drinkers of much malted liquors and hearty diners with sedentary habits or intellectual pursuits, fall victims to this disease.

But what is the immediate and direct cause of gout? While no positive or scientifically exact answer can be made to this question, I believe that a reasonable one based upon research, observation and personal affliction, can be obtained from reading the literature at hand.

Garrod claims that an attack of gout is due to an excess of uric acid in the blood, produced by an increased formation and a greatly diminished elimination thereof. Haig maintains that gout is produced by a deposition of the urates in the tissues of the body because of a diminished alkalinity of the blood—a condition which he claims prevents uric acid from remaining in solution. Ebstein holds the

position that the blood, surcharged with uric acid, produces a necrosis of certain poorly vascularized regions, and that uric acid becomes deposited in this necrotic area through choice. Sir William Roberts advances the theory that uric acid as such does not circulate in the blood, but that as a quadriurate, easily soluble in blood plasma, it does do so, and is in this state excreted, normally, from the kidneys; that, either from an excessive accumulation from an over production or from retention due to inaction of the kidney function, the quadriurate overcharges the blood; that the excess of this substance in the blood causes a chemical change with the constituents of the blood, the sodium carbonate uniting with it by the addition of another atom of the base, producing a biurate of sodium; that this biurate is insoluble, forming first a gelatinous mass, and finally becoming crystalline particles which are deposited in favorable regions, and that there, as irritants, they produce the gouty symptoms.

Still another theory is advanced to explain the ultimate cause of this painful and sometimes fearful disease. We are told by physiologists that urea is the final and perfect excrementitious product resulting from nitrogenous metabolism. Antecedent to urea, there are uric acid and analogous substances. Then, we learn that the ultimate excrementitious products of nitrogenous metabolism are uric acid and urea—the latter being only a more perfected stage of the process. The body, remember, is made up of an infinite multitude of cells, all containing that vital element—protoplasm. It is here that life is; here is the real seat of living. No matter whether it be protoplasm specialized to conduct the nervous impulses, to contract the muscular action, to secrete muscular juices, to maintain immobility in bone, or to bind, as connective tissue, the many parts into a wonderful whole—no matter what be the office of the cells, the protoplasm undergoes a building up and a breaking down in the performance of duty. Now, viewing the question from this side, by some yet unexplained action, the oxygen of the blood, together with the results of nitrogenous ingestion, digestion, and assimilation, enter that cell, and by oxydation produce a stored-up energy. In the production of vital force resulting from this union, excrementitious products, as carbon dioxide, uric acid (or urates) and urea are thrown out and taken up by the blood.

They tell us that uric acid is not seen, but that a urate circulates in the blood, and nor-

* Read before the Richmond Academy of Medicine and Surgery, May 8, 1900.

mally, as a result of proper oxydation; that the kidney epithelium of the tubule possesses the power of separating it from the blood and passes it off as a physiological component of the urine, amounting to from nine to fourteen grains daily of urates. But there may be, from an over ingestion of proteid food, more than the normally oxygenated blood can oxydize to a final excrementitious state. Thus, some of the meat foods which should be carried to the urea state, are thrown out into the blood in an oxydized state in the form of urates. An excess of urates consequently occurs. It becomes a foreign or pathologic product, acts upon the kidneys, producing irritation and inflammation, and as a result, a lessened elimination in proportion to production. The balance is lost—compensation is gone. Thus, an abnormal condition of accumulation of suboxydized products creates chemical changes in the blood. The proteid substances, suboxydized as they are into the uric acid state by the tissue cells throughout the manifold structures of the body, are changed from soluble urates into insoluble urates of sodium. Now, the urate of sodium becomes deposited, some say in necrotic tissue; others say in regions of enfeebled circulation or lymph spaces bathed in a lymph rich in sodium chloride.

Recalling the arterial supply of the brain, we note the formation of the circle of Willis: The internal carotids, uniting in front, and the basilar, the result of union of the vertebrals posteriorly, communicate. From the hexagon formed, there pass two sets of arteries—one to the ganglionic area or internal region of the brain, the other to the surface through the pia, to supply the cortical area. From the circle itself, and partly from the great arteries forming it, arise the system of short direct vessels which plunge into the basal parts, ganglia and capsule. These are very important, because they are terminal vessels distinct and separate, neither receiving nor affording anastomosis. Each vessel supplies a given and limited area of brain tissue. From the middle cerebral or Sylvian artery, there goes out a set which supplies the lenticulo striate nucleus, the internal capsule and a portion of the thalamus. These are divided into lenticulo striate vessels anteriorly, and the lenticulo optic vessels posteriorly. The lenticulo striate vessels are of larger calibre, and pass through the upper part of the internal capsule terminating in the caudate nucleus. The lenticulo-optic pass through the posterior portion of the internal capsule. The arteries of the cortex come directly as termi-

nations of great vessels which form the circle of Willis. Passing through the pia mater, they descend in two sets into the cerebral substance—a long and short set. These non-communicating, penetrate the gray matter, but do not anastomose with the vessels to the basal region. Here, lying between the termination of these systems of blood supplies, is a region of brain poorly vascularized, and hence, an easy prey to degeneration.

Pathology.—There are several ways in which the urate of sodium may act deleteriously in this system of vessels. The constant presence of the gout poison in the arterial system may produce a proliferation of the cells of the intima, gradually lessening the carrying power of that channel, the muscular and fibrous elastic coats undergoing, in due time, degenerative changes. The thickening of the internal coat may go on to the obliteration of the vessel. The irritant poison may begin deposition in the lymph spaces outside of the vessel. It may begin its work in the vaso vasorum. So the gouty poison may affect the intima directly from the blood stream, while the texture of the outer coats may become diseased from the perivascular area or lymph spaces, or lymph stream. Thus, in place of a flexible, elastic and clear blood channel, there may be an inflexible, inelastic and obstructed vessel.

Recalling to mind the distribution of the cerebral circulation, it is easy to see how, with this change in the arterial wall, degenerative change will follow in the cerebral matter itself. Especially marked will the softening be in that area of poor vascularization between the ends of distribution of the cortical and basal arteries.

Symptoms.—The symptoms of gout in the brain will need only a passing notice. There is the history of gout in the family. Usually, there is a strong and healthy frame, and the performance of great mental work without much physical exercise. Now and then, twinges, pricklings and tinglings all over the body, restlessness, wakefulness, despondency, irritability, peevishness or exhalation and high spirits, may serve to announce the existence of uric acid with gouty premonitions. Then, attacks of podagra, with their memorable experiences of excruciating pain at intervals of years, may add further and more convincing evidence of the gouty diathesis. As age advances, the various attacks having been well treated, busy with the duties of waxing years, the mind of the elderly man does not seem to grasp the meaning of the warnings and admonitions served so thoroughly by na-

ture. Neither does he heed her cry for assistance and rescue from the dire affliction that is making much serious inroads in the vital channels of that vital part—the brain—till some day, busy upon the market, or working at the accustomed desk, or asleep in bed, the long neglected organ reels and a once great mind becomes a senseless burden.

Apoplexy, with its train of symptoms, may claim him. An embolism may bring him to the grave, or leave him a paralytic and consign him to senility of body and degeneration of mind. A thrombus may obliterate one of the terminal arteries. For weeks and months, with paralysis slowly creeping upon him, and gradually losing power of mind and body, he may lie abed in the valley of the shadow of death, until complete paralysis with its accompaniments, contractures, bed sores, incontinence of urine and feces, continuous epileptoid convulsions, etc., bringing him to his end.

In conclusion, let me ask this question, Is there cerebral gout? If such a disease exists, then it appears to me that greater stress should be laid upon its investigation, diagnosis and treatment. While I have no statistics to prove what I am about to say (this being a paper rather of an interrogatory than a scientific nature), I am convinced that gout causes the death of more men of prominence in this day than any other one thing.

The practical matter involved is, how may this condition be in any way changed for the better? I believe it lies largely in the hands of the physician. Where a gouty diathesis is found in a patient, a duty, as serious in nature as any obligation that devolves upon the practitioner of medicine, at once arises to be discharged. That duty lies in the same direction that a like duty does in cases of specific disease. A clear, candid and common sense statement should be made to the patient, laying before him the cause, nature and inevitable course of the disease. Paint the picture black, and give the outlook a gloom in the extreme if it be necessary to gain the proper attention and appreciation. Let the patient understand that it may take months or years to overcome the uric acid habit, and that constant watching and treatment will be necessary.

During the whole course of treatment, regular, scientific, analytic examinations of the urine should be made. To know the exact daily output of excrementitious products of the body is of fundamental importance. The amount of uric acid, urea and of the total solids must be known, together with the other important facts relative to urinary output.

For this, we should rely upon those gentlemen who have equipped themselves both by aptitude and inclination, apparatus, and research, for the analytic and microscopic examination of the urine and blood. Or else, we should equip ourselves in these things, and obtain this information by personal investigation.

Ordinary rules of living should be laid down in clear outline to these people. What shall be the articles of food permissible and what not permissible, is important. The proper amount and kind of exercise is of incalculable importance. The use of massage is also of great value.

That drugs have their value, is not disputed.

No. 200 West Grace street.

LOCAL PARALYSIS DUE TO AN OVERDOSE OF CAMPHOR.*

By T. B. GREENLEY, M. D., Meadow Lawn, Ky.

A lady, aged 78 years, on the night of December 25th, 1899, took a large dose of spirits of camphor, but does not know exactly how much, as she drank it from the bottle.

It was about 2 o'clock in the morning when she drank it, and for some time, supposed to be an hour or more, was very restless, and became unconscious, when she attempted to get out of bed, and fell on the floor in an entirely helpless condition. In fact, when first picked up, it was thought she was dead, being so limber and helpless.

Soon after getting her back to bed, she revived, but it was some time before she regained consciousness.

It was found that her right hand and right side of her face were paralyzed. Of course, the paralysis was peripheral or local, and not central, as she had use of all other muscles.

The question naturally arises, What was the cause of the paralysis, what nerves involved, and in what way did it originate? In the first place, we charge it to the powerful stimulating effect of the large dose of camphor.

The patient has not been troubled with any disease for many years except slight pains or stiffness about the knees from chronic rheumatism.

The spirits of camphor was prepared for her to be used as a local application to her knees, on account of occasional stiffness or pain, and made very strong. It was kept on the mantel,

* Read at a meeting of the Kentucky State Medical Society, May, 1900.

over the stove, so as to keep it in as strong solution as possible.

She had an idea that if it was a good remedy for use externally it might help her to take it internally, especially as she regarded it as simple and not dangerous.

It is well known that camphor is a powerful stimulant in large doses, and even may act as a poison and destroy life.

It is the writer's opinion that the nervous system, for the time being, succumbed to its powerful stimulating effects, producing unconsciousness or coma, and, during this state, the function, as to motion of the nerves of the face and hand of the right side, was destroyed.

There could not have been thrombus or embolism of the cerebral vessels, or the attack would have lasted longer and the paralysis been more extensive.

But in these cases it is almost impossible to correctly diagnose the true pathology connected with the disease.

There is quite a variety of the trouble termed paralysis. We may have hemiplegia, which of course is due to disease of the brain; paraplegia, involving the spinal cord; paralysis agitans, or shaking palsy, which, as a rule, is due to general giving way of the nervous system, and mostly confined to elderly people. This is also called Parkinson's disease. I have known, however, several instances wherein the parties lived several years after being thus affected; but, as a rule, it is regarded as a precursor of early death.

We may also have unifaceal palsy of a permanent character, which may be local or peripheral; we may have paralysis of either an inferior or superior extremity, entire or partial.

These cases are generally regarded as being local or peripheral.

When we have a case of coma resulting from apoplectic seizure, we have but little hope of relief. As it respects the case herein considered, I cannot but believe, as before remarked, it was due to the powerful stimulating effects of the overdose of camphor. The right side of face and right hand were the only parts we could discover as being involved by loss of function, after consciousness was restored, but in what way the stimulating effects of the camphor produced the trouble, we are, with any certainty, unable to say.

The patient was kept in bed two weeks, at the end of which time she was allowed to sit up several hours at a time.

Her appetite kept good all the time. We put her on the normal liquid of nux vomica,

and used gentle massage to the affected parts. In four weeks, we allowed her to walk about the room—at first by assistance, and soon alone. She now walks about the house, and goes to her meals in the dining-room. She also walks about the yard, and can feed and dress herself. She can pick up a pin on the floor with her afflicted hand, and there is no difference in the appearance of the sides of her face when she talks or laughs.

I have used the normal liquid of nux vomica as a nerve and muscular tonic for many years, and prefer it to any I have used.

According to works on Therapeutics, camphor in large doses may produce vomiting, vertigo, slowing of the pulse, fainting, headache, delirium, convulsions, epileptiform spells, coma, etc.

I have found but one case mentioned where an overdose destroyed life. That instance is related in the U. S. Dispensary, being a child a few years old.

NEPHRITIS CONVENTIONALLY CONSIDERED*.

By U. V. WILLIAMS, A. M., M. D., Frankfort, Ky.

Mr. President and Gentlemen.—When requested by your honor to prepare an address for this meeting of the Kentucky State Medical Association, and was allotted "*Nephritis*," I instinctively shrank from the task, so multifarious are its forms, and unfortunate in frequency. So very exhaustively treated, and so voluminous is the literature upon the subject, I have never wandered in any direction that the way was not strewn with tracks of those who had previously trod the way. I am neither a pioneer, nor a scout in literature using the rifle of the sharpshooter, but rather follow with the infantry and use the Gatling gun. So the title of my paper should be rather than "*Nephritis*," "*Some desultory suggestions as to the function and pathological conditions of Nephritis*," or "*Nephritis Conventionally Considered*." To treat any one of the various forms in an exhaustive manner, or to attempt to even consider the abnormalities of each, would be beyond my limit of time or ability.

Col. Ingersol once during a public lecture was asked—when he was holding up the "*Mistakes of Moses*" to public ridicule—how he proposed to better conditions? replied that he would make "*Health catching*." A brilliant re-

* Read before the Kentucky State Medical Society during its annual session, May, 1900.

ply, but for all that he was wrong, for health is catching.

The nice adjustment of Nature, from birth to death, is one constant act of health catching; only one failure of Nature, allows pathogenic bacteria and other micro organisms to develop. We are all the time running the gauntlet of Death, and that we live at all is one of the profoundest miracles of the universe; and according to Spencer, we live only by *adaptation*, and all biologists adopt the proposition. We have within us some very wonderful workers which we call *cells*; and but for their accurate skill every particle of food we eat would be to us as dangerous as poison, where now we have assimilation of supporting substances.

Every normal product of one part of our bodies would become deadly if appropriated by another, and not very remote part. Only consider carbon di oxide, urea, etc., giving us strength when properly directed! but a fatal element when misdirected Peptone—life giving, directed in a proper channel, but a poison if injected into the blood. Abrin, the most deadly of poisons when injected into the blood, can be, and is eaten in the form of the crude plant, by the natives of the West Indies as we do licorice, which it somewhat resembles.

In the light of the above conditions, and which are axiomatic truths, we view the functions of the kidneys with the greatest admiration; but misdirected, with the greatest alarm. They are the scavengers of the body, whose duty it is to remove beyond danger obnoxious principles and products constantly accumulating and forming in our bodies. They must eliminate the effete matters, the waste material, and all products of tissue waste, of all pathological and physiological conditions. Failure in any of hundreds of duties immediately is reflected upon the system in a special form, and gives rise to a special and sometimes a specific form or abnormal condition.

In that form of nephritis which is familiarly known as Bright's disease the albumen is secreted by the Malpighian (bodies) capsules, where in fatal cases it may be found by autopsy, but in health no such action or condition can be found or has been found to exist.

Albumen thus secreted exhausts the supply in the normal blood. Albumen found in the urine may be caused by accidental causes, food of certain kinds, such as beer, alcohol, the excessive use of tobacco, cardiac pressure asthma, pregnancy, diphtheria, scarlet fever, which would indicate an acute nephritis, and which would be the subject of proper treatment and sanitary conditions. But when destruction of

tissue or alteration of the anatomy of the organ is manifested by the co existent presence of pus, tube casts, hyaline casts, and blood corpuscles are of the utmost gravity.

Interstitial nephritis and a condition of the kidney arising from valvular disease of the heart is extremely difficult to differentiate, and a correct diagnosis can only be arrived at. If properly directed cardiac treatment gives relief, we may safely refer its condition to the heart. If of the former origin no benefit will be derived.

This may not be a very scientific method of arriving at a diagnosis, but to the writer it is the only one he has found trustworthy.

That variety of nephritis to which the attention of the general practitioner is most frequently called is acute parenchymatous nephritis; for rarely is a specialist consulted until the family physician has first exhausted his skill (?), failed of cure, and for *self* relief, as well as to encourage the patient, he is referred to the expert when the case is most grave—very much to the advantage of the specialist, for if he fails he can well say he did not see the patient until too late; and for that matter neither did the general practitioner, for it was not curable, in other words, it was Bright's disease. When a cure is effected I am inclined to think there was an error in diagnosis, and if not Bright's disease any one could have cured it. A truly organic disease of the kidney in any form, neither the one nor the other can do much for the unfortunate. In this variety, the acute parenchymatous nephritis, when first seen, the kidneys have lost no weight nor size. Capsule non adherent, the epithelium cells in convoluted tubes are swollen, but yet no evidence is found on examination of the desquamative exudate of the cells, because they are not yet granular, as they are in more severe cases, when there is cast matter in the tubes, which cast matter begins to be thrown off as the cases progress. Sometimes in rapid cases blood and pus may thus early be discovered; such cases are rather frequent, and almost surely and rapidly fatal.

In the chronic form, the conditions and causes are no less pronounced, but of slower development, the gravity none the less, but a fatal termination equally certain. The symptoms of acute diffuse nephritis—which embrace acute Bright's disease, acute desquamative nephritis, acute tubular nephritis, croupous nephritis, acute albuminuria, the first stage of chronic Bright's disease, acute parenchymatous nephritis, glomerular nephritis, and acute interstitial nephritis—all of which are very

nice distinctions doubtless, and make fine literature, and possibly much reputation, but to the general practitioner are of little or no value. He comes very near the true diagnosis of the case when he tells his patient that he has "*Consumption of the kidneys*," omitting the term tuberculosis for the sake of making himself clear to the understanding of the laity.

The experience of forty years in a general domiciliary practice, embracing a clientele of all conditions, ages and sexes, has led the writer to class as essentially the very large majority of cases of any form of nephritis as of tubercular origin (of course, excluding those acute and transient cases supervening on diphtheria, scarlet fever, pregnancy, cold and exposure, excessive bodily fatigue or nerve tire as essentially non-tubercular), and equally so do I consider the prime productive factor to be the same in diabetic, and polyuric, and glycosuric cases—these latter more directly traceable to heredity; the former to acquired tuberculosis.

The beginning of most cases, according to my experience, occur in the uric acid diathesis engrafted upon an hereditary or acquired tendency to tuberculosis. I have long believed that constitutional mucous inflammations are referable to one of three prime factors—tubercular, diphtheritic, or specific; and by specific, I wish to confine my meaning to syphilis or cancer.

Hay, Keyes and Taylor all stand in support of my position. Certainly most of my cases have been first diagnosed and treated by myself and others as due to conditions in which the first impression was in a breaking down of the kidney, accompanied by over acid urine, with an excess of uric acid; or, more properly speaking, a urine in which uric acid was found to be present, with conditions of oxaluria, in which the elimination of oxalic acid is markedly increased, for uric acid does not exist in the body as such normally—its normal condition being that of a quadriurate of sodium, potassium and ammonium. When these are split up and the uric acid is set free, we have gravel and calculi. Developing inflammatory action in the renal bodies, favoring impaired function and pathogenic and pathological conditions, by the non-elimination of these quadriurates with normal effectiveness, take up another atom of base, are converted into biurates which, being more stable, are deposited in various tissues, especially in the renal bodies, rapidly producing disintegration and consequent decay.

Sir Henry Thompson and Roberts and Gouley, on urethritis, confirm the writer in his

conviction, that excepting those cases which are directly traceable to and are due to gonorrhœa, may be classified as essentially the beginning of and causative of nephritis in some of its multifarious forms, which, if increased by environment and heredity, is doubly so.

These pathological conditions, much of which are due to excessive mental worry, rush and hurry of commercial life—either of which manifests itself in a breaking down of the kidney in the individual or renders his offspring more susceptible—promote the rapid increase of the disease in each succeeding generation until it is known beyond the Atlantic by our altruistic friends as "*The American Disease*."

Also has the writer convinced himself that the unusual use of ice during the summer seasons, so universal now, as compared with the preceding generations, has influenced the tendency to nephritic diseases, by producing arterial pressure by contraction of the larger vessels of the chylipoietic and the thoracic systems, thereby increasing the pressure upon the renal arterioles.

In the year 1848, Dr. Bright first called attention to these conditions, and gave them his name, "*Bright's disease*." He did not enumerate the use of ice as a cause, but his advanced teaching clearly makes it possible to my mind that the use of ice at a season of the year when the conservation of natural forces ordained by our Creator put the use of ice out of harm's way, make it possible to my mind; this was in all probability the genesis of my accusation of the luxury. In the time of Bright, only the few stored away natural ice in winter for use in the summer. It was a luxury the great masses could not indulge; few even of the sick could indulge it; the almost universal custom of the profession was to exclude even cold water from the sick, and such a practice as ice packs in fever would have been regarded as the grossest malpractice. Woodbury would have been hanged as a witch in Salem for advocating his treatment. When we now consider the cheapness and the universal excesses of the ice fiend, every individual is in a manner inviting nephritis by mechanically inducing congestion of the kidneys, which is the first step on the road to inflammation—especially of varieties described as croupous, interstitial, tubular, and parenchymatous, with other and more serious fatty, atrophied and cirrhotic.

None will dispute that cardiac and renal lesions are intimately connected.

Valvular lesions and arterial atheroma produce congestion of the kidneys, and as well

does chronic diffuse nephritis rapidly follow the hypertrophic left ventricle.

In organic bodies, sugar resolves itself into fats and starch; oxygenation of fats constitute tissue building; excess of sugar clogs capillary circulation; nitrogenized fibrin and albumin, unlike sugar, cannot be resolved into their component gases, and still maintain their normal qualities, and decomposition must result, setting free fermentation and decomposition, which, *per se*, obstruct elimination through the capillaries, and clogs those capillaries of the mucous membrane in the renal bodies, which are the first potentiality of acute nephritis in this congestion of the renal capillaries, and the retention of aborted fibrin tissue.

If this is true, as Carpenter and other physiologists indirectly admit—disintegration must ensue, of fatty organizations. And as the kidney is the chief eliminator of all hydrocarbons, a local abnormal condition must result at the most exposed point, which is the kidney body. And when we are informed that the people of the United States are the most enormous consumers of sugar of any or all other nations—519,840 tons annually—may we not infer that chemically sugar is another great factor in the production of Bright's disease or albuminuria?

THE PHYSICIAN THE NATION'S GUARDIAN.*

By J. CHESTON KING, A. B., M. D., Atlanta, Ga.

Since heaven's bow of beauty was first set in the clouds, there has never been held out a more glorious hope than the careful, progressive research that has been introduced into the armamentarium of the physician of to-day.

There has been found and established by clinical experiences remedial agencies in the combatting of dreaded diseases destined now to supersede some time tried professional friend.

From the writings of Herodotus, we glean that the physicians of Egypt were the most learned men and the guardians of their nations. In that early day, they were forced to memorize the six medical books of Thoth—and if they followed closely the precepts contained therein, and the patient died, they were held blameless; but if it were found that a physician departed in his practice from the prescribed rules, and the patient died, he was put to death.

Progress in medical science has gained development rapidly as the ages passed by. Slowly and laboriously physicians have struggled on for thousands of years to acquire a knowledge of the fundamental truths of anatomy, physiology and pathology—and each century has established new and wonderful facts that will survive the corroding tempests of time. The actual volume of new knowledge has grown enormously from century to century—just as capital invested at compound interest for a long term of years—it grows at the same steady ratio. And now, the nineteenth century, void of theoscopic vagaries and sophistries, places upon the physician responsibilities more grave in character than ever before.

Can anything impress us more forcibly with the duty we owe to our nation than the words of Jesus in the book of Ecclesiastes—"The skill of the physician shall lift up his head; and in the sight of great men he shall be in admiration."

The time is now at hand when scientific researches have been crystallized, and their blossoms are merging into luscious fruit. Before the fates seemed ready to have Lister, Pasteur or Koch appear and enunciate their great and everlasting principles of antiseptics and germ theories, the mortality in operations from surgical dirt was placed at 60 per cent. But since we have been able, from the light of these great men, to formulate a systematic method to fight the microscopic enemies of life and health, the world at large has built a monument to this illustrious trio more lasting than brass and loftier than the regal heights of heaven.

Our surgeons in the late Spanish-American war (knowing that ptomaines and leucomaines are chiefly the result of the process of excretion and elimination which are naturally coincident with the life history of the germ, and unless neutralized, destroyed or eliminated in some manner, are as fatal to life and health as the most powerful toxic agents) reduced the mortality from operations, as compared with the civil war from 45 per cent. to 15 per cent.

And these strides in our science have been made in the face of what was thought to be insurmountable obstacles; but, like unto the flame, it burns the brighter in proportion to the resistance which it conquers. And now, on our intellectual sea, there is room for every sail, and in the intellectual air, space for every wing.

For us to fully comprehend how the physician becomes the Nation's Guardian, we will have to first consider the many phases of the

* Read before the Georgia State Medical Association during its annual session, held May, 1900.

world's indebtedness to medicine; and especially to the wonderful improvements that have taken place and are taking place every day in surgery, medicine, obstetrics, sanitary science and practical hygiene. Taken in this extended sense, the physician becomes the Nation's Guardian both directly and indirectly. Directly—by preventing, removing or mitigating diseases. Who is it but the skilled physician that meets those death-dealing epidemics and plagues ere they reach our shores, and, with his strong arm and unflinching nerve, repels them with quarantine regulations? And who but he, after they have set foot on our beautiful and happy land, enters their loathsome abodes, crushing their power and mitigating their ravages?

And who is it that enlists in all of the wars in a mission of saving life and restoring to their nation its young manhood? Echo answers: *Our gallant surgeons*. We see them as they part with those they love. We hear the whisperings and the sweet vows of their eternal love as they part. We see them bending over cradles, kissing their babes farewell. We see them now on the gory fields and in all the hospitals of pain. We see them in the ravines running with blood and in the old fields. We see them bending over the life that is slowly ebbing away. When we consider their mission and compare the ravages of disease centuries ago to what is now, we can begin to appreciate the guardianship of the physician over mankind.

He stands, the guardian of human kind,
Amid the battle plains of dark disease;
With soothing balm to heal the lame and blind,
And power to give the wounded blessed ease.

A soldier dying lay upon the field,
His white lips moving in a faint-breathed prayer;
When lo, a pitying spirit by him knelt,
And dressed the wounds with skilled and tender care.

And one, who else had died, returned to one
Who watched and waited many a weary day,
In pain and anguish, for the soldier son—
Lost to her heart amid the battle fray.

He came alive and strong to mother, wife,
And holy little children, sweet and fair;
And in God's book an angel wrote: "A life,
Saved by a brave physician's timely care."

A mother languishes on painful bed,
And death is covering o'er her dark and cold.
But lo, one comes with firm and gentle tread,
And strikes away the death-king's eager hold.

And twain arise at last—another life
To give to God—its beauty and its prayer—
A link to bind more closely man and wife—
Another victory the physician's share.

A plague is spreading o'er sunny land,
And striking human forms with fever low;
Fear is the watchword now on every hand,
And parched lips moan faint in hopeless woe.

Hark! Through the silence breaks a welcome sound,
A footstep that is springing, firm and true;
And hope spreads snowy wings, and hearts rebound—
And souls are strengthened in their prayers anew.

Beside the stricken the physician stands,
He comes—with guards against the tainted air,
And life and peace within his outstretched hands,
And bravery of heart to do and dare.

Now, once again, the land blooms fair and free,
And health and hope are banners wide unfurled,
The Nation's greatest, higher honor see
Than theirs, upon the Guardian of the world.

Though storms may sweep throughout the universe,
And wound and kill and ravage wild and wide;
He, still courageous, mitigates the curse,
And guards his nation—as he would a bride.

Oh, nation—to him low in hom-age bend,
God bless the brave physician. Who but he
Lives all forgetful of a self—oh end,
And strikes til death for Life and Liberty.

And now let us examine for a few minutes what have been the fruits of the physician's labors, as regards the almost complete elimination of mortality in certain diseases.

What is small-pox to day, compared to what it was before the immortal Jenner; before the advent of vaccination, which he discovered? The death rate of this awful malady was from 50 to 75 per cent., now it is scarcely 15 per cent. And what are the ravages of diphtheria to day, to what they were before the discovery of antitoxine? And until physicians informed the world that the so-called Devonshire colic differed from ordinary abdominal pain, and that it was due to poisoning from lead dissolved in cider—little or nothing was done in the way of prevention. But now you seldom hear of a case of lead colic. And at present there is an army of noble physicians giving their time and their money, and even, in some instances, their very lives, to the study of that "Black Plague," known as "Bubonic Plague," notably among whom was Dr. Camara Pestona, of Lisbon. These men are devoting their lives to the study of this awful disease, in the hope of finding some potent remedy to stay its course or mitigate its ravages. I could, if space would allow, enumerate many other diseases; and, painting humanity, the physician stands as a guarding sentinel. But I will claim your indulgence now for only one other instance of the benefit of physicians to humanity, and that is the improvement which has been wrought in the care and treatment of the insane and feeble-minded. For hundreds of years,

these unfortunate beings were supposed to be possessed by "demons," or to be suffering from witchcraft; and exorcisms were almost the only remedies applied. If these failed them, the stake or gallows was their doom. But now, through the investigations and efforts of a few earnest, thinking physicians, all this has been changed. The majority of the insane are well housed and fed, and receive skilful medical treatment, which in many cases results in their restoration to their friends, "clothed in their right mind."

So, as physicians, it is our plain duty to have a thorough and comprehensive knowledge of our profession, and to so thoroughly educate and skill ourselves, that we may guard and guide the public in all matters relating to the preservation of health and the healing of diseases. The true independence of our beloved country in this and in all other matters relating to her physical and intellectual welfare and progress, must be achieved by enlarging and perfecting our institutions of learning and science, and by the most careful training and the highest moral, intellectual and scientific development of her sons. As the heart in the human body receives the currents of blood from all parts of the system, and having revitalized it, returns it with fresh elements of strength—so the medical profession adopts the children of all lands, only to return to their nation a manhood ennobled by a sense of its own dignity, through the practice of a science which teaches a system of self-government, improving their conditions, promoting their interests, and by this means reaching the goal of all progress.

Two thousand years were required before mind could rule matter—and now we recognize that no civilization is complete without well-digested medical science. The spirit of progress has been sailing with her ships in every sea, and visiting all lands. And I can say with a feeling of pride and a just compliment to the medical profession; that every physician is the *sole proprietor of himself*, and that no party or organization has *any deeds of trust on his brain*. In its ranks are to be found the blossoms and fruits of the world's best good, and gems of the human soul, filling the whole intellectual heavens with unbridled thoughts, and thereby being the devoted guardians of their nation.

So if it be ours to solve the great problem of life, should we not have recognition in the nation's cabinet? Would it not be a deserved compliment to our profession? Would there not be more general information on the *life*,

liberty, and *property* of our citizens? Would not the foundation of our grand Temple of Investigation be made more secure? For, unfortunately, there are men who are sent to our nation's capital, who endeavor to enact laws staying the wheels of science—and who look upon progress as a *phantom of the imagination*. So let us be in accord with the article recently published by Dr. W. W. Keen, "Let the Medical Profession Make Itself Felt at Washington." The time is at hand for us to act, and let this Association frame a set of resolutions, protesting against the passage of the Gallinger bill, and instructing our Senators and Congressmen as regards its deleterious influence on the progress of our profession.

To quote Dr. Keen: "The cause of humanity and of scientific progress is seriously menaced. Senator Gallinger, a former homoeopathic physician, has again introduced into Congress the bill for the 'Further Prevention of Cruelty to Animals in the District of Columbia,' which he has so strenuously and misguidedly advocated in the last two Congresses. Twice the Committee on the District of Columbia has also unfortunately and misguidedly reported the bill with a favorable consideration.

"The bill is drawn as if it were only intended in the interest of prevention of cruelty to animals. The real object of the bill is two-fold—first, to prohibit vivisection, and secondly, to aid the passage of similar bills in all State Legislatures. I need hardly point out to you that this would seriously interfere with or even absolutely stop the experimental work of the Bureau of Animal Industry, and the three medical departments of the Government—the Army, the Navy, and the Marine Hospital Service. No more humane work can be done than to discover the means of prevention of diseases which have ravaged our flocks and herds. The inestimable value of these scientific researches as to the prevention and cure of diseases among human beings, it is superfluous for me to point out. Modern surgery and the anti-toxine of diphtheria alone, would justify all the vivisection ever done."

In conclusion, Dr. Keen, as President of the American Medical Association, makes this appeal:

"It is especially requested also that all of the National, State, and County Societies at their next meeting take active steps looking towards the same end. If regular meetings are not soon to be held, special meetings should be called. Petitions should be addressed to the Senate of the United States."

So it is incumbent upon us as a progressive organization to act in this matter at once.

There is room in our scientific investigations for every wing, there is room on our sea for every sail. The true physician's life says unto him: "Let your soul be like an eagle—fly out in the great dome of thought, and question the stars for yourself." I want no grander, nobler, holier title, than that I belong to that class of scientists, whose object is to develop the value of the individual man to his nation—and that no longer with us the doctrine of the epicurean philosophers prevails: "Let us eat and drink, for to-morrow we die;" but that we are working out the problem of life with science to guide our thoughts.

And now in closing these scattered remarks, I beg to remind you that great as is the debt of the nation to the physician for the saving of life and mitigating suffering, this sinks into almost insignificance in comparison with the indirect benefit to the world. For his influence extends far beyond saving of life and relieving pain. The work of statesmen and the leaders of human thought and progress are often dependent upon his aid—for medicine is the parent of the biological science, including anthropology and modern sociology.

Proceedings of Societies, etc.

RICHMOND ACADEMY OF MEDICINE AND SURGERY.

Regular meeting held May 8, 1900, Dr. William T. Oppenheimer, President, in the chair. Dr. Mark W. Peyser, Secretary and Reporter.

Dr. A. G. Brown read a paper on *Cerebral Gout*. [See page 116.]

Fracture of Base of Skull with Recovery.

REPORTS OF CASES.

Dr. J. W. Henson reported the following case of fracture of the base of the skull, with recovery:

On March 23, 1900, he was called to see a young white man of about thirty years of age, who, while out driving in a condition of intoxication, had been thrown from his buggy, and had received a cut about two inches in length, running from an inch above the left ear downward and forward to an inch or more in front of the same ear. He was bleeding a little from both ears, and his friends stated that there had been blood from his nose and mouth. There was no depression of bone at the cut above mentioned, which healed promptly without a drop of pus, the stitches being removed on the

fourth or fifth day. The pupils were perfectly normal in every way; respiration, 18; pulse, 100; and the brain as clear as that of any drunken man. In addition to other instructions about treatment, the patient's mother was particularly enjoined to keep him quiet.

The next morning, the man appeared perfectly well, except for some ecchymosis in the eyelids, and a slight oozing of blood from the left ear following any movement of the head. His condition remained the same until about the fourth day after the injury, when it was noticed that the left orbicularis palpebrarum was paralyzed, and that the tongue deviated when protruded. Absolutely no other muscles were affected. The oozing of blood from the left ear continued at intervals for nearly a week.

On the ninth day after the accident, Dr. Henson found the patient out of doors, in spite of repeated and positive instructions to keep very quiet.

On the following morning, April 2d, he was apparently all right, except the paralysis above described; but, in the afternoon, responding to an urgent summons, the doctor found him suffering from a severe pain over, or rather under, the seat of the then perfectly healed cut. The face was flushed, the pulse full and about 120 per minute, and the temperature 103° F. Fearing meningitis, a purgative was given, and an ice cap ordered. No other medicine was given that night because of constant vomiting.

April 3d, the patient was in a state of collapse; the whole surface cold and clammy; and the pulse 160 per minute, and very weak. Stimulants were administered per rectum without effect. At 10 P. M., the pulse was almost imperceptible. About half a pint of hot normal salt solution injected into the cellular tissue of the thigh caused some reaction—very little.

On April 4th, the condition was about the same as during the greater part of the previous day—vomiting unabated. At 10 P. M., a blister was applied behind the left ear. The next day decided improvement was manifest; the surface was warmer, pulse 140, and the vomiting had nearly stopped.

A day or two after this, noticing a hacking cough, Dr. Henson examined the lungs. Over the lower lobe of the right lung, and even higher, there were found bronchial breathing and a very dull note on percussion, with absence of vesicular murmur. It was then recalled that during the prolonged condition of collapse the man had lain with his trunk flexed and inclined to the right, so that his

right side was constantly down in a hole in the bed. If his position was changed, he would quickly resume it. The lung complication was diagnosed as hypostatic pneumonia. In spite of carbonate of ammonium, iodide of potassium and whiskey by rectum, aromatic spirits of ammonia by mouth, inhalations of oxygen gas, and a very fair amount of milk and animal broths, well retained, there was scarcely any improvement for several days.

On April 12th, the pulse was 140, respiration 40, and the temperature 100° F. The temperature was never higher than 101° F. after April 2d. On April 16th, the paralysis of the orbicularis palpebrarum disappeared, and the tongue no longer deviated when protruded. Rapid improvement dated from this time. The temperature, pulse and respiration soon became normal. By April the 20th, or soon thereafter, the right lung was fast clearing up. The case was undoubtedly one of fracture of the base of the skull.

Though the early symptoms pointed to fracture of the anterior as well as the middle fossa, the longer he thought over it the less he believed the anterior fossa was involved. The bleeding from the nose and mouth must have been very little, as there was none upon his arrival. This blood must have come by way of the Eustachian tube. That the petrous portion of the temporal bone was fractured, was proven not only by the bleeding from the ear, but by the paralysis of part of the facial nerve.

He believed the pressure causing the paralysis was exerted somewhere in the aqueductus Fallopii, and he was equally well satisfied that the facial nerve *only* was involved. If pressure on the cerebral cortex had been the cause, the paralysis would have been on the side opposite to the injury. There was some intracranial pathological condition, possibly in the posterior fossa, causing the symptoms on and after April 2d, but he did not believe this had any etiological connection with the paralysis, for the latter made itself manifest six days before the former.

The symptoms indicating intracranial trouble, very strange to say, did not appear until ten days after the injury—three days after all oozing from the ear had stopped, whereas the paralysis was apparent four days after the accident. Further, if an effusion into the posterior fossa had been the cause of the paralysis, it was unlikely that the facial nerve would have been the only one involved. It was also unlikely that only the hypoglossal and part of the facial should have been

affected by trouble in this region, because neither at their origin (superficial or deep), nor in their course through the posterior fossa, were they as close together as each was to other nerves.

Dr. Henson said he found that his belief that paralysis of the facial would cause deviation of the tongue, was supported by good authority. Hirschfeld, Morris, Gerrish and others described a *lingual* branch of the facial nerve which was distributed to the tongue and to the stylo-glossus and palato glossus muscles. Ranny, in his "Applied Anatomy of the Nervous System," said that this might explain Bernard's observation that paralysis of the facial nerve, after section, produced deviation of the tip of the tongue.

Diurn I Enuresis Cured.

Dr. A. L. Gray reported the following case of enuresis, which he considered important for two reasons: First, because it was of the diurnal, rather than of the nocturnal type; and, second, because it illustrated how very readily some of the apparently obscure cases responded to treatment when the cause was correctly ascertained:

On June 7, 1899, he was called to see Horace B., white, aged seven years, and an unusually bright and lively little fellow. His mother said that about two years previously he had two convulsions, the cause of which was not clear, and that about six months thereafter he began to pass his urine involuntarily. At first, he would wet his clothing probably at intervals of a day or two. In a short while, however, the trouble became worse; and he soon seemed to lose control entirely of his sphincter, there being a constant dribbling of urine during the daytime only, causing the necessity for frequently changing his clothing only to be again saturated in a very short while. This condition of affairs continued, in spite of the use of various simple remedies; and various physicians were consulted, who examined him physically for adherent prepuce, phymosis, pin worms, etc., and also for spinal lesions; and, finding nothing, had dismissed the mother with an expression of the belief that he would finally "outgrow" his trouble, or prescribed some empirical remedy.

Upon careful inspection of the little patient, and finding no apparent physical cause, Dr. Gray made several very careful examinations, both chemic and microscopic, of the urine, and found both to be negative, save for the presence of very decided hyperacidity, and a few uric acid crystals, the specific gravity ranging from

1026 to 1030. Whatever the original cause may have been, he decided that three factors combined to produce the then present trouble, viz: First, habit; second, the hyperacid urine coming in contact with the too irritable neck of the bladder, and causing reflex relaxation of the vesical sphincter; third, loss of tone of the latter muscle, and an absolute forgetfulness, as it were, of the mode of controlling it. Treatment was, therefore, directed along these lines, making a very guarded prognosis. He had the mother call the boy in, at first every hour during the day, to attempt, at least, to urinate. This was very readily carried out, as he was very anxious to get well, and willing to help as much as possible.

The patient was then given thrice daily a small dose of potassium bicarbonate, to render the urine less acid, and a single dose of a solution of strychnine and atropine on rising. The diet was restricted, eliminating proteid foods as much as possible to prevent uric acid formation, and allowing such others as were most easily digested.

On the third day of the treatment he only wet his clothing once, and from this date till the next visit, which was a week thereafter, had wet them only twice. The morning dose of strychnine and atropine was then increased, and at the same time the intervals between his visits to his mother to urinate were lengthened. At the expiration of two weeks, when the next visit was paid, he had entirely regained his lost control, and, after continuing the treatment, in all, about five weeks, he was gradually allowed to return to his former diet, given a tonic of iron, strychnine and quinine, and all other treatment suspended. The urine, at this time, was normal both in gravity and reaction.

Up to the present time, he had had perfect control of his urinary apparatus save on two occasions. One of these was in September last, when he scalded his hand pretty badly. This was attended by a high fever the following night; and the next day, he was troubled once or twice, but no treatment was given, and that was the last of it until the past Christmas when he made himself sick eating various confections and other holiday food. This attack was transient also, and at present, from a weakling in whom every rib was easily visible across the room, he was as plump and solid as any child, and seemed to be in perfect health.

Book Notices.

International Text-Book of Surgery by American and British Authors. In Two Volumes. Edited by J. COLLINS WARREN, M. D., LL. D., Professor of Surgery in Harvard Medical School, etc.; and A. PEARCE GOULD, M. S., F. R. C. S., Lecturer on Practical Surgery and Teacher of Operative Surgery, Middlesex Hospital Medical School, etc. Vol. I. *Regional Surgery.* With 471 Illustrations in the Text, and 5 Full-Page Plates in Colors. Philadelphia: W. B. Saunders. 1900. Large 8vo. Pp. 1072. Cloth, \$5 net; Sheep or half-morocco, \$6 net.

The first volume, on "General Surgery," was noticed a few months ago in this journal; now the second volume, on "Regional Surgery," is issued to complete the work. No one who examines the finished *Text Book* can fail to speak of it in words of highest praise. Volume II contains thirty three chapters, each referring to surgery of different parts or organs, or else describing special conditions, as hernia, gonorrhœa, syphilis, etc., or else relating to military or naval surgery, traumatic neurosis and tropical surgery. While the work is too large for a college text book, it will serve a most valuable purpose as a reference book during the college course; but its great utility will be as the *text-book of the practitioner* who has to deal with surgery or surgical diseases. The descriptions of surgical conditions and treatment are all made in plain intelligible language; and when help to understanding of the text is needed, well selected and well drawn illustrations are profuse, and leave no doubt as to the meaning of the several contributors. This "*International Text Book of Surgery*" is compelled to find favor with surgeons generally, as each of the contributors is an author of distinction whose opinions are those of authority. The publisher, as usual, has done his part well—sparing neither expense nor trouble in issuing attractive volumes. A double column Index of nearly 30 pages renders great assistance when ready references have to be made to subjects treated of in the volume.

Surgical Pathology and Therapeutics. By JOHN COLLINS WARREN, M. D., LL. D., Professor of Surgery in Harvard University, etc. *Illustrated. Second Edition, with an Appendix.* Philadelphia: W. B. Saunders. 1900. 8vo. Pp. 873. Cloth, \$5 net; half-morocco, \$6 net.

While the body of the book is practically a reprint of the former edition, issued in 1895, we find an addition of about 50 pages in the *Appendix*, "containing an enumeration of the

scientific aids to surgical diagnosis, together with a series of sections on *regional bacteriology*." The author throughout the work associates "pathological conditions as closely as possible with the symptoms and treatment of surgical diseases." This treatise has become the textbook in many colleges, while it is recognized authority with practitioners generally. When a third edition is called for, we suppose that, as far as practicable, the author will embody in the text what he has now set aside as an Appendix. As compared with the former edition, the price of this second edition is one dollar less in either style of binding than the first edition.

Twentieth Century Practice. Edited by THOMAS L. STEDMAN, M. D., New York city. In *Twenty Volumes*. Vol. XIX. *Malaria and Micro-Organisms*. New York. William Wood & Co. 1900. 8vo. Pp. 828. Cloth. Price \$100.00 for the series of Twenty Volumes.

Each Volume of this *International Encyclopedia of Modern Medical Science by Leading Authorities of Europe and America* "has appeared with marked regularity each three months since its publication was begun in 1896. It was the intention of the Publishers to have issued this Nineteenth Volume over a year ago, but about the time for its preparation by the authors, discoveries regarding the malarial parasite so modified views, formerly held, in several essential points that it was found necessary to delay the final preparation of the articles on *Malaria* in order to include the latest of developed facts. It may now be stated that the present volume includes all that has been brought out to date, and gives a new light to the entire subject. The other division of the volume on *Micro-organisms* is likewise up to date. Drs. Amico Bignami and Ettore Marchiafava, of Rome, Italy, are the authors of the articles on *Malaria* and *Malarial Diseases*. Dr. Simon Flexner, of Philadelphia, contributes the most of the articles on *Micro-organisms*, while Dr. Eugene L. Opie, of Baltimore, is the author of that part of this section relating to *Protozoa*. We look upon this volume—taking up so many of its pages with *Malaria and Malarial Diseases*—as one of the most important to the general run of practitioners in the Southern States. And yet we cannot say that the views of the authors on this subject are in full accord with the clinical experiences of many experienced and studious practitioners in malarial districts of America. For instance, there are some able men in practice in malarial districts where yet typhoid cases also occur

who believe in the naming of some cases that occur in their practice as *typho malarial fever*. This term is not even indexed in the book before us. The authors have depended almost entirely upon the writings of foreigners—quoting only a few American authorities whose writings agree with their own views. Such a book ought to have headed the teaching. "Hear the other side."

Anatomy of the Brain. *Text-Book for Medical Students.* By RICHARD H. WHITEHEAD, M. D., Professor of Anatomy in the University of North Carolina. Illustrated with *Forty-One Engravings*. 6½ x 9½ inches. Pages v-96. Extra Vellum Cloth, \$1.00 net. The F. A. Davis Co., Publishers, Philadelphia, Pa. 1900.

After examination of these pages, the reader sees that the aim of the author to present a "clear, accurate and concise account of the anatomy of the brain, to be used as a guide in the study of that organ," has been accomplished. Minor details, which only confuse the student, have been omitted, and subjects that yet remain in controversy have been excluded. There are but few beside the able author of this book who could so well have written such a work. Every page is a clear demonstration of the matter in hand—said in such a way, too, as not to make it difficult to remember. While there may not be a large purchasing demand for this book, it is yet one of veritable value to students undertaking the study of brain anatomy or physiology, as well as to the surgeon or neurologist who has to localize centres.

Principles of Treatment and Their Applications in Practical Medicine. By J. MITCHELL BRUCE, M. A., M. D., F. R. C. P., Physician and Lecturer on the Principles and Practice of Medicine, Charing Cross Hospital, etc. Adapted to the *United States Pharmacopœia*. By E. QUIN THORNTON, M. D., Demonstrator of Therapeutics, Pharmacy and Materia Medica, Jefferson Medical College, Philadelphia. Lea Brothers & Co. Philadelphia and New York. 1900. Cloth. 8vo. Pp. 614. \$3.75 net.

We look upon this as one of the most useful books in which the practitioner can invest a few dollars. It is a book worthy of his reading, from cover to cover; for if he does so with studious intent, he will learn many facts, and receive numerous valuable suggestions that he can carry with him to the bedside for the good of his patient. It is an attempt to teach the student *the principles* which should govern his

prescriptions, after careful inquiry into the causes and symptomatology of disease in a given case, and after satisfactory diagnosis has been made. The plan of the work may be better understood by this quotation from the Preface: "It starts by assuming no therapeutic laws, but proceeds to find them in the familiar facts of ætiology, pathological anatomy and the clinical characters of disease. These are carefully examined for the elementary principles of treatment; and in the course of the enquiry the student is taught how he may himself employ his observations as guides to practice. Having mastered the most simple therapeutic principles, the reader is led up to higher generalizations, which relate to the nature of diseases, and its proper relation to treatment." While it is best to read this book from the beginning to the end, a synoptical index is added which greatly assists one in his search for the item desired.

Text-Book of Diseases of Women. By CHARLES B. PENROSE, M. D., Ph. D., Professor of Gynecology in the University of Pennsylvania; Surgeon to the Gynecean Hospital, etc. *Illustrated. Third Edition, Revised.* Philadelphia: W. B. Saunders. 1900. Cloth. Svo. Pp. 531. \$3.75 net.

This is a valuable work for the general practitioner; and it would be well for the more radical class of surgeons to learn the conservative lessons of this book written "for the medical student." And yet the author is not over conservative, for he recognizes the necessity for operations, and advises them under proper circumstances. Perhaps a criticism may be made of the fact that he gives, as a rule, the details of rarely more than one operation for a given condition—thus not allowing something of a choice between operations. For instance, in cases of extension of the uterus when these chronic conditions of prolapsus, etc., without adhesions, he says nothing of Alexander's operation for shortening the round ligaments in the inguinal canal—an operation we have known to be successful in several instances. We especially commend this book to the doctor because as a gynecologist he combines the wisdom of the physician and the skill of the surgeon. Questions of causation, symptomatology, and diagnosis are likewise well discussed. A few additions and thorough revisions of former editions have been made which brings this third edition well up to date. The popularity of this work is shown by the rapid exhaustion of the two preceding editions

—the first of which was issued scarcely four years ago. We know of no book that will prove a better guide for the young gynecologist than this one.

Editorial.

The American Medico-Psychological Association,

After a four-day's session (May 22-25 inclusive) at the Jefferson, of this city, adjourned their fifty-sixth annual meeting to assemble again during May of next year at Milwaukee, Wis. There was in attendance a very large gathering of some of the most prominent and influential neurologists of the country, and with few exceptions, the larger asylums were well represented. The body was promptly called to order the first day by the President, Dr. Joseph J. Rogers, of Logansport, Ind. Addresses of welcome were made by Governor Tyler, and Mayor Taylor, and in behalf of the medical profession, Dr. J. N. Upshur also welcomed them. President Rogers, in his address, dealt with the preservation of the medico-psychological teachings, and the designing and construction of homes and institutions for the feeble minded and insane.

The officers elected for the ensuing year are: *President*, Dr. P. M. Wise, of New York, N. Y.; *Vice-President*, Dr. R. J. Preston, of Marion, Va.; *Secretary and Treasurer*, Dr. C. B. Burr, of Flint, Mich. Dr. Edward N. Brush, of Towson, Md., was elected a committee of one to effect arrangements for the admission of this Association into the American Congress of Physicians and Surgeons, which meets tri-annually. Owing to the lack of time, many papers had to be read by title only.

The Journal of the American Medical Association.

The Atlantic City Number—May 19—of the above *Journal* comes to us with about 72 pages of reading matter—every one of which is filled with articles of profit and items of interest. Many of its pages are devoted to the programme of the session of the American Medical Association, which is to convene at Atlantic City, N. J., June 5-8, 1900. The American profession was exceedingly fortunate in their selection of Dr. George H. Simmons as editor of their representative *Journal*, which compares favorably with any medical journal published in this or any other continent. It should not

be forgotten by the "regular" doctors that a paid up membership in the American Medical Association secures this \$5 weekly for the year

American Proctologic Society.

The following officers were elected by the American Proctologic Society at Washington, May 5, 1900: *President*, Dr. Jas. P. Tuttle, New York, N. Y.; *Vice President*, Dr. Thomas Charles Martin, Cleveland, Ohio; *Secretary*, Dr. William M. Beach, Pittsburgh, Pa.; *Executive Council*, Drs. S. T. Earle, Jr., Baltimore, Md.; A. B. Cooke, Nashville, Tenn., and J. R. Pennington, Chicago, Ill.

The Fourth Tri-Union Meeting of the Virginia Dental Association, the District of Columbia Dental Society and the Maryland Dental Association

Was held at the dental lecture rooms of the University College of Medicine, May 10-12. There were about one hundred dentists present, including many prominent visitors from other societies. On account of the large number of papers presented, many of them had to be read by title. Much time was taken with attendance upon clinics. The exhibits of the various dental manufacturing companies were unusually fine, and attracted much attention. Numerous entertainments were provided, among the number being an elaborate banquet served at the Jefferson Hotel the night of May 11th.

The Virginia State Dental Association will hold their annual meeting at Old Point, Va., beginning July 10th, at which time the National Association meets there.

Dr. W. B. Pritchard,

Who has been for twelve years associated with Dr. Landon Carter Gray, of New York city (No. 6 East 49th street), succeeds to his practice. In the obituary pages, our readers will regret to find that the great neurologist of America is dead. The long association of Dr. Pritchard with Dr. Gray is proof of what Dr. Gray thought of him as a man and as a neurologist.

Zeiss Microscope for Sale.

Dr. M. D. Hoge, Jr., 308 East Grace Street, Richmond, Va., has for sale a first class Zeiss microscope, with three oculars, four objectives, one Abbé condenser—all complete and in good order. It was the property of a recently deceased doctor. We are assured that the purchaser will secure a bargain.

Bubonic Plague

Has been officially announced to exist in San Francisco, California, by both the local and State Boards of Health, and by the United States Marine Hospital Service. Surgeon Kin-young, of the latter Service, reported as suspicious, a case of death as early as March 8th, and on March 11th, he announced having found the plague bacillus. Since then, there have been a number of cases with six deaths resulting. So far as is known, the disease has occurred only in the Chinese districts of the city. Surgeon General Wyman, of the Marine Hospital Service, has directed Surgeon Kin-young, together with the four additional medical officers sent to help him, to co-operate with the local and State Boards.

It is stated that the Bureau in Washington, D. C., has ordered to be sent to San Francisco a large number of bottles of Haffkine's preventive, and also a large quantity of curative serum with the hope that the infection may be cut short.

Obituary Record.

Dr. Elhanon W. Row

Died at his home, at Orange, Va., May 23, 1900—his death being attributed to pneumonia, following a series of grippal attacks. He was born in 1834. He served as surgeon in the Confederate Army during the entire war—1861-5. After the war, he began private practice at Orange, Va., where he rapidly rose in prominence as a physician, and was beloved by the people. He joined the Medical Society of Virginia in 1874, and took an intense interest in its success until his death. He was a member of the Legislature of Virginia, 1883-4, which established the Medical Examining Board of Virginia. In 1888, he was elected President of the Medical Society of Virginia, and at the expiration of his term in 1889, he was elected an Honorary Fellow of the Society. Three or four years ago, his health broke down, but it was restored after a residence of some months in Florida. Dr. Row was a positive man, and yet his genial disposition was such as to make him easily approachable by any who had views to present or arguments to convince. He was the life of any organization with which he was connected. Those who have met him in the sessions of the Medical Society of Virginia will miss him hereafter. His friends were legion.

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Original Communications.

SOME MOOTED QUESTIONS IN PROCTOLOGY.*

By A. B. COOKE, A. M., M. D., Nashville, Tenn.,

Fellow American Proctologic Society; President of the Nashville Academy of Medicine, etc.

In spite of the more single-minded concentration of thought and effort which the various specialties have rendered possible, medical knowledge is even yet in a state more or less chaotic. Along every line crystallization is a consummation devoutly to be wished.

Though, comparatively speaking, it is still a mere infant, these observations apply with equal—I had almost said peculiar—force to the specialty of rectal diseases. Not even the anatomy of the organ involved escapes disputation, and the most elementary questions of pathology and treatment are regarded from widely different points of view. As I conceive it, this Society could be actuated by no worthier purpose than to discuss in friendly spirit, and if possible, harmonize, these various conflicting views. Certainly, in proportion as its deliberations are characterized by unanimity, will they be regarded as a authoritative, and the influence of the organization be broadened.

It will ill become me at this time and in this presence to indulge in criticism of a personal nature, and I distinctly disclaim any such intention. My object is rather to call attention, simply, to a few of the more conspicuous instances of disagreement with the hope that a free discussion may prove profitable to us individually and as a body.

ANATOMY OF RECTUM.

At first glance, it would scarcely seem possible that confusion and uncertainty could exist with reference to the anatomy of the rectum.

* Read at the Second Annual Meeting of the American Proctologic Society, held in Washington, D. C., May 2, 1900.

In this one particular, at least, the most exacting demands as to accuracy and definiteness of knowledge are warranted. Yet, strange to tell, uniformity of opinion is sadly lacking. Many points of confusion in nomenclature might be cited in illustration, but these are comparatively unimportant. The most noteworthy—and deplorable—instance is to be found in the contradictory views entertained with reference to the existence of the rectal valves. Speaking of the rectum as an entity, it is scarcely to be credited that its most conspicuous anatomic feature should to day be the subject of denial and dispute. True, in order to demonstrate these structures, some departure from the ancient methods is to be employed both in examinations and dissections. But in view of the wide publicity which has been given these improved methods of research, ignorance cannot be pleaded as an excuse. A woeful point in presumptuous omniscience has been reached when the accumulated testimony of many observers cannot even command a hearing.

Elsewhere I have stated my personal convictions upon this subject and given reasons for the faith that is in me. Here it may not be improper to say that, in my opinion, this is the most important question before us at the present time. The difficulties which invest it are for the most part imaginary, and the issues involved in its solution are all but vital. Concerning the etiology and pathology even of some of the commonest rectal diseases, we have long groped in the mazes of fruitless theory. And those of us whose ambition for specialty and conception of its dignity rise above the level of the "pile" proposition, should set ourselves first to determining the truth and then to establishing it.

Physiology.—With respect to the function of the rectum, certain points of interest and importance remain unsettled. The mechanics of defecation has received little consideration either at our hands or those of the physiologist; and so far as recorded, that little is by no means conclusive. Here the valve question again

presents itself, and an additional inspiration to its study is offered.

The mooted questions in the etiology, pathology and treatment of rectal diseases scarcely permit of separate classification. Instead of attempting this, I shall select a few of the more prominent ones, discussing them briefly under the diseases to which they pertain.

PRURITUS ANI.

What is this—a disease in itself, or merely a symptom? Does the term refer to the subjective sensation of itching, to the changes produced in the parts by scratching, to these phenomena taken together, or to a distinct disease with an etiology and pathology all its own? One authority views the subject from one standpoint, another from another. The result is a state of confusion greatly to be deplored. It occurs to me that a perfectly natural and proper solution of the points at issue might be found in the etymology of the term itself.

Considered in this light, only one conclusion is possible. Pruritus means simply itching, and, strictly speaking, itching wherever located cannot be regarded otherwise than as a symptom. This is in perfect accord with what I hold to be the truth with respect to pruritus ani—namely, that it is practically always a symptom originating in a macroscopic lesion. True, such lesion may be but the local expression of some other disease, as diabetes mellitus; but the lesion rather than the disease to which it may be attributable is the real etiologic factor in the pruritus. In the light of modern research, the neurosis and neuritis theories which would make of any localized itching a disease *sui generis*, seem to me utterly untenable. It cannot be questioned that cases are occasionally met with in which the most painstaking examination fails to disclose a pathologic condition of the affected organ. But in such cases it is only necessary to remember that the contents of the pelvis and the integument of the pelvic outlet receive their sensory nerve supply either directly or indirectly from the same portion of the cord, and consequently that the reflexes should always enter into our calculations.

Regarded from this view-point, the treatment of pruritus ani becomes a more definite proposition, presenting as the first requisite to success, accuracy of diagnosis. And the cases in which destructive attack upon the region of the pathologic sensation is justifiable, must be few indeed.

SIMPLE ULCERATION.

There is no contention as to the frequency

of this disease in the anal canal; with respect to the pouch of the rectum, however, no such uniformity of opinion exists. One prominent author whose views on any subject connected with this branch command universal attention and respect introduces his chapter on "Ulceration," with this terse and emphatic sentence: "Simple ulceration located above the sphincter muscles is a very uncommon disease." To what extent does that statement represent the experience of this body? Certainly my own has been the very opposite. In fact, I have encountered few diseases of the rectal pouch as often as simple ulceration. Without entering into discussion of the nature of the disease, the many etiologic factors conducive to the pathology involved would seem to offer sufficient explanation of this frequency.

It is probable that the different views entertained upon the subject spring from different conceptions of the meaning of the term ulceration. It cannot be arbitrarily defined as a circumscribed ulcer, and every disease process which does not conform absolutely to this type called something else—*e. g.*, erosion or abrasion. This is merely playing with words. No such discrimination is to be found in any lexicon of recognized authority. An ulceration is an ulcer, and, correctly speaking, an ulcer is any solution of continuity of an epithelial surface produced by pathologic changes in the part affected. Viewed in this light, I venture to believe that the clinical experience of every member of this Society is opposed to the teaching that simple ulceration of the rectal ampulla is a "very uncommon disease."

BENIGN STRICTURE.

Broadly classifying stricture of the rectum as malignant and benign, the most important mooted question concerning the latter has reference to etiology. What part does syphilis play in the causation of this disease? One writer maintains that it is responsible for fully 60 per cent. of all cases; another fiercely disputes the correctness of this proportion; and others simply recognize syphilis as a factor without committing themselves as to the frequency with which it is operative. The question presents several inherent difficulties. Chief among these is the fact that stricture cases rarely come under observation until beginning obstruction with its concomitant symptoms has developed, and when first seen practically all varieties of benign origin present the same gross and microscopic features. And again the history of these cases with respect to the constitutional disease is very often

incomplete and may easily be misleading. In very many—perhaps most—instances, the case must be judged from its clinical aspects solely. Is the presumption justifiable that it is syphilitic merely because malignancy has been eliminated? In spite of the recent estimate that from five to seven million people in the United States alone are the subjects of syphilis, I think not. In the absence of a clear history or conclusive clinical evidence we assume a serious responsibility when we pronounce judgment upon purely theoretical grounds.

The relations between the semilunar valves and rectal strictures should be mentioned here. Those of us who admit the existence of these structures, and accept the truths of their pathology are often spared the disagreeable necessity of suspecting our patients or their ancestors of immorality.

RECTAL CANCER.

I shall only invite your attention to one other question: How shall we treat rectal cancer? One proposition, at least, in this connection is received with universal assent, viz., that extirpation is the procedure indicated when it is possible to remove the entire affected area. But, unfortunately, this possibility is a rare one, and can seldom be positively determined in advance. Laying aside the limited number of cases in which the idea of excision may be properly entertained, there remains the large and hopeless class which constitutes the vast majority, in which the disease process has invaded neighboring parts, and death from obstruction or exhaustion is threatened. What have we to offer in these cases? Are we justified in recommending colostomy or, as a pitiful alternative, shall we confine our surgery to the ever-increasing use of the hypodermic syringe? Both sides of the question are ably defended. Those who advocate the palliative plan of treatment do so with considerable show of reason since the operation of colostomy is a hazardous one, and in no sense curative. But, as I conceive it, the paramount consideration here is the value of human life. Viewed in this light, when we cannot save life it is clearly our duty to prolong and render it comfortable by every means in our power. And assuredly, as offsetting this duty, no refinements of sentiment are entitled to weight.

The real question at issue then is whether or not colostomy accomplishes these ends. Without consuming time with the arguments pro and con, I leave the question with you, only begging to remind you that, while cancer is by no means so frequent as some other rectal dis-

eases, it is yet sufficiently so to merit our most serious attention.

How shall we treat our cancer cases?

In conclusion, Mr. President, I desire to repeat and emphasize one introductory remark. The object of this brief essay is merely to call attention to a few of the mooted questions relating to our special department of work. If it elicits a free general discussion my purpose will be fully accomplished.

161 N. Cherry Street.

MUCOUS DISEASE.*

By PHILIP F. BARBOUR, A. B., M. D., Louisville, Ky.,

Professor of Diseases of Children, etc., Hospital College of Medicine, Louisville, Ky.

Mucous disease is characterized by an irregularly occurring profuse discharge of mucus from the intestinal tract, accompanied by more or less marked nutritional disorder. Its clinical features have been worked out by Eustace Smith, Goodhart, and other English observers who have the opportunity of seeing many such cases. It is not of such frequency in this country, and our text-books do not devote much space to its consideration. A great deal may be inferred from the few words with which they dismiss the subject, that these cases often last into adult life.

The etiology is usually referred to an inherited tendency, either of the lithemic diathesis (hence its great frequency in England), or of the neurotic diathesis, in which it is related to a number of nervous affections. Goodhart describes it as one of the abdominal neuroses. It follows pertussis, perhaps, more frequently than any other of the infectious fevers, and it is also more common after severe diarrhoeal diseases.

Pathologically, no lesions of any importance are discoverable in the intestinal mucosa. Even the omnipresent micro-organism seems to play a very minor part in the disease.

Symptoms, etc.—There is quite a variation in the intensity of the symptoms from the simpler forms, in which the only feature is the passage of a mass of mucus at more or less regular intervals, up to the more severe attacks which are attended by nausea and vomiting, colic, prostration, etc., lasting a week or more.

It must not be forgotten that the mucous membranes of the child are more prone to catarrhal conditions or inflammations than in the adult, as evidenced by the tendency to

*Read before the Kentucky State Medical Society, May 17, 1900.

coryza, pharyngitis, bronchitis, and enterocolitis. Inflammations of the mucous membranes are more apt to extend by continuity and contiguity of structures in the young. The excessive formation of mucus which is peculiar to the child is not necessarily indicative of an inflammation; it is the result of the great number and the functional activity of the goblet cells which are situated in the mucous membrane. They are hyperactive during infancy and early childhood.

In addition to this, we find that the tissues of the intestinal canal, as well as of other parts of the body, are especially rich in mucin in the child, and this mucin is thrown out into the alimentary canal, where it, unfortunately, furnishes a good culture medium for the growth of various organisms.

In mucous disease, we find an exaggeration of this tendency to form mucus, so that at intervals there is a discharge of large masses of this substance, which may be stringy from the presence of mucin, or which may be almost organized and tough and membranous.

A child suffering from this complaint will present *symptoms of malnutrition*. The skin will be dry and scurfy, sometimes showing brownish discolorations. The sleep will be restless and disturbed, and other signs of intestinal irritation will be present—such as picking the nose, gritting the teeth, pallor of the upper lip, etc. There is frequently nausea and vomiting; the appetite is capricious and irregular. Food is often eaten ravenously, yet fails to yield its nutritive properties. The abdomen is distended by gas.

The nervous symptoms include change of disposition, loss of memory, irritability of temper, and lack of attention. Melancholia and epilepsy, and even organic nerve affections, may be seen. The urine is scanty and high colored, usually containing an excess of urates. Indeed, the disease is much more frequent in families of distinctly gouty or rheumatic diathesis.

Just previous to the passage of the mucus, *the tongue* will be found abnormal and the *breath* sweetish or offensive. The more usual condition of the tongue is as if it were glazed. The tip is smooth and shiny; the filiform papillæ are shorter than normal; the fungiform papillæ are injected, and look like specks of carmine. The tongue itself may be covered with a fur, or the epithelial layer may be shed in spots, leaving the bare denuded surface—the so-called worm-eaten tongue; or it may be worn smooth and with a glazed surface; occasionally deep fissures occur.

A few days before the attack, *the bowels* become constipated, the breath more offensive, the restlessness and the nervous symptoms more marked. There may be dull pain or uneasiness, referred to the umbilicus or the lower part of the abdomen. The child may show evidences of prostration during an attack, but there is no fever; the temperature may even be subnormal.

Worms may be associated with this condition, as an increased amount of mucus is frequently found when intestinal parasites are present; but true, mucous disease is not due to worms, and anthelmintic remedies, though often prescribed, are absolutely of no benefit.

The diagnosis of this disease is never difficult; the only disease presenting any similarity being tuberculosis with an intestinal lesion. This, however, should offer no serious difficulty, as tuberculosis will produce a rise of temperature some time during the twenty-four hours. Even a careless and superficial observer would be able to differentiate the jelly-like, stringy substance from the organized section of a worm. The so called "cut up" worm, often gotten by the action of powerful anthelmintics is really composed of mucin.

The treatment of these cases frequently taxes our therapeutic skill, for many considerations must be taken into account in selecting our medication. The inherited gouty or uric acid tendencies must be counteracted. Rachford describes cases of lithemia, pure and simple, in which crises occurred similar in many respects to the crises of mucous disease. This feature then requires appropriate attention.

In the main, however, the treatment must be directed towards lessening the excessive amount of mucus, which is eliminated during these attacks, and checking its formation.

The food should be of a simple and easily digestible character, and should be principally nitrogenous. The fats, which would seemingly be of advantage, especially in cases with dry, scurfy skin, are a source of irritation, and interfere with digestion. Even cod liver oil should not be administered internally. The carbohydrates also are injurious. The excessive quantity of mucus in the bowels produces a tendency to fermentation of the carbohydrates, with the formation of a gas and an acid which distend the abdomen and irritate the mucous membrane of the bowel.

The hygienic surroundings should be of the best. Sponging with cold water, sea-salt water or alcohol, followed by a brisk rub until the skin is in a glow, is most stimulating and helpful. When the skin is especially dry, the

bath should be completed by a thorough rubbing with hot cod-liver oil, which will not only promote a better condition of the skin, but will add a necessary nutritional element to the blood. Flannel should be worn next the skin.

For the relief of the mucous accumulations, the bitter tonics have long been noted. There are qualitative as well as quantitative differences in the action of these bitters. *Nux vomica* stands very high in this class of drugs—not only exerting fully the retarding influence of the bitterness upon the formation of the mucus, but also having a stimulating action upon the secretory glands of the stomach and intestines by reason of its content of strychnin, thus aiding digestion, which is weakened.

Bismuth has a sedative and mildly astringent action upon the mucous membrane of the bowel. In large doses, it is, of course, distinctly constipating, but when given in small doses, it exerts a less marked astringent influence. Bismuth is slowly eliminated, so that small doses suffice to maintain its action.

The need of a digestive agent in these cases is also evident, for if the chyme leaves the stomach without having undergone the proper katabolic changes, it will not only require increased work on the part of the chyloporetic organs, but will itself be irritating to the intestinal mucosa. The gastric juice is deficient in essential elements, as the stomach shares in the general run-down condition of the system. Acid hydrochloric is theoretically indicated in these cases, but few children are able to take it for any length of time without untoward symptoms developing. The combination of pepsin, bismuth and strychnin of the National Formulary has proven itself an efficient aid in such cases.

At the onset of an attack, or during the interval when constipation is present, sodium phosphate, combined with sodium sulphate, should be administered. The alkaline salt not only acts as a cholagogue, but also liquefies and renders less viscid the mucus present in the intestines. Sodium sulphate, as noted by Leube, increases peristalsis even of the stomach, and has, in addition, a liquefying action on mucus. Thus the combination thoroughly eliminates the materies morbi, and so cuts short an attack.

Of a more decidedly curative influence, will be found a combination of hydrastis and sanguinaria. The marked results achieved by hydrastis canadensis in the treatment of chronic catarrhal troubles have long been appreciated by the profession. Its employment in cases of chronic gastritis or in catarrhal duo-

denitis accompanied by jaundice, will prove most satisfactory. Its bitter principle not only accomplishes the results obtained from the other bitter tonics, but it has a directly stimulating effect upon the secretion of the gastric and intestinal glands. Its kinship to *nux vomica* and strychnin in this respect is not appreciated as it should be.

Sanguinaria is not so well known, but it has a selective action upon mucous membranes. In chronic bronchial affections, it acts as a stimulant upon the cells of the mucous membrane, and from small doses a gently stimulant effect upon all mucous cells may be secured.

In conclusion, the valuable remedy, copper arsenite, must not be overlooked. To Dr. John Aulde is due the credit of bringing this remedy prominently before the profession. He claims for it a distinctly antiseptic action, which it secures by stimulating the cells of the intestinal mucous membrane to their normal activity and to the elaboration of defensive proteids. I quote from Ringer: "Arsenic manifests an especial affinity for the mucous membrane of the intestinal canal." "Dr. Simpson employed arsenic in that peculiar affection of the bowels prevalent among women, characterized by the copious discharge of membranous shreds, accompanied by much emaciation and a long train of neuralgic and other nervous symptoms." The copper salt of arsenic is preferable because it is not so irritating to the stomach as the potassium arsenite, and because it is absorbed from the bowels and eliminated again by the liver in the bile, thus keeping the intestinal mucosa bathed in an arsenical fluid.

In a somewhat large clinical experience, offering unusual facilities, I have found the treatment outlined above much more efficacious than that advised in many of the standard text-books.

754 Second Street.

Sanmetto for Chronic Genito-Urinary Ailments.

Dr. L. E. Miley, Chicago, member of American Medical and the Illinois State Medical Associations, etc., says that "In nearly all genito urinary ailments, especially of a chronic nature, sanmetto is simply invaluable. I consider it almost a specific for chronic prostatitis, especially in old men, where more or less hypertrophy exists. Also in weakness of the generative system, it has wonderful power in restoring waning sexual strength."

IMPORTANCE OF EYE SYMPTOMS IN THE DIAGNOSIS OF GENERAL DISEASES.*

By A. D. McCONACHIE, M. D., Baltimore, Md.,

Assistant Surgeon to the Presbyterian, Eye, Ear and Throat Charity Hospital; Ophthalmologist to Bay View Hospital, Baltimore, Md.

The eye is very frequently an index to pathological conditions elsewhere, and its diseases are frequently the resultant of, and dependent upon, pathological changes in the blood, circulatory apparatus, or other organs; hence its careful consideration in making a diagnosis in general diseases may be of value in judging of the general health, as well as pointing out any immediate danger to vision.

Every practitioner of medicine, whether special or general, should make himself familiar with the use of the ophthalmoscope and be able to detect pathological changes within the eye-ground; he will thus have, in many instances, a clue to diseases more distantly seated. I need only mention the importance of a careful inspection of the fundus oculi in cerebral and kidney diseases to impress upon you the necessity of a familiarity with the instruments. Medical schools should be, and some, I believe, are making a knowledge of its use obligatory for graduation. Let us consider the symptoms under the heading of intraocular and extraocular.

The intraocular symptoms we see most frequently associated with or as a precursor of acute disease—as measles, scarlet fever, diphtheria, influenza, gonorrhœa, syphilis, etc.

What physician, or at least what specialist, has not seen severe purulent conjunctival inflammation in one or both eyes of the patient puzzle him as to its cause and treatment until careful examination with the microscope has revealed the true character of the infection to be from the *gonococcus of Neisser*? And thus locate a gonorrhœa elsewhere, and thus the true origin of the eye trouble located. *The importance of a careful microscopical inspection of all purulent eye discharges cannot be overestimated, both as to the institution of proper treatment and the institution of prophylaxis to others.*

Again, in diphtheria, frequently the eye is the first manifestation of an infection elsewhere, and again is only determined by giving careful microscopical examination to the discharges or membranes when present. Every physician has noticed paralysis of one or many of the ocular muscles of a post-diphtheritic

character; thus, in an ocular paralysis we are able to detect an antecedent diphtheria and thus render a more favorable prognosis. A conjunctival catarrh is usually one of the earliest symptoms in measles and scarlet fever, and should always be borne in mind as a precursor of these diseases.

The *ocular symptoms of influenza* are many and varied—from a conjunctival catarrh to an involvement of nearly every structure. Optic neuritis with subsequent atrophy, I have frequently observed. How frequently the appearance of an iritis points to the rheumatic or syphilitic character of the individual afflicted. I have now under treatment a young man about 30 years of age who consulted me about an irritation of his left eye of two days' duration. I examined him carefully and found some few congested conjunctival vessels at internal and external canthi leading up to his cornea. His pupil was mobile except in the lower segment, and in that region, at its margin, a discolored spot slightly elevated. I suspected this, but did not give active treatment, but only some slight detergent drops, and asked him to return in a day or two. He did so, and the true state of affairs was more evident. The iritic spot was of the character of a growth, and either a gummatubercle or sarcoma of iris was thought of. He would not admit syphilis, however. Potassium iodid was given him, and every day I would further question him, but got no definite information; but under potassium iodid, the gumma has gone and the eye is well. I detail this to show how the only clue to a general disease may be hidden in so small a spot as a pin-head gumma of an iris.

Again, the study of paretic eye muscles will frequently point to the actual seat of a general disease, whether tabetic, syphilitic or cerebral. How frequently an Argyll-Robertson pupil—immobility of pupil to light—with reaction in accommodation of convergence, will hasten the diagnosis of tabes dorsalis, especially when combined with nerve atrophy and absent reflexes.

The intraocular changes, which are important as guides in the diagnosis of general diseases, are many, and found in many general diseases—as Bright's disease, malaria, circulatory diseases, brain and cord diseases. Let us briefly consider the most characteristic eye phenomena accompanying these.

Brain tumors—including syphilitic, tubercular growths, cysts, abscesses, aneurisms—may produce one or both of the two characteristic eye symptoms—double optic neuritis and at-

* Read before the annual meeting of the Medical Chirurgical Faculty of Maryland, April, 1900.

tacks of temporary total loss of sight. These symptoms point to the presence but not the position of the tumor. Optic neuritis is one of the first symptoms of cerebral tumor, but may develop later or be absent in 20 per cent. of cases. The old classical choked disc appearance is not requisite, as we now know that a papillitis of cerebral tumor origin may resemble the papillitis of renal origin and be accompanied by retinal hemorrhages; hence the importance of a urine test. It must be remembered that acuity of vision may remain unimpaired, hence no diagnostic value is to be placed upon test of vision. The presence of papillitis can only be diagnosed by the ophthalmoscope. Later, the peripheral vision becomes contracted. The tumor anywhere in the brain is capable of producing optic neuritis. Sometimes atrophy and not neuritis will be found in brain tumor, but the atrophy is usually post-neuritic. The pupils in intracranial tumors are usually dilated, but may be normal or contracted.

The *ocular symptoms associated with kidney lesions* are principally amaurosis without any ophthalmoscopic changes and neuro-retinitis and retinitis. The amaurosis accompanying Bright's disease is no doubt due to the poisonous action on the nerve centres of accumulated materials in the blood from defective kidney excretion. Doubtless the best known and most characteristic ocular manifestation of general disease is the retinitis and neuro-retinitis of Bright's disease. The pathological changes in the retina included under the headings neuro-retinitis and retinitis are among the most frequent ophthalmoscopic evidences of constitutional disease. Albuminuric retinitis—a generic term for all varieties of renal retinitis or neuro-retinitis—is strictly a complication of chronic kidney disease and most common in chronic interstitial nephritis (contracted granular kidney), but does occur associated with chronic tubal nephritis (large white kidney). The pathological lesions in the different forms are not distinctive although the ophthalmoscopic picture is almost unmistakable in furnishing a clue to at least one of the forms of Bright's disease. Albuminuric retinitis is usually symmetrical, and usually occurs in advanced renal disease, whether in the young or aged, and the first symptoms for which the patient seeks advice being the failure of vision due to the retinitis. Thus the albuminuric retinitis in many cases comes under the observation of the ophthalmic surgeon first. It occurs in from 10-30 per cent. of cases of renal diseases.

It is interesting to watch the changes which the ophthalmoscopic picture undergoes. They follow no definite course—sometimes they almost disappear; but in any case the onset of retinal changes, in the majority of instances—excluding the albuminuric retinitis of pregnancy—is an indication of early death—the time varying within quite wide limits; from 70-80 per cent. die within the first year, and over 90 per cent. die within two years. One familiar with the use of the ophthalmoscope may be able to determine with much accuracy the condition of the circulatory apparatus. How frequently do we note a condition of the retina (edematous with engorged veins and obliterated arteries) indicative of embolism, which in many instances can be traced to a defective valvular condition of the heart or arterio-sclerosis.

Lastly, the *eye furnishes valuable information in arriving at a satisfactory diagnosis of that protean disease—hysteria—a disease without apparent lesions, but capable of deceiving the shrewdest by its resemblance to organic disease.* Whilst the symptoms of hysteria assume so many and varied aspects the ocular symptoms are quite constant and significant. Charcot places more confidence in the eye symptoms in establishing its identity than in any other phenomena. The characteristic ocular phenomenon of the affection is concentric contraction of the field of vision, and hence a certain amount of amblyopia. The contraction varies greatly; peripheral vision being at times wholly abolished, and perception limited to 8-10° about fixation point. The contraction of the field is usually determined by a white object. Usually there is a contraction of the field for colors, and the very curious manifestation of hysterical amblyopia lies in frequent reversals of the rule. Sometimes the field for white is much more restricted than that for certain colors.

In conclusion permit me to emphasize the importance of taking into consideration certain eye symptoms in the diagnosis of many obscure conditions, and of the invaluable aid which a working knowledge of the ophthalmoscope affords, especially in gaining additional data in the various renal diseases and the diseases of the brain and cord, whether structural or functional.

805 N. Charles St.

THE RELATION OF THE PHYSICIAN TO THE PUBLIC SCHOOL.*

By KATHARINE MILLER, M. D., Lincoln, Ill.

The importance of our public schools and of a high degree of efficiency in their work increases with the weakening of paternal discipline and the immigration of uneducated foreigners whose children can only be reached and made into a good body of citizens through the influence of our schools.

Our profession represents the broadest intelligence of our State—those among the secular profession who are most accustomed to look at subjects from a standpoint remote from personal interest. Responsibility increases with opportunity and ability. Our opportunity is shown in the fact that about one-half of the communities electing Boards of Education in our State (aside from country districts) include M. Ds. among the members. In many places, the people already feel that we are especially qualified for these positions, and educators more frequently turn to us for guidance in the problems presented to them, realizing that unhygienic conditions have much to do with failure of their efforts.

Every physician should visit the schools of his vicinity, preferably on cold, damp days, and after the school has been in session some time. His nose will find evidence of the conditions existing, which will call on him for aid to correct them.

Our professional training is helpful as to questions of school sanitation—the location and drainage of grounds, the proper arrangement of foundations, the proportion of height of ceiling to floor space so as to secure good ventilation with easy heating, the arrangement of windows, the blackboards, the desks and seats, the books in their typographical makeup. It also fits us for aid in matters of personal hygiene of pupils, such as the prevention of the spread of contagious diseases and the investigation of physical defects, such as poor sight or hearing, which affect the child's school work, together with those psychological questions involved in the relation between the methods of instruction and discipline and the health of the pupil.

We are only now beginning to understand that truly hygienic surroundings will generally enable the child to do the required work without harm, even though handicapped by a poor physique; the bad air, bad light and bad seating are very often the cause of that failure

of nerve power which it has been fashionable to attribute to overwork. It becomes the duty of the physician to educate the community to demand proper conditions in school life, and then to advise carefully as to the needs of the few pupils who will not be able to do full work under the most favorable conditions.

In most places, where new buildings are in prospect, the well-informed physician may do his neighborhood a lasting favor by interesting himself in the sanitation and by voice and pen through the local press, use his influence for the best things. In the remodeling of old buildings, he may accomplish much to lessen their defects.

The people readily concede our privilege to interfere to arrest the spread of contagious diseases, whose rapid increase on the opening of school in the fall and decrease after the closing of school in the spring show how dependent on the intimacy of school life they are for their dissemination. The ignorance and parsimony which permit these conditions can only be eradicated by knowledge scattered by us with the spirit of liberality in finances which will surely follow when its need is realized.

If teachers were required or expected to refer all ailing children to physicians for report as to their ability to continue in school, the result would add very little to our work, even if we did it gratis, and it would prevent the serious extension of many diseases which now spread actively until some severe case appears.

In the examination of the sight and hearing of school children, much credit is due to Drs. Wood, Harlan and others in the East, and Dr. Allport, of Chicago, who devised and introduced plans for getting most helpful information as to these matters. These investigations show a most deplorable condition of the sight among our young people, and make it evident that the note of alarm, and the demand for better hygiene, and more rational methods of study, have not come too soon. They present to every physician an opportunity for great usefulness in improving the faulty factors in the schools of his community and in detecting and suggesting means for the correction of such defects in the pupils.

The increase of interest in these questions, shown by the number of papers on such topics which now appear in our journals, and are read at our Societies, is most encouraging and can but result in widespread improvement in all the conditions of school life, and a consequent gain in the mental and physical results of our educational processes, with a resulting improvement of the whole body of citizenry.

* Original abstract of paper read before the Illinois State Medical Society, at Springfield, Ill., May 17, 1900.

PROLAPSED UMBILICAL CORD.

By J. M. FASSIG, M. D., Zanesville, Ohio.

Emergency cases in any field of medicine oftentimes tax our judgment to the fullest capacity. Obstetrical emergencies are no exception to this rule; and when brought face to face with these cases, we are convinced of the necessity of immediate and decisive action, in order that we may hope to save one or perhaps two lives.

Authorities state that *prolapsed cord occurs rarely*, proportionately 1 in 500 cases. In my own practice the percentage is even less, since the case, which I shall report, is the first in many years of experience in obstetrical work. It is claimed that this condition occurs more frequently in hospital than in private practice.

The cause of prolapse of the umbilical cord is generally found in the want of correspondence between the presenting part of the child and the lower portion of the uterus and cervix; for, if the presenting part fully occupies this entire space, the cord cannot possibly descend. The chances of this lack of conformity are augmented by the length of the cord, the position occupied by the woman at the time the bag of waters are ruptured and by an excessive quantity of liquor amnii, smallness of the child, marginal attachment of placenta and cord, complex and abnormal presentation of the parts, and especially by pelvic deformity. One authority is bold enough to state that prolapse of the cord occurring in a primipara, with the head presentation, should always excite suspicion of a narrow pelvis.

As to the diagnosis, under most conditions, there is little room for a mistake, especially with the prolapsed cord in the vagina or presenting at the vulva. Its recognition is a little more difficult before the membrane is ruptured. Immediately upon recognizing this accident, let the accoucher ascertain whether or not there is any pulsation in the umbilical artery; if this is appreciable, it is the signal for immediate action; although, if it be absent, he can safely wait for nature to deliver the woman of, more than probably, a dead child.

Little or no danger is imminent to the mother from the existence of this emergency. Its presence may suggest manual or instrumental reposition of the dislocated cord, podalic version, or forcep delivery. Do not wait too long in forming a decision as to the best course to adopt, the life of the child is in great danger; statistics prove a death rate of the infant of not less than 40 per cent., often reaching 60 per

cent., the danger depending greatly on the amount of compression of the cord, causing death in the child by asphyxia. The length of time that the prolapse existed, the length of the descended cord, and the pulsation of the umbilical artery are the important factors in establishing your prognosis.

As above stated, a certainty as to the *death of the child* suggests a purely expectant course as to the management of these accidents, although this should not only depend on the absence of the pulsations in the cord, for cases are on record in which this was absent for several minutes and yet the child was found to be living, but it must be confirmed by careful and repeated auscultations of the maternal abdomen.

Treatment.—With a well defined pulsating cord, the first duty, if possible, is its restoration. Several methods of replacing the same have been devised by the numerous writers on this subject.

Although it may seem an easy task, actual bedside experience teaches otherwise; more often, as gathered from the death-rate statistics, it results in failure, the prolapsed cord descending to its abnormal position.

Probably the most complete directions for replacing this malposition are those of Braxton Hicks: "The anesthetic having been given, the patient remaining in the ordinary lateral obstetrical position, one hand is placed over the abdomen and the position of the child's head is made out. This may be done by separating the thighs and passing the hand, preferably the right, between them. The left hand having its back greased, is passed into the vagina, and gathering the funis together, carries it past the head, which is at the time pressed sufficiently aside. When the funis is restored the external hand presses the head down, and the fingers inside receive it and adjust it in the os. Six or more labor pains having occurred, the internal hand may be removed, although it might have earlier been removed and reintroduced to feel if the funis is still up. The patient can then be placed on her back, while the other hand is kept a little longer to secure the adaptation of the lower uterine zone to the head."

Case.—On the morning of April 30 I was summoned to attend Mrs. S—— in her first confinement. Upon a vaginal examination, I found a fully developed bag of waters presenting at the vulva, the os was dilated to its full extent, the membranes were rather tough.

It seemed to me that the mission of the bag of waters had been fulfilled, and having waited several strong contractions of the uterus to

rupture the membranes, I decided to interfere and to bring this about artificially. There was an unusual gush of amniotic fluid, and with it a large portion of the funis. From the fact that the pulsation in the cord was feeble, I felt satisfied that the prolapsed cord and pressure on the same had existed prior to the rupture of the membranes, although not recognized by me, a small portion having slipped down to the cervix and was pressed upon by the head, and in this position was washed down farther by the gush of water. I immediately attempted its restoration and was successful, yet only for a short time did it remain in place; after a few good labor pains there was another gush of amniotic fluid and with it a still larger portion of the cord.

By this time the pulsation was entirely absent, and I advised speedy delivery with the forceps, informing the husband of the danger to the child in a delay.

It took me fully three quarters of an hour to convince the patient and her friends of the seriousness of the situation.

At the expiration of this time, I was justly satisfied that the child was dead; nevertheless, having secured permission to apply the forceps, and being a strong advocate of their earlier use in case, where we have a full dilatation of the cervix, and when nature is slow in doing her work, I readily applied the blades, but the extraction was not so easy.

Kaltenbach's suspicion in these cases, that of a contracted pelvis, became very evident to me as existing in my patient; although after some time and patience, I finally succeeded in delivering, as I had suspected, a dead child.

In summing up this case, I feel sanguine that even had I secured earlier permission to use the forceps, the result would have been the same in this instance. Not wishing to be contrary to the opinions as laid down in our textbooks, that even after the pulsation in the cord has ceased, the life of the child can sometimes be saved by speedy instrumental delivery, I am convinced that the child may live in this condition for a short time while in utero, yet in this weakened condition the child would be more liable to asphyxiation in the tediousness and delay concomitant on the most speedy forceps delivery.

109 N. Sixth Street.

THE EVOLUTION OF THE SAW PALMETTO.

By J. C. LE HARDY, M. D., Savannah, Ga.

Conspicuous among the many and varied plants which adorn the hills and dales of the South Atlantic and Gulf Coast is the Palm family. Sailing upon the placid waters of the broad rivers and estuaries, separating the continuous chain of Islands from the Main, the ever-changing landscape that meets the eye becomes most picturesque wherever the stately Palmetto displays its crown-like head of pale green fan-shaped leaves through the darker foliage of the majestic live oak, the magnolia, and other denizens of the forest.

The Palm owes its name to the peculiar shape of its leaf, which resembles a many fingered hand.

In Botany, it constitutes a natural order of monocotyledonous plants, with a single round straight stem (some have no upright stem) terminating in a crown of leaves within which the flower, stem and fruit grow. The Palm belongs to warm climates, and varies in height from two to one hundred feet and more, and from a few inches to two feet in diameter. There are in the United States several varieties of native Palms, both upon the Atlantic and Pacific Coast.

Through the kindness of Mr. P. J. Berckmans, the noted Botanist and Pomologist, I am able to give your readers the name and synonyms of those which have so far been discovered in the United States, the location in which they grow, together with the name of the discoverer.

NATIVE PALMS OF THE UNITED STATES.

I. The Royal Palm. *Oreodoxa Regia* (Humboldt, Bonpland, Kunth).

Synonyms: *Enocarpus Regia* (Sprengel) *Oreodoxa Oleraceæ* (Cooper).

Habitat: Extreme Southern Coast Belt of Florida.

II. *Pseudophœnix Sargentii* (H. Wendland & Curtios), a very rare variety of above.

Habitat: East end of Elliott's Key, also upon Keylargo, Fla.

III. Dwarf Palmetto. *Sabal Pumilla*. (Elliott.)

Synonyms: 1. *Sabal Minor*. (Pearson.) 2. *Sabal Adansoni*. (Pursh, Nuttall, Croom, etc.) 3. *Rhaphis Acaulis*. (Wildenow.) 4. *Chamæropis Acaulis*. (Michaux.) 5. *Corypha Minor*. (Jacquin, Lamareq.)

Habitat: South Carolina, Georgia, Florida, Louisiana.

IV. *Sabal Glabra* (Sargent), low plant with

short subterranean stems, glaucous fan-shaped leaves (slightly pennatifid), nearly circular in outline, on erect petiole. Spadix, much larger than the leaves. *Fruit round and small.*

V. *Sabal Etonia* (Sargent), distinguished by its elongated contorted root and stalk; small thin orbicular, deeply cut leaves, short spadix and large fruit.

VI. *Sabal Palmetto* (Elliott, Porcher), Cabbage Palmetto, Cabbage tree.

Synonyms: *Coripha Palmetto*. (Walter). 2. *Chamærops Palmetto*. (Michaux, Wildemer, Nuttall.)

Habitat: South Carolina, Georgia, Florida, and Gulf Coast.

Stem erect, 40 to 60 feet, terminated by a crown of large palmated leaves. Spadix long, slender, many branched. Fruit round, small, black, tasteless.

VII. *Sabal Mexicana*. (Martin.)

Synonym: *Washingtonia filifera* (P. J. B.)

Habitat: Rich soil of bottom lands of the Rio Grande, near the coast, 30 to 50 feet high, 2 feet in diameter; leaves cuneate below, dark yellow green and lustrous, 5 to 6 feet long, 6 to 7 wide, with a thickened pale margin, separating in long thin thread (possibly a variety of the *Washingtonia filifera*—P. J. B.)

VIII. Saw Palmetto. *Chamærops Serrulata*. (Elliott, Porcher.)

Synonyms: *Sabal Serrulata*. (Chapman.) *Serenoa Serrulata*. (Benth & Hook.) *Chamærops Serrulata*. (Dunglison's Medical Dictionary.) *Sabal Livingstonia*. (Feay.)

Habitat: South Carolina, Georgia, Florida, Alabama, Louisiana, and Texas. Stem creeping, branching partly covered with the soil. Petiole, slender, spring-edged leaves, rather small, deeply serrated, bright green, smooth. Spadix much shorter than leaves, drupe ovoid, dark brown, 8 or 9 lines, fleshy.

IX. Blue Palmetto. Needle Palmetto. *Chamærops Histria*. (Fraser.)

Habitat: Same as Saw Palmetto.

A dwarf species, growing in rich swamps. The stalk sometimes grows 6 or 8 feet in height; leaves green, deeply cut and folded, fan-shaped on slender stems. From the root stock thorns like porcupine quills grow.

X. Silk-Top Palmetto. *Thrinax Parriflora*. (Swartz.)

Habitat: Only found on the Southern Keys from Bahia Honda to Long's Key. Grows on a slender stem (4 or 5 inches in diameter), 20 to 30 feet in height, leaves orbicular 3 to 4 feet in diameter, thin, bright green on top; paler, and coated underneath with pale caducous tomentum.

XI. Silver-Top Palmetto; Brittlehach. *Thrinax Microcarpal*. (Sargent Chapman.)

Synonym: *Thrinax Argenata*.

Habitat: Extreme southern section of Florida. Rarely grows taller than 30 feet in rich soil, and only a few inches in the pine barrens. Leaves orbicular, coriaceous, pale green above, silvery white below.

XII. Desert or Fan Palm. *Washingtonia Filamentosa* (Kuntze).

Synonyms: 1. *Pritchardia Filamentosa* (Wendland); 2. *Brahea dulces* (Cooper); 3. *Washingtonia filifera* (Linden).

Habitat: Eastern depression in Colorado desert, and in Lower California. Height, 50 to 70 feet; trunk, 2 or 3 feet in diameter, trunk-ates at base. Leaves, light green 5 to 6 feet in length, 4 or 5 feet wide, cut irregularly in long, narrow lobes and with thread like filaments.

XIII. *Washingtonia Sonoræ* (Wendland).

Habitat: In mountain canons of Western Sonora and Lower California—still very imperfectly known (Sargent).

XIV. *Washingtonia Robusta* (Wendland, Watson and André).

Habitat: Lower California? Still unknown in the wild state. More vigorous and rapip growing than *W. filamentosa*.

FULLER DESCRIPTION OF SAW PALMETTO.

Saw Palmetto, the subject of this article, in physical appearance, is one of the lowliest of the noble Palm family. In importance, however, it has of late taken a place in the front rank; for its fruit, which was known only as a food for the wild animals and the Indians, now furnishes the basis of pharmaceutical preparations of great value as a remedy. While our royal palm, the silver leaf palm, the cabbage tree, the date, the cocconut, and many others of the tropical palms are renowned for size, shapeliness, the beauty of their foliage, or for the size, the taste, or the value of the fruit, the chamærops (*Sabal*) *serrulata*, or *Saw Palmetto* is but an insignificant scrubby plant, which is found in patches or in impenetrable thickets for hundreds of miles along the coast of the Atlantic and Gulf. Its body or stem, 4 to 6 inches thick, creeps along the surface partly covered with soil; it is from 8 to 12 feet long, branching in every direction. Underneath numerous small, round and tapering roots penetrate two and three feet in the sand; above from a rough, fibrous surface the spiny edged petioles (from which the name "saw" is derived) grow. They are slender, three to five feet long terminated by a palmated leaf, circular in outline,

deeply cut, from 12 to 15 inches long, of a bright-green color. The spadix (fruit stem) densely covered with down, like the leaf, grows on the rough surface of the body, but is much shorter and branched; on these branches insignificant flowers grow.

The drupe (fruit) is egg-shaped, dark purple, 8 to 9 lines in length. When fully ripe it is succulent, oily, and leaves a peculiar pungent taste in the mouth and throat.

HISTORICAL SKETCH OF THE SAW PALMETTO.

In answer to inquiries, Dr. S. Stringer, of Brooksville, Florida, writes: "Some fifty years ago, I used to go among the Seminole Indians, and with them frequently got the berries of the Saw Palmetto, and learned to become passionately fond of them; but although they brought them to their trading places for sale, I never heard them say that they used them for medicine."

While hunting, with an Indian guide, through the everglades and other parts of Florida, in 1855, I tasted the drupe of this Palmetto for the first time. Seeing the Indians gather the fruit, I inquired what use they made of the fruit; he answered: "Good for eat; good for squaw; good for getting many children; good for making money."

Dr. George Wallace, one of the founders of the town of Daytona, on the southern coast of Florida, in a letter says: "The stem of the scrub or Saw Palmetto, when cut in pieces about ten inches long, with or without handle, is used as a scrubbing brush. There is a great demand for these brushes in all the towns and villages along the coast. The leaves are used for thatching huts and shanties by the Indian and the native. I have seen four room houses quite large—the roof and sides, as well as the partitions, were made from these leaves. They are also sought after and used for mattresses and pillows; and, if well shredded and dried, are far superior to 'Excelsior.' There is a large percentage of tannin in the stem of this Palmetto; Indians bruise and then boil it in water; then they strain the liquid and use it to tan hides, and as a sovereign remedy for diarrhœa. There is now at Titusville a person who slices the wood and squeezes the juice by machinery; he then boils this fluid to the consistency of syrup, puts it in barrels, and ships it to Germany for tanning purposes."

"The fruit, which we call berries, resembles the date. When ripe it is of a dark bronze color. It starts to ripen in September and continues to do so until the middle of December. If not removed or eaten, the seeds sprout

in vast numbers wherever they drop. In taste the fruit reminds one of some kind of cheese or old butter, but it is very sweet."

"All the wild animals, especially the deer, the bear, the raccoon, the opossum, and the wild hog eat these berries with avidity, and in a short while become fat and sluggish. If killed during the season the intestines and flesh smell strongly of the berry."

"Indians, negroes, and the natives eat the berries ravenously. With us, the taste is an acquired one; at first it is almost repulsive, but generally, after a few days, one becomes passionately fond of it; it takes the place of food, is slightly stimulating, and the natives, the negroes and Indians all say that it is an *excitant to the organs of generation* and a *splendid tonic and builder up when convalescing from fevers or other wasting diseases*.

"Outside of this I had never heard of its being used as a medicine until way in the seventies, when Dr. Read, of Savannah, while hunting here, noticing the fattening properties of the Saw Palmetto berry, concluded it was indicated in phthisis pulmonalis and other wasting diseases. He had the juice expressed from the ripe fruit and shipped to a chemist for analysis.

"A beer and a cordial are made of the ripe berry by a number of persons along the Indian River, and shipped or hauled to interior towns or villages. This is about all I know relative to Saw Palmetto."

In the early part of the winter in 1857, while hunting deer on Tybee Island, near Savannah, and feasting upon the fruit in a clump of Saw Palmettoes, I killed a wild pig. The flesh proved so delicate and well flavored that I repeated my visits every year until the last one was killed by the troops who occupied the island during our Civil War.

Observing the large size of the broods and how rapidly the deer, the raccoon and the opossum increased on these islands, it occurred to me that this must be due to the eating of the fruit of the Saw Palmetto, which is the only product differing from that of other localities. This coincided with the experience of the Seminole Indians in Florida.

I called the attention of members of the Georgia Medical Society to the fact, but to Dr. James Bond Read, of Savannah, the credit of introducing San Palmetto as a remedial agent is entirely due. In a report made in 1878 he says: "Some years ago, while on a hunting trip in the wilds of Florida, my attention was drawn to the great fattening power of the Saw Palmetto fruit, and it occurred to me that it might also

contain therapeutic properties from the observation that all animals eating it became plump and vigorous. The berries, or more properly drupes, ripen in October, lasting to the middle of December. They are about the size of an olive, contain a large quantity of juice, and a pit shaped like that of the olive. When ripe, the berry is dark purple in color; to the taste, at first, it is exceedingly sweet, but this is soon followed by an acrid pungent sensation, to be succeeded by the inucous membrane of the throat feeling as if coated with oil. The seeds are enveloped in a tough fibrous membrane; when cut open they present a white oily substance which burns readily, giving off a blue flame and a smell of roasted coffee.

INFLAMMATION OF THE MIDDLE EAR IN INFANTS AND CHILDREN*.

By ADOLPH O. PFINGST, M. D., Louisville, Ky.

The author dwells upon the frequency of the middle ear affection during the diseases of early child life, particularly during measles. He quotes a statement of Barth, that 80 per cent. of all sick infants have a lesion of the tympanic cavity of greater or less severity. The relatively wide and short Eustachian tube is held in a measure responsible for the frequent infection of the middle ear, inflammation resulting more readily on account of the general as well as local lessened vitality or resisting powers.

The course of otitis media in very early life is characterized by its mildness. Pain is not frequently present and is not of as severe a nature as in later life, so that the condition is easily overlooked, especially so since digestive disturbances are so often present. It is therefore suggested that in sick children, and particularly in those where there is question about the diagnosis, the drum membrane should always be inspected. This is usually done with little difficulty with the aid of a small speculum. The presence of a warm speculum in the ear seems to have a soothing influence upon the child. The drum membrane has usually lost its lustre and appears thickened. It may or it may not be injected; sometimes, especially in those cases where the Eustachian tube is closed by inflammatory products, it may be found bulging.

Treatment does not differ materially from

that recommended in otitis media of adults, the application of cold or heat acting beneficially. Salines internally and cleansing of the nasal passages with mild antiseptic solutions are to be used along with the local treatment. As soon as symptoms of retention of pus arise, the drum membranes should be incised and the incision kept open until acute symptoms have subsided. The incision can be kept from closing by placing a crystal of chromic acid into the cocaine opening and subsequently removing the dissolved acid with a cotton probe.

Mastoid involvement in children is comparatively infrequent and fortunately shows greater tendency to subside spontaneously than in adult life. The symptoms of mastoiditis are about as obscure as are those of the primary inflammation in the tympanic cavity.

If tenderness persists over the bone, or other prominent symptoms, as swelling of the upper auditory wall arise, the mastoid should be incised, care being taken to avoid injury of the lateral sinus. A small incision into the partially ossified bone will usually relieve the patient and result in a cure, as there is much tendency in early age for the necrotic parts to exfoliate.

425 W. Chestnut Street.

Sanmetto in Chronic Orchitis.

J. A. Stothart, M. D., Savannah, Ga., reports the following case: "During November, 1898, a Greek fruit vender called at my office suffering with chronic orchitis. The patient stated that the first attack occurred four years prior to this time. During the four years, there had never been more than two and a half months between the attacks. He had been under treatment most of this time, and several times in the hospitals, and had been discharged as cured by several physicians. The testicle had almost arrived at the condition of ossification, but at no time had there been any pus formation. I prescribed sanmetto, and directed that the treatment be continued for two or three months. My treatment was carried out to the letter, and there has never been any return of the trouble since beginning the use of sanmetto. I have used sanmetto in other urethral troubles with very satisfactory results."

* Original abstract of a paper read before the Kentucky State Medical Society, held at Georgetown, Ky., May 9, 10, 11, 1900.

TREATMENT OF ULCERS OF THE LEGS.*

By S. S. HALDERMAN, M. D., Portsmouth, Ohio.

After having tried the various methods of treatment for ulcers of legs, I was led to adopt a simple treatment that seems to have originated with an English surgeon, Dr. J. K. Spender. About 1860, he published a small work upon ulcers and diseases of the skin. The treatment is simple, and requires only proper application to effect a cure in every case of ulcer of the legs, except, of course, malignant ulcers. The "old sore shins" of the laborer are promptly benefited and soon cured, and that without taking him from his work.

The form of ulcer which yields most perfectly and readily to this treatment is that very common one connected with a varicose state of the superficial veins. It is well known how unsatisfactorily all other methods have been in this class of cases, and how extremely liable they are to return.

The ulcers found on old, poorly nourished legs, where there is deficiency in quantity and quality of blood, a feeble heart, imperfect circulation, and consequently a wretchedly nourished skin, round with perpendicular sides as if cut with a punch through the thickened skin, with white, hard, almost cartilaginous edges, are healed by this method much more solidly and enduringly than by any other.

When a wound is left to nature, the blood and serum discharged from it coagulates and dries on it, and, remaining as a scab, permits healing under it. The principle of the treatment proposed imitates, to some extent, this natural process of repair by applying a substance that will form an incrustation resembling in its effects the natural scab, and we should remove the dressing as seldom, and with as little disturbance as possible.

An ointment containing a very large portion of prepared chalk forms the best artificial crust yet discovered.

The ointment must be used in greater proportions than in any ointment of the *Pharma copœia*. The ointment used consists of one pound of chalk, eight ounces of lard, and one ounce ointment of the oxide of zinc. Having previously reduced the chalk to a very fine powder, melt the lard, then gradually add the chalk to the liquefied lard, stirring and triturating thoroughly and continuously until nearly cold.

The result depends somewhat on having the ingredients so intimately blended together that no grittiness remains.

Several advantages accrue from the use of this ointment; it generally produces much ease and comfort; when the lard becomes melted by the heat of the part, and absorbed by the bandage, the chalk is disengaged and a portion of it combines with the secretion from the ulcer. This secretion, which is usually acrid and irritating to the skin, when united with the chalk, is converted into an innocuous compound. This compound constitutes the incrustation which is formed first on the surrounding skin, then on the margins of the ulcer, and later on the ulcer itself. The application should be as little disturbed as possible; at first, it may be necessary to remove the dressings daily, but in a little while twice a week, and later once a week, will be quite often enough for the removal of the dressings. Washings of the ulcer is objectionable and injurious.

An ulcer on the leg cannot be made to heal by any topical application alone; in addition to such applications, there must be well adjusted compressions of the whole limb.

A bandage when properly applied approximates the structures to their natural form and function and introduces healthy action. The lesion is partly mechanical and admits of partly mechanical treatment. By well adjusted pressure the walls of the veins are brought into closer apposition, the segments of the valves are brought nearer together, and thereby restored to the performance of their functions. The good effect of pressure alone is soon noticeable on the ulcer itself; the edges are flattened and brought together, and prominent granulations are brought to the level of the skin. A swollen limb will become wonderfully reduced in size by well regulated and constant pressure. An ulcerated leg allows a greater amount of pressure than can be borne by a healthy limb. A tight bandage reduces the size of the veins and removes the œdema, and the leg thus becoming less in size, the tightness of the bandage is proportionately diminished. A swollen leg will submit to powerful compression. The object is to support the veins and other structures below; support and protect the surface of the ulcer. Do these things together, and there will be an improvement in the general health of the limb.

Cover the surface and sides of the ulcer with the ointment spread on evenly and thickly; over this and every portion of the limb from the toes to the knee should be placed a band-

* Read before the Ohio State Medical Society, Fifty-Fifth Annual Meeting, Columbus, May 9th, 10th and 11th, 1900.

age made of domette flannel; this bandage should be six (6) yards long and from three (3) to three and one-half ($3\frac{1}{2}$) inches in width. In the treatment of varicose ulcers everything else without compression will be ineffectual; this being true, very much will depend upon the proper adjustment of the bandage, and, therefore, it should always be applied by the surgeon and not left to the patient or his attendant.

The length of time before the dressings are removed and reapplied must be determined by the circumstances of each case. If the ulcer is large and the discharge great it may be advisable to dress the leg every day at the beginning of the treatment, but it should not be disturbed oftener than absolutely necessary to get rid of accumulated pus. The neutralizing effect of the chalk ointment permits the dressing and bandage to remain on much longer than would otherwise be possible or desirable. When removing the bandage and dressing do not remove the chalky crust that may be formed on the surface of the ulcer. Wipe off with a bit of dry cotton any purulent secretion which remains on the parts.

With this treatment there is no need to keep the patient in bed or in the recumbent position. There is no necessity for rest of the limb on account of the disease.

Carry out the method of treatment I have described, and tell your patient to go and do much as he likes.

S. E. Corner Ninth and Gay Streets.

SYMPTOMATOLOGIC DIAGNOSIS OF VALVULAR OBSTIPATION.*

By THOS. CHAS. MARTIN, M. D., Cleveland, Ohio.

Obstipation is that form of impaired defecation which is due to the presence in the rectum of an organic obstacle to the descent of the feces through it.

If it be the function of the normal rectal valve to beneficently retard the descent of the feces, it is obviously true that it may be the especial property of the valve in certain other than normal conditions to maliciously obstruct the descent of the feces.†

The *position* of the obstructing valve, and the *character* of its disease, may be determined from the patient's symptoms, and I may add, also, that one skilled in proctoscopy may, on inspection of the rectum, detail to the patient the history of the case without a word having passed on the subject.

For practical purposes, it is well to study the subject from a consideration of the location of the obstruction at the five points, as follows:

1. Valvular obstruction *below* the recto-sigmoidal juncture.
2. Valvular obstruction *at* the recto-sigmoidal juncture.
3. Anatomic coarctation or congenital juxtaposition of the rectal valves.
4. Hypertrophy of the rectal valve.
5. Fibrosis of the rectal valve.

1. Valvular obstruction *below* the recto-sigmoidal juncture is characterized by straining at stool for the passage of solid feces.

2. Valvular obstruction *at* the recto-sigmoidal juncture is characterized by long intervals between the acts of defecation; by an occasional passage of a quantity of feces without much straining, and by tenderness and a sense of fullness in the left iliac fossa and lower abdominal regions.

3. If two rectal valves develop in such a degree of anatomic propinquity that the pressure of the feces on the proximal valve will put the free border of that valve upon and across the next lower valve, there is erected at one point an almost impassable barrier to the descent of the feces, for the reason that the interlocked valves unite to form a diaphragm which temporarily walls off the rectal chamber occupied by the feces from the next lower empty chamber.

4. Hypertrophy of the rectal valve is characterized by the almost sudden establishment of obstipation. The condition is initiated by a sense of gentle aching and moderate heat in the sacral region, by aching down the thighs and by discharges of a small amount of viscid mucus.

5. Fibrosis of the rectal valve is characterized by a very gradual development of the obstipation. Valvotomy cures.

1077 Prospect Street.

* Original abstract of a paper read at a meeting of the Ohio State Medical Society, at Columbus, Ohio, May 8-11, 1900.

† *Obstipation*.—A Practical Monograph on the Disorders and Diseases of the Rectal Valve. Thos. Chas. Martin, Ph. D., M. D. Philadelphia Medical Publishing Co.

TREATMENT OF SYPHILIS.*

By H. PLUMMER, M. D., Harrodsburg, Ky.,

Ex-President Mercer County Medical Society; Ex-President Licking Valley Dist. Medical Society; Ex-President of the Central Kentucky Medical Association; Ex-Surgeon-General of the Kentucky State Guard, etc.

It was my pleasure to read at the Maysville meeting of this Society a paper entitled "*Syphilis; from whom did it come, and where is it now?*" I now propose to occupy a few moments in discussing, as I understand it, "The treatment of Syphilis." I shall not propose anything new or startling.

We start out with the proposition that syphilis has been almost universally classed among venereal diseases, and acquired by sexual transgressions. But that it may be acquired otherwise than by impure connection, is now beyond peradventure, and is treated of by some authorities, notably Bulkley, under the head of "Non Venereal Syphilis."

It is not my purpose to dwell on the history or the histo-pathological conditions of the disease, but to merely give my views as to how to cure, or *not* to cure it in a plain, practical fashion.

The first indication of syphilis, as a rule, is a *chancre*, either upon or about some portion of the generative organs; or perhaps upon some mucous surface. When a chancre presents itself to me I remember that "cleanliness is next to godliness." I cleanse the surface, make it and its surroundings immaculate, and complete the toilet by dusting freely with iodoforn.

Almost without exception recent authors tell us to omit constitutional treatment until the appearance of secondary symptoms; I do not follow in the wake of such a doctrine. When I have a genuine hard chancre to deal with, immediately my impulse is to put the subject upon constitutional treatment. I do not wait for the eruption, for sore throat, etc., but give my patient at once, systematic and judicious medication, that which will eradicate, if we can, the noxious power of the inoculated virus, which accounts for the psychopathological process seen in the active stage of syphilis.

It is said that syphilis is a self limited disease, will run its course, and the patient get well without treatment. Fournier asks, is it, or is it not necessary to treat a syphilitic patient? My answer is, rout the intruder if possible.

The complications (the sequela) are many, among which may be enumerated, cephalgia, insomnia, myalgia, periostitis; affections of the eye—iritis, choroiditis; also, sarcocele, gummy tumors, paralysis of face, caries, ozæna, etc.

Do not such troubles justify the intervention of treatment? DAVE we call syphilis a benign affection? Shall we tell it in Gath that it needs no treatment? Nay, nay.

From time immemorial mercury, in some form, has been the recognized antidotal agent for the syphilitic virus. With it we neutralize the virus. If the primary virus is made of no effect by this potential Samson, can we have secondary or other lesions? I do not give mercury to the degree of the tenderness of the gums and teeth. I do not set up local and constitutional processes, but I administer it with tact, without doing any harm. Then with my motive accomplished, I give both my patient and remedy a rest.

The period of natural cure, or real latency, if you please, is about two years. After a systematic course of mercury, during which the doctor has done no harm, but infinite good with all local lesions removed, I then reconstruct him, increase his vitality with good food and iron tonics, teach him how to live hygienically, in fear of God and man (woman).

A very popular way now-a-days to give mercury is by hypodermic injection, and it is a most effective one—direct with quick absorption, more so, in fact, than the plan of our father Herodotus, which was later advocated by Cornelius Agrippa, from whom came the appellation: Cornelius' "tub." Ambrose Pare describes the method thus: "The patient was sealed inside the tub on a perforated stool, beneath which were placed hot bricks or stones. Through a trap door in the side of the tub a mixture of vinegar and brandy, to which mercurials and aromatics were sometimes added, was thrown upon the heated bricks. The steam emanating therefrom was confined by a sheet fastened around the neck."

Rabelais said that he had often seen syphilitics, when greased with mercurial ointment, their faces on edge, like a knife, and their teeth creaking like a broken-down organ, put into the steaming tub with beneficial results. But this author was partial to hot air baths, which were not original with him, for Sarella had employed them long years previously.

We all know the reputation enjoyed by the Hot Springs, of Arkansas, and very justly; but I mean that the treatment pursued at this re-

*Read at the meeting of the Kentucky State Medical Society, May, 1900.

sort is not materially different from the hot baths used by Herodotus.

Those who heard my paper, referred to above, will recall my position with regard to the connection between syphilis and phthisis. That, if there had never been any syphilis, there could have been no phthisis nor any cancer, etc. After the lapse of two more years of experience, I have not changed my views one jot.

In a paper read by Dr. J. A. Fordyce, before the West Point meeting of the American Association of Genito Urinary Surgeons, he says: "In the so called tertiary stage of syphilis, the disorder is prone to again localize itself; and can, in the skin, imitate tuberculosis processes or malignant diseases; in the subcutaneous tissues, new growths of malignant nature, in bone, tuberculosis or sarcoma, in the tissues, tuberculosis or other neoplasms. Syphilis of the tongue is one of the most common antecedents of cancer of this organ, it being sometimes difficult to determine when syphilis ceases and when epithelioma begins."

The questions of most vital importance to me have ever been:

First. Is a syphilitic always a syphilitic? I would answer, yes, always. If not syphilis *per se*, he has other diseases growing from the syphilitic poison.

Secondly. Is the germ of tertiary syphilis the same as the germ of secondary syphilis? and also the same germ that caused the chancre? or is their virulence modified by removal from the chancre? I would say the same germ is the cause of all the trouble.

Third. Is syphilis a curable disease? Is it possible to eradicate all the syphilitic germs from a syphilitic? I would say emphatically, no. I do not believe syphilis is ever cured, in the sense in which we employ the word "cure." A person may seem to all intents and purposes cured of syphilis, yet it is apt to make its imprints manifest on some of his or her children.

I believe the germ that produces chancre is the same and has the same virulence as that which circulates in the system during secondary or tertiary syphilis; and so long as there is a single syphilitic germ in the system such a person is a syphilitic, and may communicate the disease to others in various ways. For that reason I would say a syphilitic should never marry.

John M. Battan, M. D., of Pittsburg, reports the results of long treatment of a number of cases of syphilis, and I beg to call your attention to two of his cases in support of my opinion. A young man was treated for two years, beginning in 1864, for syphilis, by Dr. Jones,

a very competent physician of his city. After this period the young man married a healthy woman, but she bore him no children. The wife soon after marriage was inoculated with syphilis by the husband.

"Dr. Blank relates to me," says Dr. Battan, a case as follows:

A man, aged 30, in May, 1830, contracted syphilis in the usual way, and was under treatment of Dr. Blank for ten years. At the end of this period he married a healthy woman. In a year after marriage she became pregnant, and in three months had a mi-carriage. Shortly afterwards, the doctor noticed that she had syphilis in its worst form.

Dr. Duffield reports in the *Medical News*, 1894, a case of syphilis where the husband married nine years after the inception of the disease. His wife, and a child which was afterward born, were infected.

Such cases might be added *ad infinitum*—they are familiar to you all.

Why do about 90 per cent. of skin diseases respond promptly to mercury or iodide of potash? Why do many scrofulous and weakly children come from syphilitics? Until very recently the syphilitic microbe was a thing *in hoc*. I have never seen one, but Van Niessen claims to have found "the old man."

Of the history of the microbe I know but little. How long it may remain in the system I cannot divine. Its wonderful deleterious results or effects are not to be gainsayed or denied. The microbes of other germ diseases, acute or otherwise, do their work in short order. Either the patient succumbs or the hosts of leucocytes overcome them, and the patient recovers. Not so with the syphilitic microbe. Its effects may be seen on a given individual's posterity years and years after its inception. If the gonococci linger in the genito-urinary tract for ages, is it more reasonable to expect the syphilitic microbe, whose history is far greater, will disappear sooner?

Multiplying germs can but remind us of some pleasures without happiness; clouds without rain; wells without water; flowers without fruit; hope deferred and gone forever; bright and sweet anticipations destroyed; precious progeny whose life is but a span; an open grave before them.

What has been begun in haste may be repented of at leisure.

I would repeat that syphilis is never cured—never eradicated—you may fill the subject with iodides until you can smell him before you see him; you may anoint him with mercurials until he is as slick as an eel; then you

have but scorched the snake, you have not killed him. And mark what I tell you, this syphilitic germ, which has entered the blood once, will always be there till the Son of Man sits in eternity.

Harrodsburg, Ky.

PREVENTIVE MEDICINE AND THE HIGHER MEDICAL EDUCATION.*

By E. B. MONTGOMERY, M. D., Quincey, Ill.

The improved standards of medical education prevailing in this country to-day over those in vogue twenty years ago have frequently been dealt with from the point of view of their favorable influence over the entire body of the medical profession, and its title to respect from the general public. Less overcrowding has been another of the professional benefits of this better and more prolonged course of study required of medical students before graduation. As a corollary of both of these results, its effect, direct and indirect, upon the general public through a better prevention of disease, has not been so forcibly brought to the attention of medical and legislative bodies.

Of the degree of illiteracy and general ill-preparation for their work of many of the graduates of our best medical schools twenty years ago, I need scarcely speak. The literature of the profession, and particularly the articles on the subject, along with specimens of examination papers by Dr. Gihon, have dealt with it very thoroughly. That this defect has not been overcome by the professed higher requirements, both of preliminary education and subsequent professional training, is shown by some of the examination papers of some graduates of our best medical colleges, published in the *Philadelphia Medical Journal* for January 27th, 1900. That these graduates have had no inkling of higher medical or other education is only too lamentably evident, and their graduation should reflect upon the institutions from which they issued.

That the medical profession in this country has been and still is overcrowded to a marked degree is evident to those who have had occasion to look into the subject. One practitioner to every six hundred inhabitants is the registered record, but this takes no account of those who, while not recorded as medical practitioners, are still trying to usurp the functions of

practitioners of medicine, surgery and midwifery. I allude to the osteopathic and magnetic healers, the Christian science and faith healers, and the counter-prescribing druggists. Were these added to the registered list, the proportion of practitioners to inhabitants would be very largely increased.

The overcrowding of the profession which results from low standards of educational requirements for those engaged in the practice of medicine tends rather to increase than decrease the amount of preventable sickness.

There are several very good reasons for this:

First. The large number of densely ignorant medical teachers and advisers provided for the general public make a notable instance of blind leaders of the blind in medical and sanitary matters.

Second. It is made to the material interest of men of low mental and moral qualifications to have disease more widely prevalent if their occupation is to furnish them a livelihood.

Third. In such an overcrowded profession, the struggle for existence brings out all the baser elements of human competition, and this tends to still further degrade the profession and the public who look to them for help and enlightenment on medical and sanitary subjects.

The increase of preventable diseases brought about by those who, with no knowledge of requirement whatever, exercise the functions of physicians, scarcely needs comment.

In a recent case against osteopathy in the State of Kentucky, the representative of this body of charlatans on examination before the State Board of Health, stated that he treated scarlet fever by kneadings and manipulations; that he treated diphtheria by kneading and pressure about the neck and throat, and that he neither knew anything about the contagious character of these diseases, nor took any precautions regarding them. "Christian Science" healers do not recognize the existence of diseases contagious or non contagious, and are, by their teachings and practice, so far as they prevail, a standing menace to the public health. The counter-prescribing druggist, ignorantly treating and advising for venereal and other diseases, is dealing more disastrously with the public health than he and they realize. These are only a few instances of what damage may be done by the grossly ignorant practicing medicine outside of recognized professional ranks.

But what of the ignorant within those ranks, yet innocent of any attempt to acquire the higher medical education? I think the facts

* Read before the Illinois State Medical Society during its Fiftieth Annual Meeting, held at Springfield, Ill., May 15, 16 and 17, 1900.

will bear me out when I assert that the most important advances in medical knowledge in the last twenty years—advances which constitute the crowning glory of the medical profession—are those which relate to the prevention of disease.

In a valuable *Report on the Cause and Prevention of Infantile Mortality*, Dr. Ernst Wende, the health commissioner of Buffalo, New York, has shown to what a large extent milk is a conveyer of those germs which are productive of fatal disease. Typhoid fever and cholera have both been demonstrated to be water-borne diseases; and these demonstrations carry with them the obligations of municipalities to look carefully to the quality of water supplied to their citizens for drinking purposes. The frequency with which epidemics of infectious disease have their origin in unrecognized cases in school children carries with it the evidence of the wisdom, if not necessity, of frequent medical inspections of the schools and scholars. Then, in surgery, the importance of wound infections is fully demonstrated, and asepsis is universally acknowledged as being the basis of all successful surgical work. Then the far reaching importance of venereal diseases, especially gonorrhoea, is being more fully emphasized—Neisser going so far as to assert that nearly every salpingitis has had its remote origin in a latent gonorrhoea in the male. We prevent mortality in the lying in chamber to day by an insistence that every labor case be treated as a surgical case; and by recognizing the fact that all puerperal fevers are the same as surgical septic fevers, and should be easily preventable by using the same antiseptic precautions that are used in surgical cases. Then the "great white plague," tuberculosis, is being shorn of some of its terrors by the recognition that it may be classed as a preventable disease if only sufficient precautions are taken to that end.

I have briefly stated a few of the triumphs of preventive medicine—those which the thoroughly educated physician of to-day ought to be teaching the people in general, if he has the proper conception of what professional knowledge demands. We know that this is not true of large numbers of registered practitioners to-day. Among them septic surgery and midwifery still prevail. They scout at the "bug" theories. No word from them gives warning of the dangers of infected water or milk. With this frequently misapplied or foolish therapeutics have often driven patients to the therapeutic nihilism of homœopathy.

This is no fancy picture, but really repre-

sents the status of very many within the ranks of the profession. That such men are even a greater menace to the public health than the more ignorant and less influential osteopath and Christian scientist goes without saying.

Dr. Frank W. Wright, of New Haven, Conn., in a recent paper before the American Public Health Association, states that from his experience as a health officer he has found that there are "some physicians in every community who are inspired either with petty jealousies or pure perverseness, who conceal their cases or report them too late for the public to be warned; who neglect to instruct the family as to precautionary measures; who cast insinuations upon the competency of the officials of the health department, and evade as far as possible all regulations. Some even go so far as to advise those who place implicit confidence in them that the whole business amounts to nothing." Those of whom Dr. Wright speaks are the same who make no attempt to guard their patrons against the dangers of impure water and milk, and ascribe puerperal septicaemia to "catching cold" or some other equally "mysterious dispensation of providence." If such a degree of education obtained in the profession as should make itself felt in the general sanitary training of the people, typhoid fever would not have the degree of prevalence that it does in this country, nor would it be necessary anywhere to call in specialists to diagnose variola or to urge the value and importance of vaccination.

Let legislators once be made to see that the legislation asked for is not an expression of trades unionism which would, for financial seasons, restrict the number of medical practitioners, but is in the interest of the most vital concern of the whole people—*i. e.*, its health and vigor—and not the most venal would dare oppose it. He may have lived upon blackmail and extortion; he may without remorse have bargained away the people's franchises; but he will not look lightly upon the spread of a preventable disease.

If, then, my argument is right, we should in our State laws require a uniform standard of education, and that a high one, of all fulfilling the functions of medical practitioners. *First*, because a lower standard leads to an increase of preventable diseases. *Second*, because it increases charlatanry, and the large number of medical fads and delusions which mis-educate the people at large to their own un-doing and very often to the injury of those who do not share the grossly erroneous views. *Third*, because by the enormous over-crowding of the

profession which a low standard of requirements permits and encourages, the most important office of the medical profession in the State is defeated—*i. e.*, to promote the health and well-being of the whole people through the active sanitary education which should be given them by practitioners highly qualified and duly proportioned in numbers to the needs of the population to be served.

SHOULD PHYSICIANS SUPPLY THE MEDICINES THEY PRESCRIBE?*

By D. S. MORRILL, M. D., Farmville, N. C.

We all know there was a time when every physician supplied all the medicine he prescribed. But with the discovery of our remedies and the increasing demand on physicians for a more thorough investigation of diseased conditions, together with a desire for more palatable remedies than the already busy practitioner thought he had time to prepare, the pharmacist made his appearance. And for a time his advent was hailed with encouraging hope for his success and final establishment in an honored profession.

A period then followed in which practically all physicians except those located in remote districts, gradually began to put their bottles aside and placed the whole responsibility of preparing and dispensing their remedies on the pharmacist. In those days, the pharmacist was a man who attended solely to supplying medicines prescribed by a physician. For a time, this new order of things worked well. Physicians were satisfied, and the profession of pharmacy seemed well established. While this method of medication relieved the busy practitioner of considerable work, and divided his responsibility, it was not so satisfactory to his patient, who preferred to have the medicine administered by the physician he had summoned, and who could not see the justice in having his suffering needlessly prolonged while waiting for a pharmacist to prepare and send his medicine.

Naturally enough, on the part of the public, there was much opposition to this system—a system of unnecessary delay. And when they came to consider that instead of paying the doctor one dollar or two dollars, as the case might be, for his visit and medicine, as was the custom once, they now had to pay him the same amount for a strip of a paper, and the

pharmacist fifty cents for the medicine, with the additional annoyance of having to dispatch a messenger to have the prescription filled.

Naturally, people soon became impressed with the idea that for all minor ailments they would go direct to the pharmacist, and thus avoid the intervention of the physician. But here, too, they occasionally met with disappointment, for there were some pharmacists who would not counter prescribe, and who were tireless in their efforts to explain the difference in the work of the physician and that of the pharmacist, endeavoring to show how they could not prescribe without going beyond their province and beyond their teaching, and violating a sacred trust. But, with a rapid increase in numbers of the pharmacists and competition, and a constant outpouring of patent nostrums, a great majority of the pharmacists commenced business on a larger and more independent scale. They began to refill prescriptions without instruction, and counter prescribing became a very important part of their work. Finally, physicians generally were aroused and began to think more seriously, and on realizing that when called to relieve the sick, they were armed with no therapeutic agents other than those reposing in a lead-pencil and a pad of blanks, they soon saw their inefficiency and absolute inability to administer directly to a sick person's wants. And this condition of things was the cause of a great majority of the more practical medical men casting their old habits aside and bringing into every-day practice a more humane, reliable and satisfactory method of medication. And the results have been so satisfactory to all, that now only a small per cent. cling to the fashion of making their patients a professional call, with no remedies or means other than the pencil and pad of blanks, and leaving with him no consolation, but rather a painful and melancholy reflection on the possibilities of the future and what it might bring, if anything.

There no longer remains a doubt in the minds of the majority of medical men, that the tremendous outpouring of patent nostrums, and the readiness with which they are consumed by public delusion, ingrafted in the public mind by voluminous advertisements and countless testimonials, are extremely harmful to mankind. Not at all from a business standpoint with physician, but from the unfortunate conversion of many acute diseases into a more exaggerated, or even chronic character. A person who feels a little dull and disinclined

* Read before the North Carolina Medical Society, held May, 1900.

to go about his daily pursuits, reads in a newspaper an extensive essay, written, presumably, by a subject suffering in a similar manner. The writer pathetically, and even dramatically, describes his dull frontal headache, a complete loss of appetite, an occasional flash of vertigo, a foul tongue, and a heavy feeling in the back.

He goes on to state that after consulting several physicians, each of whom had failed to relieve him, but had expressed doubts as to the probability of his final recovery, he was finally, as a last resort, induced to try "Regulator," (it matters not what regulator), and after taking it for several days was very much relieved, and after draining a third bottle was entirely restored and able to perform his usual work.

And there is the needless suffering to which young children are subjected, by the reckless use by parents and nurses of mixtures of unknown power for doing harm, containing agents of which they know nothing, and suggested by some person of utter ignorance of the fitness of medicinal remedies.

A few months ago, my attention was called to an infant, who, having had some symptoms of malaria, had been drenched with a teaspoonful of Grove's chill tonic every three hours for several days, and we, who are familiar with the harshness of that preparation, can well imagine the expression of bodily suffering unmitigated by that unfortunate victim.

With the physician supplying the required medicine, a great deal in the way of expense, and much more in the way of ease and comfort is saved to his patient. This system, of course, gives the doctor more work and enforces upon him a greater expenditure for drugs and general supplies, thereby subjecting him to more chance for loss by fraudulent patients, but even all this should not be considered any serious obstacle in the way of the physician supplying directly and personally to his patient the remedy best calculated to meet the requirements of the case. When people find that they can go to the doctor and get the desired medicine without being subjected to the additional expense and annoying delay coincident with the intervention of the pharmacist, they will naturally have a tendency to refrain from seeking the grocery, or the general merchandise store, to find the desired medicinal remedy. The physicians of this country are better off than the nostrum makers live; but the consumer would be better off if they were all dead.

It has been argued from time to time that carrying medicinal agents and the manipulation necessary in the preparation of powders and the like for administration, interfered with

the dignified bearing which a physician should maintain; but it seems to me a true physician should be so devoted to the art of supplying remedies to relieve suffering as to be willing to subordinate all other things to that.

THE MEDICAL TREATMENT OF GALLSTONES.*

By EDWARD S. STEVENS, M. D., Lebanon, O.

One of the things to be cultivated by the physician and surgeon in caring for the afflicted is conservatism—conservatism in its best sense in practice, but particularly conservatism in speech. Many lives have been lost because of reckless statements as to the possibility of curing this disease by means of drugs by men whose position gained for them the ear of the profession. The followers of these teachers are with us to day.

The purpose of this paper is rather to define our limitations in the use of medicines for the treatment of gallstones, than to make a fresh declaration of the possibility of removing these foreign bodies by the administration of drugs.

The expressions of my belief are given by way of preface:

1. I believe that it is frequently difficult and often impossible to make a positive diagnosis of gallstones.

2. I believe that there is no known medicine by means of which a solution of gallstones can be effected by any of the ordinary means of administration.

3. I believe that the introduction of a canula into the gall-bladder for the purpose of sounding for stones, introducing solvent remedies, or withdrawing fluids, is dangerous when compared with the amount of good likely to be accomplished, and should not be practiced.

4. I believe that the practice of attempting to empty the gall-bladder by massage is dangerous, and should not be practiced.

5. Finally, I believe that there is but one safe and radical cure for gallstones, and that is by cholecystotomy or some similar surgical operation.

The medical treatment may relieve the intense pain of gallstone colic, or it may relieve certain other symptoms which may be present between the paroxysms. Moreover, it gives to the medical attendant a hold upon the sufferer so that when the time comes when his sufferings be-

*Being an original abstract of a paper read before the Ohio State Medical Society, May 10, 1900, Columbus, O.

come unbearable, or the danger of his condition dawns upon him, and he is willing to submit to operative treatment, he will be in the hands of one who will neither temporize nor experiment. It is not right to neglect these persons even if they decline an operation when offered them as the very best treatment.

The intense pain, the spasm, and the reflex disturbances consequent upon an attack of what has been called improperly a "colic" may be relieved by full doses of morphine, hypodermatically by preference. The practice of using blisters and stimulating liniments should be abandoned. If any local application is made, hot water is as good as anything and is harmless. The attendant is to be cautioned against burning the skin, not only because such intense heat does no good, but also because the presence of a blister or a subacute dermatitis might be embarrassing should a sudden necessity arise for opening the peritoneal cavity.

Between the spasmodic attacks use no opiates, as they do harm. Rest and moderate heat may give some relief. But it is just here that the so-called solvent remedies come into play. The indications to be met are furnished by the presence of constipation, cholecystitis, flatulence, and other evidences of intestinal sepsis. There are two lines of treatment to be followed to meet them. Sometimes, but rarely, antiseptic preparations by the mouth are sufficient to do all that is required; but generally the other line of treatment answers every purpose, and is found in the administration of laxative medicines for the relief of the constipation which may be present as well as to relieve an engorged portal system. The relief that follows this line of treatment is so marked often as to make the sufferer believe that he is cured, while many a physician has permitted himself to be deluded with the idea that he has done a great thing.

The natural mineral waters which are recommended for this disease are for the most part aperient. The other drugs are chiefly salines having a cathartic action, and the oils—formerly castor oil, and later olive oil. The relief following their use is not because of their solvent properties, nor because they assist in expelling the calculi from the gall-bladder. But they lessen congestion, they diminish the intensity of inflammation, and they cause the expulsion of septic products from the intestines. They, therefore, form a proper medical treatment of a condition which may always be considered as grave.

But aside from some symptomatic treatment

this is the end. Numerous cures have been heralded, but the condition is one which we do not cure by means of drugs. He who ventures to treat a case of this kind should be honest enough with himself, with his profession, and with the patient who trusts him to realize this for himself, and explain it to his patient. If simple relief is wanted it may be furnished by non-surgical treatment; if a cure, the surgeon's operating room must be sought.

Correspondence.

Old Chloroform a Safe and Harmless Anæsthetic.

Mr. Editor,—What I stated to you a few weeks ago as a theory, I now believe to be a fact—that *old chloroform is a safe and harmless anæsthetic*. I shall relate my experiments and experience for the benefit of your readers, that they may draw their own conclusions and try *old chloroform*.

About two years ago, I desired to kill a dog. Not caring to waste good chloroform, I took a bottle of Squibb's chloroform, which was *about twelve years old*, which I had, and which I did not use, as I thought it was too old.

I shall say, by the way of parenthesis, that it is, I believe, generally known that chloroform will kill a dog about as quick as any drug known.

I took a wad of absorbent cotton, poured about one-half an ounce of chloroform upon it, and held it to the nose of the dog until there was *complete* anæsthesia. Thinking it would be but a few moments before death, I left the cotton filled with chloroform lying upon the nose of the dog. I told my stable boy to remove the dog; but when he went to do so—in about an half an hour—the dog could not be found. The next morning we caught the dog again, and, using the chloroform from the same bottle, it took over *two* ounces and over *twenty* minutes, with all air excluded, to kill that dog. At that time, I did not attach any importance to this incident, except that I thought and remarked that it was very singular a dog could stand so much chloroform.

About one year later, I had a very fine and valuable setter bitch that "pupped," and did not recover. After she had been ill for a week, and with sufferings which seemed to be horrible, and expressed almost with human intelligence, I concluded that I would kill her as

act of mercy. With absorbent cotton, and some of the same *old* Squibb's chloroform, it took about two ounces and fully fifteen minutes—it may have been longer—to kill her.

Then I began to think that perhaps it was the chloroform and not an idiosyncrasy of the dog. I had none left to have analyzed, and, after long thought, came to the conclusion it was owing simply to the chloroform being *old*. A short while ago, I had a talk with you, Mr. Editor, and asked you to get me some old chloroform with which to experiment.

Since that time, I succeeded in getting about four ounces of chloroform that was about ten years old. I bought a dog weighing about twenty pounds, known as a *fice*. I strapped him to a board, and this time did not try to kill, but simply to induce anaesthesia. I used two drams in a cone-shaped towel, and in three minutes had anaesthesia. Five minutes from the time of anaesthesia, I began to dissect from the pneumogastric, and in fifteen minutes I had the nerve exposed. I then used two drams more of chloroform. Stuck a needle in the heart, and stimulated the nerve, and had the usual acceleration of the heart-beat. I kept this up for some time. Then I concluded if I could I would look at the brain. I started out to keep a time record, but found it was not practicable, and gave the chloroform as indicated. After a long and tedious piece of work, I removed a little over half of the skull and exposed the brain. I noticed the brain was very pale, and when it began to get red I had to give more chloroform. Not knowing the exact location of the brain of a dog, I made a poor dissection, and did not expose the brain as I wished; and in trying to expose the base of the brain I killed the dog, after it had been for one hour and forty-eight minutes under the influence of chloroform. During this experiment, I used ten drams of chloroform.

I have about two ounces left, with which I hope to be able to continue these interesting experiments.

Now, Mr. Editor, the point I wish to make is that the *older* the chloroform the safer. If it is so on the dog, may it not be so on man?

I give you the above facts, hoping that it may induce some one to experiment (better fitted and prepared than I am).

Very respectfully,

W. D. TURNER, M. D.

Fergusson's Wharf, Va., May, 1900.

Proceedings of Societies, etc.

CLINICAL SOCIETY OF MARYLAND.

BALTIMORE, May 18, 1900.

The meeting was called to order by the Secretary, Dr. Reik, the President being absent, and upon motion of Dr. Jacobs, Dr. Keirle was elected President *pro tem*.

Congenital Cystic Kidneys.

Dr. J. Whitridge Williams reported a case as follows:

I have the pleasure of demonstrating before you this evening this specimen from a case which was of very considerable interest to me from several points of view. In the first place, it was of interest because of the fact that the fœtus presented a large congenital cystic kidney, which, as you know, is a rather infrequent pathological finding. In the second place, the tumor was of such large size as to offer a very decided obstacle to the delivery of the child.

The patient was a young colored woman who came to the Johns Hopkins Hospital in labor, and gave this history: She was 26 years old, and had previously had three spontaneous labors, the oldest child being six years old, the youngest three. All the children were perfectly formed, and there were no complications about the course of the labors. She was just about at full term, and the pregnancy had been uneventful up to the last four months, during which time she had been suffering with more or less œdema of the lower extremities. On examination we found a perfectly normal pelvis, but the uterus was very large, immensely distended, and reached up to within two finger breadths of the ensiform cartilage. The back of the child could be made out to the left, and the fetal heart was heard on the left side just below the umbilicus, and was 160 to the minute. On vaginal examination, we found the cervix completely dilated, and foot and knee together with the cord projecting from the cervix. The cord showed a pulse of 162, corresponding very closely to the rate made out on abdominal auscultation.

As the cervix was completely dilated, and there was a breech presentation with prolapsed cord, it was determined to deliver her at once. Chloroform was administered, and Dr. Dobbin introduced his hand, seized both feet and brought them down. As soon as they were brought in sight we perceived that both were clubbed. Dr. Dobbin made considerable traction, and the child not coming I aided him by pressure through the abdominal wall. As no

progress was made, I thought there must be something wrong, and advised him to pass his hand up into the uterus. As he did so he remarked that it seemed to be a very large child.

I then washed up and examined the woman myself, passing my hand well up into the uterus, and found to my surprise that the child's abdomen was dilated to quite the size of that of adult age. The lower part of this abdomen was filled with a tumor mass, and diagnosing a kidney tumor I remarked that there were two possibilities, either a congenital cystic kidney or sarcomatous kidney, but that I was rather inclined to consider it cystic.

It was impossible to deliver the child by ordinary methods, so I proposed to do an intra-uterine nephrectomy, I introduced a pair of scissors, made an incision in the child's belly, about 6 cm. long, and passing my finger through that I could feel a hard, more or less, nodular tumor. With my fingers I began to break-down pieces of this tumor, and it proved to be a very difficult operation, as my hand soon became cramped. Dr. Dobbin then took a turn, and worked at it until he was tired, and then I began again—continuing in this way until we had removed 470 grams of the tumor, something over a pound. The abdomen was collapsed somewhat now so that I could pass a perforator up through the abdomen and puncture a part of the mass that felt soft, allowing about a pint of clear, yellowish fluid to make its escape. The child was now extracted without any great difficulty.

After extracting the child I noticed that the woman's abdomen was still of considerable size, and when Dr. Dobbin introduced his hand again he found another bag of waters, which he ruptured, and seizing a foot of a living female child, delivered her.

Before doing an autopsy on the first child we were struck by the immense size of the abdomen, and we found also that the posterior part of the skull was not well developed, and a large meningocele projected from the posterior fontanelle. There were 16 teeth, not ossified, but distinctly marked off and cartilaginous in structure. Both hands were deformed, one having six fingers and the other seven. Both feet were clubbed in the varus position, and one foot had six and the other seven toes.

The portion of tumor remaining within the abdomen measured 16 by 13 by 6 cm., and weighed 720 grammes. Adding this to what was removed at the time of operation, we had a kidney of the left side that weighed 1,190 grammes, or three and a half pounds. When

we went to look for the cystic structure that we had tapped, we found that that structure was the right kidney, which, in a collapsed state, measured 13 by 7 by 4 cm., and had contained about a pint of fluid; the kidney tissue had entirely disappeared, and there was nearly a hydro-nephritic sac. The specimen as you see it here gives an excellent idea of the size of the child and its general appearance. The other child was born alive, weighed about 2,090 grammes, and was perfectly well developed.

This case was of very particular interest to me from a double standpoint. It was a very large abdominal tumor, and I do not know of a larger one on record in a new-born child. The woman made a very good recovery, and her temperature during the puerperium was never above 100. I shall not go into details concerning the pathology of this case because it is being worked up now by one of my assistants and will be published later. I brought, however, a piece of the congenitally cystic kidney for your inspection. The tumor is distinctly adenomatous in character, and I think we may consider that it is an adenoma of the kidney of a young child.

This is the second case of kidney tumor in a new-born child that I have had under my observation, but the only one I had an opportunity to work up personally. The other case occurred in my practice about three years ago. The woman was pregnant for the third time, and suffered very much during the latter months of pregnancy from a slight degree of hydramnios. She had a short labor, and an asphyxiated female child was born. While working over it for resuscitation I was struck by the size of the kidney region. As soon as the woman was cleaned up I told the husband of the condition of affairs, and we sent for Dr. Booker, who spent the night with the child. We had numerous consultations, and it was finally determined to operate. Careful measurements and the weight of the child was taken from time to time, and on the day before that set for the operation the child showed a gain of four ounces in weight, which decided us to postpone the operation. Later on the child was taken to New York, and while there was operated upon, and the tumor was found to be a sarcoma. The child made a good recovery, lived ten months, and died of some other trouble.

Dr. Winslow: In this first case, was there any urine in the bladder?

Dr. Williams: No; there was a kink in the ureter of the right kidney.

Congenital Cystic Kidney in the Adult.

Dr. H. B. Jacobs: This subject will be of increased interest at present because we are able to see these specimens in connection with those just shown by Dr. Williams. The patient from whom my specimens were removed was a young unmarried woman, 28 years old, who came of a very good family here in Maryland. Her father and mother lived to beyond middle life, one of them dying of dropsy. Her sisters and brothers are well, but one of the sisters has a history of having passed blood in her urine. The young woman never had any of the common children's diseases—no rheumatism, chorea, nor any of the infectious diseases—save possibly malaria while she was living on the Eastern Shore. She had been perfectly well throughout her life up to the beginning of the present trouble, save for an occasional frontal headache, which she attributed to eye-strain. She had taken part in the games of children without breathlessness; always had a good appetite and digestion, and lived the life of a healthy and sound individual.

Her present illness began one year ago, when she noticed blood in the urine without any assignable cause. This condition lasted for about one week, but she had no pains or chills and did not stop her work. There was no further trouble for nearly a year, when she had an attack of pain in the right side coming on without any apparent cause. The pain was sharp, not colic in character, but rather continuous. Her doctor thought that she was passing a gall stone. The urine was bloody, and remained so for two weeks. The frequency of micturition increased to about once every half hour. She went to bed, and remained there for three weeks, becoming weak from loss of blood. Then she got up, and was about again feeling fairly well, although the pain in the right side recurred at frequent intervals. At the beginning of this attack, on the 6th of December, 1898, she noticed, for the first time, that the abdomen was distended, and it became impossible to fasten her waistband. The frequency of micturition also persisted, but there was no recurrence of the bloody urine.

On entrance to the hospital her appetite was good, and on examination she presented a healthy, well nourished appearance, the skin slightly sallow and the mucous membrane pale. The pulse was 76, of good volume, and slightly increased in tension. There was some enlargement of the heart, the second aortic sound sharply accentuated, and there was a slight murmur at the apex. The right flank was slightly fuller than the left, and the costal

grooves were entirely obliterated. The abdomen was slightly fuller over the right than over the left side. The wall was soft and without tenderness. On the right side, there were definite signs of resistance, which showed the presence of the deep mass. With one hand in the flank and the other over the abdomen, the mass could be grasped. In the left flank, a second mass could be made out with nodular bodies on its surface. Both tumors became more palpable when the patient assumed a knee chest position.

The patient stayed in the hospital from the 11th of January, 1899, until the 11th of February, and after the first few days she was up about the ward, and had no complaints save an occasional pain in the side. She was quite anæmic, and the blood count showed a reduced number of red cells and hemoglobin of 40 per cent. The urine was examined daily, and was always small in amount, with low specific gravity, between 1:007 and 1:008. There was slight trace of albumen, and on one occasion hyaline casts were seen. On one occasion, also, cholesterol crystals were found.

She went home, and nothing was heard of her during the following year. On the 27th of February, this year, she returned in a condition of extreme dyspnoea. Her friends related that she had remained perfectly well, that she had been at work during the year, although at times she passed bloody urine. At the time of entrance, she could not speak above a whisper, and had a great deal of difficulty in getting her breath. There seemed to be obstruction about the larynx. Cultures were made from the throat, but no bacilli found. Tracheotomy was performed, and the tube inserted the next day, but respiration remained labored, although the tube seemed to be clear, and she slowly sank until death on the first day of March.

The urine during the last days in the hospital showed a specific gravity of 1:013, with many red blood cells, but no casts. The abdomen previous to death showed that the two tumors described above were still present, and the impression was that the left was perhaps a little larger than when seen before. The diagnosis of congenital cystic kidney had been made, and, as such, the case was shown by Dr. Osler at one of the Hospital Society meetings.

Not only is the case interesting because of its being seen in connection with Dr. Williams' case, but because the diagnosis of congenital cystic kidney was made during life. Cystic kidneys are not uncommonly found at

autopsies. I may say not uncommonly, as there are some hundred or more in literature, but it is not often that the diagnosis is made during life, and of all those that have been described probably not more than one in five has been discovered before death. These cases are usually considered as interstitial nephritis, or they were not diagnosed at all. The autopsies in this case may be of some interest.

The left kidney measured 22.5 cm. long by 9.5 broad, and reached fully to the level of the sixth interspace, being also fairly adherent to the diaphragm. The pancreas was directly under it; the spleen above was not adherent, but consisted of a mass of cysts. The right kidney was about the same, but not so large. After removal, the left kidney weighed 1,400 gm., its capsules stripped off with some difficulty, and the upper end of the kidney was formed of a very large cyst. The cysts of this kidney varied from the very large one, about three inches in diameter, down to cysts of pin-point size, only to be seen under the microscope.

The cause of death was a laryngitis, the mucous membrane being œdematous and swollen, and cultures showed colonies of staphylococci.

In considering the question of diagnosis of these cases, you must consider as of importance the pain in the side and the bloody urine. Most all the cases present those symptoms. Then, on physical examination, almost all cases have shown a slightly hypertrophied heart, with a high tension pulse and sclerotic arteries. If, added to that, one may find tumors in either flank, he should be led to think of cystic kidney as well as the other forms of kidney trouble. If there are two tumors, cystic kidney should be thought of first, because most other kidney tumors are unilateral. In addition to the examination of the urine presenting symptoms of chronic interstitial nephritis with blood corpuscles, the presence of cholesterol crystals makes the diagnosis almost certain. The cholesterol is formed in the contents of the cyst, and if one of these ruptures, it is carried down into the urine.

Now, I would like to say a word about the *pathology*. This question is now under discussion. The early theories, of course, were that it was due to a blocking up of the flow of urine, and that these were retention cysts. That theory, I think, however, has been very largely abandoned. The second theory advanced was that they were embryonic in their origin, that the Wolffian body became mixed with the kidney tissue and produced this cystic condition.

Now, the latest idea is, as Dr. Williams has suggested, that it is entirely a new growth, that it is an adenoma of some form. Another interesting point is that the cystic kidney of the fetus was not associated with the cystic kidney of the adult until comparatively recently. The first was thought to be congenital in origin or due to intra-uterine nephritis, and the infant not having sufficient renal tissue to live, died soon after birth or was sacrificed at birth. On the other hand, the adult cases were considered to be merely a form of interstitial nephritis. Later writers, however, have joined the two together and consider that the adult cases are the fetal cases with sufficient renal tissue left to allow the patient to go on through the years even to 70 or 80 years of age, as some cases have been discovered at autopsy as old as that.

Dr. Winslow: How much urine did that woman pass?

Dr. Jacobs: She was passing probably 800 or 900 cc. per day.

The necessity of making a rather careful diagnosis in case of tumor of the flank is seen in the fact that there have been a number of these cases operated upon with the idea that there was a malignant growth of the kidney, or that it was an ovarian cyst. Some eminent surgeons have done this. The fact that one kidney is often larger than the other would lead one to overlook a small tumor. I think all agree that surgical treatment is not to be considered, and as for medical treatment, give the treatment of chronic interstitial nephritis. The small amount of renal tissue present to do the work must be considered, and the patient, of course, lightly fed and given a great deal of water to drink, otherwise there is practically no treatment.

Dr. Winslow: I am sorry I had not heard Dr. Jacobs' address a year ago. About that time a lady was brought to me from North Carolina, twenty-three years of age, rather spare, who had been suffering with urinary troubles for some time and had had quite severe hæmaturia. She had pain in the left side and a large tumor, as large as the smaller of these two kidneys just shown. On the right side there was also a palpable kidney, but little if any enlarged. I did not recognize the character of the trouble at first, and thought I probably had to do with either a pus kidney or a cystic kidney due to hydronephrosis, or due to the impaction of a calculus, and performed an operation. Upon cutting down upon the kidney, it showed the appearance very similar to what is here exhibited, but as the kidney appeared to be totally disorganized, I

thought it would be as well out of her as in her and so removed it. She had no trouble as a consequence of the operation; recovered, went home, and is living still in as good health, or better, perhaps, than she was before. Now, I do not judge that removing that cystic kidney was extraordinary good surgery, but there is a case operated upon which I found to be a congenital cystic kidney, and in which the patient did recover and is living in better health. Perhaps, if I had been as well informed on the question as I am now, I should not have operated, although it was giving her a great deal of trouble, and as it was entirely degenerated. I thought it as well to take it out as to leave it.

Dr. Keirle passed around some pathological specimens showing several kinds of cystic kidneys, which I will pass around for observation, Adjournment.

Analyses, Selections, etc.

The Latest Dont's.

The *Journal of the N. Y. County Medico-Pharmaceutical League*, New York, May, 1900 (Dr. Samuel F. Brothers, Ph. G., editor), contains some of the latest dont's which are worth repeating.

Don't incise an infantile articular rheumatism.

Don't recommend nurses who only attend patients at intervals; who are afraid of fatal cases, or who will not accommodate you in an emergency.

Don't tell a patient to say, "Doctor need not call—she has been sent to the hospital."

Don't tell patients that they got fever "from the medicine."

Don't go to a doctor's office to tell him that he need not keep your appointment.

Don't think that because you have a "pull" in a big institution you can afford to offend everybody.

Don't "accommodate" charity patients with sectarian institutions and other luxuries, any more than you would advise "universal" dry goods stores for medicines, etc.

Don't consider lay "directors" in any better light than the wealthy butcher who would enrich himself still more by giving bread away free to all and thereby starving the honest, struggling baker.

Don't allow the deliberate assault of a young rascal to go unpunished, even at the risk of being called poor.

Don't call a lodge-doctor or druggist a "scab."

Don't crawl to anybody.

Don't forget that hæmoptysis may occur during a pleuro-pneumonia.

Don't substitute another consultant for your friend.

Don't write expensive prescriptions in dispensaries, unless you really fill them.

Don't be altogether skeptical about telepathy, when you know that a pigeon can reach its home from two hundred miles away.

Don't get a bloated cranial apparatus after graduation.

Don't say, "he cannot compare himself with so-and-so."

Don't forget that money is not everything.

Don't forget that your rent, through the landlord's taxes, is paying for the new tunnels and bridges.

Don't allow unprincipled real estate speculators to incite your tenants.

Don't return ingratitude for beneficent effort.

Don't accuse a physician on flimsy evidence.

Don't nominate and elect public servants who will make you overpay 50 per cent. on an ash-can for the privilege, or outrageous taxes, assessments and rents.

Don't allow a "Felsher" to interrogate you at a patient's house.

Don't forget that there is an "erysipelatous" tonsillitis.

Don't keep obstetric patients choked up in the house for more than three weeks.

Don't diagnose "tonsillitis" for myalgic toricollis.

Don't diagnose "cerebral trouble" for chorea minor.

Don't pinch the perineum with your obstetric forceps.

Don't imagine that proprietary article agents always call outside of office-hours unintentionally.

Don't allow "charity nurses" to interview your conduct.

Don't forget that cardiac depression occurs in rheumatism before valvular disease can be detected.

Don't forget that alcoholic stimulants are allowable in pleuro-pneumonia and in erysipelas.

Don't forget that the discoloration of iodine and the blackening of lunar caustic last longer than the erysipelatous rash.

Uric Acid and Headaches.

A physician who has been experimenting to discover, if possible, a relation between headaches and the retention of uric acid, found, experimentally, that he could produce a headache in himself by adopting a diet of meat and cheese—foods which are highly nitrogenous and which, in their burning up, produce a great deal of uric acid. He found in himself an excessive excretion of uric acid during a headache, which, perhaps, means that a headache is a sign of nature's effort to relieve the system of a poison that would do worse than produce headaches were it permitted to remain. Such a headachy condition is comparable to the fevers which the human system often establishes for the purpose of ridding itself of disturbing impurities, and can best be overcome by the timely administration of laxative antakamnia and quinine tablets.

Book Notices.

Gynecology. By MONTGOMERY A. CROCKETT, M. D., Adjunct Professor of Obstetrics and Clinical Gynecology, Medical Department University of Buffalo, etc. *Lea's Series of Pocket Text-Books.* Series edited by BERN B. GALLAUDET, M. D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York, etc. *Illustrated with 107 Engravings.* Lea Brothers & Co., Philadelphia and New York. Red cloth. 12mo. Pp. 368.

The author deserves a high degree of credit for presenting so much of reliable information in matters of gynecology in so compact a form. In compiling the work, the author in a general way makes acknowledgment "to the foremost authors and practical gynecologists" of this age. The illustrations are all good and well selected. As "a manual for students and practitioners"—the purpose of the publication—it is excellent. Operations are well described and details are sufficient. But we notice in the *Manual* a too great tendency to surgery for everything when medicinal agents are sufficient for some things.

Nervous and Mental Diseases. By CHARLES S. POTTS, M. D., Instructor in Nervous Diseases, University of Pennsylvania, etc. *Illustrated with 88 Engravings.* Lea Brothers & Co., Philadelphia and New York. Red cloth. 12mo. Pp. 455.

This "manual for students and practitioners" is one of "Lea's Series of Pocket Text-Books," edited by Dr. Bern B. Gallaudet, De-

monstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York. Like all the preceding volumes of this series, the work is well done both by author and publisher. In fact, for the general practitioner, the special volume under notice serves most of his purposes—especially if it be consulted in connection with any of the more exhaustive of the authoritative works of nervous diseases. Matters that are still under discussion are not dwelt on. A good index is appended.

Essentials of Surgery, together with a Full Description of the Handkerchief and Roller Bandage. Arranged in the Form of Questions and Answers. By EDWARD MARTIN, A. M., M. D., Clinical Professor of Genito-Urinary Diseases in University of Pennsylvania. *Illustrated. Seventh Edition. Revised and Enlarged. With an Appendix.* Philadelphia: W. B. Saunders. 1900. Cloth. 12mo. Pp. 342. Price, \$1 net.

This is No. 2 of "Saunders' Question Compend." The popularity of this series is shown by the fact that since the issue of the first volume—only a few years ago—over 175,000 copies have been sold. This seventh edition of *Essentials of Surgery* contains numerous changes and additions, beside an added section on the "modern treatment of appendicitis." The *Appendix* contains full directions and prescriptions for the preparation of the various materials used in antiseptic surgery; also several hundred receipts covering the medical treatment of surgical affections. As the title indicates, subjects are treated by the asking of questions, immediately under which are the answers. It is a good review work for one preparing for examinations, and the book represents the most modern of approved surgical practices. Properly used, it is a good book for the quiz-master in medical colleges.

Essentials of Anatomy, including the Anatomy of the Viscera. By CHAS. B. NANCREDE, M. D., Professor of Surgery in the University of Michigan, etc. *Sixth Edition, Thoroughly Revised* by FRED. J. BROCKWAY, M. D., Assistant Demonstrator of Anatomy, Columbia University, New York. Philadelphia: W. B. Saunders. 1899. Cloth. 12mo. Pp. 419. \$1 net.

This is No. 3 of "Saunders' Question Compend," arranged in the form of "Questions and Answers." We have had occasion to favorably notice former editions of this book; so that in calling attention to this edition, we have only to note a number of minor changes in the text, and the substitution of larger and more

perfect illustrations for some that were in former editions.

Notes on the Modern Treatment of Fractures.

By JOHN B. ROBERTS, A. M., M. D., Professor of Surgery in the Philadelphia Polyclinic, etc. *With 39 Illustrations.* New York: D. Appleton & Co. 1899. Large 12 mo. Pp. vi—162. Cloth, \$1.50 (For sale by the Bell Book Co., Richmond, Va.)

This book consists principally in the bringing together and systematic arrangement of numerous essays or papers published in journals, etc., by the author at various times. Each such essay, however, has been thoroughly revised or rewritten so as to bring the work up to most recent of modern views. There are 19 chapters—each treating in a most practical common sense way of fractures of bones of different parts, which makes the book a valuable addendum to any recognized text-book on surgery or on fractures. Much of the practical suggestive part of the book is the result of long personal experience, or else is the incorporation of practical ideas that have not yet found their way into the text-books. The author makes plain the truth of his statement, "No injuries require more careful and judicious treatment than fractures; and in no branch of surgical therapeutics is the *exercise of common sense* followed by more satisfactory results than the treatment of these lesions. A blind reliance upon therapeutic dogmas and the adoption of routine measures, without due consideration of the mechanical and pathological problems presented have led to many disasters in this Department of Surgery."

Histology and Pathology. By JOHN BENJAMIN NICHOLS, M. D., Demonstrator of Histology, Medical Department Columbia University, Washington, D. C., and FRANK PALMER VALE, M. D., Assistant in Pathology, Medical Department of University of Georgetown, Washington, D. C. *Series Edited by* BERN B. GALLAUDET, M. D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York, etc. *Illustrated with 215 Engravings* Lea Brothers & Co. Philadelphia and New York. [1900.] Red cloth. 12 mo. Pp. 458.

This "Manual for Students and Practitioners" is one of the popular "Lea's Series of Pocket Text-Books," and is uniform in size and binding with preceding publications of the series. The part on normal histology is written by Dr. Nichols, and that on pathology by Dr.

Vale. These authors herein demonstrate their ability to make a most valuable text-book for colleges, as well as for practitioners—bringing their subjects well up to date, without, however, burdening their pages with discussions of non-demonstrated points. In other words, this text-book may be considered as dealing with authorized facts. About 220 pages are devoted to Histology, and the remaining pages to Pathology. The authors have included practically all the essentials that should be expected of the student in these departments, and have written with commendable plainness of style, which enables the student to understand as he reads. The illustrations are in general quite apropos, and well drawn. A double column index of 18 pages is added, which allows of ready references to subjects treated of in the book.

Injuries to the Eye in Their Medico-Legal Aspect. By S. BAUDRY, M. D., Professor in the Faculty of Medicine, University of Lille, France, etc. *Translated from the original by* ALFRED JAMES OCTHEIMER, JR., M. D., of Philadelphia, Pa. *Revised and edited by* CHAS. A. OLIVER, A. M., M. D., Attending Surgeon to the Wills Eye Hospital; Ophthalmic Surgeon to the Philadelphia Hospital, etc. *With an Adaptation of the Medico-Legal Chapter to the Courts of the United States of America.* By CHAS. SINKLER, Esq., Member of the Philadelphia Bar. 5½ x 7½ inches. Pages x—161. Extra Cloth, \$1.00, net. The F. A. Davis Co., Publishers, Philadelphia, Pa. 1900.

The title pretty well tells the scope of this little book. It tells of the various means of producing traumatism of eye and its adnexa, of their effects, of their prognosis, etc., but of course has nothing specially to say of their treatment. It gives details of cases of malingering, and of some rare cases of self-induced injury of the organs of sight simply to lay legal claim for damages, as by insurance, or else to make it appear that the injury was due to some fault of a large monetary corporation, etc. Some remarkably interesting and curious cases are recorded in the book. The adaptation of the original French chapter as to medical testimony, etc., to the courts of the United States is a very valuable chapter. It contains several good suggestions as to needed reforms in the selection of experts to testify in courts, etc. This volume is alike of value to the lawyer as to the physician. It is interesting reading to any intelligent person interested in the ways of courts, in the record of curious cases, etc.

Diseases of the Stomach, their Special Pathology, Diagnosis, and Treatment, with Sections on Anatomy, Physiology, Chemical and Microscopical Examination of Stomach Contents, Diets, Surgery of the Stomach, etc. By JOHN C. HEMMETER, M. D., Philos. D., Professor in the Medical Department of the University of Maryland, Baltimore. With many original Illustrations, a Number of which are in Colors. Second Edition. Enlarged and Revised. Octavo. 898 pages. Price, \$6.00 net, cloth. P. Blakiston's Son & Co., Philadelphia, Pa.

This is a great work—perhaps the standard of the world—on the subjects of which it treats. Compared with the first edition, this work approaches perfection. While scientific matters are scientifically discussed, they are yet presented with a special eye to the every-day needs of the general practitioner. Methods of diagnosis are given in detail, and all that can help—so far as at present known—the doctor in recognizing the special morbid condition, its causation and treatment, is given in simple language and accurate statements that are easily comprehended. Nearly every page of the former edition has been revised in some manner so that, with the addition of new subjects in text as also in illustration, we might almost speak of this as a new work. We cannot well see how the general practitioner can afford to do without this second, enlarged, and revised edition of *Hemmeter*. The work is too voluminous for the college student; but is admirably adapted to the uses of the physician. Surgical diseases of the stomach are likewise given a prominent place—including brief discussions of the indications for operation, etc. The publishers have spared no pains in the issue of this work, and although it is larger than the former edition, published in 1897, the cost of the book remains the same. An ample Index of Subjects (as well as of authors quoted or referred to) is appended.

Elements of Clinical Bacteriology for Physicians and Students. By DR. ERNEST LEVY, Professor in University of Strasburg—i. e., and DR. FELIX KEMPERER, Private Docent in University of Strasburg—i. e., Second Enlarged and Revised Edition. Authorized Translation by AUGUSTUS E. ESHNER, M. D., Professor of Clinical Medicine in the Philadelphia Polyclinic, etc. Philadelphia: W. B. Saunders. 1900. Cloth. 8vo. Pp. 441. Price, \$2.50 net.

This is a specially useful book for practitioners who attempt scientific study of their cases in practice. The Translator correctly states: "The general practitioner can scarcely be expected to be a trained and practised bacteriol-

ogist; but he must have a working familiarity with the subject of bacteriology in order that he may possess clear conceptions as to the etiology of disease and the nature of the resultant morbid processes, leading to a rational explanation of measures and methods of prophylaxis and treatment." This "working familiarity with the subject of bacteriology" is as well taught by this book as the subject can possibly be taught by book. The work takes throughout a specially practical view of things and measures that make it peculiarly adapted to the wants of the practitioner. In this respect, the work is systematically written, and well chosen illustrations greatly assist the descriptions. A good index is appended.

Manual of the Practice of Medicine. By A. A. STEVENS, A. M., M. D., Professor of Pathology in Woman's Medical College of Pennsylvania; Lecturer on Terminology, and Instructor in Physical Diagnosis, University of Pennsylvania, etc. Fifth Edition. Revised and Enlarged. Illustrated. Philadelphia: W. B. Saunders. 1898. Flexible Leather. 12mo. Pp. 519. \$2 net.

While this edition is some two years old, it is a valuable *Manual*—quite well up to date. As compared with the fourth edition, issued in 1896, it contains so many additions, and so many chapters have been entirely rewritten—net to speak of the many briefer corrections or interpolations in other chapters—that we may refer to this as practically a new book. Such a manual as this is deservedly popular with students in their review of lectures, and in preparation for examinations. In its flexible leather back, the book is more handy for class-room purposes than in its former cover. Of course in these manuals, little more than a synopsis of the subjects treated of in ordinary text-books on the Practice of Medicine can be given; but the author has done his part well in collating the main practical points from the larger and standard works.

Dictionary of the Terms Used in Medicine and the Collateral Sciences. By RICHARD D. HOBLYN, M. A., Oxon. Thirteenth Edition, Revised Throughout, with Numerous Additions. By JOHN A. P. PRICE, B. A., M. D., Oxon., Late Physician to the Royal Hospital for Children and Women. Lea Brothers & Co., Philadelphia and New York. 1900. Cloth. 12mo. Pp. xii—838. Price, \$3 net.

"Hoblyn's *Medical Dictionary*" has been before the profession for about fifty years. Each edition has been revised and added to. Its special excellence consists in the accuracy and

sufficient fulness of definition, its etymology, etc. It is, however, by no means an "unbridged." In fact, many words of common use in medicine are not to be found in these pages. Indeed, we are surprised to find omission of such a word as "*muscle*." But, in general, it possesses the older words which merit preservation, while the obsolete terms are dropped. It is an English book—printed in Edinburgh—in double columns and clear type. The added words in this edition are selected principally from those used in bacteriology. In paragraphs in which appear the names of celebrated physicians, surgeons, anatomists, etc., the periods during which they lived. While the work, in its present size, does not serve the purposes of the college student, it is nevertheless a good book for the doctor who reads much—being "handy" in size and clear in type.

Editorial.

St. Luke's Hospital Register for Graduate Nurses.

St. Luke's Hospital, Richmond, Va., has established a register for the graduates of its training school, and desires to announce to the public and the profession that it is prepared to supply nurses for medical, surgical or obstetrical work at short notice. The following names are now on the register. Each nurse has completed her full course at the Hospital, and has had considerable experience in private practice since receiving her diploma: Misses Mary Aylett Anderson, Rosa Bruce Anderson, Anne Gordon Coleman, Nannie W. Garrett, Sarah Blair Harvie, Emily Page Jones, Mary Magill Long, Virginia Terrell, Martha Terrell, Mary Wier White, Mary Irving Whitehead, Vesta Livingston Wootton.

Medical and surgical cases, \$21 per week; obstetrical and contagious cases, \$25 per week; massage, \$2 per hour.

Messages by mail, telephone or telegraph will be promptly responded to, day or night. Address all communications to Miss Louise M. Powell, Superintendent St. Luke's Hospital, Richmond, Va.

American Medical Association.

The session of the Association being held this week (June 5-8), at Atlantic City, New Jersey, is unusually largely attended. The sections are all doing good earnest work; and as the result of papers read and discussions on them, we may confidently look for some very

material advances. It seems that unusual care is being taken during this session to record among members in attendance only those regular doctors who have a reputation connection with their State or representative local societies. We regret that we have to go to press with this issue before the session adjourns, and before any of the important parts of the proceedings reach us.

Bubonic Plague in the United States.

It is not a part of the intention of this journal to discuss the wisdom of the addition of certain of the "new possessions" to the United States. It only concerns us, as *medical men*, to know that if this country has gained any glory in the results of battles with the Philipinos, and compelled the turning out of more battle ships and cruisers, and such things, these "new possessions" are ever hereafter to be a menace to the health and lives of the citizens of this continent. Once in a while, we have had epidemics of Asiatic Cholera; but, thanks to the progress of sanitary medicine, much has been done to prevent the future ravages of that disease—so far at least as Europe and America are concerned. Lepers and leprosy, for the most part, has been kept out of the United States; but official reports confirm the prediction that the dreadful and fatal "bubonic plague" would enter this country from our recently acquired Pacific Ocean Islands. Certain misguided officials and, we regret to say, some short-sighted doctors of reputation along our California coast, persistently—for a while at least—denied that there were any cases of bubonic plague in that section. But it now turns out that there are cases there. And it is not improbable that other cases will develop in the course of trade and among returners to their homes from infected centres in the Islands of the Pacific. We fear that it will be found out at an early date that "our new possessions" in mid-ocean and nearer the Chinese coast will have cost the United States more dearly than the new territory is worth.

Small-Pox Still in the States.

It appears to us to be a sad reflection upon our State, county and city laws that small-pox should even yet be prevalent among the people, when a preventive so well known as vaccination is at hand. It seems to us that the States without the law on the subject should demand of their next Legislatures that they enact "*compulsory vaccination laws*" stringent enough to *compel* every unprotected person to be vaccinated or revaccinated.

The Williams Memorial Hospital,

It is said, will be an imposing structure at the corner of Twelfth and Broad streets of this city. Workmen are beginning to tear down the old buildings on the lot to give place to the new buildings. It is not expected that the Hospital will be ready for occupancy until about July or August, 1901. When completed, this hospital will prove of great benefit to this city. It is currently reported that it will be the hospital for the employees of the Seaboard Air Line Railway—recently constructed from Tampa, Florida, to this city, under the general presidency of Mr. John Skelton Williams.

The Virginia State Board of Medical Examiners

Will hold its Summer Session for the examination of applicants for the practice of medicine or surgery in Virginia during this month. The days appointed for the session are June 25, 26, 27 and 28. Place: Lynchburg, Va. Those who propose to appear for examination in need of further information as to this meeting for examination than that on the fourth or cover page of this issue should at once write last to Dr. R. S. Martin, Secretary of the Board, Stuart, Va.

New Doctors in Mississippi.

During the recent session of the Mississippi State Board of Health, 101 applicants presented themselves for license to practice medicine, etc., in that State; only 49 passed satisfactory examinations. The county health officers were instructed to "report all parties practicing medicine without license, and request the circuit judges of the various districts to embrace this in their charges to the grand juries."

W. B. Saunders & Co., Medical Publishers, Philadelphia, Pa.

Such is the recently changed style of the heretofore popular medical publishing firm of Mr. W. B. Saunders. Mr. F. L. Hopkins, Manager of the Subscription Department, and Mr. T. F. Dagny, Manager of the Publication Department, are the new members of the company. These gentlemen have been connected with the establishment almost from its inception, and to their capable management of their respective departments, Mr. Saunders attributes much of the success that has attended his efforts. Mr. M. D. Watson, whose connection with the house has extended over eight years, and who has demonstrated his ability to manage the Trade Book Department, will remain in charge of that department. No words of ours could elevate the firm in esteem of the profession, for it has no superior.

"Osteopathy" and "Magnetic Healing" Illegal in Mississippi.

According to the following recently adopted resolution of the State Board of Health of Mississippi, it would appear that active measures are to be taken in that State against the practice of "osteopathy" and "magnetic healing":

"Resolved, That the State Board of Health instruct the county health officers that the practice of osteopathy and magnetic healing are in direct violation of the laws regulating the practice of medicine in the State of Mississippi, and that they report all parties practicing such in their counties to the grand jury, district attorneys, and circuit judges, and the secretary of the State Board of Health."

Error of Printers.

In the May 25th issue is the editorial mention of Dr. W. B. Pritchard succeeding to the practice of Dr. Landon Carter Gray. That editorial was written for the issue of May 11, in which notice of Dr. Gray's death occurs.

Changes in Journals.

The *Alabama Medical and Surgical Age* has changed its name to *The Alabama Medical Journal*.

The *Memphis Lancet* and the *Memphis Medical Monthly* have consolidated under the name of the *Memphis Medical Monthly*.

Obituary Record.

Dr. Fessenden Nott Otis

Died May 24, 1900, at the New Orleans Sanitarium, at the advanced age of 75 years. The Doctor, who, as all know, resided in New York city, had been spending the winter in the South, when an attack of pneumonia confined him to his bed. While convalescing, a carbuncle of the back developed, which, in spite of all efforts, caused his death. Dr. Otis was one of the foremost men in the medical profession for the past quarter century. For some time, Professor of Surgery at the College of Physicians and Surgeons in New York city, he created special fields of work in surgical procedures, especially of the genito-urinary branch. Dr. Otis was as well known abroad as at home, and, in deploring his death, the *Journal* condoles with his bereaved family, and wishes to add a little voice to the expressions of high appreciation which all medical men owe to his memory.—*N. O. Med. and Surg. Jour.*, June, 1900.

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Original Communications.

ECTOPIC PREGNANCY.*

By J. G. CARPENTER, M. D., Stanford, Ky.

This is a subject of exceeding interest, great importance, and transcendent pathological beauty, that grows larger and larger and more attractive as we study it from time to time.

To-day, the great masses of the medical profession stand like dwarf Moseses with the cob-webs of ignorance, dust, indolence, doubt, prejudice, envy and procrastination beclouding their brains—standing on the Mt. Nebo of incompetence, superstition, and doubt, appropriating to themselves the euphonious title of gynecologist *per se*, when they are only cervix peepers and painters, and spectacularizers, minus the tactus eruditus, and the digital diagnostic touch.

LIFE-BOAT.

Each physician in general practice should stand as a light-house in the causation, pathology, symptoms and diagnosis of tubal occlusions, ectopic pregnancy and intrapelvic disease; and, like an Ida Lewis, should hear the cry of distress in ectopic tubal rupture, discern the expression of anguish in the woman's face, her mind active with the thought of some great commotion within her, like a Johnstown flood, because the ectopic tubal dam has given way, or feeling that on life's tempestuous sea, with the tempest rising higher and higher, and billows of mental anguish around her roll, her boat has sprung a leak, is dipping and drifting further and further away. Physician, will you diagnose in time tubal rupture, take or bring the surgical life-boat to these mothers, wives, sisters and daughters? Remember, you are to "send out the life-boat, for some good woman is perishing to-day; throw out the life-line, for some one is passing away." Do not doubt and dilly-dally, but take to the

surgical life-boat of the skillful, erudite, rapid, bold, conservative, life-saving operator.

The earliest case for abdominal section for ectopic gestation which has been found upon record is that of Primerose, who operated in October, 1594. The history of this patient has become classical. She was twice pregnant with extra-uterine children—first in 1591, and again some time before 1594. The cyst of the first child opened spontaneously through the abdominal wall. The fistula was enlarged, and the child extracted by Jacob Noierus, a surgeon. This operation proving successful, Primerose removed the second child by abdominal section two months later. It was easy to imagine how he was led to perform the second and more hazardous operation.

Felix Platerus reported another successful case only three years later.

After this, we have found no indication that the operation was performed for more than a century. In 1714, Calvo reported a case in France, and in 1764, Bard another in America (Parry). Mr. John Bard was a surgeon in New York, and no one was known to have operated in this country before him. The patient was the wife of a Mason, and the operation was performed several years before it was published, for Mr. Bard communicated an account of it to Dr. Fothergill in a letter which was dated on the 25th of December, 1759.

On January 14th, 1791, this operation was performed in America for the second time—the subject of it being a Mrs. Cocke, the wife of a Virginia planter. The operation, which was done by Dr. William Baynham, a country physician, was entirely successful. The same gentleman operated with the same happy result upon a negro slave on February 6, 1799.

This was the fourth American abdominal section for the removal of an extra-uterine fœtus. The third one was performed by Mr. Knight, and communicated to the celebrated Dr. Lettsom by Dr. Mease, of Philadelphia, and published in 1795.

* Read before the Kentucky State Medical Society, at Georgetown, Ky., May, 1900.

Dr. Baynham's cases are well worth attentive study. They illustrate the intrepidity and good judgment so often displayed by the country surgeon, who, separated by long distance from his fellows, often has to act in the greatest emergencies without the counsel he may earnestly desire. Almost a quarter of a century passed before the operation was repeated in America. On the 6th of October, 1823, it was again performed by Dr. Wishart, likewise a country practitioner. The sixth American operation was performed on February 6th, 1846, by Dr. A. H. Stephens, of New York—"a man who had all the advantages of a metropolitan experience" (Parry).

Every respectable M. D. should say "thanks" to Dr. Baynham, of Virginia, and "thanks" equally to Dr. Parry and Mr. Lawson Tait, for giving due credit to this noble country doctor.

The better element of country doctors are all grand, noble men—the giants and custodians of our beloved profession. With fresh air, sunlight, good situation and hygiene, America, through country doctors, gave the first successful, brilliant surgery to Cæsarian section, while the city surgeons had met with failures. The father of ovariectomy—Dr. Ephraim McDowell—was born a Virginian and born a country doctor, but not born in Danville, Ky., the backwoods of America. Mr. Clay, of England, who had the greatest success as an ovariectomist "across the pond," was a country doctor. His successes continued, while the metropolitan surgeons were failures, or only met with partial success as ovariectomists. The immortal Sims was a country doctor, the great Dr. Samuel Gross was a country boy, the illustrious Drs. Senn and Joseph Price, and Dr. D. Hayes Agnew and Dr. Koch were country boys. Dr. John D. Jackson, of Danville, Ky., who did the first hysterectomy, was a Kentucky country boy. Dr. Arthur Johnston, a country boy, raised at Paint Lick, Garrard county, Ky., did the first successful and first operation for ectopic pregnancy in Kentucky. Dr. John D. Craig, a country doctor, of Stanford, Lincoln county, Ky., followed McDowell in 1850 to 1865 with successful ovariectomies, aided by his medical students and other country colleagues. And the essayist does not think it a sin to truthfully state that primary and successful sigmoidoscopy had its origin in the practice of the writer in Lincoln county, Ky., and not in Johns Hopkins University. Dr. Samuel D. Gross said of Dr. John Craig, of Stanford, Ky.: "He was the greatest surgeon he ever saw on

Kentucky soil, yet a country doctor." Brasher, a Kentucky country doctor, did the first hip joint amputation. Dr. Dudley's results as a lithotomist remain unexcelled, yet he was a country doctor; and we look for some country doctor to make the diagnosis of tubal pregnancy scientifically before rupture.

All ectopic pregnancies may be classed tubal except the interstitial or tubo-uterine. Ovarian pregnancy is still *sub judice*. The profession is under lasting obligations to Dr. J. S. Parry, of Philadelphia, whose book appeared in 1876, for much knowledge on extra uterine gestation. Mr. Tait states: "I never look at the finely cut, handsome young face of the man which looks out upon me from the book as its frontispiece, faced by a pathetic letter from his mourning widow, but I become persuaded that in Parry's death one of the greatest lights in gynecology of my time was lost to us." A beautiful compliment to one so deserving. Dr. Arthur Johnstone, in his scientific exposé of menstruation, explains why pregnancy should always occur in the womb.

The uterus alone is the seat of normal conception. As soon as the ovum is fecundated by the spermatozoa, it becomes attached to the mucosa of the uterus. The function of the ciliated epithelium of the Fallopian tubes is to prevent the spermatozoa from entering the tubes, and facilitate the progress of the ovum to the uterus to its proper nest; that the plications and crypts of the uterine mucous membrane lodge and retain the ovum, either until it is impregnated or till it dies or is discharged. Johnstone and Sutton have taught us that desquamative salpingitis could place the lining of tubes in a state exactly similar to that of the uterus in this condition; the ovum in the tube would be retarded or arrested in its progress to the uterus; that the spermatozoa would find access to the designated tube, meet the ovum, fecundity take place, and immediate adhesion of ovum to the tubal mucosa occur after conception and impregnation. The cause, then, of extra-uterine pregnancy is any condition that will cause a desquamative salpingitis of Fallopian tubes, producing the same surface on the tubal mucosa as is found in the uterus—viz., septic abortion or labor, caustic applications to endometrium, dirty instrumentation to endometrium—as uterine sound, applicator, dilator and curette, gonorrhœa, typhoid fever, the exanthemata, diphtheria, catarrhal salpingitis and pelvic peritonitis.

Diagnosis.—Symptoms of ectopic pregnancy are: History of previous peritonitis, abortion

or incomplete recovery from a former labor, history of a prolonged sterility, dysmenorrhœa or a former gonorrhœa, the interval between marriage and first child is often very long, or between the last birth and the present condition of ectopic pregnancy.

The ectopic pregnancy, whatever its cause, is produced by destruction of the normal ciliated lining of the tubes. The woman may have been irregular in her menstruation, missing one or more periods, or may have been regular, and if she does not know she is pregnant, or anything wrong until rupture of tube takes place with all the symptoms of pain, shock, collapse and hemorrhage. The varieties are tubal, tubo-uterine, or interstitial. The latter pregnancy taking place in the uterine end of Fallopian tube, and spreading or growing in the uterine cavity, and simulating normal uterine pregnancy; and unless diagnosed and treated by hysterectomy—Porro's is invariably fatal, by rupture into peritoneal cavity before the fifth month. Tait states the process of development of an ovum at any part of it inevitably results in rupture of the tubes. In the interstitial cases the rupture invariably, so far as known, takes place into the peritoneal cavity, and that he had never seen a preparation of interstitial pregnancy which could by any possibility have been diagnosed from normal pregnancy, before the period of rupture.

The interstitial variety ruptures into peritoneal cavity. The period of rupture seems to be from three to twenty weeks, as has been shown by post-mortem and museum specimens. Ectopic gestation in the free portions of the tube invariably ruptures before the fourteenth week, and is the primary rupture. The tube may rupture a number of times, and be extra-peritoneal, and not prove fatal. The intra-peritoneal rupture is secondary to the extra-peritoneal, and is invariably fatal, unless diagnosed early and relieved by prompt, conservative, radical, aseptic, life saving surgery. The extra peritoneal rupture occurs into the cavity of the broad ligament, and yields all those cases which go on to the period of viability. All the lithopædias, all the suppurative cysts, discharging from the bladder, rectum, vagina, and also umbilicus, all the cases which by *secondary rupture* of the ovum cyst get called abdominal pregnancy. Scheme of ectopic gestation in tubo ovarian tract. (1.) Ovarian possible, but not proven. (2.) Tubal, in free part of tubes is, (a), contained in tube up to fourteenth week, at or before which time primary rupture occurs, then the progress of the gestation is directed; (b), abdominal or intra-peri-

toneal gestation, uniformly fatal (unless removed by abdominal section) primarily by hemorrhages, secondarily by suppuration of the sac and peritonitis; (c), broad ligament or extra-peritoneal gestation may develop; (d), may develop in broad ligament to full term, and be removed at viable period as living child; (e), may die and be absorbed as extra-peritoneal hemocele; (f), may die, and suppurating ovum may be discharged at or near umbilicus, or through bladder, vagina, or intestinal tract; (g), may remain quiescent as a lithopædion; (h), may become abdominal or intra-peritoneal gestation, by secondary rupture. Tubo-uterine, or interstitial, is contained in part of tube embraced by the uterine tissue, and so far as is known, is uniformly fatal by primary intra-peritoneal rupture as before fifth month. Dr. Joseph Price states: "Rupture of tube is not synonymous with rupture of fetal sac, though rupture of tube and sac may generally occur at the same time. The tube sometimes ruptures and sac remains intact. This latter condition accounts for absence of exhaustive hemorrhage when tube alone ruptures. An absolute diagnosis of tubal pregnancy before ruptures is about impossible, or guess work, as the same set of symptoms may take place from a number of pathological conditions—viz., an ovarian cyst, a uterine fibroid, retroflected gravid uterus, hematoma—or pyosalpinx have been mistaken for tubal pregnancy. It is the exception to see a case before rupture occurs."

Symptoms of tubal pregnancy are partial or complete cessation of menstruation for one or more periods—generally accompanied by other rational symptoms of pregnancy, though they may be wanting. *Second*, pain, which is peculiar, being generally severe, paroxysmal and long continued, sickening pelvic pain which is neither cramp-like nor colicky. These pains may be caused by distention of the tube, and are apt to subside for a time, only to recur. *Third*, the appearance of uterine hemorrhage, which is again peculiar in that it is usually irregular, both as to time and quantity, generally lighter in color than the normal discharge, containing shreds of tissue, which are portions of the decidua vera. The condition of the vagina and cervix may or may not correspond to normal pregnancy. The uterus is generally enlarged, and pushed out of place by a tender or exceedingly painful cystic mass, occupying the position of one or the other tubes. This cystic mass is freely movable at this period. Return of the catamenia may cause one to exclude pregnancy—the hemorrhage and pain

and decidua may simulate a miscarriage. The symptoms as the pregnancy advances become increased; the tumor increases in size, and pressure symptoms are added to bladder and rectal symptoms until rupture occurs. Intra-peritoneal rupture is secondary to extra-peritoneal rupture (except when the pregnancy is interstitial), and is always alarming and serious. The patient is seized with agonizing pelvic pain, shows all the symptoms of internal hemorrhage and shock, and goes into syncope, collapse and death unless relieved by prompt diagnosis and early life-saving surgery. No time for dilly-dallying, procrastination and bating the patient with morphine.

In a short time Dr. Formad, Coroner's physician, of Philadelphia, found in his post-mortem work eighteen cases due to ruptured tubal pregnancy, a class of cases which for many years had been grouped as death, due to accidental hemorrhage. These deaths all occurred before the twelfth week of pregnancy. When death does not immediately supervene, the recovery from shock is gradual, the attacks of syncope often recur, and patient presents an exsanguinated appearance; uterine hemorrhage often present; symptoms of peritonitis, localized or general, make their appearance; patient slowly recovers only to have another attack of the same kind. A physical examination may detect the peculiar lesion; if it does, the uterus is enlarged, displaced and fixed, and a tumor will occupy the position of pregnancy in the tube. The tube may discharge its contents beyond the reach of the finger, or adhesions may be so numerous as to fix the whole vault of the vagina so that nothing can be made out. Diagnosis of the case must be made from the history of the case and condition of the patient. A multiparous woman may have an extra-uterine pregnancy. Any patient with the foregoing history and symptoms demands at once the most earnest and serious consideration."

Error in diagnosis and procrastination may place the patient beyond successful life-saving surgery. Recurrence of attacks of extra-peritoneal tubal rupture may take place two or three more times and patient survive before intra-peritoneal rupture finally occurs, with violent or fatal hemorrhage, shock, collapse, peritonitis, septicæmia and death.

The day has passed for the general practitioner to diagnose tubal or extra-uterine pregnancy, colic, dysmenorrhœa or ovarian congestion. The practitioner sees these cases first, must make the diagnosis of a pathological intra-pelvic lesion, and send quickly for the

surgeon to operate and confirm the diagnosis. Extra-peritoneal rupture is not so serious as the intra-peritoneal. The symptoms are less prominent and severe; hemorrhage less alarming, being poured out into cavity of broad ligament, is soon confined by encapsulation; vesical and rectal tenesmus is greatly increased; the hemorrhage is less if tube only is ruptured than if the fetal sac is also ruptured at the same time. Examination may reveal the presence of a doughy or boggy mass in the pelvis, that of a pelvic hematocoele, and often the body or extremities of the fetus.

Localized peritonitis may be absent. If the fetal sac ruptures, the fetus dies, and unless relieved by surgery, the patient passes to a state of invalidism, unless nature relieves her by encapsulation of the mass or by suppuration, the ectopic mass passing out through the vagina, bladder or rectum. Sometimes the patient recovers with fair health and comfort. The fetal sac may not become ruptured, but go on developing to full term of pregnancy, unless another rupture takes place and into peritoneal cavity. The progress of gestation will be similar to that of normal pregnancy until full term. After quickening, the doubts of pregnancy are settled, and location of the fetus without or within the uterus settled, the metrorrhagic discharge may have been settled. If the decidua has been passed out, the severe paroxysm and pains may be few or have subsided. The mammary glands are as in normal pregnancy; fetal movements cause more discomfort, and appear to be on one side; the fetal heart sounds and placental bruit are usually intensified; as fetal sac enlarges, distressing pressure symptoms on bladder, rectum and blood vessels take place.

Inspection and palpation will show fetus on one or more; on one side of abdomen and pelvis, the fetal extremities may be palpated or appear as projections under the abdominal wall, fetal sac less movable than the pregnant uterus; the fundus uteri can be felt as a distinct mass on side of the ectopic growth; uterus is enlarged, but not near so much as in normal pregnancy; cervix soft and enlarged as in normal pregnancy, and displaced. The pelvis is filled with the fetal mass, and on digital examinations gives the sensation of fluctuation or semi-fluctuation. Part of fetus may be felt. If the pregnancy goes to full term, spurious labor will take place, and a metrorrhagic discharge with a vaginal one like the lochia take place. After the spurious labor, the fetus dies, and is disposed of in several ways by nature, or by the surgeon. The ectopic gestation may form an hematocoele, or be-

come encapsulated and form a lithopedion. Intra peritoneal hemorrhage, or the latter and septic peritonitis, may kill the patient, or suppurative peritonitis, and abscess through rectum, sigmoid, vagina, and bladder or abdominal wall take place, or the ectopic mass be macerated and absorbed. Vanderveer states, "waiting in any case is dangerous, and 25 per cent. of the cases after rupture die before an operation can be done."

An extra-uterine pregnancy may occur in a hernial sac; twin extra uterine pregnancies; or extra and intrauterine combined may be coincidences in some cases. A fetus may become encysted, or form a lithopedion, which, in rare cases, has been carried fifty years without any unfavorable symptoms. "On the other hand, in the secondary form of intra peritoneal pregnancy, we have a voluminous product of conception suddenly thrust upon the peritoneum, accompanied by large quantities of blood, wounding possibly, irritating certainly, this membrane so unaccustomed to such harsh intrusion. Here the ovum acts the part of a foreign body, soon determining an acute inflammatory process about it, that possibly may form a cyst wall, made up almost wholly of plastic lymph, which completely isolates it from the rest of the peritoneal cavity. If the fetal cyst ruptures, and the contents escape from the amniotic cavity into the midst of the intestinal mass, a renewal of the inflammation occurs, and the cyst just described forms around it.

As a rule, the fetus perishes at, or soon after, the time of rupture; still there are cases recorded, notably by Bandl, where it continued developing even within a sac formed of proliferating connecting tissue. With the death of the child, it may be converted into a lithopedion, or, through the blood supply of the connecting tissue, it may be preserved for years in its soft integrity. "In all cases, numerous and greatly exaggerated vessels form in the cyst walls, the rupturing of which frequently causes almost instant death from hemorrhage. Sometimes, especially when the pregnancy is prolonged, these walls may become destroyed by perforating, fistulous canals, running in various directions, frequently communicating with the intestines, vagina, uterus, bladder, or even with the abdominal parietes, and thus directly into the external world. Through these fistulous channels the skeleton portions of a putrescent fetus frequently find their exit. This change is undoubtedly more frequent than that the fetus should be transformed into osseous or cartilagenous substance, or even adipocere.

Besides these varieties of extra-uterine foetation, Bandl, as already mentioned, records histories of the coexistence of the extra- and intra-uterine pregnancies, the latter occurring at the same menstrual period as the former, or possibly after the death of the extra-uterine fetus."

"When the foetus is living and viable, abdominal section should be done in interest of it and mother, and in cases diagnosed that have passed the sixth month, wait until viability is well established, and perform abdominal section. Observe every precaution that separation of the placenta does not occur. Close the sac, and drain through the vagina." (Martin.)

In rupture of tube and sac, do an immediate laparotomy with removal of sac, contents, and effused blood. In case of death of fetus after the sixth month in ectopic pregnancy, it should be removed by laparotomy. "When we meet with an adherent vermiform appendix, unless the patient's condition is very bad and contra-indicates undue or prolonged manipulation, I think it well to tie off and cut away the appendix, it being, as we know, a useless organ, and one capable of serious trouble. Were we so unfortunate as to tear either iliac vein, it would be tied both above and below the opening made in it, this being much safer than to attempt to ligate it laterally. Should we have a portion of gangrenous bowel to deal with, resection, or the formation of a temporary artificial anus, which can subsequently be closed, would be the treatment. In the event of tearing the ureter, and having discovered it, the proximal end of the ureter could be stitched in the abdominal wound, making a urinary fistula; but a safer procedure would be to do a median nephrectomy.

If the condition of a portion of the great omentum is questionable, I unhesitatingly state that, in my experience, it is far better to ligate it and remove the doubtful portion than to return it with the hope that it may recover itself; this I have had demonstrated in operations for strangulated hernia."

"Third. *Irrigation*.—In all cases of abdominal section for intra-abdominal hemorrhage, where there has been escape of the contents of a cyst into the abdomen, and where adhesions have been separated, the abdomen should always be most thoroughly washed out. In fact, in all cases of section, where the indications do not seem to call for irrigation, yet, if there is any doubt in the mind of the operator as to whether or not he should wash out the cavity, I should say that it was safer to err on the side of safety, and irrigate.

This, irrespective of the removal of all foreign matter, and leaving the parts in a perfectly aseptic condition, in depressed condition acts as a stimulant by exciting the sympathetic nerves, with which it is brought into close contact, by being introduced into the abdominal cavity, where the greatest number of branches of this system of nerves are distributed; while in cases, where there has been much leakage from the skin, an evidence of profound shock, it acts in a two-fold manner by filling up the depleted blood vessels and by stimulation." The normal salt solution would be better than hot water *per se*.

"Fourth. *Drainage*.—In all cases of section for hemorrhage, or where much bleeding has occurred while doing the section, where there has been escape of pus or other septic matter into the peritoneal cavity, there should be no hesitation about the case being a proper one for drainage. In fact, my experience has been that cases where a drainage tube has been inserted have proved less complicated after the operation than in cases where it has not been used."—(Dever.)

"After the spurious labor, the fœtus dead, may be still encysted, or no sac present, the liquor amnii absorbed and child undergoing retrogression, maceration and decomposition, the placenta forming a large mass attached to uterus, bowel, bladder, and pelvis, the cord shrivelled, and placenta bleeding freely on slight provocation. In the treatment of ectopic lesions, the sac may be stitched to edges of abdominal incisions, and the placenta left undisturbed, and a drainage placed at sight of placenta with cord fixed in lower angle of wound, or tied and cut off close to placenta. The placenta will ripen, degenerate, and the debris removed gradually from abdominal wound. On account of the prolonged suppuration, the patient is exposed to the great dangers of sepsis. The first great danger is hemorrhage from separation of the placenta, then purulent peritonitis. Just how soon ripening and degeneration of placenta, with obliteration or destruction of blood vessels of placenta take place, it is impossible to say. Each case is a law unto itself.

In one case, cessation of circulation may occur in three weeks; in another, in five or six months. According to Mr. Tait: "The sac should be thoroughly cleansed before and after removing the fœtus, and filled with normal saline solution, to stitch the sac into incision and close it tightly as the water escapes, thus closing it hermetically; then proceed to close

the abdomen, and leave sac and placenta to undergo atrophy and absorption." Montgomery states: "Tubal pregnancy may have the usual symptoms of pregnancy; the attack of tubal rupture may be accompanied by uterine discharges of bloody character, leading the patient to believe that it is a return of the ordinary menstruation, and an examination of the fluid will usually disclose the presence of a decidual membrane, thrown off either as a cast, or in shreds; the presence of this symptom in a woman who has not before suffered from dysmenorrhœa is almost a pathognomonic indication of extra-uterine pregnancy."

"When there is shock, pain, evidences of internal hemorrhage, and a supposed case of ectopic tubal intra-peritoneal rupture, by an exploratory incision in the median line down to peritoneum, one will often be able to make the diagnosis of intra-peritoneal tubal rupture and hemorrhage, as the peritoneum, instead of being a transparent, glassy, or grayish color, will be a dark black, and prove the demand for continuance of operation and diagnosis of the true condition within."—(Dr. Joseph Price.)

When a tubal rupture occurs, the proper thing to do is to incise, ligate the broad ligaments, remove the tube with the fœtus and placenta, cleanse and drain peritoneal cavity. If ectopic pregnancy goes beyond the fourth month, the danger of rupture is lessened if the fœtus is living. Most operators wait for spurious labor to begin, then remove a live fœtus, or wait until the fœtus dies and the placental circulation has ceased.

Greig Smith states: "After spurious labor and the death of the fœtus, the onset of suppuration makes abdominal section imperative."

If the fœtus is quiescent, operation, although advisable, is not urgent. It is better to wait until absorption of the amnion indicates that the placental circulation has ceased. Suppurative cases that open into the bladder are much more fatal than those opening into the vagina, rectum, bowel, or umbilicus.

Mr. Tait advises dealing with them by abdominal section, and patient's life saved years of suffering. He further states: "I would treat them as I would pelvic abscess, and if peritoneum was opened, I should close it in my usual fashion, by stitching the walls of the cavity of the broad ligament to the opening in the parietal peritoneum after emptying the decomposing debris and cleansing out the cavity. That he had done over fifty operations of this nature, and not only has there been no mortality, but the cases have been so rapid, com-

plete and prominent, as to give me, perhaps, more satisfaction than almost any other class of my work.

"The diagnosis in ectopic broad ligament cases nearing maturity will often be different, viz., extreme thinness of the uterine wall in a normal pregnancy, complicated with fibro myoma or cystic diseases of the uterus; and more rarely pregnancy in one-half of a double uterus. The greatest difficulties in diagnosis are met after the death of the child, or at least when the time of the expected confinement has passed so long that if there is a child, it is sure to be dead. "In many cases of uncertain period of gestation, we have hemorrhage, uterine effusions, the extension of coagula, of foreign bodies which resemble moles or portions of placenta. These appearances have occasionally led to the belief that the patient has aborted, so that the ovum was originally not extra- but intra-uterine, and has escaped through a rent in the uterus into the peritoneal cavity, the extended body in either case being viewed as the placenta."

Two symptoms are regarded by Mr. Tait as invariable in extra-uterine gestation which has gone past the period, viz: a show during false labor, and a diminution of size after false labor. Mr. Tait states: "I open the abdomen and make out the condition." Mr. Tait is strongly in favor of completed operations. *So should all good practical, skillful, common sense surgeons be.* "The rule should be that all such operations should be completed, and any man who has such want of skill and pluck as to stop in the middle of one ought not to attempt them. They can all be completed. Mr. Tait advises saving both mother and child when it can be done. He says: "I therefore advocate the principle of saving a child who has survived the catastrophe of the primary rupture of the tube by being extended into the broad ligament."

If its existence is recognized during life, the mother ought to be carefully watched till false labor sets in, just as we watch for a case of puerperal hysterectomy; and seize the onset of labor or its early stage, as the most favorable time for both mother and child, viz., not to operate before the child is most likely to be viable, provided the delay does not prejudice the mother, and not to delay at all after the death of the child. Mr. Tait approves the justifiableness of the vaginal section as a surgical procedure, and states: "I shall never, under any circumstances whatever, attack a subperitoneal pregnancy from the vagina," and advises, in dealing with an ectopic gestation in

the advanced stages, that we should deal with the fœtus only, should empty the placenta of blood and close the wound hermetically upon it. Mr. Tait teaches that by far the greater number of cases of ectopic gestation are tubal, and states: "I do not see any difficulty in believing even that a pregnancy originally tubal may be completely extended from the tube, and the tube may contract and heal, and that a secondary and wholly intra-peritoneal gestation may be thus formed."

It is possible that the Fallopian tube, glued to the ovary and deprived of its lining epithelium, permits the contact of the spermatozoa with a follicle, burst within the area (of the ovary) of adhesions. Then, the spermatozoa might infect the ovum before its escape from the follicle; the ovum might adhere to the follicle and then develop. What have been called abdominal pregnancies are clearly exceptional cases—where primary tubal rupture at the end of the third month has not proved fatal, where the extruded placenta has made for itself visceral attachments wherever it has touched, or where secondary rupture of a broad ligament cyst has converted an extra-peritoneal ectopic gestation into one within the peritoneal cavity.

That the first of these processes is by far the most common condition, has been proved to me beyond doubt in my operations, for I have seen the ruptured tube within a few days of the catastrophe containing the great bulk of the placenta, whilst the villi of the extruded portion has been engaged in making epiphytic inroads on intestines, bladder, the back of the uterus and the folds of the omentum. "I have pulled these villi out of the living crypts they have made much as one pulls a barnacle out of its bed, leaving bleeding holes behind them."

Every pregnant woman should be examined by digital and conjoined manipulation at least once a month, until the fifth month has passed. If this was done, we should have a more accurate way of diagnosing ectopic pregnancy before rupture, or any other abnormal condition that might exist in the pelvis. Forewarned is forearmed. When the physician demands and teaches the patient the importance of an early digital and conjoined examination during the first half of pregnancy, there will be no bar or difficulty to a thorough examination. But one sad thing in the profession is so few know how to feel, when to feel, and *what* to feel, and often feel much they do not recognize—are not diagnostic feelers, but spectacularizers and cervix peepers. In normal pregnancy the womb

thickens, distends, elongates, gets heavier, and venous sinuses form, also increase of arterial supply. This is the key to the early diagnosis of tubal pregnancy before rupture.

On the contrary, the tube, though distended and enlarged, its muscular wall gets thinner at the placental site. The same is true when distended from other causes. "Certainly, in tubal pregnancy there is no imitation of the thickening of the muscular coats of the uterus. The villi of the placenta permeate the walls, seem even to completely penetrate them, and the blood vessels increase enormously in size, especially the veins. Some slight exertion occurs, such as stooping at some household work, a violent attack of pain comes on, the patient becomes faint, collapsed, cold, pulseless and anæmic, and dies almost uniformly, if unaided. This is the story of a great number of these cases, for in quite a number of cases in which I have seen post-mortem examinations, the women have been found dead, or dying, and suspicions of foul play have not infrequently been aroused.

"Sometimes the symptoms abate, the patient recovers for a few days, and even gets about; then a recurrence of the peritoneal hemorrhage occasions a revival of the serious symptoms, and this may be repeated at intervals several times before the fatal issue is arrived at." When rupture has occurred, diagnose quickly, no morphine or opium, early, quick, life saving, aseptic operation, short anesthesia, rapid surgery, incise abdomen, go at once to bleeding spot, tie broad ligament, remove the pregnancy, wash out thoroughly and quickly, put in a glass drainage tube, sew up quickly, syphon and apply toilet, put patient to bed on back, keep her at rest absolutely, use saline solution, stimulants and artificial heat, and save the patient. In tubal rupture, the scarlet stream of arterial blood and the purplish venous flow are passing rapidly out, and, at the ruptured points, to vacant spaces—like a Johnstown flood running away with the patient's life, with destruction and death closing in upon the sad scene. Every expression of the patient, every beat of the heart, every throb of the pulse, cries "Help! help! Save us surgeon, or we perish."

Mr. Tait states: "But, in rupture of an extra-uterine fetal sac in the early stages of pregnancy, a whole lifetime, a whole century is not enough to enable one person to make two errors in regard to the prognosis of this accident." Again, the wonderful Mr. Tait states: "Where I find my patient in danger of death from conditions within the abdomen which do

not seem to be of a malignant nature, but a correct diagnosis of which seems impossible, I open the belly and at once make the diagnosis certain and a successful treatment possible. When the conditions were such that the patient's life was miserable, by reason of suffering which could not be relieved, or at least had not been by all other measures, I open the abdomen and at once make the diagnosis certain and successful treatment possible. Absolute accuracy of diagnosis in the abdomen is very far from being possible; only the ignorant assert that it is, and only fools wait for it." The diagnosis of tubal rupture or pregnancy at the time of rupture, may be made with *certainty seven times out of eight*, and may be guessed at in the *eighth* instance. The symptoms are too serious to be lightly regarded at any time, and practically coincide with those of pelvic hemocele. If the rupture takes place into the broad ligament, they are the symptoms of extra-peritoneal hemocele. If the rupture take place into the peritoneal cavity, they are the characteristic and most serious group which belong to intra-peritoneal hemocele. No more appropriate place occurs to me to discuss this much confused question, if for no other reason than that I have never seen an intra-peritoneal hemocele that was not due to a ruptured tubal pregnancy; and very many cases of extra-peritoneal hemocele (effusions of blood into the broad ligament) have undoubtedly been tubal pregnancies which have ruptured between the peritoneal folds of that important structure.

The difference between them is all important in every way, for the intra-peritoneal ruptures seem to be almost uniformly fatal, whilst the extra-peritoneal hemoceles, whether arising from tubal pregnancies or not, should certainly be left to take their own course unless they give signs that they are suppurating. Pelvic hemocele ought to be retained to cover all effusions of blood which have their origin in the pelvis. The extra-pelvic peritoneal hemocele within the folds of the broad ligament has three anatomical hemostatic factors that arrests the hemorrhage and conserves the life of the patient. 1st, the interstices of the cellular tissue. 2d, the spaces between the folds of the broad ligament when distended forms a limited cavity, and is not capable of rapid distension to an indefinite extent. 3d, the pressure of the broad ligament itself, as a membrane distended and resisting further distention, exercises pressure upon the bleeding point, and becomes a powerful hemostatic—*intra-peritoneal hemocele*. These factors are

absent, and hemorrhage is actually favored by the dilution of the blood as it passes out of the bleeding points. When it flows in quantity into the peritoneal cavity, probably by reason of its dilution—the lymph being always present there and easily excited into excessive flow by an abnormal condition—it does not show much tendency to coagulate save in a very fitful and fragmentary way.

One of the most remarkable proofs of this is the influence of the drainage tube in arresting hemorrhage. If the cavity is kept dry by frequent withdrawal of blood and serum, oozing from torn pelvic adhesions, the bleeding will soon stop; but if drainage is not kept up the bleeding will probably prove fatal. We shall find also that the two varieties of hematocele are different in their relative frequency, in their causation, in their history, and of course particularly in their relative fatality, different in their symptoms and the signs by which they may be diagnosed; and finally, in their demand for surgical interference. Dr. Bernutz has expressed an opinion, to which I have already alluded, "that the bloody tumor which is left as the remains of a hemorrhage has no right to be regarded as a specific disease apart from what has caused it." This is true, I hold, of intra-peritoneal hematocele, but not of the extra-peritoneal variety.

When hemorrhage into the broad ligament occurs the arrest of the hemorrhage has already been brought about, in the vast majority of cases, by nature's own methods, probably even before the accident has been diagnosed, and therefore all we have to do with is the thrombus, and in the great bulk of cases that may be, and generally is, let alone. But cases do arise, as I shall tell you by and by, when it becomes a serious disease, for if the sac of the broad ligament bursts into the peritoneal cavity, the hemostatic pressure is relieved and bleeding goes on, the two forms of the lesion co-exist, and the patient bleeds to death. That such an ending may occur, and has actually occurred, is known by a case I shall quote as a result of this secondary rupture of the broad ligament pregnancy cyst, the primary rupture having taken place at the ordinary period, and the direction of rupture being into the cavity of the broad ligament. The secondary rupture takes place into the cavity of the peritoneum, and proves fatal. I have seen no such case, but more than one is faithfully recorded by Bernutz, and such a case is recorded by Goupil, and is a perfect example of what I can fully believe to be possible, though I have not seen it; therefore, I quote it at length.

SOME STATISTICS AND PARTIAL HISTORY OF THE INSANE IN VIRGINIA.*

By RO. J. PRESTON, M. A., M. D., Marion, Va.

Superintendent of Southwestern (Va.) State Hospital, etc.

It has seemed to me that it would be exceedingly appropriate at this time, when this capital city of the Old Dominion is being honored by this meeting together of distinguished alienists from all parts of our country, and from other lands, if we could present a complete history or review of the insane in Virginia from her colonial period down to the present time. It is a source of regret that the time at my disposal and the available data at hand are entirely insufficient for the undertaking of such a task. I can only hope at this time to give, as indicated in the title, "Some Statistics and Partial History of the Insane in Virginia," and leave it to others to perfect and complete the same.

The ravages of two wars (the War of the Revolution and the War between the States) have sadly marred and scarred the bosom of this old "Mother of States and Statesmen," and destroyed many valuable statistics and records in this and other departments of State history which can never be replaced.

We, as Virginians, claim as a matter of State pride the honor of having built the first hospital exclusively for the insane on this continent. In colonial days, the House of Burgesses incorporated "The Hospital for the reception of idiots, lunatics, and persons of insane or disordered mind," which was opened for the reception of patients September 14, 1773.

Said Hospital is perpetuated to-day as the Eastern State Hospital, at the old colonial capital, Williamsburg, Va. We would at the same time accord to our sister Commonwealth of Pennsylvania every meed of praise for original and prior efforts in providing wards for the insane in a general hospital in 1752, and also to our sister Commonwealth of Maryland for like efforts in this direction inaugurated in 1774 and carried into effect in 1797 in the establishment of the Maryland Hospital. It may be said, too, on the word of Governor Gilbert C. Walker, in his centennial address at Williamsburg, in 1873, that "Virginia in her deep poverty, in the days of reconstruction, established the first asylum for the poor colored man ever organized." Said asylum was established first at Richmond, Va., as "Howard's Grove Hospital," and 1885 permanently established as the

*Read before the American Medico-Psychological Association, Richmond, Va., May 23, 1900.

Central State Hospital, near Petersburg, Va., where to-day nearly one thousand colored insane are cared for in magnificent buildings, splendidly equipped, under the able and skillful management of Dr. Wm. F. Drewry, in a manner that reflects great credit upon this old Commonwealth and upon this age.

I have endeavored to prepare the following statistical table showing the number of insane in the State Hospitals at the end of each census decade (as far as obtainable) from the opening of the hospital, in 1773, at Williamsburg, down to the present time, and also the population of the State (white and colored) for each census, with the percentage of increase, comparatively, of the insane and the population:

as many perhaps are unprovided for to-day in the State as at any previous time.

The first two insane patients were admitted into the Eastern Hospital October 12th, 1773, by the Court of Directors, who met once a week for this purpose.

From this table it will be seen that in the early decades of this century, up to 1860 (the war between the States), the white population had increased a little over 100 per cent., while the colored population had increased about 75 per cent.

At this time there were about 500 white insane in hospitals, and possibly not over 50 or 60 colored insane. In other words, there were in 1860 (prior to the said war) one white insane person to 1,810 white population, and one in-

INSANE POPULATION IN VIRGINIA STATE HOSPITALS (OR ASYLUMS).

DATE.	Eastern Hospital.	Western Hospital.	Southwestern Hospital.	Central Hospital.	Percentage of Increase Cold Ins.	Total Insane.	Percentage of Increase.	Total White Insane.	Percentage of Increase.	Total Population.	Percentage of Increase.	White Population.	Percentage of Increase.	Number of White Insane to Population.	Colored Population.	Percentage of Increase.	Number of Colored Insane to Population.
Sept. 30 1780	*a																
1790										747610		442117			305493		
1800	20									880200	17.6	514280	10.6		365920	13.2	
1810	35									974600	10.6	551514	7.2		423086	15.6	
1820	43									1065116	9.3	603085	9.3		462031	9.6	
1830	58	*b16								1211405	15.8	694300	15.3		517105	12.	
1840	78	100								1239797	2.3	740968	6.7		498829		
1850	193	275								1421661	14.6	894800	20.9		526861	5.8	
1860		379								1596318	12.4	1047299	17.5	$\frac{1}{175}$	549019	4.3	$\frac{1}{31000}$
1870	200	335		*d147		682		535		1225163	4.4	712089		$\frac{1}{175}$	513074		$\frac{1}{3500}$
1880	330	479		326	122%	1135	66.4	809	51	1512565	23.5	880558	23	$\frac{1}{108}$	631707	23.	$\frac{1}{1937}$
1890	402	604	*c248	578	77%	1832	61.4	1254	55%	1655980	9.5	1020122	15.7	$\frac{1}{113}$	638588	6.7	$\frac{1}{1150}$
1899	564	940	386	852	49%	2742	49%	1890	60%								

*a. Eastern State Hospital incorporated 1769, opened September 14, 1773.

b. Western State Hospital incorporated 1825, opened 1828.

c. Southwestern State Hospital incorporated November 29, 1884, opened May 17, 1887.

d. Central State Hospital incorporated —, opened Dec. 17, 1869, as Howard's Grove Hospital, Richmond, Va.

These statistics have been compiled at considerable labor, owing, as before said, to the destruction and loss of many valuable records.

I have been unable to fill out the earlier census statistics of the Eastern Hospital, though I have had much correspondence and research, aided by the superintendents of the other State Hospitals and others, to whom I wish to render thanks and acknowledgements.

In these statistics only the insane in the State Hospitals are considered, but it is probable that the number of insane outside the hospitals of late has varied but little each year;

sane colored to about 8,000 or 10,000 colored population.

During the war, the old Commonwealth of Virginia was cruelly dismembered and the State of West Virginia was unjustly separated from the old mother State. (I would fondly hope to see the day when the old landmarks were restored and her original boundaries re-established, but I fear hoping would be in vain.)

This separation cut off from Virginia nearly one-third of her population, and the percentage of increase in total population in this

decade, counting both States, was much less, only about 4.4.

At the end of the seventh decade (1870), we find one insane white to 1,331 of white population, and one colored insane to 3,500 of colored population.

During the eighth decade (1880), we find that the population (white and colored) had increased at about the same ratio—23 per cent., while the white insane had increased 51 per cent., and the colored insane 122 per cent. At this time there was one insane white to 1,059 of white population, and one colored insane to 1,937 of colored population.

During the ninth decade, or in 1890, we find that the white population had increased 15.7 per cent., while the colored population had increased only 6.7 per cent., and that the white insane had increased 55 per cent. and the colored insane about 77 per cent.; in other words, in 1890 there was one white insane to 813 of white population, and one colored insane to 1,100 of colored population.

We regret that we cannot as yet have the full returns of the tenth census decade, but up to 1899 increase in the white and colored insane in the hospitals has been about the same ratio—about 50 per cent.

These statistics show for the last decades of this century, since the Civil War, a remarkably increased ratio of insanity over and above the increase of populations, both in the white and colored races—much more marked among the colored.

This may be accounted for in part by the greater freedom of access to the State Hospitals, the improved methods of management, and gradual popularizing, so to speak, of these institutions; but other causes have contributed to this in much greater degree.

While we cannot attempt to give at this time a detailed history of the management of the insane, and of the many noble men who have devoted their lives to this specialty, in this State (this has been done to a large extent by our distinguished ex-president, Dr. T. O. Powell, in his address before the Association in 1897 in Baltimore, Md.), it may be of interest to give the names of those who have been in charge of these State institutions from their establishment up to the present time.

The Eastern State Hospital, from its opening in 1773, was in charge of keepers up to 1841, and visiting physicians only attended the patient when sent for by said keepers. The keepers were James Galt, 1773 to 1801, succeeded by his son, William F. Galt, 1801 to 1826; Jesse Cole, for a few months; Dickie

Galt, 1826-1837; Henry Edl e, a few months; then Philip Barziza, 1837-1841, when he was elected steward.

The visiting physicians were Dr. Jno. Siquerra, 1773-1795; Dr. John Galt and Dr. Barraud, 1795-1808; Dr. Alex. D. Galt, 1808 to 1841, when his son, Dr. John M. Galt, aged twenty-two, was made superintendent and held office until 1862. Thus the Galts—father, son and grandson—all eminent physicians and philanthropists, were associated with the Hospital from its foundation, in 1773, up to the Civil War, in 1862. During the war the Federal authorities took charge, and Dr. Wager, of the Fifth Pennsylvania, was superintendent until the end of the war. Then Dr. Henly, Dr. Garrett and Dr. Petticoles were successively superintendents for short periods, succeeded by Dr. Brower, 1867 to 1875; Dr. Harvey Black, 1875 to 1882; Dr. Wise, 1882 to 1884; Dr. Moncure, 1884 to 1898; Dr. L. S. Foster, 1898 to present time.

It is worthy of note that this first institution for the insane on this continent was incorporated and established as a hospital.

The Western State Hospital, for the first eight years of its existence, 1828 to 1836, seems to have been under the charge of a physician, Dr. Boys. In 1836 Dr. Francis F. Stribling, aged twenty-two, was made visiting physician; Samuel Woodward was keeper and his wife matron. 79 patients had been received up to this time (in 8 years); 13 patients discharged. Dr. Stribling was afterwards made superintendent—probably the first medical superintendent in the United States—and had charge of the hospital until 1874; Dr. Robert T. Baldwin was superintendent from 1874 to 1879; Dr. A. M. Fautleroy, 1880 (January) to 1882; Dr. R. S. Hamilton, 1882-1884; Dr. A. M. Fautleroy, 1884-1886; Dr. Daniel B. Conrad, 1886 to 22d April, 1889, when Dr. Benj. Blackford, the present worthy superintendent, was elected.

The Central State Hospital was under charge of Dr. J. J. De Lamater from its organization, 1869 (as Howard's Grove Hospital), till June, 1870. Dr. Daniel B. Conrad, superintendent from July, 1870, to September, 1873; Dr. Randolph Barksdale, superintendent from September, 1873, to March, 1892; Dr. David F. May was superintendent (under the Readjuster State Government) from March, 1892, to April 15, 1894, when Dr. Randolph Barksdale was reinstated as superintendent, and held office till October, 1896. Dr. Wm. F. Drewry, superintendent, 1896 to present time.

In the Southwestern State Hospital, Dr. Harvey Black was superintendent from March,

1887, until his death, October, 1888. He had previously served on the committee appointed by the Legislature for the selection of a site for this hospital, and had also been chairman of the Building Committee. Dr. Ro. J. Preston, superintendent from November 18, 1888, to present time.

Many of those who devoted their lives to this specialty have gone to their reward, and time and space would fail me, even if I could do justice to their memory. When we compare the decades at the beginning and prior to the present century, when the characteristics of asylums in many places throughout the world (in the language of another) were "chains, darkness, solitude, and stripes, hideous cries and foul orders," with the present decade, "when so many of the appliances of health, comfort and pleasure characterize these institutions with their spacious mansions and handsome grounds, with well-ventilated, lighted and heated apartments, with pure air throughout the premises, and wholesome food in abundant quantity, with the regular hours for recreation, food and rest, with the needful but mild restraint; where, added to these, the stately trees, the smiling flowers, the splashing fountains, the shining grass adorn the scene, arrest the eye, and distract attention from the dismal present, and awakens hope; where the reading-room, with its voice from the outer world, arouses sympathy with the animating pursuits of men, and stirs the love of pleasure and ambition; where music, too, the earliest remedial agent of insanity, with its voice of harmony to exorcise the demon of madness; and last, but not least among these curative agencies, where the place of divine worship allures to brighter worlds where sorrows cease." When we consider these things which science and humanity and Christianity have brought about, we can but wonder at the change.

"While Franklin spoke for humane treatment in 1750, and Pinel broke the chains from the insane in Paris in 1772, and Tuke advocated non-restraint in England in the same year, and Rush, of Philadelphia, showed that insanity was not a curse, but a disease and required buildings specially devised for its care, with skilled physicians in charge," the Galts and Stribling and others in Virginia were raising their voices in behalf of the gentle treatment and abolition of harsh and cruel methods of restraint. These noble physicians and humanitarians were in advance of their age, and, while they could not educate public sentiment up to this high standard in their day, they all did noble work for the cause of

humanity and the cause of God, and have impressed their names and their influence indelibly upon psychiatry. We would not in this partial history ignore or pass over the efforts and work of that noble woman, Miss Dorothea L. Dix, whose wonderful influence in ameliorating the condition of the insane was felt in Virginia and all over the South in bringing about these marvellous changes.

While all the State hospitals are to-day endeavoring to keep abreast of these improved methods in the care and treatment of the insane, yet straightened finances, necessitating a lowered per capita, have of late years restricted efforts along many of these lines of improvement. Many of the means and facilities for investigation and research into neuro- and psycho pathology, enjoyed by many States, have as yet been unprovided in this State, or at least to a very limited extent.

CLINICAL STUDY OF THYROID EXTRACT.*

By WILLIAM F. DREWRY, M. D., Petersburg, Va.,
Superintendent Central State Hospital;

and

J. M. HENDERSON, M. D., Petersburg, Va.,
Second Assistant Physician Central State Hospital.

After the very scientific papers on the subject of thyroid extract in the treatment of insanity, read before this Association at its meeting a year ago, and at previous meetings, it would indeed seem superfluous for us to attempt to present any thoughts on the subject; but as perfect knowledge of any subject is usually gained in fragmentary ways—by gathering and sifting the evidence, as it were, pro and con—we beg to submit these clinical notes on this new remedy.

It is by research, close and prolonged observation of many cases, by a comparison of opinions founded on experience of different investigators, that we finally ascertain the real clinical use of any medicinal agent.

Of the animal extracts, thyroid was the first to attract attention of the medical profession. Its usefulness has been tested by capable investigators in the treatment of cretinism, myxedema, catalepsy, tetany, torticollis, epilepsy, Graves' disease, some skin diseases, uterine fibroids, amenorrhœa, insanity, etc., with varying degrees of satisfaction to the patient and the experimenter. Its therapeutic value has not been definitely settled; indeed,

* Presented at the meeting of the American Medical Psychological Association, Richmond, Va., May 23, 1900

it has not yet risen above empiricism and accepted as one of the regular, reliable remedial agents—certainly in the treatment of insanity.

Stimulated by the flattering reports made by some, of the therapeutic value of thyroids in mental diseases, we began early in 1896 a series of careful experiments, selecting 88 cases at the Central State Hospital, representing different types of insanity, as follows: 47 of mania, in which insanity had existed for different lengths of time; 23 of melancholia, representing various stages, from the acute to chronic, of several years' duration; 6 of epileptic insanity of different forms; 2 of primary dementia; 4 of secondary or terminal dementia; 2 of parietic dementia; 2 of paranoia; 1 case of circular insanity, and one of imbecility. The time insanity had existed before the treatment was begun varied in the different cases from two months to seventeen years; 25 were men and 63 women; the ages ranged from seventeen to fifty-six years. Our cases were considered fair average representatives of the Hospital population.

From a careful study of their histories and condition at the time the medicine was begun, we regarded the prognosis as more or less favorable in 22, unfavorable or incurable in 42, and doubtful in 24—that is, under the ordinary line of treatment in such cases.

As to the *form and dosage* of the substance, the *administration, the management of the cases, etc.*

First. The powdered extract, freshly manufactured by Parke, Davis & Co., was used and given by mouth.

Second. The dose varied from 2 to 60 grains, usually gradually increased, repeated from twice to six times a day; in some a uniform dose of 5, 10, 15 or grains was given throughout the treatment.

Third. The remedy was usually given before, though in some instances after, meals.

Fourth. The length of time the drug was given varied from 14 to 90 days; and in some the course of treatment was interrupted for a day or two, or a week, while in others there were two or three distinct trials of the remedy.

Fifth. Some patients were kept in bed during entire treatment; others were not.

Sixth. Special nutritious diet was given some; others took the regular hospital diet.

Seventh. Careful attention was given in every case to hygienic regulations, the clothing, etc.

Eighth. In each case, several days before and during treatment, and for several weeks afterwards, careful observations were made and

recorded once, and usually twice, a day of the temperature, respiration, pulse, gastro-intestinal disturbances, secretions, vertigo, headache, nervousness, habits, mental changes, etc.; weight charts were also kept.

Ninth. Before beginning the remedy, the secretions and the general condition of the patient were looked after; in short, the patient was put in as favorable condition as possible.

Tenth. On discontinuance of the powders, tonics were given in some cases; in others there was no after treatment.

We selected two cases—one of chronic mania and one of chronic melancholia—upon whom we made the same observations as we did in the cases taking thyroid, with the view of making comparisons, etc.

From very careful study of the patients, and from constant observations of the clinical charts, we were unable to see that the thyroid produced any uniform, definite action on the temperature, respiration, pulse rate, secretions, etc. In only two cases were there perceptible effects on the appetite; in only four was there gastric discomfort or nausea. There were vertigo, nervousness, headache, etc., in only one or two cases. We observed no changes in quantity, color, reaction and specific gravity of the urine. The blood was not examined. Some patients lost in weight, particularly those treated in bed; some gained, and others neither reduced nor increased. Special attention was paid to the cardiac apparatus, and in no case did we encounter any dangerous symptoms or deleterious effects, even when dram doses were given every three hours for a whole day, or when half dram doses were given three times a day for several consecutive days. One patient, who had never taken a dose before, was given 60 grains at once without any apparent untoward symptoms whatever—there was absolutely no reaction in any particular. In the two cases in which no medicine was given, the pulse varied from 53 to 108, the temperature from $97\frac{1}{4}$ to $99\frac{1}{4}$, and the respiration from 18 to 29. Different from some other investigators, we failed to observe quick transformation from dullness or stupor to active mentality, immediate tranquilizing effect on the excited and disturbed, rapid improvement in habits and conduct. In those in which there was apparent response to treatment, it came about gradually, and not suddenly, except, perhaps, in one case of hysteromania, in which good effects began on the third day of treatment.

The size and frequency of dose seemed to make no appreciable difference as to effects

on pulse, respiration temperature, etc., for these varied as much when small as when large doses were given. The highest temperature reached was 102° F., when only 10 grains were being taken *t. i. d.*; the highest pulse rate was 135, when 20 grains were being taken *t. i. d.*; the highest rate of respiration was 42, when 20 grains were being taken three times a day.

To foretell what effect, if any, the drug is going to have is impossible. There is, according to most observers, a great variation in susceptibility to its effects, every case being a law unto itself. If the drug had any constant, definite physiological action, we failed to discover what it was.

Brief clinical histories of a few of our cases clearly demonstrate the "inconsistencies" of the action and effects of the drug:

CASE 20.—B. J., female, age 41; admitted April 2d, 1895; chronic mania; habits filthy; very noisy, destructive and quarrelsome; sleeps badly. April 10th, 1896, was given thyroid extract in 2 grain doses *t. i. d.* April 27th no appreciable effect had been noticed on temperature, pulse or respiration. May 7th the dose was increased to 3 grains *t. i. d.*, with no effect on temperature, pulse or respiration; mentally brighter, quieter, and habits neater; also sleeping better. May 21st dose increased to 4 grains *t. i. d.* No effect on temperature, pulse or respiration; continues to improve mentally. From June 9th to 22d no thyroids given; improving mentally. June 23d, dose increased to 5 grains *t. i. d.*; no effect on temperature, pulse or respiration; very much improved mentally. June 30th thyroids discontinued; tonics given. September 30th discharged; recovered. April 26th, 1898, had a relapse and was again admitted, and died in hospital some months later of dysentery.

CASE 23.—C. J., female, age 39; admitted to hospital March 16th, 1893; chronic mania; noisy; restless; habits filthy; sleeps fairly well. June 23d, 1896, was given thyroids in 5 grain doses three times a day; temperature, pulse and respiration unaffected; no change mentally. June 29th dose increased to 20 grains twice daily; no effect on temperature, pulse or respiration; lost 7 lbs. in weight; no change mentally. July 6th dose increased to 20 grains *t. i. d.*; maximum temperature, pulse and respiration reached while on this dose; gained in weight 4½ lbs. within past week. July 12th thyroids stopped; tonics given; slight improvement mentally; habits better. August 12th, tendency to relapse to former condition. September 2d again treated with thyroids;

given gr. 5 *t. i. d.* for fifteen days; no effect on temperature, pulse and respiration; no change in weight; no change in mental condition. Six months later relapsed to condition when treatment was begun; now remains at standstill.

CASE 61.—M. B., female, age 31; admitted to hospital August 8th, 1895. Agitated melancholia; insomnia; very restless, untidy in habits; most painful, depressed mental condition; wringing hands, crying, etc. All plans of treatment usually employed in such cases had been tried without success, patient growing worse and worse. June 22d, 1896, was given thyroid extract gr. 5 *t. i. d.*; no effect on temperature, pulse or respiration as compared with chart kept previous to giving thyroid. June 29th dose increased to gr. 10 *t. i. d.*; temperature, pulse and respiration unchanged; lost 4 lbs. in weight since treatment began; brighter mentally; sleeps fairly well; habits neater. July 6th dose increased to 20 gr. *t. i. d.*, and kept on this dose for six days; then drug stopped; temperature, pulse and respiration unaffected; much brighter mentally and habits neater; sleeps better, but very irritable. September 2d again gave thyroid extract in 5 gr. doses *t. i. d.* for ten days; then stopped and tonics given for two weeks; then thyroid extract again given in 5 gr. doses *t. i. d.* for one week; then stopped and tonics given; patient very much improved in every respect, and was discharged September 30th, 1897, recovered. Has had no relapse.

CASE 79.—M. H., female, age 49. Admitted to hospital May 22d, 1896. Hystero-mania. Habits careless and untidy, emotional, etc. In fall of 1893, got into an altercation with another patient, became nervous, excitable, and said that her legs were paralyzed, etc., could not get her to walk, though there seemed to be no disease to prevent. Hysteria was our diagnosis. Electricity, massage, etc., were tried without success. March 2d, 1900—was given 10 gr. thyroid extract *t. i. d.*, temperature 97 and four fifths, pulse 96, respiration 23 changed to another ward and tepid bath given daily. March 4th—in the A. M. temp. 99 and four-fifths, pulse 82, resp. 18; in P. M. temp. 100, pulse 102, respiration 23. Taking 10 gr. thyroid ext. *t. i. d.*, had tepid bath daily at 10 A. M., objected to bath. March 5th—walked from bath room without assistance, habits neater, temp. 99, pulse 88, respiration 21. March 19th—above dose continued, patient takes daily walk, motor action good, mentally brighter, temp., pulse and respiration unaffected. April 1st—dose increased to 55 grs.

twice daily, no effect on temp. and respiration, pulse increased in frequency. This dose continued until April 6th, when patient complained of nausea and vomited, drug then discontinued. Maximum pulse, temp. and respiration was noted while taking 10 gr. *t. i. d.* There has been no improvement in mental condition of the patient.

CASE II.—M. R., female, age 30. Admitted to hospital Jan. 16th, 1899. Acute mania, slightly excited and incoherent, habits tidy, slight insomnia. Feb. 24th, 1900, gave 5 gr. thyroid extract *t. i. d.*, temp. 99, pulse 88, resp. 22. March 8th to 14th—no thyroid given; patient menstruating. Mar. 15th—dose increased to 15 gr. *t. i. d.*, temp., pulse and respiration unaffected, complaining of slight nausea and headache, has gained three pounds in weight. March 17th—Dose increased to 20 gr. *t. i. d.*, temp., pulse and respiration unaffected, complaining of headache, no nausea. March 20th to 24th—no thyroid given, no change mentally. March 25th—dose increased to 25 gr. *t. i. d.*, temp., pulse and respiration unaffected, does not complain of nausea and headache, has lost in weight 7 lbs. since March 17th, no effect mentally. March 25th—dose increased to 30 gr. *t. i. d.*, pulse, temperature and respiration unaffected. March 29th—dose increased to 35 gr. *t. i. d.*, temp. pulse and respiration unaffected, complaining of nausea and headache, no change mentally. March 30th—dose increased to 40 gr. *t. i. d.*, temp. and respiration unaffected, pulse 111, no nausea, no headache. March 31st—dose increased to 50 gr. *t. i. d.*, temp., resp. and pulse unaffected, complaining of headache, no nausea, no effect mentally. April 1st—dose increased to 60 gr. *t. i. d.*, temp. and respiration unaffected, pulse 124, no nausea, no headache complained of. April 2d—60 grains every three hours with no bad symptoms, temp. 99, pulse 128, resp. 30. Max pulse and respiration was noted while taking 60 gr.; max. and min. temp. while taking 5 gr. April 4th—two days after thyroids stopped, temp. 98, pulse 124 and respiration 26. Loss in weight, 8 lbs. since treatment began. No effect on mental condition up to present time.

CASE 43.—C. L. G., male, age 24. Admitted December 18th, 1897. Acute melancholia; very much depressed mentally, habits untidy, physical health poor. April 1st, 1898—given thyroid extract, 4 gr. *t. i. d.*, temp. 97 and four-fifths, pulse 60 and respiration 19, no change mentally. April 17th—dose increased to 10 grs. *t. i. d.*, temp., resp. and pulse unaffected. Loss in weight, 6 and one half pounds

since treatment began, no change mentally, physical condition improved. April 29th—thyroids stopped. Max. and min. pulse, temperature and respiration noted while taking 4 grs. No change mentally; was then put upon aqueous extract of opium, one fourth of a grain, and intestinal antiseptics *t. i. d.* May 15th—improvement began and continued until recovery. Was discharged recovered, Sept. 30th, 1898. No relapse.

CASE 59.—W. C., male, age 26. Admitted Dec. 14, 1898. Chronic melancholia, depressed, habits untidy, physical health fair. May 9th, 1898, was given thyroid ext. in 3 gr. doses, *t. i. d.*, temp. 98, pulse 60 and respiration 24. No effect on mental condition. May 14th—dose increased to 4 gr. *t. i. d.*, temp., pulse and respiration unaffected, no change mentally. May 19th—dose increased to 6 gr. *t. i. d.*, temp., pulse and respiration unaffected, no change mentally or physically. May 31st—thyroids stopped; loss in weight, one pound; no change; habits unimproved, and remains in the hospital unchanged.

Experience demonstrates that in nearly every case of insanity, under ordinary circumstances, the pulse, respiration, temperature, secretions, mental condition, appetite, etc., may vary some from day to day or during the same day.

Another fact is known to all, that many cases of insanity recover without any special medicinal treatment—rest, diet, changed environment, nursing, moral treatment, etc., being sufficient.

While a few of our cases seemed to be influenced in some mysterious way by the thyroid perhaps, the much larger proportion were unchanged during or following treatment, either mentally or physically. On the whole, the results we obtained were not as satisfactory as those reported by some others. With few exceptions, the effect on the mental condition was negative; and in those in which recovery or improvement did take place, the careful and constant nursing and attention, tonics, etc., doubtless were no unimportant factors in bringing about the result. Had we selected our cases, that is, taken those which had fair prospects of recovery or improvement under other forms of treatment, the results might have been more flattering, and thyroid gotten all the credit. Perhaps our failure to get good results in more cases was due to some improper manner in the administration of the drug, or else our cases were unsuitable ones for this special remedy. We append to this report a condensed statement of all our cases.

To summarize results due, it may be, to the

thyroid: 6 cases, or 7 per cent. of the whole number treated, recovered; 9, or slightly more than 10 per cent., permanently improved; 8, or 9 per cent., improved temporarily and then relapsed; and 55, or 62 per cent., were not affected by the treatment, mentally nor physically. Of the 6 cases that recovery might be attributed perhaps to the thyroid, 3 were cases of acute mania, 1 was acute melancholia, 1 agitated melancholia, and 1 chronic mania. Of the 9 cases in which permanent improvement might be attributed to the remedy, 1 was acute mania, 2 were acute melancholia, 2 chronic mania, 2 recurrent mania, 1 was recurrent melancholia, and 1 epileptic mania. Of the 8 cases in which temporary improvement occurred, 2 were acute mania, 4 chronic mania, 2 chronic melancholia, and 1 was epileptic mania. After giving the thyroid a fair and conscientious trial, in those cases in which no improvement followed within a reasonable length of time, we instituted other treatment. The results up to the present time in our 88 cases are as follows: 12 discharged recovered, 13 discharged improved, 9 died, 54 remain in the hospital—4 of whom are improved, and 48 either stationary or tending to secondary or terminal dementia.

From our experience with thyroid extract, we conclude—

1st. That it is a remedy of certainly very limited value, if any, treatment of any form of insanity.

2nd. That those cases apparently benefited by it, owe their improvement or recovery as much, or perhaps more, to other agencies, such as better nursing and attention, rest, dieting, tonics, etc., than to the thyroid.

3rd. That it is in the so-called curable cases—acute form—that improvement or recovery seems to be the result of thyroid treatment—cases that would either get well without any special medicinal treatment, or from the treatment usually followed in such cases.

4th. That ordinarily thyroid extract may be given with impunity without producing dangerous symptoms of any kind.

5th. That having tried every rational line of treatment without effect, it is perhaps well to give the thyroid treatment a trial.

SUBPHRENIC ABSCESS FOLLOWING APPENDICITIS—TWO CASES.*

By J. F. BALDWIN, A. M., M. D., Columbus, Ohio,
Member American Association of Obstetricians & Gynecologists.

CASE I.—Mrs. C., aged 49, widow, mother of two grown children. Was seen in consultation with Dr. D. R. Kinsell, Jr., June 3, 1899. Had appendicitis in 1894. This was a well-marked and severe attack. Following this she had attacks every year, and another severe attack in May, 1898. In November, an umbilical hernia, which had never previously troubled her particularly, became strangulated, but was finally reduced by taxis. This attack of strangulation was followed by more marked symptoms of chronic appendicitis. March 30th, 1899, her present trouble commenced, and has continued ever since. She is now suffering with great pain and tenderness in the region of the appendix and along the ascending colon. There is an enlargement and some tenderness of the liver, this enlargement being distinctly downward. She has lost considerable flesh. During this entire time she has had some elevation of temperature and pulse. She is, however, exceedingly fleshy, so that the examination is very unsatisfactory. The enlargement of the liver is the most noticeable feature that can be demonstrated. The tenderness and pain are situated farther back than is usual in appendicitis, leading to the diagnosis of an appendix placed behind the colon.

Owing to the long continuance of her symptoms, operation for the removal of the appendix was advised and was made June 6th, at the Protestant Hospital, several members of the American Medical Association being present.

Owing to the supposed location of the appendix, the incision was made well over in the loin and made longer than usual, in order to enable the liver to be thoroughly examined. Through this incision, a greatly elongated and catarrhal appendix, which was found running up behind the colon, was removed by inversion. The right lobe of the liver could be easily palpated, and though much enlarged, this enlargement seemed symmetrical and smooth; but, owing to the fat, it was not possible, without undue traumatism, to make a thorough examination. As there was no pus around the appendix, the incision was closed at once with a figure of 8 silkworm gut stitch.

Convalescence was entirely satisfactory, and during the two weeks that the patient re-

* Read before the Ohio State Medical Society, May 9, 1900.

mained in the hospital she was quite free from pain, although there still persisted a little elevation of temperature, which could not be satisfactorily accounted for. On her return home, however, the old pain and soreness again manifested themselves, although now above the location of the appendix. I saw her several times in consultation with her physician, but, owing to the large amount of adipose, could only say that we must wait for something to manifest itself. The liver was apparently greatly enlarged, but the cause of the enlargement was obscure. Had it not been for the febrile disturbance, a diagnosis of malignancy would have been unhesitatingly made. The elevated temperature and pulse rate were the only manifestations of any infection. There were no chills nor sweats.

July 20th, 1899, her physician informed me that a new feature had presented itself; and, on seeing her with him, I found every evidence of a chronic abscess pointing on the right side at about the tip of the twelfth rib. I advised an immediate opening of the abscess, which was consented to, and was made the following day under cocaine anæsthesia, the incision being made just below the twelfth rib. The incision gave exit to an enormous amount of pus, and, on introducing the fingers, a large ragged cavity was found between the liver and diaphragm. The limits of the cavity were far beyond the reach of the fingers. The cavity was washed out, drainage tubes inserted, and convalescence was entirely uneventful, the cavity closing in about six weeks.

CASE II.—Miss C. W., aged 16. Was seen with her physician, Dr. Cooperrider, at 5 P. M. July 26, 1899. On getting her history, I found that she had assisted her mother in the house work the day before, though not feeling entirely well. In the afternoon of that day she was taken sick with cramping pains in the stomach and vomiting. Did not think she was sick enough to send for a physician. Rested fairly well during the night. Was sick still this morning, but did not wish a physician, and none was called until in the afternoon. He found her with a temperature of 103, pulse 130, abdomen tympanitic. He at once telephoned me, as he thought the case was one demanding prompt operation. When I saw her, an hour later, her temperature was still 103; pulse 136 and poor; abdomen tympanitic and tender throughout, but especially in the region of the appendix. The patient's general appearance indicated such a serious condition that I at once united with her physician in urging an immediate operation.

Operation was made the same evening at 8 P. M. at the Protestant Hospital. As I expected to find sero pus, I did not make the usual gridiron opening, but made a straight incision about two inches in length. On opening the peritoneal cavity, some opalescent fluid escaped. Introducing the fingers, the appendix was reached without difficulty, as there were no adhesions and no attempt had been made to hedge off the abdominal cavity. Drawing the appendix up, the end was found gangrenous and perforated, an enterolith just protruding. The appendix was cut off and removed in the usual way, catgut being used throughout. The pelvic cavity was wiped dry and the incision closed with silk-worm gut and temporary drainage. The drainage was removed a few hours later, and convalescence was entirely uninterrupted.

As she was somewhat homesick, she left the hospital August 15th. For the last four or five days of her stay in the hospital there was a very little, but almost constant, elevation of temperature which we could not account for, but attributed to her nervousness. The evening of her return, however, following a chill, her temperature ran up to 104.5, with corresponding general disturbance. I saw her the next day with her physician, but was unable to find the cause of her trouble. There was no evidence of any inflammatory disturbance in the region of the colon or in the pelvis. There was, however, a little tenderness on pressure just below the short ribs on the right side, and I told her physician to watch this point for the development of trouble.

From this time (August 16th) until August 28th, she continued to have irregular fever, with frequent pulse and profuse perspirations. By this time the liver had become depressed below its proper position, so that the lower border was some three fingers breadth below the ribs. There was no bulging at any point, so that we were unable to decide whether the pus (which we were satisfied was present) was in the liver or between the liver and diaphragm. She was profoundly septic, and her failing strength and cachexia indicated the importance of doing something for her relief.

Accordingly, on August 28th, an operation was made at her home, as she and her friends objected to her being taken to the hospital. An exploratory incision was made on the right side, just below the border of the ribs and parallel with them. This opened directly on the liver, which was found entirely normal, but with a mass of exudate back of the suspensory ligament, with evident adhesions at

this point. The general peritoneal cavity being walled off by sponges, the finger was forced into these adhesions and the pus cavity found. This was about the size of a small orange, with a somewhat ragged interior. The cavity being thus opened, was washed out, and a counter opening made for drainage lower down on the right side and a drainage tube, wrapped in gauze, introduced. This drainage tube passed well up between the ribs and the liver into the concavity of the diaphragm. The gauze sponges were then carefully removed and iodoform gauze packed in between the liver and the opening, so as to still protect the general cavity. The first opening was then closed with silkworm gut as usual. Convalescence was remarkably prompt, the abscess and wound healing thoroughly in about two weeks.

REMARKS.

I have thought it wise to report these two cases of subphrenic abscess because the subject while not entirely new is one which is not familiar to the great majority of the members of the profession, especially when occurring as a complication of appendicitis. After a study of the statistics presented in the monographs of Leyden, Maydl, and Sachs, together with the addition of a few other cases that have been reported, including a most interesting case and *résumé* by Dr. A. H. Freiberg, of Cincinnati, I am able to find but 43 cases of this form of abscess following appendicitis. My two cases, therefore, make the forty-fourth and forty-fifth cases. Unfortunately, a considerable number of the reported cases have not been diagnosed until the autopsy, and yet I think that when the attention of the profession is once directed to this point, a diagnosis should be promptly arrived at in the great majority of cases, if not in all.

While subphrenic abscess without regard to cause is a very infrequent occurrence, from the cases collected by Maydl it appears that appendicitis furnished the second largest number of cases.

Pathological examination has shown that these abscesses may be either extra-peritoneal or intra-peritoneal, the position of the appendix possibly determining which variety will be found in any particular case. In my first case, as the appendix was behind the cecum, I am inclined to believe that infection extended upward behind the peritoneum and that the entire abscess was therefore retro-peritoneal. (I may state in passing that I have seen one case of appendicitis in which the abscess burrowed up behind the colon, perforated the dia-

phragm, and was discharged through the bronchial tubes. The discharge was taking place in this way when I first saw the case, but the history and physical examination established the diagnosis very satisfactorily. I advised non-interference and gave a guardedly favorable prognosis, which was verified by the patient, a child, making a perfect though somewhat slow convalescence.)

When the appendix is free in the peritoneal cavity one would rather expect to find the intra-peritoneal form of abscess, the infection having been doubtless carried by the peritoneal currents from the region of the appendix to the diaphragm. My second case was undoubtedly of this variety.

The diagnosis must evidently be based upon the continuance of the symptoms of infection after the removal of the appendix or after the subsidence of the inflammatory symptoms in the region of the appendix. Careful examination under those circumstances would reveal some tenderness in the region of the liver, with a depression of its lower border owing to the accumulation of pus and exudate between its upper surface and the diaphragm. Pain in the right shoulder has been noticed in a number of cases which have been reported, and would be an important factor in making a diagnosis. It was present in neither of my cases. Hiccough, from irritation of the diaphragm, is also a rather common symptom. It occurred in my first case, but not in the second. In a number of cases which have been reported the pleural cavity became involved by contiguity of tissue, so that the diagnosis for this reason was obscure, and in a number of instances the real trouble was entirely overlooked and only found at the autopsy. An important point in diagnosis in many of these cases is that frequently a subphrenic abscess due to appendicitis contains gas as well as pus, this being due to the escape of gas from perforation of some other hollow viscus in the neighborhood; or more likely still, to the presence of gas producing bacteria. In these cases the presence of the gas in this location would render the differential diagnosis somewhat more simple. In these cases great stress must be placed upon the points brought out by Leyden, namely: (a) The previous history of the patient pointing to abdominal trouble rather than thoracic. (b) Normal vesicular murmur and normal fremitus at the apex with a sharp line of differentiation from the amphoric respiration found below. On deep inspiration the line of normal fremitus descends to where the amphoric breathing has been

previously noticed. (c) Very slight displacement of the cardiac apex. (d) Slight bulging of the intercostal spaces and no chest wall immobility.

If the pleural effusion is free, the differential diagnosis will be much simpler, since there will be no change of the subphrenic conditions when the patient assumes the horizontal position. Aspiration, if the pleural effusion is serous, will show serum above the diaphragm, while pus will be secured by a second aspiration a little lower down.

Since the same causes which produce subphrenic abscess may result in abscess of the liver, cases will occasionally occur in which a differential diagnosis between these two foci of suppuration may be impossible.

If the disease is unrecognized, and hence not treated surgically, the mortality is very large. Beck's investigations show recovery in only a little over 5 per cent. of these cases. Under proper surgical treatment, however, according to Maydl, the mortality should not exceed 50 per cent., and late reporters make the mortality still less.

The treatment of subphrenic abscess is necessarily surgical, and should be, I think, conducted through an incision made rather well back on the right side, so as to strike the abscess directly, if extra-peritoneal, or through adhesions, if time has permitted their formation. Or if no adhesions are found, this incision will best allow drainage with protection of the general cavity by gauze. While in a number of instances a cure has been effected by going across the pleural cavity, no surgeon, I think, would operate in this way except under a mistake in diagnosis. Such a method of operating would be distinctly proper in cases seen late and in which a collection of pus already exists in the pleural cavity. In these cases the subphrenic abscess would be most easily in reach from the pleural cavity by incising the diaphragm.

While I think most of these abscesses can be reached, as in my cases, by going below the ribs entirely, it should be remembered that the pleural cavity normally stops on a level with the tenth rib, and that it is therefore possible to resect this rib, and then by pushing off the pleura, resect portions of the ninth and even the eighth, as recommended by Berg, and thus reach the abscess most directly. The danger of wounding the pleura, however, must not be overlooked, and certainly manipulations in such close juxtaposition to the pleura would not unlikely result in a secondary infection of that cavity. It is for this reason that I am in-

clined to look with more favor, on theoretical grounds, on the infracostal incision.

(NOTE.—After the reading of this paper, its author was told by three members of the Society that they thought they now understood the cause of death in a case which each had had in his practice during the last few years. There is, indeed, probably little doubt that this form of abscess occurs more frequently in cases of appendicitis than statistics seem to show, and that its apparent infrequency is due to lack of recognition.)

CAUSATION AND RELATIVE FREQUENCY OF TYPHLYSIS, PERITYPHLYSIS AND APPENDICITIS IN INFANCY AND CHILDHOOD—DIGITAL EXPRESSION OF FÆCAL CONCRETION FROM APPENDIX.*

By JOSEPH HENRY BYRNE, M. D., New York, N. Y.,

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Patient research and our advanced pathological knowledge have cleared up many an obscurity, and forced us to disregard many a theory that only a few years since appeared tenable. Grissolle, about 1839, did his best to controvert the teachings of Albers, which he correctly perceived were erroneous; but owing to the support of Dupeyren, Ferral, Lennac, and others equally as prominent, his views were completely lost sight of for nearly fifty years. He claimed that inflammations of the cæcum were not accompanied by productions of pus and perforations of the appendix, and pointed out that dysentery and ulceration of this part had no tendency to involve the adjacent connective tissue; but that disease of the vermiform appendix with its phlegmonous inflammation, pus formation and perforations, explained satisfactorily the chain of events as we now know them to take place.

The weight of evidence is so great that it must now be apparent to all, that inflammation of the cæcum takes little or no part in the production of appendicitis; that few cases of typhlitis exist as a primary disease, and that perityphlitis only occurs as a secondary complication.

The cæcal theory is now a thing of the past, as all clinical and pathological evidence is opposed to it. Renvers, in 586 autopsies after perityphlitis, found the appendix ruptured in

*Abstract of paper presented American Medical Association during its session at Atlantic City, N. J., June 5-8, 1900.

497 cases. Agar, in 218 similar cases, found the cæcum ruptured only 29 times, but does not state whether this took place from without inwards or in the opposite direction. It is well known that inflammation of the large and small bowel has little or no tendency to involve the peritoneum, and that the opposite is the rule with the inflamed appendix. With this in mind, it is easy to understand how the inflammatory process can extend to the serous coat of the neighboring parts and the adjacent connective tissue. As careful an observer as Talemon states that early operation seldom or never shows that the cæcum is involved (by inflammation or perforation), but admits that it may become the seat of trouble which, however, is secondary to disease of the appendix, not including those cases of tuberculosis, dysentery and typhoid. Stercoral accumulation on the cæcum may occasionally produce a mild inflammation, but never give rise to ulceration, and easily disappear upon the administration of purgatives.

The inner coat of the gastro-intestinal tract is frequently the seat of varying degrees of inflammation in infancy and childhood, and more especially during the warmer months. Therefore, if these ordinary inflammatory processes took a prominent part in the production of appendicitis, this disease would be most frequently met with during the summer season, but such is not the case. Statistics prove beyond a question that this trouble is rather infrequent before the fourth year, increasing between that and the tenth, and that the majority occur between here and the thirtieth year. I have yet to see in my fifteen years' experience a case of primary typhlitis or perityphlitis, and as the literature of recent years shows the experience of others to be somewhat similar, my paper, therefore, resolves itself into one on appendicitis.

The appendix varies more in size, position and general make up than all the other structures of the human anatomy. In the early periods of life, it is very rich in lymphoid tissue, and has been styled "the tonsil of the intestines." The size bears no relation to the frequency of the disease.

The organ being a functionless or rudimentary one, with a blood supply that can easily be interfered with, and which under healthful conditions seems barely sufficient, it must, therefore, be more or less susceptible, on account of its low degree of vitality, to inflammatory disturbances. The physiologist assigns to it no special function, or even an indirect part in our vital economy.

The credit for our present knowledge belongs to us, owing to the excellent work of Weir and McBurney, of New York, Fitz, of Boston, and Hodynpyl, of this city, who, by the way, was the first to suggest that the bacillus coli communis played an important part in the production of the disease.

Etiology.—The presence of foreign bodies is now looked upon as a minor factor in producing appendicitis, but when they do exist they, like concretions, act in a mechanical way. When the mesentery is long the appendix is likely to assume a position that is almost straight; but when it is incomplete it may become curved or twisted, interfering with the circulation, and also with the free drainage of the normal secretion, preventing the egress of any fecal matter that might enter, thus favoring the formation of concretions.

The appendix is not at all exclusive in the choice of position, and in about 60 per cent. of the cases the site selected favors gravity and facilitates free drainage; but when the position is a pendent one, the ingress of matter is aided while the egress is hampered, thus inviting the formation of concretions.

The cavity of the appendix and the opening into the cæcum often predispose to inflammation—previous attacks of disease, or retrograde metamorphosis having resulted in a narrowing of the latter or the production of one or more strictures of the lumen. Strictures are very infrequent between the first and fifteenth years, and the question as to whether these lesions are pathological or the natural consequence of retrograde changes is not yet satisfactorily decided, but according to my judgment the weight of evidence is in favor of the latter. They have been found a number of times in the fetus and also in the new-born.

Relatively, the appendix is larger in fetal life, infancy and childhood than it is in the adult, and compares to the large bowel as 1:10, while in the latter it is 1:20. It is also somewhat longer and wider in the male than in the female, and this holds good in early life. It reaches its maximum size between the tenth and twentieth years, and from here on it remains at a standstill or diminishes. This diminishing ratio is nothing more than a physiological or pathological retrogression, and with it goes a decreasing vascularity; and as the tissues receive their nourishment through the blood, I am therefore firmly convinced that the slight immunity that exists in early life can be credited to the fact that these changes in the majority of cases are not sufficient to

interfere with the integrity of the part until after the fifteenth year. Statistics support this assumption, as only 15 per cent. of all cases of appendicitis occur prior to the fifteenth year. The female, both young and old, is less frequently the victim of appendicitis than the male. The comparatively smaller size of the organ, with its increased vascularity (an anastomotic branch being given off from the region of the right ovary), accounts for this slight immunity.

One attack of appendicitis predisposes to subsequent inflammations; and this may be brought about either by a constriction, adhesive bands, the presence of a concretion, or interference with the circulation.

Constipation or diarrhoea, if at all, are only minor etiological factors. If, as Maicaine states, *bacillus coli communis* of diarrhoeal discharges is much more virulent than it is in the healthy bowel, diarrhoea may then become a more active agent.

Any inflammatory state in this region may at times result in an appendicitis, especially if one or more of the predisposing conditions exist, owing to the fact that the appendix is less capable of resistance, and easily succumbs to an attack of inflammation, on account of its diminished vitality.

In early life the mucous membrane of the appendix possesses wonderful power of absorption, and this in itself may become an active predisposing cause.

Exposure is a possible element in the causation of the disease. Several instances have been recorded in illustration, but none during infancy or childhood, so far as I have observed.

Typhoid and tubercular ulcers of the appendix are met with post mortem, but are seldom seen after operation. When the solitary glands of this organ are involved during an attack of the former disease, the process of healing may result in the formation of a constriction, and thus this disease may become a factor in bringing about this affection.

Micro-organisms are now looked upon as being active exciting agents, and the *bacillus coli communis* is the germ most frequently found. Hodenpyl notes its presence in 34 out of 35 cases; Hawkins, 57 out of 61; and others give like experience. They may act independently, but their invasion is usually secondary to some existing condition. Welsh states that the *bacillus coli communis* is innocent if the integrity of the mucous membrane is maintained, but becomes pathogenic when the same is inflamed or injured. Hodenpyl, however, found numerous bacilli in the walls

of the appendix without any lesion of the membrane.

Traumatism, as a cause of appendicitis, may be of two kinds—(1) *Direct* and (2) *indirect*. Instances of the former are matters of record; and while it is possible for indirect violence to become an etiological factor, I feel positive that the appendix is already in a receptive state, and therefore, while the injury may seem to be the active agent, it is only a minor factor in the causation of the trouble.

Foreign bodies and concretions, when they exist, no doubt play an important rôle. The former may become a nucleus for the latter, which are always formed in the appendix, but they both occur less frequently than was formerly supposed. When they do exist, they act as irritants to the mucous membrane, producing a catarrhal inflammation and facilitating the invasion of micro organisms; and secondly, by mechanical interference, occluding the lumen, acting as a ball valve at the opening itself, or the seat of the stricture obstructing the circulation even so far as producing gangrene; and finally, by pressure.

EXPRESSION OF A CONCRETION BY DIGITAL MANIPULATION.

On April 15, 1900, I was called to see a boy, 10 years of age, who had been suffering from constipation for five or six days. Two days prior to my visit on forcing a movement, he was taken with pain about the umbilicus, which continued at irregular intervals. On the morning of the 15th, he was seized with severe vomiting, the pain increasing so as to produce syncope. When I saw him he was on his side with the thighs flexed, and stated that this was the most comfortable position. Temp. 101°, pulse 114, complained of continuous pain with frequent severe spasmodic seizures which caused him to cry out. The abdominal wall was exceedingly thin; muscular resistance not marked. I was therefore able to make out the appendix with comparative ease, and found it in a state of erection and in a somewhat unusual location—directed upward and outward toward the crest of the ilium. The appendix I judged to be about three inches long, and about 1 inch from its distal end I discovered a small but hard fecal mass, which I pressed toward the gut. On the following day, his condition was about the same, but I was unable to make out the appendix owing to muscular resistance. Suggested operation, but the father preferred waiting until the following morning, when to my surprise the boy had

greatly improved. Temp. normal, pulse 84. No pain, tenderness greatly diminished, the appendix could be felt but the concretion was no longer in evidence. Complained of extreme hunger and stated he was entirely well. Case passed out of my hands on the 19th, as the parents considered a recurrence the main indication for an operation.

The expression of hardened fecal masses by digital manipulation to my knowledge has never before been referred to; and although the cases in which this mode of procedure would be applicable must necessarily be few, I could not refrain from directing attention to the manner in which this very satisfactory result was accomplished.

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THE DUAL ACTION OF THE BRAIN, AND ITS RELATIONS TO DEXTERITY AND DOUBLE CONSCIOUSNESS.*

By DAVID INGLIS. M. D., Detroit, Mich.

The brain is, anatomically, a double organ, yet mental processes are single. *A priori*, we should expect, in a double brain, a double mind. Text-books on physiology and nervous diseases have little to say of the relation of the two halves of the brain in mental processes, yet the question is of great importance not only in physiology but in the pathology of mental disease. A sufficient number of cases have been recorded to make it certain that a man can retain his personal characteristics and mental activity in whom one-half of the cerebrum has been destroyed. Again, a number of authentic cases are on record in which there was no corpus callosum, and in these individuals there was no defect in mental activity. These facts demonstrate that one-half of the brain can carry on the mental processes of a normal man.

The question which the author of this paper raises is this: "Is it not possible that we always do in health what these cases demonstrate that a person may do in disease?" The author contends that in health we do all of our thinking with one-half of the brain, the other half playing an entirely subordinate rôle. Physiological arguments in favor of this view are found in the following facts: While coarse movements can be performed nearly as well by one-half of the body as by the other, whenever it becomes necessary to carry out move-

ments involving speed, dexterity, and accurate adjustment, nature organizes one-half of the brain much more fully than the other. Right-handedness is not an accident, but part of a well defined purpose to secure the greatest facility in the carrying out of skilled movements. We are not only right-handed, but right-legged, right-eyed, and right eared. It is true that a right handed man can perform with his left hand, in a clumsy manner and slowly, almost any act usually done with his right, but when we come to the more highly specialized movements concerned in speech, nature practically abandons one-half of the brain and concentrates the entire speech function upon the other, and the speech function is localized upon the half of the brain connected with the skilled hand. Not only are the special processes centralized in one-half of the cerebrum, but the various centres for heard speech, written speech, emissive speech, are all located in those parts of the different lobes concerned, nearest to a common centre, around the island of Reil. Nature has, evidently, planned it so that the infinitely varied and excessively rapid impulses concerned in speech shall be made easy by shortening, as far as possible, the course which these impulses must take through communicating fibres; in other words, a right-handed man is right-sided, but in nothing is he so right-sided as in speech. When we consider mental processes it is clear that most of our thinking is carried on in terms of speech, and all of our abstract thinking must be carried on in words.

If, for the purpose of facilitating the most skilled and rapid movements and the most rapid combination of sensory memories, nature has used one-half of the brain alone, then it is a logical step to believe that, to carry out the still more rapid processes involved in thought and volition, the same principle should prevail, and that the seat of consciousness and volition is to be found in the closest relation possible with the speech centres which play so vital a part in all mental processes. If it be objected that it is difficult to believe that one-half of the brain should lie inert while the other carries on alone the intellectual processes, the sufficient answer is that the convolutions which correspond to the various speech centres do now lie inert and seem to perform no particular function. This is just as surprising as it is to conceive of the cortex of the anterior lobes lying similarly unused. There are also pathological facts which strongly support the idea here propounded. There can be no question that in Jacksonian epilepsy we are dealing

*Original abstract of a paper read during the Session of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

with a discharging lesion involving larger or smaller areas of the cortex upon one half of the brain only, and it is characteristic that consciousness is preserved unless the convulsion spreads and becomes bilateral, and the moment it does so the patient becomes unconscious. The meaning of this is clearly this, that while the convulsion is going on in one-half of the cerebrum the patient retains consciousness with the other.

The phenomena of double consciousness strongly supports the idea of the dual action of the brain, and can best be explained on the hypothesis which is the subject of this paper. The normal man carries on his conscious life and mental activity with one-half of his brain. Ordinarily the opposite half has no part in the conscious life. In certain neurotic conditions the hitherto unused half rises to supremacy, and the usual governing half takes the subordinate place. That this is the correct solution of the phenomena of double consciousness finds strong support in the phenomena of hysteria and hypnotism. The patient can be rendered by either of these neurotic conditions the subject of a hemianæsthesia, and it is notable that the hemianæsthesia can be transferred from side to side, and, similarly, subjects of double consciousness under hypnotic influence may be made to change personalities. From a study of the phenomena of hypnotism it becomes clear that there is that in us which is termed a "sub conscious personality," which is capable of carrying out very many of the mental processes of the conscious personality unconsciously. Physiologically interpreted this means that the secondary half of the brain, while playing a subordinate part, is nevertheless capable of carrying out the combinations of sensations, sensory memories, and certain motions in a logical manner. The paper details a case of the writer's in which a patient, a subject of melancholia, was incessantly tormented by the duplication of all impressions. It seemed to her that every act she performed was done by her at the time it was performed and also precisely two years before. No act was so trivial but what it seemed to her that she had done precisely the same thing, under precisely the same circumstances, two years before.

The pre eminent characteristic of melancholia is an increased self-consciousness. The explanation of the case here alluded to is best made by believing that the two halves of the brain participated in consciousness, one slightly behind the other; she thus got a double impression of every experience. Inasmuch as the phenomena of the duplication of sensa-

tions, double consciousness, due either to hysteria or hypnotic suggestion or graver mental disease, are always evidences of mental impairment, it would seem that to maintain the most perfect mental action, one-half of the brain should persistently exercise the controlling power. Anything which tended to make the ordinary quiescent half assume control tends to impairment of mental processes and the damage of the individual. If this be true, the attitude of those who advocate a cultivation of ambi-dexterity is thoroughly illogical. Instead of trying to make a right-handed person less right handed, we ought rather to try and make him more right-handed. Conversely the attempt to make a left handed boy right-handed is a physiological crime. Every effort ought to be made to make the left-handed boy more left-handed. It is a notable fact that Lombroso states that a much larger proportion of degenerates are ambi-dextrous than are normal individuals.

Very suggestive of the value of a thorough unilateral training of the brain is the fact that, through the centuries, our educational institutions have persistently concentrated their efforts on training not only the young, but advanced students in the study of language. All the years that a boy is studying language, he is systematically training one-half of his brain to the neglect of the other, and it is by no means unlikely that such thorough training contributes to render the dominant half so securely dominant that there is little danger of the other half interfering.

Pathologically, the paper opens up certain applications of this theory in the explanation of abnormal mental states, and the paranoiac may be conceived of as an individual in whom the secondary half of the brain carries on an activity sufficiently persistent and independent of the dominant half to explain the double life of a paranoiac, and the gradual growth and systemization of delusions based on hallucinations which find their origin in the uncontrolled action of the secondary half. Again, it is not difficult to understand the mental confusion which would necessarily arise if the two halves of the brain, acting independently, were engaged in active mental processes; in short, if the theory of the paper is correct, it opens a wide field for the study of the mental processes of the insane, and it suggests the possibility of some interesting experiments and possibly of some therapeutic successes to be won by subjecting the insane to such hypnotic suggestion as would bring out the phenomena of bodily and mental hemianæsthesia.

21 State Street.

SIGNIFICANCE OF THE STOOL IN INFANTILE DIARRHŒAS.*

By WM. E. DARNALL, A. B., M. D., Atlantic City, N. J.

Visiting Physician to the Atlantic City Hospital; Fellow of the American Academy of Medicine; Member of the American Medical Association; and Vice-President of the Academy of Medicine of Atlantic City.

The most important feature in treating the summer complaints of infancy is a systematic and careful examination of the napkins day by day. Clinical symptoms furnish a general idea, but the stool is an actual index of the conditions present. Appearance, consistency and number of movements per day are to be considered. The verbal descriptions of an anxious mother are not to be depended upon. She will say yes to almost any direct question. Her lack of scientific training precludes her knowing anything about the details of consistency, color, particles of fat or casein, mucus, pus, necrosed epithelium, blood, etc.

Usually there is a history of the baby becoming cross, peevish, loses its appetite and vivacity, and vomits its food. The stools increase in frequency, are thinner in consistency, unnatural in appearance. Here is a condition of indigestion. The well meaning mother every time it cries gives it more food. The difficulty is thus increased. The baby becomes worse. Movements become as thin as water, yellowish or muddy brown, offensive, perhaps accompanied with much flatus. They soon become colorless and watery. Weight is lost rapidly. The life of the little one leaks away literally through its bowels, unless this leaking is promptly controlled.

The dirty leaden colored stool is enough to tell the tale of infected masses of imperfectly digested food. Profound impression is made upon the nervous centres by the absorption of toxins from the bowel. The little patient wilts like a plucked flower, unless promptly cared for.

Most common perhaps is that terror of mothers, *the green stool*. Acid in reaction, accompanied with colic, it indicates too great a percentage of carbohydrates in the food. The passage resembles finely chopped masses of spinach or parsley, intermingled with proteids of undigested casein or fat. Most to be dreaded however is the watery movement, small in volume, and evidencing itself only by a small colorless watery movement, with here and there a small speck or mass of light pea

green matter. It is little less dangerous than if it were so much arsenic. It is often seen in the latter stages of marasmus, when the natural secretions are so altered as to be unable to combat it, or prevent its return when the bowel has been rid of it.

The mucous stool.—Mucus is always present in feces. It is not visible when in abnormal quantities. When present therefore it indicates an inflammatory condition of some portion of the alimentary tract. If in the small intestine high up, it will probably be slightly bile stained. If in the colon or rectum it will be, as a rule, composed of white jelly-like masses of mucus, and attended with pain and tenesmus similar to the dysentery of adults. If it has continued any length of time, shreds of necrosed epithelium may be found sometimes coming away in perfect strings.

Another not uncommon condition is seen in *the whitish or grayish white stools of putty like consistency*. The appearance is often very much like cigar ashes. Fischer states these stools are composed largely of undigested fat. At any rate, there seems a total inactivity of liver function, since often no trace of bile is found in the excretions.

The constipated stool may be mentioned in passing. They are usually dry, pasty and lumpy, and the result mainly of an insufficient quantity of fat in the food.

Hygiene is too large a subject to be discussed here in detail, except to say, in passing, that it is of vital importance, and too much care cannot be given to bottles, nipples, napkins, bathing and dress.

Excluding constitutional diatheses, the *treatment of the bowel conditions of infancy* may be summed up in these words: (1), Elimination; (2), Disinfection; (3), Feeding; using always as few drugs as possible in the treatment of an infant.

Let it be remembered that the starting point of all these troubles is indigestion with retention and decomposition of food in the alimentary tract, which causes auto-intoxication by absorption of toxins from the bowel. The first step, therefore, is to stop all food for a day or two, using barley water or plain sterile water for its thirst. Then rid the bowel of all offending matter by drachm doses of equal parts of castor oil and aromatic syrup of rhubarb. Antiseptic action may then be obtained by tenths of calomel and quarter grain doses of salol, which may be combined with bismuth for its sedative action. If the stools are serous, grain doses of Dover's Powder after each loose movement should be used. For a

*Original abstract from paper read before Section on Diseases of Children of American Medical Association, held in Atlantic City, N. J., June 5-8, 1900.

condition of great relaxation, stimulation with small doses of brandy may be employed or morphine, gr. $\frac{1}{100}$, and atropine $\frac{1}{100}$ to $\frac{1}{50}$. In all conditions of abdominal pain, hot applications over the abdomen are of service. Should mucus be present, large doses of bismuth should be given and the addition of aromatic powder, or a little oil of anise, by their carminative action, helps to expel flatus. Simple medication is all that is necessary for most children. Some children, however, seem to resist all efforts and tax the attendant to the utmost for expedients. In such cases, a daily high irrigation of normal salt solution or warm water may be employed. It is of especial service in clearing out from the bowel mucus, foreign matter or any focus of infection, besides being soothing and comforting to the little sufferer.

The hardest question to settle, perhaps, in the management of a sick infant, is the adjustment of a suitable diet. None of the proprietary foods are quite satisfactory or efficient without the addition of fresh cow's milk, except for a short time. If they are to be used, only experience and good judgment in their selection can determine which food will suit the individual case. Often one food after another may have to be tried, until the whole gamut is run and the right one found. The most satisfactory as well as the most scientific way of meeting the difficulty is, beyond a doubt, in the modification of fresh cow's milk. It may be pasteurized to decrease the risk of infection. The sick baby should be started on a low percentage of proteids and fats, which may be gradually increased if the digestion can stand it. One-half to one per cent. of the proteids may be ordered for a child from six months to one year of age. In some cases, even with such a low percentage, it is necessary to peptonize the milk for the delicate stomach of the weakling. The proteids should be gradually increased by easy stages and the movements jealously watched for the presence of curds or masses of fat, and on their first appearance the percentage should be again decreased. While every one cannot afford, on account of the expense, to have the milk scientifically adjusted by the milk laboratories, yet any progressive physician who will take the trouble, can work out his own percentages and so instruct the mother that she may approximate them in the home modification of the milk. This becomes especially easy by means of the *Estraus Materna* introduced by Dr. Holt, which is a simple and convenient device within the reach of every one.

It is an octagonal glass receptacle, holding sixteen ounces, and so graduated on its various sides that if the markings are followed six different sets of percentages of modification may be produced, and that suited for the case in hand selected.

The treatment of infants requires infinite care as to details and patience, while the closest scrutiny of its small body in all of its physical appearances, and an observation of its motions, facial expression, and even its cry is requisite. These are its only mode of expressing its sensations, and a correct interpretation of them often sheds light on a proper understanding of its condition.

THE MODERN COVERING FOR THE FOOT AS AFFECTING ITS PHYSIOLOGICAL ACTION.*

By AUGUSTUS P. CLARKE, A. M., M. D., Cambridge, Boston, Mass.

The interest in the subject here under discussion has been awakened from the fact that a considerable increase in the usual number of cases of impaired action of the foot, ankle and lower portion of the leg has of late come under the author's care.

In endeavoring to ascertain the reason for such augmentation of perversion in the function of the parts, it soon became evident that the very fashionable but largely unscientific mode of dressing of the foot has been the procuring cause. The influences of such improper dressing have often produced flattening of the foot or lowering of the arch through atrophy of the muscles and relaxation of the sustaining ligaments. The frequent ingrowing of the toe nails, and the occurrence of inflamed and painful bunions, are traceable to the same origin. In some cases there has been a tendency, on account of the construction of the vascular tissue, to the development of varicose ulcers. In not a few cases occurring in young women, the morbid condition proved intractable to treatment until a radical change in the covering of the foot had been made.

Contrary to what has been stated in most works on anatomy, the normal infant's foot is not flat, but has a well-defined arch; there is only a layer of fat in the arch, and this thick bed of fat under the instep is what gives the appearance of the child's foot being flattened in shape.

* Original Abstract of a paper presented to the Section on Physiology and Dietetics at the Fifty-First Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

As soon as the child begins to walk, the surplus adipose tissue undergoes absorption, and so it has erroneously been believed that the muscular effort in walking or standing has caused the arch to rise.

The careful examination of specimens of the infant's foot preserved in anatomical museums, the dissections of recent subjects, or the use of X rays, will show the fallacy of regarding the normal infant's foot as being that of a platypus. The flattening of the foot and its concomitant conditions may, no doubt, in many instances, be due to general deficiency of tone in the fibrous structures of the body, and to the yielding of the interosseous and plantar ligaments and plantar muscles.

In many cases, the result is hastened or superinduced undoubtedly by paralysis of the peronei and the anterior and posterior tibial muscles, induced by the influences of mechanical pressure. Boots laced and supported or surmounted by firm leather busks may be of much help to those who become thus unfortunately permanently flat-footed, but are by no means to be recommended to be worn by others not first suffering from a similar condition.

If any one will take the trouble to examine the anatomical structures of the foot of the higher apes, and also specimens of the foot of many of the lower races of mankind, he will then perceive that in the structures of those subjects the arch is well represented; its preservation in such organisms has undoubtedly been owing to the absence of mechanical influences, and its original development was in part at least effected by the continued practice which ancestral forms followed in grasping with the feet the branches of trees and other objects for sustaining their weight. This habit long indulged in has tended to render the ligaments and muscles of such parts most powerful and efficient for the preservation and progress of the races.

It should not be overlooked that one of the greatest points to be gained in the proper selection of the shoe to be worn is in the fact that the ligaments and muscles of all parts about the foot and ankle should have essentially unrestricted movement.

It should further be borne in mind that while adornment of the feet on account of the conventionalities of society is desirable, yet protection from deformations, from discomfort and pain, which experience shows may often give rise to neurasthenia and kindred nervous and physical suffering, is of far more consequence to the well-being of the wearer.

There can be no doubt that the peculiar advantages in education or general training so freely enjoyed by Americans admirably adapt them for the reception of proper advice in regard to the choice to be made in the selection of every kind of apparel.

All that seems to be further needed for securing such an end is the application of intelligent and convincing methods of showing that an improvement in the form of the body, in its carriage and in its personal attraction, would follow a strict compliance with recommendations made.

825 Massachusetts Avenue.

THE RELATIVE IMPORTANCE OF VALVULAR AND MUSCULAR LESIONS IN DISEASES OF THE HEART*.

By SOLOMON SOLIS COHEN, M. D., Philadelphia.

1. In the great majority of cases of chronic disease of the heart, the exact site and nature of the valvular lesion, while always to be taken into consideration in treatment, are of less importance therapeutically and prognostically than the state of the cardiac muscle.

2. The most important exception to this general rule is in the case of mitral stenosis with great narrowing. Aconite is often of use in this condition to reduce the excessive muscular effort, not only in the absence of hypertrophy in cases of compensation, but even when compensatory hypertrophy has not become sufficient.

3. In many cases in which no evidence of valvular lesion can be detected during life, and in some of which slight valvular alterations, in others normal valves, are demonstrable after death, there exist rational signs of cardiac incompetence which are due to the diseases of the cardiac muscle.

4. The symptoms and physical signs of cardiac myopathy are inconstant, and in the early history of the case may be slight. In the absence of valvular lesions, intermittence or irregularities of the pulse or apex beat, disturbance of rate or rhythm by slight causes, and recurrent pain, referred to the precordium, in non-hysterical and non-neurasthenic subjects, are the principal local symptoms calling attention to the disease of the cardiac muscle. Tinnitus, vertigo, dyspnoea, venous ectases, visceral congestion, oedema, and other evidences of circulatory disturbance may be slight

* Original summary of a paper read before the American Medical Association, Atlantic City, June 7th, 1900.

and escape attention until sought for. There is usually impurity or weakness of the first sound of the heart, with approximation of the two sounds in quality or relative accentuation of the second sound; later embryocardia and gallop rhythm may develop.

5. Gout, syphilis, alcohol and tobacco, tea and coffee, sexual excesses, mental strain and physical overwork, either in serious pursuits or sports, are among the chief provocatives of disease of the myocardium, apart from those lesions secondary to the acute infections or consecutive to nephritis or valvular disease. Among the acute infections, influenza is a frequent cause of cardiac muscle disease.

6. Other than the general diagnosis of disease of the myocardium, there is not yet sufficient knowledge of clinical signs to permit accurate recognition ante-mortem of the pathological nature of the lesion.

7. The diagnosis between neurasthenia of the heart and disease of the myocardium may be difficult.

8. The chief importance of the subject lies in the avoidance of error.

(a.) In the prognosis and treatment of valvular disease, which may be over-treated or under-treated through failure to estimate properly the condition of the muscle.

(b.) In the recognition of serious lesion of the muscular structure of the heart in cases that have been supposed to be normal because of the absence of valvular murmurs.

(c.) In the distinction between organic and muscular lesions and functional disturbances, and in the realization of the fact that the latter may lead to the former.

9. In treatment, judicious regulation of diet, rest and exercise, avoidance of exciting causes, and excesses of any kind, the good functional condition of the skin and eliminative organs, are of the first importance. Warm saline carbonated baths, and, in some cases, gentle massage and resistance exercises carefully adapted to the individual case, are of great benefit. Nitroglycerin is the most useful single agent of the materia medica. Strychnin, digitalis, adonis, cactus, strophanthus, and spartein have usefulness in individual cases. Arsenic, gold and sodium chloride and iron are useful tonics. Potassium iodide and mercurials sometimes have special indication. Venesection should be made promptly and sufficiently in the case of sudden and urgent symptoms of cardiac failure.

1525 Walnut Street.

ASEPTIC MINOR GYNECOLOGY*.

By AUGUSTIN H. GOELET, M. D., New York, N. Y.

This paper suggested, as the author believes, many unique and useful points.

First, he made an urgent plea for cleanliness in ordinary gynecological examinations, laying stress upon the necessity for thoroughly sterilizing the hands, as well as all instruments employed, because infecting germs (the staphylococcus always, and often the streptococcus also), are present on the hands of all persons, and especially those of the physician.

He outlined the method of arranging the examining table, exhibiting a new clinical air-cushion for the office table, which possesses many advantages, and stated the necessity for precision and neatness in gynecological examinations and preparation for minor operations, and the ultimate benefits derived from the observance of the same.

He described in detail the manner of washing the hands and cleansing instruments. For this purpose he uses an antiseptic soap furnished by Johnson & Johnson, which by actual bacteriological tests he has found will destroy all infecting germs.

Many useful suggestions were made regarding the sterilization of instruments and the care of same when not in use.

The advantages of a suitable reservoir and irrigating apparatus were specified, and also an outline of the method of irrigation of the vagina for securing asepsis given. He called attention to the importance of using a lubricant for examining finger and speculum that will prove effectual and is easily removed. He has abandoned all forms of grease, because it is difficult to remove from the hands and genitals. He also outlined the method of taking specimens of vaginal discharge for microscopical examination.

To secure cleanliness and drainage of the cavity of the uterus, he uses a double-current clinical irrigator which he found very useful in the treatment of endometritis.

To meet the requirements for aseptic gynecological examinations and minor operations in private houses, he exhibited an aseptic *gynecological emergency case*, made under his directions, containing all instruments needed, and in addition a clinical air cushion and portable irrigating reservoir with vulva shield and nozzle and leg-holder.

He exhibited also a sponge tent cover of

*Original abstract of a paper read before the Section of Diseases of Women of American Medical Association, held at Atlantic City, New Jersey, June 5-8, 1900.

pure rubber, by the use of which gradual dilatation with the sponge or laminaria tent can be accomplished satisfactorily in a perfectly aseptic manner.

Concluding, he said the physician's first duty is the security of his patient. She must be impressed with the importance of every detail and must be made to understand that relief of symptoms does not necessarily constitute a cure; that the physician alone is competent to decide this point. Her confidence must be gained, and that cannot be done with incompetent and imperfect methods.

2030 Broadway, Corner 70th Street.

THE SILVER-INJECTION TREATMENT OF PULMONARY CONSUMPTION.*

By THOMAS J. MAYS, A. M., M. D., Philadelphia, Pa.

Looking back over the history of the treatment of pulmonary consumption, it will be seen that the agents and measures which have given the best results are those which influence the nervous system. This is true of strychnine, the hypophosphites, atropine, cod-liver oil, cayenne pepper, arsenic, electricity, and other remedies that are constantly employed in the treatment of this disease. Then, on the other hand, it may be stated that any influence or agent that has the power of undermining the integrity of the nervous system also has the power of generating pulmonary consumption or some other form of pulmonary disease. This accounts for the fact that the insane, the idiotic, the epileptic, the hysteric, the asthmatic, the neurotic, that those who are subject to great grief, worry, mental overwork, disappointment, and that those whose nervous system suffer from the chronic intoxication of alcohol, syphilis, lead, mercury, etc., are greatly more prone to die of phthisis than other people.

In keeping with this theory, I have for nearly ten years injected silver nitrate over the vagi of the neck with a view of producing counter-irritation over these nerves, and thereby enhance the resisting power of the lungs. Five minims of a two and a half per cent. solution of silver nitrate injected at a point immediately over or slightly behind the pulsating carotid in the region of the neck, preceded by a similar dose of cocaine hydrochlorate through the same needle will produce the requisite degree of irritation. The skin is lifted between

the thumb and forefinger of the left hand, and the needle is just pushed through the skin.

The local visible effects show themselves in nodular (sometimes in diffuse) swelling, and in redness and pain, but not markedly pronounced. Most of the injections should be given on that side of the neck below which the affected lung is situated, and should be repeated about once a week or every ten days.

The result of the injections in more than one hundred and fifty cases of consumption is that they greatly and sometimes entirely relieve the cough and expectoration in a very short time, that they check vomiting, improve the appetite, increase the general strength, ameliorate the physical signs, suppress the fever, abate night sweats, and in some cases have produced a striking increase in weight. In a number of patients I have witnessed an increase of flesh from four to six pounds a week. Three of five patients who gained most, one gained 5 pounds the first week after the injections were begun; 6 pounds the second; 4 pounds the third; and 3 pounds the fourth week. Another lost 1 pound in the two days immediately preceding the first injection, gained 1 pound first week after injection; 4 pounds in second; 3 pounds in third, and 4 pounds in fourth week. Another lost 3 pounds in the five days immediately preceding the first injection; gained 2 pounds in first week after injection, 3 pounds in second, 2 pounds in third, and 4 pounds in fourth week. Another lost 1 pound during week preceding first injection, gained 3 pounds in week after first injection, 4 pounds in second week, and 2 pounds in third week. Another gained 7 pounds in six days after first injection, 3 pounds in second, and 2 pounds in third week. Not all the injected patients gained in flesh—some lost, others remained at a standstill, and gained in other respects. The best effects are of course found in incipient and advanced cases, although they are not without benefit in far advanced cases.

1829 Spruce Street.

The Williams Memorial Hospital.

Ground has been broken on the handsome lot at the corner of 12th and Broad Streets for the erection of this hospital, which is to be an imposing structure. It is not expected that the building will be ready for occupancy until about July, 1901.

*Original abstract of a paper read before the American Medical Association, meeting at Atlantic City, N. J., June 5-8, 1900.

Proceedings of Societies, etc.

NEW YORK ACADEMY OF MEDICINE— SECTION ON ORTHOPÆDIC SURGERY.

Meeting of April 20, 1900.

Resection of the Hip.

Dr. B. F. Curtis presented a boy, 18 years old, whose right hip had been resected for tuberculous arthritis of seven years' duration. The hip was fixed in dorsal dislocation with the typical deformity of adduction, flexion and inward rotation, and three sinuses existed on the posterior, anterior and internal surfaces. There was slight flexion and extension, rotation was diminished, abduction possible to 10 degrees. Operation by posterior incision, September 26, 1896. Resection of head and three inches of femur. The pelvis was found healthy. The sinuses were curetted, the wound partly sutured, partly packed, and a good recovery followed. A Buck extension apparatus was applied and the limb kept in slight abduction. November 18th, a hip splint was applied and the patient allowed up. The sinuses had healed by November 23d, and December 11, 1896, he was discharged. There was four inches of shortening, the limb was in good position, the upper end of the fragment being strongly united with the pelvis at the level of the acetabulum, with no slipping. A limited amount of flexion and extension was possible, but no rotation. There was no sign of recurrence, the patient was well and walked with a cane. He wore the splint for a few months after leaving the hospital.

Osteotomy for Deformity Following Hip Disease.

Dr. Curtis also presented a boy, 17 years old, who recovered from hip disease with the hip flexed to 10 degrees, about 10 degrees of flexion and extension allowed about that point. No rotation. On December 23, 1897, there was no sign of active disease, and an incision was made through the soft parts in front, below and parallel to Poupart's ligament, dividing everything down to the joint, including its capsule and excluding only the vessels and nerves. This allowed extension to 45 degrees, the tension of the vessels not warranting more. The femur was then partly divided by the osteotome and partly broken above the lesser trochanter, its posterior layer being left. Full extension was then possible. The large wound was covered by a flap from the abdomen and a Buck's extension was applied. Hæmorrhage the following night was con-

trolled by packing and extension was removed. Infection followed with complete fracture and over-riding of the fragment and partial sloughing of the flap. The second day extension was re applied and the bone set. On January 20, 1898, the wound was clean and grafting was done over the large granulating area. By the end of February the wound was healed, with shortening of two inches. On March 19, a hip splint was applied. The boy was walking without a brace. There was practically no motion in the joint. Bony union was firm. The deep depression at the site of the wound caused no inconvenience. The brace was occasionally re applied for a few days for some pain in the hip.

Dr. A. B. Judson said that operating in hip disease was less likely to be followed by a bad result in an adult than in a child.

Dr. G. R. Elliott said that the relation of these cases emphasized the importance of preventing the need of such operations, which should never be required. They indicated gross negligence in the treatment of the disease giving rise to the deformity. Patients with hip disease drift through general hospitals and come out with badly displaced limbs from the absence of adequate treatment. In an institution which he attended surgically there were a dozen cases of old hip disease with limbs at all sorts of angles, showing that no care had been taken in hospital and private treatment to keep them in proper position while the bone was breaking down and undergoing repair. The prevention of these deformities was not difficult.

Dr. W. R. Townsend recalled a similar case of osteotomy. After dividing the soft parts by an open incision, including the capsule, it was found impossible to get the limb down. The capsule was allowed to heal before osteotomy was done, which he thought was better than to complete the reduction at one sitting.

Treatment of Torticollis.

Dr. Townsend presented a girl, 12 years old, who had been relieved of torticollis, the result of suppurative cervical adenitis at the age of five, which had produced cicatricial adhesion to the left sterno-cleido-mastoid muscle. The head had been pulled over toward the left shoulder, and the deformity had been increasing for four or five years. On February 1, 1900, an open incision one and a half inches long, about two inches above the clavicle over the belly of the muscle, and free section of all the resisting structures, had relieved the deformity. The head had been held in the op-

posite position by plaster bandages. There had been no pain, the temperature had never been above 99 degrees, and the wound healed by primary union. The result was satisfactory. The head was in good position with motion. A little gap was felt below the scar, but the muscle had probably united. Subcutaneous tenotomy would have been impossible, as it had been necessary to carry the incision to a point where no one would have dared to go. In general, he preferred the open incision for division of this muscle.

Dr. R. A. Hibbs commended an open incision. In a recent operation on a girl, five years old, after section of the sternal portion of the muscle, the deformity was only relieved by division of the clavicular portion through another skin opening.

Dr. R. Whitman practised the open incision in torticollis. Complete division of all contractions, correction of the secondary distortion by vigorous manipulation, fixation for a time in the over corrected position by a plaster bandage, and after treatment by proper exercises, would secure good results without the subsequent use of apparatus.

Spondylitis Deformans.

Dr. Whitman presented a man, 46 years old, with a spine ankylosed excepting the occipito-axoid joints. Fourteen years before, a long and severe attack of inflammatory rheumatism had affected nearly every joint excepting those of the back. This and several milder attacks in the next nine years had been coincident with gonorrhœa, which had been absent the past five years, while rheumatism had involved the back, and with a persistent "lumbago" the entire spine had become rigid. There was pain in the joints and under the shoulder-blades, increased by walking and by jars. The patient was nervous and irritable and easily startled, and felt as if the forehead were clasped by a tight band. The equilibrium was disturbed by the forward projection of the head and by the obliteration of the normal lordosis, so that he felt himself constantly inclined to fall forward, whether sitting or standing.

Dr. Elliott asked whether gonorrhœa was excluded as a cause.

Dr. Whitman did not know whether the so-called rheumatism which had involved the back was gonorrhœal in its origin or not.

Dr. Elliott asked whether the deformity was bony or fibrous.

Dr. Whitman thought it was partly fibrous and partly bony—an ossifying periostitis. The

spine was not entirely rigid, as there was discomfort on changing the position, although motion could not be demonstrated. He intended to try suspension as an experiment.

Hæmarthrosis of the Knee.

Dr. Hibbs presented two brothers, aged respectively 11 and 15 years. There was marked effusion and limitation of motion, without reflex muscular spasm, in both knees of the older boy and the left knee of the younger. The swelling was marked. The patients were first seen in July, 1899, two weeks after the older had a hæmorrhage from the lips, accompanied by what was evidently an acute hæmorrhagic swelling of both knees. Elastic knee caps were ordered with immediate comfort, and the boys were not seen again until recently. A feature of the history of each patient was that bleeding had occurred from various organs at intervals of one, two and three months, and that with each recurrence walking was rendered impossible by the tense and painful swelling of the knees. No other joint had been affected. Their father had died of some acute disease, and their mother was living and healthy. Two hæmophilic brothers had died in infancy, but a sister was living and healthy. The synovitis caused by the hæmorrhages had been prevented from resolution by their frequent recurrence. The effect of applying pressure would be observed and recorded.

Dr. C. A. Elsberg recurred to the case reported by him at the meeting of the Section held on October 20, 1899. (See the *Virginia Medical Semi Monthly*, Jan. 26, 1900, p. 628, *Editor*). A boy 2 years old had hæmorrhage into the knee and three or four weeks later similar occurrences in three of the finger joints, in a family in which the male children of healthy mothers had been hæmophilic. An elastic knee cap had been applied, and the child was fed on gelatine for a while on a theoretical rather than on any other basis. The patient was seen once a month, and the blood in the knee was gradually absorbed, leaving the joint in a practically normal condition. He would continue to wear the knee cap, removing it only at night. There had been repeated hæmorrhages under the skin but no return of bleeding into a joint.

Dr. H. S. Stokes said that hæmophilia was generally transmitted through the mother to her male offspring, the daughters, like their mother, showing no sign of the condition, although their male children were almost certain to be hæmophilic. The recurrence of swelling

of the joint did not necessarily indicate another hæmorrhage. A subacute or chronic synovitis was set up by the extravasation and more or less imperfect absorption. After a hæmorrhage, treatment should be prolonged to promote and terminate absorption. The general treatment should receive attention and rest, immobilization, pressure, strapping and counter-irritation should constitute the local treatment.

Dr. Hibbs said that, if done, strapping would have to be continued indefinitely, as the knees in his cases were swollen all the time. The effect of one hæmorrhage did not disappear before the occurrence of another.

A Rubber Splint Shoe.

Dr. H. J. Bogardus exhibited a hip splint which was shod, not with leather but with a piece of the rubber tire in common use on the wheels of road vehicles. The tires were made in widths varying by one-eighth inch and in length about thirteen feet, of which the waste ends were suitable for this purpose. A piece could be cut off with a wet knife blade and fastened on easily and most securely by the ingenious and yet simple application of a couple of screws. In economy, durability and noiselessness the shoe commended itself.

Additional Mechanism for the Hip Splint

Dr. Hibbs exhibited a modified hip splint. The upright was a hollow rod constructed in the usual manner, excepting that it reached the ground and ended in a foot piece suitably shod for bearing the patient's weight. It also had a slot on its inner side which permitted a sliding rod to carry a second foot piece, not shod, to which were attached the leather traction straps. The sliding rod had at its upper part a rack moved by the usual pinion or key, and at its lower part a veritable ratchet and spring catch. When the patient was recumbent, traction was made by the key and secured in the usual manner; and when the patient stood, the downward pressure of his foot on the movable foot piece took in the slack of the traction straps, the additional traction thus made being retained by the automatic action of the spring catch of the ratchet.

Dr. Whitman said that the arrangement was much better than the ordinary one, but a disadvantage was that the brace could not be made longer, and therefore would be outgrown in a short time.

Dr. Hibbs said that when the upright of the ordinary splint was lengthened with the key it was thus weakened and had also to be replaced by a longer one.

Dr. Judson said that the additional traction gained when the patient was erect would prove

to be too much when the patient lay down again.

Dr. Hibbs said that when necessary, which would not often happen, the extra traction could be relaxed by the attendant or the patient could loosen the buckles of the perineal straps.

Book Notices.

Diabetes Mellitus and Glycosuria. By EMIL KLEEN, Ph. D., M. D. Philadelphia: P. Blakiston's Son & Co. 1900. Cloth. Svo. Pp. 313. Price, \$2.50 net.

This is a book needed by practitioners wherever glycosuric patients are to be found—and they are becoming more and more frequent in the South. Very few authors "get down" to their subjects in a plainer and more practical way—describing the various processes of examination of patient, of diagnostic methods, and details of treatment, in a simple, excellent manner. While the body of the book is printed in large clear type, that which is printed in small type is understood to be that which is of secondary importance; but it is all relative matter, and useful to the student of the subject of diabetes. While the scientific part of the book is the sole work of the author, its translation has been done by *Dr. Eshner*, of Philadelphia, and it is well done. If asked by a doctor the best practical work on the subject named in the title above, we would have to name this book as perhaps the best one for general every day purposes. Especially is the book serviceable in its therapeutic details. A good index greatly assists in ready references.

The Refraction of the Eye. *A Manual for Students.* By GUSTAVUS HARTRIDGE, F. R. C. S., Senior Surgeon to the Royal Westminster Ophthalmic Hospital, London. Tenth Edition. 1900. Illustrated. 12mo. P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia, Pa. Price, \$1.50 net.

This book is familiar to specialists, and that it is a popular text book is shown by its general adoption in colleges and the rapid exhaustion of successive large editions during the past sixteen years. The present tenth edition is a thorough revision, and incorporates the latest of the rapidly increasing knowledge of the subject. Appended to the book is an excellent set of test type. Accurate principles and calculations are given to enable the owner of the book to prescribe glasses properly, although nothing short of practical experience can enable the ophthalmologist always to meet the indications satisfactorily. The style of the book

is that of a plain practical author, whose object is to teach what he knows. We most cordially commend the volume to the favorable consideration of those of the profession who have to prescribe glasses from time to time. The printing is done in England—but the work is published simultaneously in America by the publishers named in the title.

Editorial.

The Virginia State Board of Medical Examiners

Will hold its first Semi-Annual Meeting for 1900 for examination of applicants for permits to practice medicine, etc., in Virginia, next week in Lynchburg, Va. A full advertisement is placed on the last cover page of this issue. It is worth while for the Board to consider any legislation that may be thought necessary, as it has been practically decided to have an extra session of the Virginia Legislature next winter. The meeting on Monday night, June 25, 1900, is entirely for executive matters. But each candidate for examination should be on hand *promptly* at 9 A. M., Tuesday, June 26, and register *before* that hour, according to the form which the Secretary of the Board, Dr. R. S. Martin, Stuart, Va., will present. We would be glad if the candidates for examination would adopt the "honor system" during the hours of examination. Our best wishes go with every honest man who is to appear before the Board next week. According to custom, as soon as the several Examiners have made their returns, the list of successful candidates, with list of questions asked, etc., will appear in these pages in the usual forms.

Changes in the Faculty of the University College of Medicine, Richmond, Va.

Dr. Hunter McGuire, on account of health, resigned the chair of Clinical Surgery, and was elected Emeritus Professor of the same. He was also re-elected President of the Faculties of the University College. Dr. Hugh M. Taylor was elected Professor of Practice of Surgery and Clinical Surgery. Dr. Stuart McGuire was elected Professor of Principles of Surgery and Clinical Surgery. These Professors will have different days for their clinical teaching. Dr. Landon B. Edwards resigned the didactic chair of Practice of Medicine, and was elected to the full chair of Clinical Medicine. Dr. Wm. S. Gordon was elected Professor of Practice of Medicine, which caused him to resign as Professor of Physiology. Dr. H. Stuart MacLean, who has been a lecturer in Bacteriology, etc., was elected

Professor of Physiology. The title of Proctor was done away with, and that of Dean substituted—Dr. J. Allison Hodges being elected to fill its duties. Dr. P. A. Irving remains as Secretary and Treasurer, etc. Dr. Landon B. Edwards was re-elected Chairman of the Medical Faculty; Dr. Chas. M. Cowardin, re-elected Chairman of Dental Faculty, and Mr. T. A. Miller was re-elected Chairman of the Department of Pharmacy. The *hospital clinical* facilities will be greatly improved and enlarged by the addition of some new wards to the Virginia Hospital, which adjoins the University College lot.

University of Virginia Graduates in Medicine.

During the commencement exercises of the University of Virginia, June 13, 1900, the Degree of Doctor of Medicine was conferred upon the following thirty-nine graduates:

Joseph L. Alexander, Stuart's Draft, Va.
 Charles H. Baker, Graham's Forge, Va.
 Charles H. Barlow, Portsmouth, Va.
 Thomas A. Booth, Chester, Pa.
 Richard K. Bragonier, Shepherdstown, W. Va.
 T. Henry Brenneman, Broadway, Va.
 E. Bradford Burwell, Norfolk, Va.
 Norborne P. Coker, University of Virginia, Va.
 Robt. F. Compton, University of Virginia, Va.
 Eugene Davis, Charlottesville, Va.
 Ruel E. Ebersole, Winchester, Va.
 D. B. Frederick, Jr., Marshallville, Va.
 John N. Furniss, Selma, Ala.
 James Ryan Garner, Atlanta, Ga.
 Edward S. Godfrey, Jr., Pinar del Rio, Cuba.
 C. Norris Hawes, Richmond, Va.
 Robert G. Heiner, Washington, D. C.
 Nicholas F. Hix, Prospect, Va.
 Robert P. Jones, Norfolk, Va.
 Philip D. Lipscomb, Crozet, Va.
 Joseph A. McGuire, Cedar Bluff, Va.
 Leartus J. Owen, Swansville, Ind.
 Alphonse de Pierre, University of Virginia, Va.
 William Alfred Pinkerton, Coveseville, Va.
 William Leven Powell, Winchester, Va.
 Montie L. Rea, Crozet, Va.
 Benjamin J. Read, Bedford Springs, Va.
 Holcombe McG. Robertson, Max Meadows, Va.
 F. Sidney Reop, Childress, Va.
 Wade H. St. Clair, Bluestone, Va.
 Samuel R. Sayers, Jr., Wytheville, Va.
 T. Garnett Smith, Tazewell, Va.
 J. W. Rosser Smith, Shadwell, Va.
 Wm. L. Taylor, Townsville, N. C.
 Dennis M. Thomasson, Charlottesville, Va.
 Arthur F. Toole, Talladega, Ala.
 Charles S. Venable, Charlottesville, Va.
 W. H. Landon White, Norfolk, Va.
 R. Herbert Wright, Petersburg, Va.

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Original Communications.

WOUNDS OF THE ABDOMINAL VISCERA WITH- OUT VISIBLE INJURY TO THE SKIN.*

By GEORGE TULLY VAUGHAN, M. D., Washington, D. C.,
Surgeon U. S. Marine Hospital Service; Surgeon to the Emer-
gency Hospital; Chief Surgeon to Georgetown University
Hospital, and Professor of Principles and Practice of Sur-
gery, Georgetown University, Washington, D. C.; Major
and Brigade Surgeon U. S. V. during the war with Spain.

Much has been written on this subject—the medical literature of America, England, Germany and France containing reports of a large number of cases. The object of this paper is to add a few more to the list of such cases, and, if possible, contribute something towards the diagnosis and treatment. The diagnosis is most important, and often it is extremely difficult to decide, in time, whether operation is necessary. And this is the vital point. Other things being equal, there is no doubt that operation during the first two hours gives the patient at least twice the chance for recovery that a later operation would give.

These injuries are due to violence transmitted in a great many different ways—some result from what appears to be the most trivial force, as striking the abdomen with the fist. Blows from balls, sticks or other objects; falls, striking the abdomen against angles, edges or any projecting object, or even on a flat surface; squeezing or crushing from being caught in narrow places, as between a fixed object and a moving one, under the wheels of a vehicle or between the bumpers of cars; and kicks from human beings or from animals, are the most frequent causes of this class of injuries. Naturally, the hollow viscera are more apt to suffer when full than when empty.

There can be no doubt that many injuries of the abdominal viscera, such as contusions and even slight lacerations of the stomach, intestines, mesentery, liver, etc., occur with symp-

ptoms of more or less gravity, from which the patients recover without any special treatment. In others who have received fatal injuries, the symptoms during the first two hours—the time when diagnosis is most important—may indicate no more serious trouble than exists in the class above mentioned. Generally, however, the severe cases—those requiring immediate operation—can be distinguished from the mild ones which recover without operation. In those cases of doubt, where, for example, the symptoms indicate a probability, even if only slight, of ruptured intestine, it is best to give the patient the benefit of the doubt and operate; because, although an unnecessary laparotomy might occasionally be done and rarely a death result, yet in a given number of cases thus treated, more lives would be saved than by any other method at present known to the science of surgery.

So, this is the first question for the surgeon's consideration:

- (1) *Is the lesion of sufficient severity to require caeliotomy?*
- (2) *What organ is probably injured?*

To answer these questions, the symptoms must be carefully studied. The general symptoms are as follows:

SYMPTOMS.

1. *The temperature* is not reliable. It is usually first lowered in severe cases, probably from shock, and rises later on when reaction is established.

2. *The pulse* is increased in frequency to 100 or more, and is often a good index to the gravity of the case—a weak, thready pulse, indicating shock, hemorrhage or peritonitis.

3. *Pain and tenderness* are always present in greater or less degree. The patient may feel very little pain except on moving or on pressure, even in the worst cases. Tenderness is frequently general over the abdomen, but sometimes it is local and enables the surgeon to determine the organ injured.

4. *Vomiting* is almost certain to occur when

*Written for American Medical Association, Session 1900, held at Atlantic City, N. J., June 5-8.

the injury involves the stomach. It may also occur from injury to other abdominal viscera, especially the intestines and liver.

5. *Restlessness and thirst* indicate hemorrhage or peritonitis.

6. *Expression of countenance*—a pinched expression with dilatation of the *alae nasi*, when present, is a valuable symptom denoting serious injury, but its absence does not necessarily mean that an operation is not necessary.

7. *Rigidity of the abdominal muscles*, either with distension or with flatness, is another valuable symptom, but is not present until peritonitis begins.

The local symptoms, besides those already given, and by which the special organ injured is determined are—

1. Blood in the vomitus, stools, or urine, indicating lesions of the stomach, intestines, bladder, or kidneys.

2. Tenderness limited to the region occupied by the injured viscus.

The history of the manner in which the injury was received, giving the exact points on the body to which the violence was applied, would give important information in deciding just what organ is affected. This is important, as it enables the surgeon to open the abdomen at a point which will give him the best command of the parts with which he will have to deal. Thus, it would be extremely awkward to find after a *coeliotomy* through the left rectus muscle, that the trouble was in the *cæcum*, appendix or gall bladder. So that the rule to open in the median line (or very near it) when in doubt is a good one.

EARLY OPERATION.

The importance of early operation, before the vitality of the tissues has been reduced by peritonitis, cannot be overestimated. It is difficult to say just how soon the peritonitis would be sufficiently advanced to seriously impair the value of an operation; no doubt, a good deal depending on the nature of the infecting organisms. Of course, peritonitis begins as soon as the infecting microbes gain a footing, but in some cases it advances slowly, while in others, for example, after *faecal extravasation*, it proceeds with astonishing rapidity. In Case No. 3, in less than seven hours after the injury, a marked case of plastic peritonitis existed, and in Case No. 1, the patient was dead in thirty hours from septic peritonitis (*toxæmia*).

Having opened the abdomen—

1. *Stop the hemorrhage* in those cases in which it is profuse. This may be done by finding its source, and applying ligatures or

compresses. When the sources are numerous, yards of gauze may be packed in. In parts inaccessible to ligatures, sutures or hæmostatics, as tears in the posterior border or upper surface of the liver, the bleeding should be arrested by packing of gauze, leaving one end protruding through the abdominal incision for means of removal after forty eight hours. The principal artery supplying the organs from which the hemorrhage comes, may be temporarily compressed; for example, when the small intestines are involved, compress the superior mesenteric; if the kidneys, the renal; if the stomach or spleen, the *cœliac axis* or splenic artery. Should all these means fail and the patient be in danger of death from hemorrhage, compress the aorta just below the diaphragm until the source of the bleeding can be found and the proper remedy applied.

2. *Lacerations of the stomach or intestines* may be closed with a continuous suture of fine silk through the serous and muscular coats, so as to approximate the peritoneal surfaces. One row of sutures is usually sufficient.

3. *Rents in solid viscera*, as liver or kidney, may be closed and hemorrhage arrested by closing them by means of catgut sutures passed deeply, distant from the edges and tied carefully to avoid cutting through the friable tissue.

4. Extensive laceration of the spleen or of one kidney usually requires removal of the organ.

5. If the contents of stomach or bowel have escaped into the general peritoneal cavity, free irrigation with salt solution should be done. If there is only blood in the peritoneal cavity, it should be simply sponged out. The surgeon must decide in each case whether or not to use drainage.

6. Intravenous injection of salt solution, six parts to one thousand, I am confident, has saved the lives of many patients who were dying of hemorrhage. It is my practice to inject slowly into the vein a quantity of salt solution about equal to the quantity of blood lost as nearly as can be estimated. The effect is sometimes marvelous—a pulse of 150 or more, and almost imperceptible, coming down to 120 or 110 with good volume. It is also useful in cases of shock, probably supplying the place of the blood which has left the brain, and other important organs, to accumulate in the abdominal blood vessels, or stimulating the vasomotors in such a way as to restore to the vessels their lost tonicity.

CASE I.—*Rupture of the jejunum from a blow*

by a revolving capstan bar—Death in thirty hours.—H. S. K., sailor, aged 51 years, was struck on the abdomen by the end of a capstan bar while the capstan was revolving, the end of the bar sweeping across his abdomen without knocking him down. He felt sick and faint and vomited soon after. *There was no sign of injury to the skin or muscles.* Twenty-four hours later when admitted to hospital, the patient was in a condition of collapse with cold extremities, livid skin, and pulse 150. He died six hours after admission, and about thirty hours after the receipt of the injury.

The necropsy showed acute general peritonitis, the abdominal cavity containing 1000 c. c. of yellow serum with flocculi of lymph and considerable plastic lymph glued together the coils of intestines. About $1\frac{1}{2}$ meter from the pylorus an opening 12 millimeters in diameter was found in the jejunum in the wall most distant from the attachment of the mesentery. Several scybalæ were found in the jejunum near the opening, no doubt brought from the large intestine by the reversed peristalsis attending the efforts at vomiting, and one was found in the serum free in the cavity. There was no injury of the other viscera.

This case shows the rapid course of a septic peritonitis due to the escape of fecal matter from the intestine into the peritoneal cavity. Although there was no wound or contusion visible, yet the symptoms of shock, faintness and vomiting were sufficient to justify an exploratory laparotomy when the injury would have been discovered, and death probably would have been averted. Unfortunately, the injury occurred on a steamer where no medical treatment was accessible, and when he reached the hospital twenty four hours later, it was too late.

CASE II.—*Crushing injury dividing the sigmoid flexure and requiring resection of six inches of small intestine. Two Murphy buttons used.*—J. T. S., aged 23 years, a brakeman, was caught between the bumpers of two cars. When seen eight hours later his condition was as follows;

No wound of the skin visible, but there was a protrusion on the left side of the abdomen as of a beginning ventral hernia, and palpation showed rupture of the muscles at that point. His pulse was about 90 and temperature a little over 37.5 C. There had been no vomiting, but there was nausea and a tendency to vomit, and the face had a characteristic pinched expression. Pain was not marked. Diagnosis of ruptured abdominal viscera was made from the history of injury, the tendency to vomit, and above all, the pinched expression on the

face. Laparotomy under ether, nine hours after the injury was received, showed the left rectus muscle crushed in two, the sigmoid flexure completely divided with its mesentery; a portion of small intestine was so disorganized as to require the resection of six inches, and the superior mesenteric artery was found divided four or five inches from its origin and still bleeding. There was considerable blood and some fecal matter in the abdominal cavity.

Two Murphy buttons were used, a small one to approximate the ends of the small intestine after excising the crushed portion, and a large one for the colon after trimming off the bruised part. The mesentery was carefully united by fine silk suture, and the mesenteric artery ligated. The great omentum was so bruised and bleeding that the greater portion had to be removed. The abdomen was then washed out with hot salt solution, and closed with drainage by means of a glass tube. A litre of normal salt solution was injected into the patient's median cephalic vein during the operation, but in spite of this the pulse was 150 and weak at the end. Death occurred 30 hours after the operation, from dry peritonitis, aided by loss of blood. The junctions made by the Murphy buttons were well adherent, and there was no leakage.

In this case the tendency to vomit and the pinched face made the diagnosis certain that a serious lesion existed in the abdominal cavity. The escape of fecal matter had no doubt infected the peritoneal cavity, and peritonitis was already under way when the operation was done. Had it been done six hours sooner, the result might have been different.

The use of two Murphy buttons at the same time in one intestine might well be criticized, as the upper one might have become detached first, and, lodging against the other, have caused obstruction and possibly rupture; but saving time was important and the risk was considered justifiable.

CASE III.—*Rupture of jejunum in two places from the fall of a heavy weight.*—M. D., aged 23 years, negro laborer, was injured May 20, 1898, by having a bucket containing 500 pounds of coal fall on him, striking him on the left hip and on the left side of the abdomen. On examination, six hours after the injury, a contusion was found on the left trochanter, but no sign of injury to the abdominal walls could be detected. Pulse, 96; temperature, 37.2; abdomen moderately distended and recti tense. Tympanitis over the upper, and dullness over the lower, part of the abdomen. Pain on pressure, espe-

cially at the umbilicus. He had vomited twice and had a desire to micturate and defecate, but could not succeed. Urine passed soon after the injury was clear. There was restlessness, thirst, with a pinched expression of countenance and dilatation of the *alæ nasi*.

A diagnosis of rupture of an abdominal viscus with peritonitis was made, and operation was done without delay. Under chloroform the abdomen was opened through the left rectus muscle, as the blow had been received on this side, and it would be more convenient to deal with injury of the spleen, descending colon or left kidney.

On opening the peritoneal cavity, a dark watery fluid gushed forth. The coils of intestine presenting were drawn out and a rent was almost immediately found in the jejunum about one metre from the pylorus situated opposite the mesenteric attachment, transverse in direction and occupying about one third of the circumference of the intestine. The everted mucous membrane was trimmed off, and the rent closed with two rows of fine silk sutures—the first passing through all the coats and the second omitting the mucous coat. About 15 centimeters nearer the stomach another rupture was found similar to the first, but longer, running about two-thirds around the circumference of the intestine. No other lesion could be found on careful examination. There was probably a litre of fluid in the abdominal cavity, and this was washed out with several pitchers of warm saline solution.

Peritonitis had already made considerable progress, the intestines having a coating of plastic lymph, which was gently wiped off with gauze. The wound was closed with drainage by means of a glass tube, and the patient was given an intravenous injection of salt solution, as his pulse was weak and rapid.

The patient lived four days and died of peritonitis. The necropsy showed no leakage at the points of repair and no other lacerations, but there were several gangrenous spots in the intestine and mesentery, evidently the result of contusion.

Here a plastic peritonitis due to the escape of the contents of the jejunum was set up in less than six hours after the injury, and in spite of the most careful and thorough toilet of the peritoneum, the process could not be arrested but continued to a fatal termination.

CASE IV.—*Laceration of the liver, pancreas, spleen and left kidney—Splenectomy and nephrectomy—Death from hemorrhage.*—W. J., negro, aged 24 years, while lying on the ground was struck on the back by a heavy coil of wire,

weighing several hundred pounds. When seen about two hours after the accident *no laceration or contusion of the skin was visible*. The pulse was about 100, but weak and thready. There was pain and tenderness of the abdomen with rigidity of the abdominal muscles, restlessness and frequent vomiting of fluid streaked with blood. There was no pinched countenance—so common in peritonitis. Diagnosis of rupture of viscera was made, and the abdomen was opened in the median line as soon as possible. There was considerable blood in the peritoneal cavity, and it seemed to come from many sources. A rent in the left lobe of the liver divided it completely from the anterior border backward for about 15 centimeters. This was closed as quickly as possible with continuous catgut sutures. The spleen was then examined and found so extensively lacerated that it was removed. A considerable quantity of blood was perceptible behind the peritoneum on the left side; the kidney was found pulpified, and accordingly was removed. The tail of the pancreas was lacerated, and ligatures were applied to stop the bleeding. The stomach and intestines were visibly ecchymosed, but no rupture was discovered. To afford room it was necessary not only to extend the incision from the ensiform cartilage to the symphysis pubis, but to make a left lateral incision through the abdominal muscles. These incisions were closed without drainage. The operation lasted one and a half hours, and the patient had lost a shocking quantity of blood. The pulse was 140 and scarcely perceptible. About one litre of salt solution was injected into the median basilic vein, but the patient failed to react, and died half an hour after the operation.

This was necessarily a hopeless case under any treatment, and had the extent of the injury been known, the idea of operating would have been abandoned as useless.

CASE V.—*Extensive laceration of the liver and other injuries—Death from peritonitis.*—J. T., aged 22 years, fell from the roof of a three story building, striking with his hands and the front of his body on a pile of sand, sustaining a Colles' fracture of both wrists with a compound dislocation of the right ulna at the wrist. *There was no injury of the skin over the abdomen*, but it was evident that he was injured internally—how serious could not be determined. His first symptoms were severe shock, nausea, and a tendency to vomit. Pulse, on the day of the injury, was between 88 and 100. There was tenderness over the region of the

liver. The pinched countenance symptom was not present. The necessity for operating was considered, but, as it was thought that the symptoms might be largely due to the fractures, with, at most, simply contusion of the abdominal viscera, it was decided not to operate. The patient died on the seventh day after the injury of peritonitis.

The necropsy showed a general plastic peritonitis, with adhesion of the intestinal coils. The only wound found internally was an extensive stellate laceration of the right lobe of the liver, involving the upper surface and radiating from about the centre of this lobe, and extending deep into the liver substance. There was considerable blood in the peritoneal cavity.

If this case had been operated on—and this should have been done—it is not certain that the injury would have been found, or if it had been found, that it could have been properly treated. An attempt might have been made to close the rents by deep sutures after making a transverse incision through the abdominal walls or one parallel with the costal margin. If this had been found impracticable the rents might have been packed with strips of gauze for forty-eight hours.

The cause of peritonitis in this case is not quite clear. It could scarcely have been caused by the blood from the liver. Possibly it was due to contusion of the walls of the intestine sufficiently to permit the pathogenic organisms of the intestinal contents to wander out.

CASE VI.—*Rupture of the diaphragm—Hernia of the stomach.*—S. M., white, aged 35 years, while blasting stone, was struck on the back while in a squatting position by the debris from a blast.

When seen about two hours later the patient was suffering from shock, rapid thready pulse, and refused to lie down on account of dyspnoea. There was a lacerated wound of the left knee, but *no injury of the skin of the abdomen.* On auscultation, no respiratory sound was heard on the left side except near the apex of the lung. Over the base and lower half of the lung there was a gurgling, tinkling sound and tympanitic resonance. The heart was displaced to the right. Attempts to vomit were repeatedly made. A diagnosis of serious visceral injury, possibly involving the chest, was made, and laparotomy would have been done but for the patient's condition of extreme shock, which stimulants and intravenous injection of salt solution failed to relieve. Death occurred twenty-two hours after the injury. The ne-

croscopy showed rupture of the diaphragm on the left side to the left of the pericardium, with hernia of the stomach, almost the entire organ having passed into the left pleural cavity, compressing the lung and pressing the heart to the right.

Had the diagnosis been clear in this case, operation might have been undertaken in spite of the patient's unpromising condition, and would probably have saved his life. It is well known, however, that the diagnosis of this rare form of hernia is more often made at the necropsy than by the symptoms manifested during life. According to Leichtenstern, the diagnosis was made during life in only five of 250 cases of diaphragmatic hernia.

The most important symptoms are:

1. The great dyspnoea from pressure on the left lung.
2. Rapid, weak, and perhaps irregular action of the heart from pressure.
3. Displacement of the heart to the right.
4. Absence of respiratory sounds over the lower half of the left lung. In hernia of the stomach, a gurgling, tinkling or splashing sound might be heard considerably above the normal position of the stomach, and nausea and vomiting would occur.
5. Tympanites on percussion extending too high up for the abdominal viscera in their normal position and not high enough for pneumatothorax.

816 *Seventeenth Street.*

TREATMENT OF DELIRIUM TREMENS.*

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

While the object of this paper is to call your attention to a method of treatment of delirium tremens that I have been using at the Washington Asylum Hospital and in private practice with a great deal of success during the last five months, yet I believe that a few minutes devoted to a general consideration of the disease will not be unwelcome. It is a question whether Dr. Sutton added much to science of medicine when he told us, in 1813, that there was a special delirium that was not improved by bleeding, but that could be cured by opium, for he not only overlooked the fact of alcohol being a prime factor in the cause of the disease, but has required a form of treatment that, while followed for a number of years, is now mentioned with words of caution

* Read at meeting of the Medical and Surgical Society, Washington, D. C., May 17, 1900.

by every modern writer. And I believe that he is also responsible for the name, which is taken from two of the principal and most constant symptoms.

Delirium tremens is defined as an acute alcoholic delirium, and may be due, first to the excessive use of alcohol in one who is not accustomed to its use or who has been drinking for a short time; these cases are usually of a neurotic temperament and have been subjected to some excitement or worry; in this form the trembling is wanting. This condition is described by some authors under the name of mania a potu, but as the earlier writers and some of the most recent ones fail to make any distinction, and as there seems to be very little reason for making this subdivision, I think it had better be classed under the one heading. Second, it may be caused by the excessive use of alcohol in a person who is regularly addicted to the use of stimulants. Third, it may be due to the sudden stopping of alcohol in one who is constantly in the habit of using it, and it is the cases that belong to these two classes that are the most frequent and give us the most trouble. Fourth, it may be due to injury or profound mental shock in the intemperate, and there are a few cases where joyful news has brought on an attack. Some writers claim that delirium tremens may usher in an attack of insanity.

It is, I believe, a fact that this disease is most frequent in spirit-drinkers, less in beer-drinkers, and still less in wine-drinkers.

This disease is also said to result from the excessive use of opium and other narcotics.

It is with great difficulty that the frequency of this disease can be arrived at; the mortality records are very unreliable owing to the reluctance of many physicians to state the true condition of affairs upon the death certificate, although specially requested to do so, for surely the seven deaths reported by the health officer during the year 1898 does not show by any manner of means the frequency of this disease. At the Washington Asylum, where a large number of inmates have been indulging heavily in alcohol previous to their arrest, and where the use is abruptly and absolutely stopped during their imprisonment, it is astonishing how few of these cases are severe enough to require treatment in the hospital.

From January 1st, 1897, to January 1st, 1900, there were in round numbers about 13,000 inmates of the male and female workhouses, and while it was very probable that 75 per cent. of these unfortunates owe their imprisonment directly or indirectly to the exces-

sive use of alcohol, there were only 363 patients removed to the hospital for treatment for alcoholism or mania. I think this is evidently due to the prompt and efficient preventive treatment administered. Now, while these figures seem to show the rarity of this disease, yet such is far from being the fact, for every practitioner of medicine is aware how frequently he is called upon to treat this disease, which is much oftener than the above figures would indicate. The pathological anatomy is still a matter for study, as the anatomical lesions found *post-mortem* do not aid in the pathology of the condition, and often does not differ from the changes due to chronic alcoholism.

The symptoms, except in the first form, do not come on suddenly, but are apt to be preceded by restlessness and depression; the patient becoming morose and anxious, he complains of vertigo, ringing in the ears, and disturbed sleep, and all his alcoholic symptoms get worse; there is loss of appetite, vomiting, and a characteristic tremor of the hands; he has persistent insomnia, and rapidly develops hallucinations of sight, in which he sees snakes, dogs, cats, mice and vermin; these animals are always appearing to him in great numbers, constantly moving, and are terrifying or repugnant. There may be hallucinations of hearing; he hears people conspiring to kill or injure him; he becomes quite violent, and must be restrained or he will do injury to himself or others. Hallucinations relating to the sexual instinct are far from rare, all hallucinations are worse at night, and are characterized by a great desire to commit acts of violence. Sometimes the delirium is more quiet; the patient converses with imaginary individuals, carrying on and directing his daily work; dictates letters, etc. Sometimes, though rarely, he believes that his food and medicine is being poisoned. There is seldom loss of consciousness, so that the patient can usually be roused by shaking him or addressing him abruptly. In grave cases consciousness may be completely lost. The patient does not experience bodily pain even when bones are fractured, and where mechanical restraint is used great care should be exercised to prevent injury; the temperature is at first normal; after three or four days it may go to 104 degrees or over without complications. The pulse is usually not affected, except on exertion; it may be dicrotic when there is great prostration; the tongue is tremulous, and may be moist or dry and brown; the bowels are constipated. The stomach is irritable, and while there is loss of appetite, thirst is excessive. The tremor is constantly present,

and sometimes all the muscles of the body are affected; it may, however, be limited to the hands, arms, lips or tongue; it may be apparent only in the lower extremity, and it may exist several weeks after the convalescence is in other respects completed. Insomnia is a constant symptom, and usually exists throughout the attack. Respiration is not disturbed unless pulmonary complications are present, and it should be watched, although restlessness and physical effort sometimes increase it. The urine is scanty, high colored, and albuminous. The continuance is often characteristic, being animated with eyes brilliant and injected.

There are several forms of the disease described—a grave form, where there are violent motor disturbances and aggravated delirium, and a gravity of all the general symptoms. A febrile form, where a high temperature is a characteristic feature; an asthenic form, where there is a feeble almost imperceptible pulse, showing a failure of the action of the heart, sweats, stupor, coma and collapse; a subacute form, where the patient is restless but quiet, the delirium being limited to occasional wanderings with tremor and sleeplessness.

The course is always acute and rarely exceeds two weeks; it usually lasts from three to seven days; it may, however, last ten or twelve days, the symptoms always being worse at night. Convalescence is established when refreshing sleep returns and the patient has a clear mind and partakes of food. Except in the grave forms, recovery is the rule.

The termination is in recovery, the chronic form, insanity, or death. Death is not common in the ordinary form; in the grave forms it is usual, and occurs sometimes quite suddenly, and may be due to the failure of the nervous power, heart failure or profound prostration. The unfavorable signs being low muttering delirium, picking at the bed-clothes, a dry, brown-coated tongue. The prognosis is more grave with each succeeding attack; it is bad in advanced cases of diseases of the heart, lungs, liver and kidneys. The diagnosis is usually easy and should not be mistaken for acute mania, acute melancholia, pneumonia, or any of the acute infectious diseases. The complications are meningitis, pneumonia, cerebral hemorrhage or diseases of the kidney. Chronic delirium tremens is described by Dr. Lentz where the acute symptoms subside and insomnia gives place to sleep of a restless, disturbed nature, and the delirium that has been so changing in its character settles into a fixed delusion, the tremor becomes less, but is

permanent. This condition is incurable, and is a very rare form of the disease. I have never seen a case of it.

While this disease may be cured spontaneously by crisis of diarrhoea or vomiting, these symptoms must be carefully watched, as they are often the cause of great exhaustion and collapse. The indications for treatment of the disease are, first: Prevention; second, to produce sleep; third, to nourish the patient; fourth, to prevent injury; fifth, proper nursing, and sixth, the use of stimulants.

The preventive treatment should be used in all cases where a patient comes under our care who has been addicted to the constant or immoderate use of alcohol in any of its many forms, especially when the patient is depressed, restless and disturbed in sleep. The treatment should consist in a liberal use of bromides and a hypodermic of morphia, together with a nourishing liquid diet.

The indication to produce sleep was considered essential from the earliest times, and the adage that the patient must sleep or die has been accepted universally by the profession and laity for many decades, and it is interesting to note the long list of drugs which have been used for this purpose. The time allotted for this paper will only permit me to mention a few of the many drugs that have been suggested in this disease, and if the rule that where there are many remedies advocated there is no cure is true, surely the specific treatment of delirium tremens is yet to be found.

In 1813, when the disease was first described, opium was formally advocated as a cure for this condition, and was very generally used. In 1830, Eberlee says that purgatives must precede the use of opiates, when the bowels require it; without this, opium tends to bring on coma instead of sleep; and Dr. Coates, an earlier writer, says: That he has never heard, seen or read of an instance in which opium was productive of harm, and he recommends very large doses—four grains being given every two hours or two grains every hour; the quantity of opium used in this way often amounted to thirty grains or more. In fact, the general rule was to first purge and then give two grains of opium every hour until sleep was produced; and Dr. Stewart, in the *Medical and Surgical Review* for February, 1828, says: "After a large experience, all treated by bleeding died, but all treated by purging, opium and stimulants recovered."

The use of opium, as above warmly advocated, cannot be relied upon, and in fact,

should only be used in a few selected cases; and every modern author has found it necessary to urge great caution in the use of this drug, it being specially contraindicated when the tongue gets dry and delirium increases under its use.

The question of the use of alcohol is one that is always raised in the minds of the physician and anxious friends. This is not only due to the recognized cause of the attack, but to the prostration and exhaustion which always accompanies the delirium and seems to require it. Its use is always disappointing, and while a number of physicians are in favor of allowing a small amount of alcohol combined with nourishment, yet there are many who are strongly opposed to its use and who never use it to meet the above indications.

Capsicum has been strongly advocated as a cerebral sedative and hypnotic; it is also an active stimulant to the digestion in doses of from 30 to 60 grains of the powder every four hours. When chloral was first introduced, it was thought to be an ideal form of treatment in this disease and was used in very large doses, but the results have not justified its use in these large doses, and it is now given but seldom, and then only in therapeutic doses; it is usually combined with morphia; fifteen grains of chloral and one-eighth of a grain of morphia being a favorite prescription, but chloral is always considered a dangerous remedy when the heart is weak. Hop tea has been strongly advocated, and is sometimes combined with porter. The concentrated tincture of *avena sativa* has been used by many, but is apt to give indefinite results. Bromide of potash is used in full doses and is very valuable, especially "in the horrors." Digitalis has a valuable place in this disease, but the large doses advocated by Jones, of Jersey, are to be condemned. A prescription of digitalis, opium and quinine has been found useful by many. *Cannabis indica* and *hyoscyamus* are useful, and are often combined. Inhalations of chloroform are dangerous, and should not be used. Parlydehyd has proved very disappointing, and on account of its very disagreeable taste has been discarded by many. Cupping was advocated many years ago by Dr. Parish, and was used extensively in the Pennsylvania Hospital with great benefit. Blistering is said to be beneficial when applied to the back of the neck in allaying violent cerebral excitement, and was superior to cupping, as it did not weaken the patient. Emetics have been lauded by some of the older physicians,

and several authors declare that they deserve more attention and wider use as a curative agent, and, next to opium, they were claimed to be the best form of treatment; but the same authors also claim that emetics are sometimes productive of harm, and mention unfavorable cases. The ideal drug for this form of treatment is tartar emetic in 15-grain doses. Camphor and *asafetida* have been used in this disease, and many of the D. T. mixtures contain these drugs combined with opium; the aromatic spirits of ammonia and Hoffman's anodyne are also used in many of these mixtures. The use of *hyoscin*, *dobousin* and *hyoscyamin* have proved disappointing and even dangerous, and while occasionally we find them of benefit, yet I think the general experience has been such that many have ceased to use them in any form of this disease. The use of trional and sulphonal have proved valuable additions, and are free from danger and productive of very happy results when used with other measures. Electro-therapy is useful in the later stages of the disease in the form of general Faradization. Massage has also its uses in later periods of the disease. Now, in the use of all these many drugs and therapeutic measures, while they are useful in the mild forms of disease, yet they utterly fail in many cases when most needed, and in some instances raise the question in the minds of the intelligent observer whether the remedy has not aided instead of combatting the fatal results of the disease; and while the general treatment of hypodermics of morphia, the free use of sedatives, with or without stimulants, and the host of favorite D. T. mixtures has proved successful in some cases, yet it leaves very much to be desired.

The cardinal indication "to produce sleep" is best met, in my judgment (based upon my recent experience), by hydrotherapy in the form of the warm pack, and should be given as follows:

A large double blanket is placed upon the bed, a sheet is rung out in water of 112 degrees Fahr. and placed upon the blanket; the patient, divested of all clothing, is placed upon the sheet, which is carefully folded about him, from his neck to his toes; another sheet rung out in water of the same temperature is then placed over him, and tucked in around him, the edges of the blanket are then brought up over the patient, and pinned with large safety pins, so that the patient looks very much the shape of an Egyptian mummy, his hands and arms being close to his sides. He should stay in this position for an hour and a half to two

hours undisturbed, and if the patient should sleep, which is usually the case, he should not be disturbed until he awakens.

This pack should be repeated as often as it may be indicated. I sometimes give 10 grains of trional, combined with a like quantity of sulphonal, just before the packing process is commenced. The warm pack relaxes the cutaneous vessels, withdraws the blood from the brain, depletes the cerebral tissues, and is a powerful sedative to the central nervous system. It also produces the much desired sleep in a manner that is very gratifying.

The warmth of the water used prevents shock, and, as far as I have observed, is accompanied by no unpleasant subjective or objective symptoms. The sedative effect of these packs is promptly manifested by the quieting of the distressing delirium and tremor. When fever is present, it promptly declines under the treatment, and the pulse, if accelerated, falls to normal, the skin becomes moist and normal, and the patient feels refreshed and comfortable, and usually falls into a quiet and peaceful sleep, and awakens in many instances free from delirium and with great improvement in the nervous tremor.

If these results are not obtained by the first pack, they should be repeated every two hours until the desired result is obtained. In one of my cases, I found it necessary to give three packs in six hours to a man 67 years of age, who was greatly debilitated by the long and frequent use of whiskey, and in which the delirium tremens appeared after a severe injury to the hip.

The nourishment of the patient is a very important part of the treatment, and must never be neglected; it must be nourishing and easily digested, and should always be in a liquid form; and while it may be used either warm or cold, it must be given at very frequent and regular intervals, and mechanical feeding should be resorted to if necessary. I believe that the directions for feeding, usually followed in the early hours of the attack, are inadequate to meet the grave condition that is present. It is my custom to give a good sized tumblerful of milk, beef juice, beef tea or milk and egg every hour while patient is awake, and I continue this over-feeding until convalescence is established. The excessive thirst of these patients usually render it an easy matter to carry out this part of the treatment.

It is always necessary to keep careful watch of the patient to prevent him from injuring himself or others, and this supervision should be constantly observed both day and night, as

a number of very distressing acts have been committed by failing to observe this precaution.

Mechanical restraint is to be avoided if possible, but should always be used when necessary. The restraint furnished by the pack is sometimes all that is required.

The nursing of the patient is a matter which should never be neglected, and it is the physician's duty to see that the patient is at once put in charge of a competent nurse. The room should be large and well ventilated, and visitors should not be allowed, and every precaution must be taken to prevent injury or escape.

The use of stimulants should not cause the practitioner any doubt; they should simply be used in this disease as in any other condition, where the indications for their use are present, and should include not only alcohol, but strychnine, digitalis and ammonia.

I am well aware that there are a number of writers who have called the attention of cold and tepid effusions to the body, the dashing of many gallons of tepid salt water over the patient, followed by various methods, such as rubbing dry with flannel and the use of opium, also the use of a shower bath and douches, yet I have not been able to find any one who has called the attention of the profession to the treatment of delirium tremens by the repeated use of the warm pack, followed by overfeeding, nursing, and the proper use of stimulants, and I feel sure if it should meet with the success in your hands that it has in the cases in which I have used it, it will prove a valuable aid in the treatment of this disease.

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SHALL ALCOHOL BE CONSIDERED AS A FOOD?*

By GEO. M. KOBER, M. D., Washington, D. C.
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In connection with Dr. Hickling's instructive paper on the "Treatment of Delirium Tremens," it may not be without interest to consider the question, "Shall alcohol be recognized as a food?" Liebig was, perhaps, the first to declare that alcohol stands only second to fat as a respiratory material, but wisely added, that the same effect could be produced in the body by means of saccharine and farinaceous articles of food at one-fourth or one-fifth the cost.

* Read at meeting of the Medical and Surgical Society, Washington, D. C., May 7, 1900.

Professor Atwater's experiments to determine this vexed and important question have created a very full discussion in the lay and medical press. In order to appreciate the significance of his experiments, it may be well to recall very briefly the physiology of nutrition and metabolism.

The human organism is made up of water, protein compounds, fats and the mineral salts, all of which are sooner or later consumed, involving certain expenditures which must be covered if health and life are to be preserved.

The causes of this constant consumption of the proximate principles of the body must be looked for in the functional activity of the cells. We know that they take up, utilize, disintegrate and eliminate matter; this gives rise to the generation of heat and the evolution of force or mechanical power, both of which are the result of latent energy contained in the substances introduced into the system as food. This latent energy is derived primarily from the plants where it was stored up under the influence of sunlight, the source of energy, in the form of protein, fats and carbohydrates; and modern physiology tells us how, with the aid of inspired oxygen, it is transmuted in the system into the heat that warms our bodies, and into strength for our work and thought.

The heat and vital force of the heart and other muscles of the body have their source clearly in the process of oxidation of carbon and oxygen, which primarily takes place in the cells; and all nutrients containing carbon and hydrogen contribute to the generation of heat and the evolution of muscular force.

The chief objects of food are, according to Atwater, to form the material of the body and repair of its waste, and to yield heat to keep the body warm and muscular and other power for the work it has to do. The amount of energy contained in different food-stuffs has been measured in the laboratory by the amount of heat evolved during their combustion by means of an apparatus called the calorimeter. The unit commonly used is the calorie, by which we understand the amount of heat required to raise a pound of water 4° F., and Atwater gives the following general estimate for the average amount of heat and energy in

1	pound	of each of the classes of nutrients.	
1	"	" protein	1860 calories.
1	"	" fat	4220 "
1	"	" carbo-hydrates	1860 "

Since the supply of food-stuff or income must be regulated by the consumption or output, it is essential that the consumption

should be determined. Experiments of this kind are made in an apparatus called the "Respiration Calorimeter," and include not only a quantitative analysis of the food, drink and air consumed by the man and of all the excretory products, which make up the income and outgo of the system, but also a careful estimate of the energy represented by ingested material as well as the energy liberated from the body in the various excreta, in heat and in mechanical energy.

The balance of income and expenditure is thus made, and the gain or loss of material of the body, with different kinds and amounts of food, and under different conditions of muscular exercise and rest, is determined. By means of these experiments, Prof. Atwater has been able to verify the law of the conservation of energy as applied to the animal organism, and has shown that every unit of energy which enters the body as potential energy of the food will leave the body in potential energy as excreta, in heat radiated from the body, or in mechanical work done by the muscular system. The material income of the body must balance the material outgo, and the energy income of the body must balance the energy outgo.

Prof. Atwater, in order to determine the food value of alcohol, substituted for a portion of the non-nitrogenous food a quantity of ethyl alcohol equivalent in energy to the food which it replaced— $2\frac{1}{2}$ oz. of absolute alcohol per day in six doses—and found what had been taught in fact by Liebig—1. Extremely little of the alcohol was given off from the body unconsumed in the breath or otherwise. The alcohol was oxidized—i. e., burned as completely as bread, meat, and other ordinary foods in the body, and in the same way. 2. In the oxidation all of the potential energy of the alcohol was transformed into heat or muscular energy. In other words, the body transformed the energy of the alcohol just as it did that of sugar, starch and fat. That is, whether the body was at rest or at work, it held its own just as well when alcohol formed a part of the diet as it did with a diet without alcohol.

These experiments clearly demonstrate the food value of alcohol, but Atwater wisely adds, that it should be remembered that the physiologic action of alcohol involves much besides its nutritive effect. Its influence on the circulatory and nervous functions is especially important. He has also said: "Whether alcohol is to be called a food or not depends upon the definition of the food." The writer does not question for a moment the scientific deductions made from these experiments, but objects that

alcohol should be considered anything else but an accessory food to be used with extreme precautions. Prof. Atwater has told us in one of his excellent Bulletins, that "the most healthful food is that which is best fitted to the wants of the user; the cheapest food is that which furnishes the largest amount of nutriment at the least cost, and the best food is that which is both healthful and cheapest." Time will not permit me to present the facts which would plainly indicate that the claim that alcohol is a food is not sustained according to his own definitions.

We will, however, briefly view the physiologic action of alcohol: Absolute alcohol, on account of its affinity for water, exerts a caustic effect on the mucous membranes. When properly diluted, it is rapidly absorbed and speedily oxidized. It is a stimulant to the central nervous system and the sympatheticus of the heart, and produces a feeling of exhilaration, vivacity of the mind, accelerated pulse, and increased muscular activity. Bunge denies these properties, and claims that its primary action is that of a depressant, and that its apparent good effects are simply due to the obtusing influence upon physical and mental suffering. But this is scarcely a correct assumption, as there are individuals in whom the smallest doses produce palpitation of the heart, throbbing of the carotids, and great mental activity. He also claims that alcohol does not produce renewed vigor in tired individuals, but simply obtuses this feeling of exhaustion. Atwater's experiments conclusively show that in the oxidation of alcohol in the system, all the potential energy is transformed into heat or muscular energy; and there is certainly reason for believing that it is also a stimulant. How else can we explain the action of brandy in cases of heart failure? It would be absurd to talk here of an obtusing or stupefying effect. It is a stimulant which, like other agents of this class, is followed by a stage of depression.

Alcohol, in moderate and diluted doses, evidently stimulates digestion, as shown by its beneficial effects after a hearty meal; but large quantities interfere with or arrest the peptonizing process, and frequently produce acute gastric catarrh. These effects are liable to be observed, when present, to the extent of 10 per cent. of the gastric contents. Alcohol also exerts a marked diuretic effect which is believed to be due to a direct irritation of the renal epithelium. The habitual use of immoderate doses of alcohol cannot fail to produce serious injury to mind and body. One of the most constant effects is chronic gastric

catarrh, with consequent impaired digestion and nutrition. It produces fatty degeneration of the heart, liver and arterial coats, probably because it promotes the conversion of albuminoids into fats. The connective tissue of the body increases in amount, and its subsequent contraction gives rise to cirrhosis of the liver, Bright's disease, and chronic meningitis. Alcohol also produces structural changes of the cells of the brain and spinal cord, and leads to a general physical, mental and moral deterioration, which is often transmitted to the offspring.

On the whole, we may conclude that alcohol is an accessory food of value only when it becomes necessary to increase temporarily the elasticity of mind and body, and a desire and capacity for work; but the subsequent depressing effects and the baneful influence of its misuse, should make us careful in its employment, even for therapeutic purposes; especially when rest, proper food, and some of the alkaloidal beverages and stimulants may accomplish the same purpose.

For persons in health, alcohol in any form presents no advantages not found in other food stuffs or stimulants, and which are, moreover, free from the dangers attending its use.

As physicians, it is our duty to point out and guard against the dangers of intemperance. The following figures, taken from Dr. Ogle's Report—Forty-fifth Annual Report of the Registrar-General of England (Parkes)—show the effects of intemperate habits in shortening life:

All Causes Complete.	COMPARATIVE MORTALITY OF MALES 25-65 YEARS OF AGE.		
	All Males, England and Wales.	Brewers.	Inkeepers, Publicans, Spirit, Wine or Beer Dealers.
Mortality figure.....	1000	1361	1521
Diseases of the—			
Nervous system.....	119	144	200
Respiratory system.....	182	236	217
Urinary system.....	41	55	83
Liver.....	39	96	240
Alcoholism.....	10	25	55
Gout.....	3	9	13

DISCUSSION.

Dr. Atkinson thinks there might be difficulty in following Dr. Hickling's suggestion in treating patients outside of an institution. Had used with success hydrobromate of hyosine in doses of gr. $\frac{1}{5}$. The pulse is not depressed and three or four hours' sleep can be obtained by the administration of gr. $\frac{1}{10}$. Uses the bromides and chloral, capsicum, strychnia or digitalis where indicated. In acute attacks had found apomorphia useful. Considers that

in fevers alcohol acts both as a stimulant and food.

Dr. Carr said Austin Flint, Jr., considers alcohol as useful to prevent the using up of fats and tissues of the body. As it is easily taken up into the system without digestion, it should be regarded as a very valuable food in low fevers and where a crisis is to be timed over. In delirium tremens he combines hyoscine and morphia. H. C. Wood has proven alcohol not to be a stimulant in ether narcosis. A food should contain the proper proportion of carbohydrates, nitrogenous and non-nitrogenous elements. Milk contains all of these. Does not look upon egg nog as a proper food in typhoid fever cases, though albumin water is useful.

Dr. Mayfield agreed in the main with *Dr. Kober*. Looked upon alcohol as possessing but little food value, finding its principal usefulness when used as a whip—a stimulant to tide over acute crises. Of recent years he has used it comparatively seldom as a medicine, finding ammonia, digitalis, and more especially strychnia, far more valuable. His experience in the treatment of alcoholism, gained largely in the hospital of the United States Soldiers' Home, was that alcohol was not needed nor of service except in the very old or where there is a complicating pneumonia. Rest, liquid food and the bromides, with chloral, meet the requirements in the vast majority of the cases. He believes now that in those cases in which it was used, the quantity administered was harmful, and should have been more moderately given. Has had no experience with the hot pack in these cases, but, judging from the sedative effect obtained in other conditions, would think it a valuable aid.

Dr. Kober, in closing, said that alcohol is good as a food in tubercular conditions and also in septic poisoning. The treatment referred to by *Dr. Hickling* was most rational and he would look for good results from it. Has seen alarming symptoms from narcotics.

REPORT OF FATAL CASE OF RABIES.*

By PRESLEY C. HUNT, M. D., Washington, D. C.

The subject of rabies has been quite extensively discussed in the local papers during the past winter and spring. The ordinance requiring the muzzling of dogs running at large is severely criticised in the papers, by meetings, and finally Congress has been asked to

enact a law looking to the repeal of the measure.

The Commissioners and the Health Department have received unmerited abuse, and it should be the medical profession's duty to take every means in its power, by appointing committees to wait on Congress, through the newspapers, and private conversations, to impress on the public the absolute necessity of such an ordinance, that praise shall take the place of abuse.

Rabies is an infectious disease of animals, communicated to man occasionally, characterized by excitement, hyperaesthesia, deglutition spasm, and paralytic weakness. The period of incubation varies, shorter in children than adults, and in wounds about the head, face and hands. The usual incubation period is from four to eight weeks. Of persons bitten by rabid dogs, between ten and twenty per cent. become infected. In the District of Columbia at least eight fatal cases have occurred.

It is to be noted the rapid increase in mortality in the last decade. 1871, case reported by *Dr. D. S. Lamb*; no biological test. The following cases, six in number, were obtained through the kindness of *Dr. Wm. C. Woodward*, Health Officer, from the official records of the Health Department:

- December, 1877; white, male.
- December, 1881; white, male.
- September 1894; white, male.
- November, 1894; white, female.
- October, 1895; white, female.
- July 1897; white, male.

The case I desire to report occurred in 1892, and was reported to the health office as proximate congestion of the brain. The autopsy was performed by *Dr. E. M. Schaffer*, assisted by myself. Biological conformatory test by *Dr. J. J. Kinyoun*, U. S. Marine Hospital Service. I wish to specially emphasize the fact that the patient was ignorant of the symptoms of hydrophobia, thus excluding the influence of auto-suggestion.

Charles Hodge, colored, twenty six, temperate habits, was bitten by a large dog, Newfoundland type, at Seventh and B Streets, S. W., October 10th, about 4 A. M. He received almost immediate attention at the Emergency Hospital, which treatment consisted in the applications of bichloride dressings. He then went to his home. His symptoms, described by *Dr. P. B. Brooks*, the attending physician, was characteristic of the disease, and was as follows:

First irritability, wakefulness, and depression of spirits; slight fever, increasing until it

*Read at meeting of Medical and Surgical Society, May 17, 1900.

reached a maximum of 103° Fahr.; slight stiffness about muscles of throat, becoming more marked and accompanied by pulling at the neck and copious secretion of saliva, which, owing to the difficulty in swallowing, was allowed to run from the mouth. Attempts at taking water, as well as air blowing on patient, caused a violent and painful spasmodic attack. This led to the very characteristic symptom, a great antipathy for water.

The acute spasmodic stage was succeeded within sixty hours by the paralytic stage, in which the patient became more feeble, respirations shallow and rapid, and death ensued November 3d, 3:25 A. M.

Necropsy 11 A. M., November 4th, 1892. Height, 64 inches; weight, 130 pounds; muscular nutrition fair; muscular development good; rigor mortis marked; scar one-half inch upper left lip; scar dorsum left hand $\frac{3}{8}$ inch long, average $\frac{1}{8}$ to $\frac{1}{2}$ inch wide between third and fourth metacarpal; scar on palm exactly opposite; both made by tooth of dog. No swelling in region of sublingual glands. Muscles of chest red, normal and dry. Remains of thymus much congested. Right lung firm; old adhesions external surface and base. Congestion both lungs, most marked in left, which was the largest. Ounce reddish serum in left pulmonary cavity; none in right. Pericardium contained one ounce reddish serum. Right auricle and ventricle few drams darkly fluid and clotted blood. Left auricle few drams dark blood. Left ventricle empty. No valve lesions. Heart substance normal, firm and contracted. Small intestines much congested; nearly empty; distended by gas. Liver normal; firm. Gall bladder nearly full; normal. Spleen normal; firm. Left kidney small; normal. Right kidney normal; congested. Bladder normal; entirely empty. Stomach outer coat stained with bile; contained about six ounces fluid bile; slightly congested. Scalp unusually dry; some congestion on posterior portion. Temporal muscles very dry. Dura adherent to vertex and sides of skull. Uniform symmetrical congestion of entire surface of brain. Brain substance firm, white, normal; gray or cortical portion congested. Cerebellum highly congested.

Biological examination.—Portion of brain and spinal cord were placed with Dr. Theobald Smith, Bureau of Animal Industries. Later the Department reported that the results of their tests were negative, but that portions of the material had been sent to Dr. Kinyoun, who pronounced the case one of hydrophobia.

This case emphasizes several facts.

First. During an outbreak of rabies, all dogs should be confined or muzzled.

Second. The wound should, as early as possible, be thoroughly cauterized, preferably by nitric acid under anesthetics.

Third. Pasteur's preventive inoculation should be employed in those localities where rabies is prevalent or the wound is on an exposed part, or severe in nature, or the wound was not cauterized sufficiently or early enough. The statistics of this form of treatment seems beyond belief—of fourteen thousand inoculated during past eight years, only seventy died of the disease, and without exception the fatal cases occurred in those who came under treatment some time after the bite was received.

Fourth. There are no macroscopical pathological positive changes peculiar to the disease. The microscopical examination, it is hoped, may reveal some positive changes that will prove the nature of the disease at once without having to wait for the biological test.

2015 N. St., N. W.

DISCUSSION.

Dr. Kober directed attention to Salmon's statistics, which show an increase of hydrophobia. In this city, during 1893, there were three cases, while during the past months of 1900 we had had 24 cases, and this Society should take some action towards strengthening the authorities in the prevention of the disease.

Dr. Carr said nervousness in a dog from an ill-fitting muzzle can never cause rabies, which is a distinct germ disease.

Dr. Atkinson doubted the existence of rabies, and questioned the advisability of compelling the owners of dogs to provide muzzles for their pet animals. As a rule, these dogs are well attended and looked after; it is the tramp dog that is dangerous. In case of impounding, all dogs should be kept until the period of inoculation was passed. Dogs should be collected and kept in separate apartments, because the mixing of the dogs, then pets redeemed taken home, thus carrying the exposed rabid dog right in the family circle. This loose manner of handling dogs tended to spread rather than check hydrophobia.

Dr. Chappell stated that we should have definite ideas of rabies, and considered the reference of the subject to the Committee of Public Health timely, and believes their findings will be of great value. He was surprised at the views some of the members entertained. Rabies is a specific disease, and no amount of teasing or torturing of an animal can cause it.

We should all unite in some plan to eradicate the disease.

Dr. Mayfield said the distinction between rabies and hydrophobia should be insisted upon. Rabies occurs only in the dumb animal, while hydrophobia is the disease produced in the human species by inoculation from the rabid animal. He considers hydrophobia the most terrible disease with which we meet, and attended by the most excruciating suffering. The disease may be said to be universally fatal—but one case of recovery having ever been reported. He thinks the authorities should be upheld in their order regarding the efficient muzzling of dogs. Has had one opportunity to study the disease in a case of his own—a bright child of four years. The symptoms began fifty-nine days after the infliction of the bite. This case was reported to this Society and appears in its records. The age of the child eliminated all hysterical element and convinced him beyond question of the terribleness and reality of the disease.

Dr. Mayfield introduced the following, which was adopted:

Resolved, That the Medical and Surgical Society of the District of Columbia concur in the wisdom of the order compelling the *efficient* muzzling of dogs at this time.

That a copy of this resolution be conveyed to the Commissioners and Health Officer of the District of Columbia.

Dr. Hunt, in closing, admitted that *Dr. Mayfield's* criticism in regard to the title was well taken. He thanked the Society for passing the resolution on *Dr. Mayfield's* motion of strongly endorsing the action of the commissioners and health officer in regard to the ordinance requiring the muzzling of dogs. It made the author feel that his feeble efforts had not been in vain, and that the medical profession was at last aroused to the gravity of the situation. It was a matter of great satisfaction to know that the Medical and Surgical Society was the first body of medical men to take such action. He desired to thank the gentlemen for their able discussions, and the reasons for the enactment and enforcement of the ordinance had so brilliantly and conclusively been propounded that it left nothing for him to say.

DISCUSSION OF THE ORGANIC OBSTRUCTIONS TO DEFECTION.*

By THOS. CHAS. MARTIN, M. D., Cleveland, Ohio.

(Stenographically reported.)

Mr. President.—*Dr. Cooke's* patient and thorough research has corroborated my own findings; and, in a brief manner, I wish to corroborate his corroborations with some degree of elaboration. By means of chalk drawings, I will try to illustrate some of the features of a few ideas which I wish to present. The dotted lines in this diagram, which shows a longitudinal vertical section of a subject in the knee-shoulder posture, indicate the position of the sigmoid flexure, and the other lines outline the dilated rectum and the rectal valves as we find them when examining the rectum in a state of inflation—which is the characteristic feature of modern proctoscopy.

The external sphincter muscle is found in a state of relaxation ordinarily. In action it pulls the lower end of the anus backward toward the coccyx. The levator ani muscle, which is the other voluntary anal muscle, pulls the anus forward and upward. These two muscles constitute the chief factors of the restraining mechanism of defecation. The internal sphincter is situated between the external sphincter and the levator ani muscles. When dissecting for it, if one looks for a red muscle he will not find it, so I will represent it here with yellow chalk. The average number of rectal valves is three. Usually they are laterally situated. Ordinarily they extend to a little more than half the circumference of the rectum, and normally they are situated an inch or more apart. The direct proctoscopic view usually commands the free borders of two valves. Obstipation is due to an obstacle in the rectum to the descent of the feces, while constipation is due to a crowding together or detention of the feces in a higher part of the gut, although it may take place in the rectum.

For a moment I invite your attention, in a more specific manner, to the obstructions which occur at the anus. *These* are the rarer forms of obstruction to defecation. Our present information on anal strictures is very considerable and precise, but the information given in the text-books and the surgical recommendations therein are not altogether reliable. I say this consciously and with forethought. The sphincter just beneath the external skin is

* A joint discussion at a meeting of the Tennessee State Medical Society, at Knoxville, April 11, 1900.

usually relaxed. It may contract under the influence of the will or under the influence of disease. Its contraction in the latter case is usually permanent. This external sphincter muscle, which I represent here with a red line (for, as you know, it is a striated muscle), surrounds one-half of the anus on either side. Linear posterior proctotomy, the conventional surgical procedure for stricture here located, is a mistake, because the action of the external sphincter coapts the lips of the wound and tends to re-establish the stricture. It should be cut unilaterally. The ancient introduction and establishment of posterior proctotomy was due probably to a knowledge of the situation of the vessels which occupy this part. The vessels come forward on either side of the median raphé to this zone, and the fear of injuring them and the middle hemorrhoidsals may have prompted the operation of posterior proctotomy. The unilateral division and subsequent contraction of the external sphincter increases the lumen of the anus at this point. The fibres pull the wound open and thus increase the lumen rather than permit the re-contraction of the lumen. This stricture should not be cut anteriorly unless one has very good reason for so doing after studying the case carefully, for the reason that the contraction of the transversus perineî muscles will separate their ends farther and farther, so that the resulting condition probably will be incontinence of feces. The internal sphincter muscle is usually in a state of continuous contraction. It is relaxed by inhibition. The lower or anal end of the rectum is therefore of an hour glass form. A stricture situated in the internal sphincter muscle should rarely be cut, for the reason that there is a peculiar tendency toward the further separation of the muscle at the divided point. This is a subject that requires special study, and we have not time to enter into its full consideration here. A stricture in the zone of the levator ani muscle should not be cut posteriorly, because the muscles will contract and coapt the divided structures and cause the stricture to reform. A stricture situated in the levator ani zone should be cut laterally or bilaterally—i. e., across the muscular fibres.

Let us now consider the stricture built on the rectal valves—*stricture of the rectum proper*. An anatomic valve is composed of a superficial layer of epithelium, beneath which are two laminas and a conjoined tendon composed of fibrous tissue, and embraced within the laminas are circular muscular fibres. This is true of an anatomic valve wherever it is found. And

as the arrangement of these structures in the rectal valve is readily demonstrable, the rectal valve is a typic anatomic valve. Whether it acts as a valve in every case in the sense in which engineers use the term is a matter which admits of a debate which is capable of a very considerable degree of refinement. These valves in the normal state do not divide the bowel into independent and closed chambers; hence there is a chain of chambers communicating with each other by irregular elliptic openings. However, two valves may be so closely situated together that their free borders will overlap. Various conditions of the valve may prove obstructive. There may be a congenital malformation of the valves or they may be situated too close together. There may be an inflammatory thickening of the valve and consequent obstruction. Still another cause is a degeneration of the muscular tissue and the formation of fibrous tissue, and consequent obstruction without apparent thickening of the valve. The operation of division of the valve is a very simple operation *in skilled hands*. As you know, in the rectum one skates upon thin ice. The operation consists, first, in seizing the rectal valve by means of the hook; another hook should be placed alongside this, and then the scalpel should be used to make the incision. So soon as the scalpel cuts through the fibrous tissue, the valve at once relaxes.

The next step in the operation, after division of the valve, is the suturing of the wound at its base, which is achieved by employing a needle formed somewhat like my tenaculum. The hook-needle is passed above the incision; the mucous membrane on the upper surface is transfixed; the needle is then made to pass through the mucous membrane on the lower surface of the valve; and now the needle is threaded with catgut held in forceps. The needle is at once withdrawn, a shot is compressed upon the catgut, and the catgut is cut off. The rectum should now be packed. Union occurs rapidly. The result is that, in a very few days, a patient who has strained at stool for months or years will no longer strain at stool, and defecation becomes normal. The operation inflicts scarcely more pain than the operation of trimming the nails, for *the rectum is normally anesthetic*.

The question has been raised, Why does the child strain at stool? The normal child strains at stool for various anatomic reasons. The rectal valve is not the only factor. I shall speak of other factors now. The baby's belly is too full of bowels. That is, the infantile intestine is about one-third greater in length,

relatively, than is the adult. It has a longer mesentery, relatively, than the adult intestine. The bowel is, therefore, more loosely anchored, and may angulate to an obstructive degree. Another obstructive factor is that the ischial tuberosities in the infant are relatively much nearer together than in the adult. The average diameter of the infant's pelvic outlet is about half an inch, while in the adult it may be three and a half or four inches. In the child, the mesentery of the rectum permits greater mobility of the rectum in the pelvis, and so the fecal current is not directed immediately upon the anus. In the adult the developed pelvis, the development of the uterus or prostate gland, the descent, by growth, of the sacrum and coccyx, form a funnel-like arrangement—the expansion of the pelvic outlet and descent of the pelvic floor provide a funnel-like arrangement with a neck and an expanded upper part, which facilitate the discharge of the feces. The rectal valve in the infant is apparently as well developed as in the adult. The muscular coat of the bowel in the infant is much less developed than in the adult; hence the rectal valve constitutes a much greater obstruction, relatively, in the infant than in the adult, because the infantile intestine is not possessed of the intrinsic propulsive power to overcome the resistance of the valve.

The physician may make a diagnosis of hypertrophy of the rectal valve from the symptoms given by the patient. There is straining at stool. There is, in cases of obstruction, not necessarily a passage of ribbon-like feces, because if the chamber below the obstructing valve is large in size, the feces may be normal in shape. There will be a sense of unrequited desire after stool. The individual empties only the lower chamber. If there be hypertrophy of the valve at the junction of the rectum and sigmoid flexure, the individual will have no mass in the rectum to struggle with—the mass of feces will have been retained in the sigmoid flexure. Therefore, he may have a sense of fulness and pain in the left iliac fossa—there will be presence of gas in that region, and gas will pass lower with difficulty. In this latter case, one may infer from the symptoms that there is an obstruction at the junction of the rectum and sigmoid flexure. It is now possible to determine positively whether a patient is a subject of constipation or obstipation. Obstipation is a local disease, and demands local treatment for its relief.

It is a fact that the record of the profession has been a most pitiful record of compromise in the treatment of what has been miscalled

constipation. Their energies have been directed at the treatment of the feces and not to the conditions which obstruct the passage of the feces. Their efforts have been to render the feces fluid or semi-solid, that they may more easily pass through the obstructed rectum.

I cannot conclude without expressing appreciation of the many courtesies extended to me by you, gentlemen. To my distinguished seniors who, in complimenting my work, have paid tribute to my apparent—(appearances are often deceiving)—youth, I can only say that each generation inherits a legacy of information from its predecessor, and each develops its heritage, improves it and adds to it as much as is in its power. Each eliminates the unworthy and, I regret to say, sometimes the worthy, and each generation contributes its share to the endowment of succeeding generations. This is particularly true of the history of science. In this study, which I have only sketched to you, I have derived much help from the men who have worked this field during the past one hundred and eighty years.

1077 Prospect Street.

PERMANENT CATHETERIZATION.*

By J. RILUS EASTMAN, M. D., Indianapolis, Ind.,

Professor of Surgery in Central College of Physicians and Surgeons.

Varying opinions are held as to the usefulness of the retained catheter after perineal operations upon the posterior urethra. Most authorities, in discussing external urethrotomy, pass the retention catheter without comment, advocating the use of the short perineal drainage tube only. By some, it is advised that continual catheterization be employed for twenty-four or forty eight hours, and that at the end of that time intermittent catheterization be begun. A few favor retention of the catheter for a longer period, varying from three to six days.

It occasionally happens that the membranous and prostatic urethra, after external urethrotomy, particularly along the line of incision, are so sensitive and deformed that changing of the catheter would be an exceedingly difficult and exquisitely painful procedure. After perineal section, involving removal of a portion of the posterior urethra and anastomosis, the passage of the catheter is, as is well understood, extremely difficult of operation.

*Original Abstract of article read at Atlantic City, New Jersey, during Session of American Medical Association, June 5-8, 1900.

If, after such an operation, a large soft rubber catheter can be retained in the urethra, its tip barely projecting into the bladder until the urethral and perineal wounds have completely healed, or firm granulation tissue fills the perineal defect, it will, as can be readily seen, do away with much of the tedious work of after-treatment in the case.

The writer has been surprised to discover with what great tolerance the urethral mucosa suffers the presence of a soft rubber catheter. This tolerance on the part of the mucous membrane seems to be more marked when a catheter of large size is used. The reason for this is not altogether clear. It is possible, however, that when a large catheter is used the lumen of the urethra being quite filled, and the possibility of movement of the catheter in the urethra being thereby restricted, irritation of the mucosa, as the result of friction, is not so apt to occur as if smaller instruments were used. Moreover, the very presence of a large catheter in the posterior urethra extending into the bladder, doubtless does much to relieve spasm at the vesical neck by mechanically preventing contraction of the cut off muscles. The effect here is perhaps similar to that produced by dilatation of an irritable and contracted sphincter ani.

In a case observed by the writer after a perineal section for impassable traumatic stricture involving excision of a huge scar resection of nearly all of the membranous urethra and urethral anastomosis, a No. 26 French scale soft rubber catheter was retained in the urethra for seventeen days, and in that time the patient neither suffered loss of sleep nor complained of pain. The temperature never rose above $99\frac{1}{2}$ nor the pulse above 80. As for discharge, there was just enough of muco-purulent character to slightly moisten the meatus, the lips of which were somewhat pouting and red.

The patient received by the mouth, three times a day, five grains of salol and five grains of cystogen. The bladder was washed out twice with warm 4 per cent. boric acid solution, and once every other day an ounce or more of hot solution of one to five thousand potassium permanganate was injected between the catheter and the urethral mucosa. After the sixth day, the discharge from the urethra ceased and the flushing with potassium permanganate was discontinued. It seemed that the mucosa of the urethra had now become quite tolerant of the catheter. The discharge did not reappear. The bowels were not allowed to move during the first two weeks. When the

catheter was removed, healing was quite complete and the subsequent care of the case was easy. In this instance intermittent catheterization was hardly to be considered, and permanent retention of the catheter left nothing to be desired.

In another case, one of traumatic stricture with consequent fistula of the membranous urethra of thirteen years standing, a 26 Charrier scale catheter was left in after perineal section and urethrotomy for twelve days. The perineal wound healed solidly during this time. After removal of the catheter, the membranous urethra was found to be large enough to readily admit the passage of a No. 32 French steel sound. This striking increase in the calibre of the urethra was doubtless due to absorption produced by the permanent dilatation. It has been interesting to the writer to note with what facility sounds several sizes larger than the retained catheter can be introduced after removal of the latter.

In the third case, after operation for the relief of a large suppurating and much operated perineal fistula, the process of repair being slow, a 26 French rubber catheter was left in the urethra for sixty-five consecutive days. After the tenth day, pain in the bladder and the discharge from the urethra having ceased, the patient began to walk about, the urine being caught in a rubber urinal tank strapped to the thigh. Three weeks after the introduction of the catheter this man made a journey into an adjoining State, wearing the instrument without discomfort, returning after four days none the worse for the trip.

The observation in these cases would seem to teach that the danger of a retention catheter has perhaps been somewhat overestimated; that after such a catheter has been in contact with the urethral mucosa for several days, there develops a distinct tolerance on the part of the urethra for the instrument, and that large catheters are rather to be chosen for permanent retention than smaller ones. A large catheter is much more easily retained than a small one.

S. E. Corner Delaware and Vermont Streets.

THE ESSENTIAL FACTORS IN THE OPERATION FOR THE CURE OF INGUINAL HERNIA IN THE MALE.*

By H. O. MARCY, M. D., Boston, Mass.

Ex-President American Medical Association, etc.

Quite a portion of the paper was devoted to an analytical study of the *Anatomy of the Inguinal Canal*. He pointed out a number of errors which had crept into the text books and emphasized the importance of the obliquity of the canal as it traverses the abdominal wall, causing normally a lateral compression of the sides of the canal by the intra abdominal pressure. He traced back to Cloquet—in the earlier part of the nineteenth century—the error of the teaching that the infundibulum process normally extended through the internal ring, and explained the same from the fact that this brilliant student had dissected more than five hundred hernial subjects before publishing his interesting monograph.

The author of the paper pointed out that the resisting structures, which entered into the posterior wall of the canal, were chiefly composed of the extraordinarily developed fascia of the transversalis muscle. This was especially emphasized by Sir Athley Cooper, and was judged so important that it was for a long time called the *transversalis fasciæ Cooperi*. When an infundibulum process exists, it is owing to a lack of the developmental processes, whereby the lower border of the internal ring is depressed and oftentimes the fasciæ imperfectly developed. Under these conditions, the intra-abdominal force is applied as an hydrostatic wedge slowly separating the weakened structures, and this may go on intermittently until even a late period in life before the parts yield sufficiently to cause an escape of the abdominal contents through the canal. As a rule, it is only after the giving away of the external ring that the patient becomes aware of any serious trouble, and consults his surgeon under the impression that, by some sudden exertion, something has given away and that in popular parlance he is ruptured.

The author made this careful anatomic review since he believes that the surgeon has but one ideal guide in effecting the cure—viz., the restoration of the parts to their normal anatomic construction.

To effect this it is necessary to make a rather free dissection. The cord is isolated and car-

ried toward the median line. The peritoneal sac is carefully separated quite within the dilated ring. It is opened in order to insure the safe reposition of its contents. With a fine animal suture this is closed across at its base with three or four stitches in continuous double suture. If sufficient tension has been made upon the parts, the resilience of the peritoneum is quite enough to leave it even and smooth without bagging at its point of suture. The sac is cut away, and the structures are exposed to view for easy manipulation. By the use of a double line of continuous sutures, it is usually quite sufficient to intrafold the relaxed, deformed transversalis fascia, closing it from below upward quite upon the cord, in order to reform the internal ring. If from long truss pressure, or other cause, the tissues of the abdominal wall are greatly weakened, it may be necessary to suture the posterior wall of Poupert's ligament to the posterior border of the conjoined tendon. In either instance, the effect of the suturing is to form a sulcus by the everted edges of the coaptated structures, into which the cord is replaced, forming the posterior wall of the reconstructed canal. It now remains by a similar suture to close the oblique muscles and their aponeurotic structures evenly over the cord, the last suture forming the external ring.

The skin is coapted by a subcuticular continuous animal suture, and the wound is sealed with iodoform collodion, reinforced by a few fibres of cotton. This is the *only dressing*.

The author stated that his first publications upon the subject were in 1871, and the first buried absorbable sutures were used by him for the cure of hernia in 1870. Since 1882 he has used the tendon suture from tail of the kangaroo, which, when carefully selected, he believes is greatly superior to catgut. His experience in all varieties of hernia cover about five hundred cases, and he reports, as far as he has been able to trace his cases, quite ninety per cent. remain permanently cured.

Under rigid asepsis primary union easily follows almost without pain or suffering. Except where the intestines have been involved, Dr. Marcy has not seen a single case when the patient seemed to approach the danger line. He believes it the duty of the profession to relieve the great majority of the enormous army of truss bearing individuals from conditions which may possibly at any time endanger life and to restore them to normal activity.

Editorial Note.—In the discussion which followed, Drs. De Garmo, of New York, and

*Original abstract of a paper read before the Surgical Section of the American Medical Association, in session at Atlantic City, N. J., June 5-8, 1900.

Ferguson, of Chicago, emphasized the fact that the profession was indebted to Dr. Marcy rather than to Bassini for having formulated and published all the essential factors for the cure of hernia years before the Italian surgeon had ever operated, and that the credit of this operation should be awarded to America and not to Europe.

REPORT OF A CASE OF CONFINEMENT FOLLOWING A SUPPOSED DOUBLE OVARICTOMY, COMPLICATED WITH AN INTESTINAL HERNIA THROUGH THE OLD LAPAROTOMY WOUND.*

By C. HENRI LEONARD, A. M., M. D., Detroit, Mich.

Professor of the Medical and Surgical Diseases of Women and Clinical Gynecology in the Detroit College of Medicine.

This case is reported as being unique in that the Reporter has been unable to find a similar case on record anywhere, and various gynecologists, that have been consulted by letter and in person, also reported its rarity. The nearest approach to it is one described by Dr. Kelly in his work on Gynecology.

The patient whose case is now reported had been operated on some seven years previously, and, as she supposed, had had both ovaries taken out. Hence, she and her family were greatly surprised when pregnancy was diagnosed by the family physician, although she had been married some four years before the auspicious event. She then consulted the author of this paper, and, after careful examination, he confirmed the previous diagnosis. The hernia that was then presenting (and she was about four months along) was about the size of two fists, very irregular in shape, and it came out of the abdomen about the middle of the old scar line, the opening being about $1\frac{1}{2}$ inches in length. The marginal edges of the opening were extremely thin, and in some places the cutaneous coverings were very much attenuated, so much so that the patient feared that the abdominal wall would entirely give way at the time of confinement. The upper end of the scar was about two inches below the umbilicus, and the lower end about the same distance from the pubes—the cutaneous scar being nearly three inches in length. The middle of the opening into the abdominal cavity was about $3\frac{1}{2}$ inches below the umbili-

cus. The doctor fitted a large convex pad to the hernial protrusion—this pad being held in place by a firm and wide silk elastic bandage. This was kept closely applied to the abdomen—all through the term of pregnancy—and the patient was requested to keep off her feet as much as possible. She went forward to term with but few setbacks, and delivery was accomplished without any special increase of danger to the mother or to the child, and the hernia enlargement was not notably increased. It was, at the time of confinement, kept well under control by the firm pressure both of the hand and of the bandage with the convex pad. There was no increased hemorrhage, and no special delay during the birth of the child or coming away of the afterbirth, and the patient made an uneventful recovery.

LABOR "DOWN HILL;"

Or, Kneeling Position with Spreading of Pubic Joint, etc.

By ALEXANDER IRVINE, M. D., Evington, Va.,

Late Superintendent S. A. Hospital, Paint Creek, W. Va.; Associate Physician "Flat Top" Coal Fields, Cooper, W. Va.

Labor "down hill?" The woman should be in the kneeling position, with elbows resting on the bottom of a chair, which can be supported by some one sitting on the side of bed. I have the patient spread down a blanket or quilt, and get out on the floor, and rest elbows on a chair as above. In this kneeling position, you get the full benefit of gravity; and the abdominal muscles can act to the best advantage in "bearing down," just as a dog does in defecating. The knees should be kept as close together as possible. The weight of the body on the knees causes the pubic joint to spread, as I have tested on the skeleton and on cadaver after symphysiotomy.

The reason for keeping the knees close together is to take advantage of the angle in the femur at the hip-joint. The patient's weight on her knees spreads the pubic joint—thus increasing the cavity of the pelvis, and thereby facilitating labor. Labor in this position is also aided by the weight of the child plus the weight of the abdominal viscera. It can also be much hastened by the use of the Kristetter's method, which consists in the placing of the accoucheur's hands on the patient's abdomen, and with each pain endeavor to push the fœtus through the pelvic channels.

Another position for greatly hastening labor is the half-reclining position recommended by

* Synopsis of a paper presented to the Gynecological Section of the American Medical Association, at Atlantic City, June 5-8, 1900.

Professor Playfair. I can spread the pubic joint in this position, by keeping the patient's knees close together, as in the kneeling position; the legs are flexed on the thighs; this is a natural position. Pressure is made on each knee; during labor pains this causes spreading of the pubic joint.

What I claim for these positions is that they spread the pubic joint, and give more room in the pelvis; therefore, they will take the place of the forceps in very many cases, as also symphysiotomy to a certain extent. Let any one give these positions a trial when he thinks he has a forceps case, and he will be most pleasantly surprised at the results.

I have seen no mention in medical literature of these positions for the purpose of spreading the pubic joint, nor of the kneeling position, or labor "down hill," as I call it.

PSYCHOLOGY AS PRELIMINARY TO MEDICAL EDUCATION.*

By W. J. HERDMAN, M. D., LL. D., Ann Arbor, Mich.

Normal anatomy and histology are essential to a right understanding of normal physiology. Pathological processes are perversions of physiological processes. Psycho-physiology must be known if we would correctly interpret psycho-pathology and create a rational psycho-therapy. *The physician's problems are largely those of psycho-pathology and psycho therapy.*

At present a very small per cent. of candidates for the degree of Doctor of Medicine have pursued a systematic study of physiological psychology. And yet, such knowledge is essential to a right understanding and direction of educational methods since faulty methods of education result in disease. A knowledge of psychical evolution is necessary to a proper treatment and management of children with defective mentality. A familiarity with normal standards of mental activities and methods of testing them render clinical observation and diagnosis more exact.

Functional disorders in involving brain activities—such as hysteria, epilepsy, chorea, hypnosis, insanity—would be much better understood and more rationally treated if the physician was well trained in psycho-physiology. The mental element in disease is largely ignored by the practitioner of to-day to the discredit of the medical profession.

Faith cures, Christian science, mind cures and a host of other noxious weeds take root and flourish in the soil thus left uncultivated by the scientific physician. A broader preparation is needed to fit him to take possession of this field.

ACUTE SENILE ENDOMETRITIS.*

By L. H. DUNNING, M. D., Indianapolis, Ind.

The author presents the clinical history and pathology of acute senile endometritis, which he thinks has not been duly recognized and adequately described. He gives a detailed history of two cases upon whom he did hysterectomies, and presents the histological findings in each case.

The cases were in both instances in women 63 years of age, in whom menopause occurred many years previously. The clinical history, in its main features, was identical in both cases.

The women had been well until a short time (one and three months) previous to examination. There had been no uterine discharge. At the beginning, the discharge was described as thin and irritating. Shortly, it became sanguineous and offensive. Pain appeared in the pelvic region. General lassitude and rapidly growing ill health appeared. There was backache, bearing down pain, and some vesical disturbance. The skin was dry and sallow. This was marked in the case of longest duration. In this case, the general appearance suggested cancer. The uterus, in one case, was in normal position; in the other, retroverted. A diseased tube and ovary could be palpated in one.

The external os was patulous and the internal os permitted the easy passage of an uterine sound. There was senile vaginitis in both cases.

Hysterectomy was done in both cases. Both uterine cavities were distended by a foul smelling, sanguino-purulent fluid. A microscopical examination of both uteri was made and findings reported. Microphotographs of sections were also presented.

The author presented the following summary and conclusions:

1. The lesion found in both uteri was an acute inflammatory process. It might be properly denominated acute senile endometritis.

*Original synopsis of a paper read before the American Academy of Medicine at Atlantic City, N. J., June 4th, 1900.

*Original abstract of a paper read during the session of the American Medical Association, at Atlantic City, N. J., June 5-8, 1900.

2. The characteristic pathologic features of the inflammation were—

(a) A thickened endometrium, the free surface of which was devoid of its epithelial layer.

(b) Increased vascularity, with peculiar arrangement of small blood vessels.

(c) Small round cell infiltration.

(d) Diminished glandular elements; while a few glands were to be distinctly seen, in many of them their epithelium was desquamating and their lumen filled with granular debris. They may be said to have been functionless glands.

(e) Degeneration of the coats of the arteries of the muscular layer of the organ. On one specimen (No. 11), this degenerative process was distinctly hyaline.

(f) In not one section examined from various parts of the organ could there be found any increase of connective tissue.

3. The mucosa of both the cervix and body was involved in the inflammation, but it was more marked in both cases in the body of the uterus.

4. The small round cell infiltration extended into the upper muscular tissue, though the inflammation was more marked in the mucosa.

5. In both cases, one uterine appendage was diseased; in one, the ovary being cystic; in the other, one ovary cystic and the fallopian tube inflamed. In this case, there was slight recent peritoneal adhesions.

6. The microscopical appearances in these cases bear but slight resemblances to those found in cases of interstitial endometritis.

7. In one case, the acute inflammation seems to have developed without any preceding chronic inflammation. In the other case, the acute attack may have been an acute exacerbation of a chronic inflammation.

8. In one case, there was marked retroversion of the uterus; in the other, the uterus was in normal position, and in neither case was there marked stenosis of the internal os, yet there was a considerable accumulation of fluid within the uterine cavity.

9. The presence of diseased appendages in both cases, and of pelvic peritonitis (mild) in one, seems to indicate that the inflammation is prone to extend beyond the limits of the uterus, and if such extension is demonstrable by combined examination, an extirpation of the uterus and appendages is indicated.

431 N. Alabama Street.

PULMONARY TUBERCULOSIS.

Present Condition of Cases Treated during 1898, and Reported Last Year at the Columbus Meeting.*

By C. P. AMBLER, M. D., Asheville, N. C.

Experience has shown us that no case of pulmonary tuberculosis should be reported as "cured" until at least a year has elapsed following the disappearance of all symptoms. While this is true, our medical journals are, nevertheless, filled with reports of individual cases, and compiled reports, wherein very short time has elapsed since the symptoms have subsided, and in many such hastily reported cases relapse may have occurred even before the article has appeared in print.

Believing that the profession would be interested in following up a large number of cases wherein an "apparent cure" was brought about several years ago, we have, in pursuance of the last paragraph of our report made at Columbus last year, addressed circular letters to all the patients classified and reported at that time.

It is not our intention to read the report, and for that reason we have caused a tabulated report in detail to be distributed among the members. In this report will be found each patient's condition when he first presented himself for examination, together with the condition on discharge immediately beneath.

To the right will be found the present condition as reported in response to letters addressed to each after two years have elapsed since treatment.

The circular letter addressed to each was as follows:

"Dear Sir,—Having for years past kept very careful record of all cases of tuberculosis which it has fallen to my lot to treat, and having last June reported at a meeting of the American Medical Association, at Columbus, Ohio, 106 cases treated during the year of 1898, and being desirous this year of reporting the *now present* condition of these cases, after a lapse of over a year since treatment, I trust you will favor me by filling in the answers to the questions below.

Of course no names have been or will be used in reporting cases.

*Read before Section on Practice, at Atlantic City, N. J., meeting of American Medical Association, June 7, 1900.

Thanking you in advance for the favor, which I feel sure you will extend, I am,

Very truly yours,

1. Name,
2. Do you at present suffer from disease of the lungs?
3. Does your physician say it is a tubercular disease?
4. Do you expectorate?
5. If so, does it contain tubercle bacilli?
6. Have you a cough?
7. If so, is it slight, moderate or severe?
8. Do you have daily rise of temperature, or chills?
9. If so, what is the daily maximum of temperature?
10. What is your pulse rate?
11. Has there been any cavity formation in your chest?
12. Do you have night sweats?
13. Has there been hemorrhage or blood-spitting since treated here?
14. If possible, please give present lung capacity in cubic inches.
15. What is your present weight?
16. Are you short of breath?
17. Are you back at work?
18. Is there any dullness upon percussion of chest?
19. If there has been any relapse, to what do you attribute it?
20. Have any new complications occurred?

With few exceptions these letters were filled out and returned, the patient in many cases requesting his physician to fill out the answers.

Class A comprised forty-six cases, of which thirty-five were reported as "apparently cured." *Thirty one of the thirty-five* now report that they have had no relapse. Assuming that the four who failed to report have either relapsed or died, our percentage is still most gratifying.

In this class of eight reported as greatly improved, four have since fully recovered, two have relapsed, and two are stationary.

Class B comprised twenty-eight cases, of which six were reported as "apparently cured." Of these six, three are to-day perfectly well; one died of heart trouble; one relapsed and died of hemorrhage, and one made no report. Under this class, six of those reported as greatly improved have since fully recovered. Of the remainder, five have died, and the remaining eleven are stationary.

Of the C cases, we need say but little, as we expressed the belief last year (see article) "that these would probably all die during the ensu-

ing year." Of the thirty-two C cases, however, I know that five are still living.

These patients have, with four exceptions, returned to their former homes, have re-engaged in their old business, and are actively engaged in the same to-day.

We do not propose to enter into lengthy discussion of the technique of serum medication either pro or con, but, in making this supplementary report upon these cases, want to emphasize all we have heretofore said, viz:

1st. In the treatment of pulmonary tuberculosis, the hygienic supervision of the patient occupies first place.

2d. Favorable climatic influences are secondary to the hygienic supervision only.

3d. Medication in point of preference occupies third place.

4th. Patients who are apparently cured under serotherapy do not relapse as do those treated by creosote and other allied drugs.

5th. It is the cases which are diagnosed and properly handled *early* which recover.

6th. The dangers arising from serotherapy have been overcome by the improved technique in manufacture.

7th. Serotherapy, while bitterly opposed by many who have had limited experience in unfavorable cases, is proving itself a remedy now deserving no longer to be classed as experimental.

Analyses, Selections, etc.

An Experiment on the Roman Campagna with the Malarial Mosquito.

A very interesting announcement is made in the *Scientific American*, June 23, 1900, on the above subject, and because of its interest to the general practitioner, we reproduce it in full:

Two physicians, Drs. Sambon and Low, of the School of Tropical Medicine, are to live in the most malarious section of the Roman Campagna, the expenses being borne by a grant from the British government. They are to occupy a mosquito-proof hut, in order to demonstrate that malaria is contracted only through inoculation by the mosquito. If by October they have not had the fever, they will prove, in a practical manner, the truth of a theory the results of which may save thousands of lives. Scientific men have long held this view as to the spread of malaria, but the public must also be convinced of it. The hut is to

be provided with wire gauze door and window screens and other devices for rendering it mosquito-proof. The observers and their servants will live in this hut. They will go where they like during the day, but for an hour before sunset until an hour after sunrise they will remain in the hut. The roof overhangs the walls for about three feet around the entire building, and reaches to within eight feet of the ground. The window openings are thus protected from the rays of the sun, and to guard against the mosquitoes there is a permanent wire gauze screen of no fewer than seventeen meshes to the inch. There is a space about eighteen inches deep left open around the entire house immediately under the overhanging eaves. This opening is fitted with wire gauze similar to that provided for the windows, and every precaution against the entrance of the mosquito is taken by having similar wire gauze fitted into the ventilating panels let into the ceilings of all the rooms. There are double doorways to the house. The floor is composed of tongued and grooved boards. The outer walls are covered with felted, and are boarded on the outside with rabbeted planks. The roof is constructed of tongued and grooved boards covered with woven wire roofing-felt. It is not only waterproof but air-tight, and prevents the escape of cool air, which at night will find its way into the air tank created by this form of roof. The physicians will not take any quinine or other precautions against the dreaded malaria. It is their intention to mix freely with the inhabitants. In Italy two million people have malaria every year, and of this number fifteen thousand die. If the experiment proves successful, it is probable that similar houses will be built in Africa and India.

The mosquito always exists in malarial regions, as far as has been investigated. If patients suffering from malaria come into the region, then the mosquito becomes infected and spreads the disease. Whether the insect can acquire the parasite from any other source than man has not been settled as yet; it is not probable, however. So far as it is known, malaria has never been acquired primarily in uninhabited regions. Thus explorers after passing through a country that would naturally be supposed to be malarious seem to be immune until they reach the coast, where the mosquitoes are abundant, and the insects are able to obtain the parasites from those suffering from the disease. An example of this is shown in Reunion Island, where there was no malaria until 1869. In that year a party of colonists

came from India, and some of them suffered from malaria. The result was that the disease became very prevalent upon the island. The malaria spreader is the anopheles mosquito. It is a curious fact that they rest on a wall with their bodies at right angles to the surface, instead of flat against it as is the case in the ordinary mosquito. The anopheles mosquito lays its eggs in stagnant water. If all the pools of stagnant water were removed, the pest would not breed.

Dr. Low has discovered that the terrible tropical disease of *elephantiasis* is directly traceable to mosquito bites, and not, as has always been held, to drinking impure water.

Buffalo Lithia Water Solvent for Renal and Vesical Calculi, etc.

We have several times had occasion to call attention to the wonderful virtues of Buffalo Lithia Waters as a solvent and eliminator of renal and vesical calculi, etc. Another strong evidence of these powers of the Waters is furnished in the case of Mr. Baker, as stated by Dr. George Ben. Johnston, of Richmond, Va., ex-President Medical Society of Virginia, Professor of Gynecology and Abdominal Surgery, in Medical College of Virginia, etc. He says:

"I was invited by Dr. G. B. Wood, of Emporia, to see Mr. Baker in consultation during the latter part of the winter or early spring of 1898. Mr. Baker had been for many years the victim of *frequent and violent attacks of renal colic*. He had passed a great many calculi from time to time. At the time of my visit he had been confined to bed with a severe form of *calculous pyelitis*. His condition was very grave, and both Dr. Wood and I felt much apprehension about him.

"I advised Dr. Wood to bring Mr. Baker to Richmond, with a view to removal of the stone or stones from his kidney. Accordingly, Mr. Baker came to me for observation and operation. Frequent examinations of his urine were made during the treatment preliminary to operation. The urine always contained large quantities of pus and blood. After keeping Mr. Baker under notice for a couple of weeks I determined not to operate on him, chiefly because of his extreme obesity, which would have rendered an operation most difficult and dangerous. As an alternative, I advised him to go to the Buffalo Lithia Springs and drink copiously of the water from Spring No. 2. This he did. Almost immediately improvement was noticed. He remained at the Springs for some eight weeks, at the end of which time he felt himself cured. He and his

friends emphatically stated his cure to me. I would not accept their statement, preferring myself to pass on his cure. On this account, Mr. Baker made a special visit to me in order that I might personally examine him. This examination I made on June 8, 1900. I found Mr. Baker had had no attack of renal colic since he began the use of the Buffalo Water, the enormous quantity of pus in his urine gradually disappeared, and other symptoms subsided. In a word, Mr. Baker is cured. As an evidence of Mr. Baker's entire restoration, he has recently been accepted by several insurance companies which had formerly rejected him."

Book Notices.

Cyclopedia of Practical Medicine and Surgery.

A Concise Reference Book, Alphabetically Arranged, of Medicine, Surgery, Obstetrics, Materia Medica, Therapeutics, and the Various Specialties, with Particular Reference to Diagnosis and Treatment. Compiled under the Editorial Supervision of GEORGE M. GOULD, A. M., M. D., Editor of *The Philadelphia Medical Journal*, etc., and WALTER L. PYLE, A. M., M. D., Assistant Surgeon to Wills Eye Hospital. 73 Contributors. Quarto. Illustrated. Sheep or half dark green leather, \$10.00; thumb index, \$11.00; half Russia, thumb index, \$12.00. P. Blakiston's Son & Co. Philadelphia. 1900.

This is a work the full merits of which cannot be appreciated until examined; then it will appear invaluable. Although it contains just a thousand double-columned quarto pages, they are not numbered as other books—why, we do not know—nor has the work an index. But the work is arranged alphabetically as to subjects, and with proper cross references. While each of the 73 contributors is a prominent authority, their individuality does not appear in the text—their contributions being used in different sections so as to make a symmetrical work. While all the most recent advances have been noted, what is good in the older books has been included. The subjects have been treated somewhat in unabridged dictionary form—each subject, whether it refers to a matter of practice, or of surgery, or obstetrics, etc., receiving its due amount of space. Diseases are considered chiefly with reference to diagnosis and treatment. The Surgical sections relate almost entirely to descriptions of operations. Therapeutics receives full consideration wherever therapeutic points are referred to. While an immense deal of valuable information is contained in this work, we cannot

agree with the Editors that a "general index" is unnecessary. One in search of information on a given subject in such a book is apt to be in a hurry, and oftentimes he does not find the reference or cross-reference to the item about which he wishes to post himself. It requires familiarity with the plan of the work to secure its full benefits; but when this familiarity is obtained, then all things seem plain and simple enough. But who, in this busy day of practice and work, is going to spend hours in studying out a plan of a work when he is in a hurry to make a quick reference to a single item? The style of publication cannot be excelled. The type, while small, is clear, and, so far as we have been able to examine, the work is remarkably free of typographical errors.

Progressive Medicine.

Edited by HOBART AMORY HARE, M. D., Professor of Therapeutics and Materia Medica in Jefferson Medical College, of Philadelphia, etc. Assisted by CHARLES ADAMS HOLDER, M. D., Assistant Demonstrator of Therapeutics in Jefferson Medical College, etc. Vol. I, March 1900.—*Surgery of the Head, Neck and Chest.—Infectious Diseases, including Acute Rheumatism, Croupous Pneumonia and Influenza.—Diseases of Children.—Pathology.—Laryngology and Rhinology.—Otolgy.* Lea Brothers & Co., Philadelphia and New York. 1900. Cloth 8vo. Pp. 428.

We regret very much that the overcrowded condition of our pages compelled us to go so long without calling the attention of our readers to the March issue, 1900, of this magnificent "Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences." Those of our subscribers who digest as they read each of these quarterly issues of *Progressive Medicine* necessarily keep themselves well abreast with the latest advances in the healing art. It is issued in fine book style. The contents are well indexed. A few good and needed illustrations are introduced in the text. Such a book does not need a fuller review.

Diseases of the Nose and Throat.

By J. PRICE BROWN, M. B., L. R. C. P. E., Member of the College of Physicians and Surgeons of Ontario; Laryngologist to the Toronto Western Hospital; to the Protestant Orphans' Home, etc., etc. Illustrated with 159 Engravings, including 6 Full Page Color-Plates and 9 Color-Cuts in the text, many of them Original. 6½x9½ inches. Pages xvi+470. Extra Cloth, \$3.50, net. The F. A. Davis Co., Publishers, Cherry St., Philadelphia. 1900.

This is a new book, and has come to stay as a standard—both for the specialist, and the general practitioner who may be out of reach of the specialist. The work is the more im-

portant to the general practitioner than other books on the subjects named in the title, for the author was himself a general practitioner for many years, and gradually drifted into the specialty of rhinology and laryngology. And the general run of the book shows that he has the interests of the family physician constantly in view. Terms used are the simplest and descriptions of diseases and treatment are such that, for the most part, the well informed practitioner can carry out. And yet no technically informed specialist can fail to recognize that the book is of the highest value to himself as well. The book is profusely illustrated, and is issued in the usual excellent style of the popular medical publishers.

The Abdominal Brain and Automatic Visceral Ganglia. By BYRON ROBINSON, B. S., M. D., Professor in Chicago Post-Graduate School of Gynecology and Abdominal Surgery, etc. Chicago: The Clinic Publishing Co. 1899. Cloth. Svo. Pp. 265. \$3.

The distinguished abdominal surgeon in this book uses the term abdominal brain as referring to the solar plexus. It is not a book for college students, but for the practitioner who seeks information in explanation of the many curious reflexes he observes to operate in abdominal diseases. After a historic sketch of the developmental knowledge of the sympathetic nerves, he gives a "classification of diseases which may belong in the domain of the sympathetic nerves." A chapter of general considerations is followed by one on the independence of the sympathetic nerve. Anatomic and physiologic conditions are given in detail. Then there is a chapter on the physiology of the abdominal brain and automatic visceral ganglia. Considerations are presented for the removal of pelvic and abdominal tumors. "Shock" receives full and valuable consideration. The succeeding chapters take up, *seriatim*, the abdominal brain and automatic visceral ganglia; the automatic menstrual ganglia; the menopause. General visceral neuroses, including hyperesthesia of the sympathetic; motor neuroses; intestinal secretion; secretion neuroses of the colon; constipation, are the subjects next discussed. Sudden acute abdominal pain—its significance, is the subject of the next chapter. A chapter on the sympathetic relation of the genitalia to the olfactory organs concludes the work. This book can be obtained of all principal book dealers, or direct from the publishers, the Alkaloidal Clinic, Ravenwood Station, Chicago, Ill., postpaid on receipt of the price, \$3. In clubs of 12 to students, the publishers offer a discount of 20 per cent.

Pocket Text-Book of Chemistry and Physics. By WALTON MARTIN, M. D., and WILLIAM H. ROCKWELL, JR., A. B., M. D., of the College of Physicians and Surgeons, New York. Series Edited by BERN B. GALLAUDET, M. D., of the College of Physicians and Surgeons, Columbia University, New York. 12mo. Pp. 366, with 137 Illustrations. Cloth, \$1.50 net; Flexible Red Leather, \$2 net. Lea Brothers & Co., Philadelphia and New York. 1900.

The advertisement of this number of "Lea's Series of Pocket Text-Books," so well describes the book that we adopt it as our notice: "This very compendious volume contains everything in chemistry and physics necessary for the medical student, and therefore more than covers the requirements of the practitioner who may wish to look up forgotten points without the labor of searching through larger works. It is all meat, unencumbered with matters not germane to medical purposes. Not only has a wise judgment been exercised as to the subjects admitted, but also to the extent to which they are treated. Specially full consideration is accorded to those compounds which are of medical interest either therapeutically or physiologically." This is an excellent text book for medical colleges.

Hand-book for Nurses. By J. K. WATSON, M. D., Edin., Late House Surgeon Essex and Gloucester Hospital, etc. American Edition under the Supervision of A. A. STEVENS, A. M., M. D., Professor of Pathology in the Woman's Medical College of Pennsylvania; Lecturer on Physical Diagnosis in University of Pennsylvania, etc. Philadelphia: W. B. Saunders, 1900. Cloth. 12mo. Pp. 413. \$1.50 net.

Where a one-volume text-book is sought to cover all departments in which nurses are supposed to be trained, this is an excellent one. An outline of the skeleton and some few pages about other parts are given in sufficient fulness for the purposes of the nurse. The physiology of digestion occupies a few pages, and in the same way so much of physiology of different organs, etc., is taught as may be of importance to the nurse. For the graduated nurses' reading, this book also comes in most admirably. It is a good text book for student nurses.

Treatment of Fractures By CHARLES LOCKE SCUDDER, M. D., Surgeon to the Massachusetts General Hospital, Out Patient Department; Assistant in Clinical and Operative Surgery, Harvard Medical School, etc. Assisted by FREDERIC J. COTTON, M. D. With 585 Illustrations. Philadelphia: W. B. Saunders, 1900. Cloth. Svo. Pp. 433. \$4.50 net.

This is a fine book for the practitioner. It has little to do with theories, but all to do with points of useful value to the doctor that relate to the matters of diagnosis and treatment. The simplicity of description and the richness of the book in illustrations give it a peculiarly

desirable value. Stress is everywhere laid on the facts that antiseptics, anesthesia, and the Röntgen ray are the great helps of the "bone setting" branch of the profession. They are of like use to the general practitioner who has oftentimes to depend upon skiagrams to show the displacement of fractures. The illustrations are mostly reproductions from skiagraphs. And it is probably the expense of these engravings that gives to the book a more than usual price for so many pages. We most unreservedly commend this book to the favors of practitioners of medicine or surgery, for the work contains many lessons of frequent value; for fractures of one bone or another are constantly occurring.

Food for the Sick, and How to Prepare It. *With a Chapter on Food for the Baby.* By EDWIN CHARLES FRENCH, M. D., Louisville: John P. Morton & Co. 1900. Cloth. 12mo. Pp. viii+—171. \$1.00.

Such a book as this should receive the careful attention of every practitioner; for he often has to direct special foods and prohibit other foods. But of whatever importance such a book is to the doctor, it is infinitely more useful to the nurse, or to the lady of the house who has to attend to the preparation of the diet prescribed for the patient in the house. We know of no book for such a purpose that is superior in real value to the one under notice. The small cost puts the book within the means of nearly every one in need of it.

Essentials of Diagnosis. By SOLOMON SOLIS-COHEN, M. D., Professor of Clinical Medicine and Therapeutics in the Philadelphia Polyclinic, etc., and AUGUSTUS A. ESHNER, M. D., Professor of Clinical Medicine in the Philadelphia Polyclinic, etc. *Illustrated. Second Edition, Revised and Enlarged.* Philadelphia: W. B. Saunders, 1900. Cloth. 12mo. Pp. 417. \$1 net.

This is No. 17 of "Saunders' Question Compend, arranged in the form of Questions and Answers, prepared especially for Students of Medicine." In meeting the call for this second edition, the authors have very thoroughly revised the former publication, and added much new matter, and recent additions to knowledge are incorporated. It is a valuable book for the student in the dispensaries scattered all over the country, and for the practitioner—he who consults the pages of this book in cases of doubt, will oftentimes find very material help. The former edition of these *Essentials* found much favor with English speaking people across the Atlantic. Nothing but excessive sales of the work could ever justify the publisher in placing so low a selling price of \$1 on it.

International Medical Annual and Practitioners' Index. 1900. *Eighteenth Year.* New York: E. B. Treat & Co. Small 8vo. Pp. 748. Cloth. \$3.

This is a book worthy of a place in every doctor's library—whether he is a specialist or not—as it is truly a work of reference for medical practitioners. *Part I* occupies 62 pages on *Therapeutics*, which *Part I* is, in fact, a "Dictionary of New Remedies, and Review of Therapeutic Progress for 1899." It also includes a chapter on Radiography in 1899. *Part II*—about 560 pages—relates to *New Treatment*, and is a "Dictionary of New Treatment in Medicine and Surgery" up to 1900. Some 20 pages of "Notes of Legal Decisions of Interest to Physicians, Dentists and Pharmacists" are added. To this section is added one of 10 pages on "Sanitary Science, 1899." After this comes "a list of the principal medical works published during the past year—chiefly American." A double column "General Index" concludes the book, and this is very thorough, and greatly helps ready reference. In its present shape, this "Annual" is a most valuable work—noting in a few words what may be called the advances in medicine and surgery during 1899. The work is made up by 41 contributors—each having distinction in the department in which he is a contributor. About a half of the contributors are American authorities.

Manuel Complet de Gynecologie, Medicale et Chirurgicale. Par A. LUTARD, Professeur libre de Gynecologie, Medecin adjoint de Saint-Lazare, etc. *Nouvelle Edition Entièrement Refondue, Contenant la Technique Operatoire Complete, 607 Figures dans le texte.* Paris. A. MALOINE, Editeur. 23-25 Rue de l'Ecole-de-Medecin, 23 25. 1900. Large 8vo. Pp. 712. Cloth.

The first issue of this *Treatise on Medical and Surgical Gynecology* by Professor Lutard was in 1883, and two other editions have appeared since. But Dr. Lutard found that so many advances, additions, etc., had been made since 1883, and that some things that were formerly believed to be true are now disproved, that he determined to revise the book and mostly rewrite it. Thus, practically, the present or fourth edition may be considered a new book on Medical and Surgical Gynecology, containing full descriptions of operative technique. It gives unusual space to the consideration of treatment of gynecologic conditions by the physician. The work is divided into eight parts, as follows: I, Anatomy, embryology, physiology, teratology, errors of conformation of the generative organs of the female; II, Methods of examination, diagnostic procedures,

and treatment; III, Minor gynecologic surgery; IV, Diseases of the vulva, vessels, vagina and of the perineum; V, Diseases of the uterus: Inflammations, tumors, operations done upon the uterus; VI, Peri-uterine inflammations and infections; VII, Peri-uterine tumors, hematocele, ectopic gestation; and VIII, Ovarian and peri ovarian tumors, cysts of ovaries. The profusion of illustrations adds very greatly to the value of the volume. Although the text is in French, it is so well written that the lexicon has rarely to be used. It is, in short, an extremely valuable book to the general practitioner as well as to the specialist—who wishes to refresh his memory as to descriptions, points of diagnosis, plans of treatment, etc. Disordered conditions, such as dysmenorrhœa, etc., receive full consideration both from the standpoint of the surgeon and physician. A good index helps to facilitate reference to subjects.

The Annual of Eclectic Medicine and Surgery.

Edited by JOHN V. STEVENS, M. D. Vol. 8. *Embracing the Papers and Proceedings of the Various State Eclectic Medical Societies for the years 1897 and 1898.* 8vo. 538 pp. Cloth. Price, \$2.00. The Scudder Bros. Company, Publishers, Cincinnati, Ohio, 1900.

The title explains the scope of this work, and the selections of papers are good. Some of these papers would be instructive reading by doctors of other than the eclectic school. While the successes of the homœopath for the most part illustrate the *vis medicatrix naturee*, those of the eclectic show in a conspicuous manner the great value of properly selected medicines of the vegetable class as an aid to *vis medicatrix*. It is unfortunate, as it appears to us, that all schools of medicine cannot adopt the use of any agent—mineral, vegetable or animal—in any dose that experience teaches is valuable, as members of the regular profession are at liberty to do. Careful reading of this *Annual* will re-convince the most stolid surgeon that there are virtues in drugs that will oftentimes save the patient from the knife. We have been greatly pleased and profited by reviewing this book.

Editorial.

Dr. T. M. Lippitt, Assistant Surgeon U. S. Navy.

It is not improbable but that Virginia has had the misfortune to lose by death the first medical officer of the United States forces in the war pending between the "foreign powers"

and China. Dr. Lippitt was about 23 years of age when he graduated from the University College of Medicine, Richmond, Va., 1897. After a hurried visit to his home, near Berryville, Va., he passed a successful examination before the U. S. Navy Medical Examining Board, and in a short while was assigned to duty on the U. S. battleship "*Oregon*." For many months this ship had been about the island of Luzon. When the U. S. Minister in China indicated that it might be well to have a personal guard in this foreign country because of the turbulent element about Peking, etc., a company of 100 equipped sailors and marines from the battleship "*Oregon*" was despatched to Peking to serve as a personal guard to the American Minister and Legation. The medical officer of the U. S. Navy in charge of that party was Assistant Surgeon Lippitt. Gathering information from the newspapers, it is altogether probable that that entire relieving party has been massacred. Until more precise information can be received, we can only note the above facts and await further news, still indulging the hope that the horrible reports of massacre at Peking may not all be true, as heralded in the sensational newspapers.

Confederate States Medical Corps.

All surgeons, assistant surgeons, acting assistant surgeons or contract surgeons, and hospital stewards who served in the army or navy of the late Confederate States, will please send their post-office address to Deering J. Roberts, M. D., Secretary Surgeons' Association, C. S. A., Nashville, Tenn. We trust prompt responses will be made to this request.

Country Practice for Sale or Exchange,

A country practice in Tidewater Virginia, close to the Bay. This practice is compact, large, and has telephonic communications not only with its various parts, but with nearly all cities.

The practice pays about \$1,500 per year, 90 per cent. of which is cash. This is an unusual opportunity for a physician desiring to move to such a place. Full particulars and reasons for leaving on application. Address "*Chesapeake*," care of *Virginia Medical Semi-Monthly*, Richmond, Va.

Some Methods of Treating Neuralgia.

Wm. J. Herdman, M. D., LL. D., Ann Arbor, Mich., in a paper presented to the Section on Neurology and Medical Jurisprudence of the American Medical Association, during its session held at Atlantic City, N. J., June, 1900,

remarked that neuralgia is a functional disorder of a nerve or nerves.

The cause of the disorder may be direct or reflex, immediate or remote.

Unsuccessful attempts at treatment are commonly due to a failure to discover the cause of irritation. Patient investigation will usually reveal it. The interests of the patient demand that this investigation be exhaustive before resort is had to destruction as a means of relief.

No nerve is without important functions in the economy. The effects of the loss of this function should be duly weighed and compared with the probable relief from pain and its benefits which destruction of the nerve will afford. There is too great proneness on the part of neurologists, general practitioners, and surgeons to resort to the method of destruction.

The effects of surgical destruction of a nerve are so grave and so irrational that it should always be the method of last resort unless it is clearly evident that a surgical operation is indicated. The paper concluded with some suggestions as to the conservative treatment of neuralgia.

Dr B. C. Keister,

Recently of South Boston, Va., has removed his home to Roanoke, Va., where he will enter upon the practice of medicine on his return from Europe. He sailed July 7 (last Saturday) from New York on the Holland American line. During his several months absence in Europe he will attend as a delegate from Virginia the Congress of Professional Medicine. He will take a post graduate course in microscopy and bacteriology, beside attending the regular hospital clinics in surgery and medicine in Paris, London and Berlin. We wish him a pleasant trip and a safe return for the session of the Medical Society of Virginia at Charlottesville, Va., in October, 1900.

Doctors Needed for the Army and Navy.

If the complications which are rapidly multiplying in China become as serious as the governments of Europe and North America seem to anticipate, there will be a great demand for many more surgeons and assistant surgeons for both the U. S. Army and Navy. This demand will call for new doctors either for military service or to take the places at home of those who may enter the military service. Such a demand, therefore, will naturally call for increased sizes of classes of students entering the medical colleges.

Medical College of Virginia to Elect Professor.

The Board of Visitors of this institution will hold a called meeting in the college building on July 17, 1900, at 12 o'clock noon, for the purpose of electing a Professor to the chair of Histology, Pathology and Bacteriology, made vacant by the resignation on account of ill health of Dr. E. C. Levy. All applicants for the position should forward their testimonials, etc., to either Dr. J. B. McCaw, president of the Board of Visitors, or to Dr. Christopher Tompkins, Dean of the Faculty.

Asiatic Cholera

Has made its appearance as usual in India. A word in time, etc. We scarcely expect the epidemic to reach the United States with any material degree of severity before the frosts of fall come to expel it.

The Medical Examining Board of Virginia

Held its first semi-annual session for 1900 in Lynchburg, June 25-29. We trust the examiners will all have finished their papers in time for the usual report of the examinations to appear in our next issue.

Obituary Record.

Dr. Alex. J. C. Skene, of Brooklyn, N. Y.,

Died at his home July 3d, 1900. His abilities led him into many honors. His eminence as a gynecologist was recognized the world over. His long connection with the Long Island College Hospital identified him with that institution, and many graduates will mourn his loss as a father in medicine.

Dr. Paul Gibier,

The head of the Pasteur Institute in the United States, was killed in a runaway accident at Suffern, N. Y., on June 9, 1900. Born in France, 1851. After graduating from the Medical Department of the University of Paris, became Assistant Professor of Comparative Medicine. In 1885, the French Government sent him to Spain to study the outbreak of cholera there. The following year, he was sent to the South of France to study the same disease. In 1888, the same Government sent him to Havana to study yellow fever. On his way home, he stopped in New York. He returned the next year, 1890. He started the Pasteur Institute in this country, a specialty of which was originally the preventive treatment for hydrophobia. The antitoxins were all within its scope.—*Scient. Amer.*, June 23, 1900.

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WHAT CONSTITUTES CONSERVATISM IN THE TREATMENT OF APPENDICITIS?

By HUGH M. TAYLOR, M. D., Richmond, Va.,

Professor of Practice of Surgery and Clinical Surgery, University College of Medicine, Richmond, Va.; Surgeon to Virginia Hospital, etc.

The expression, "Conservative Surgery," not infrequently conveys a wrong impression. As commonly interpreted, it implies refraining from an operation, and is the opposite of the so-called radical surgical treatment. Notably in abdominal surgery, our experience and study impresses the idea that, surgically speaking, "a stitch in time will save nine," and that often the really conservative surgeon is the one who intervenes promptly to prevent gross morbid lesions and their consequences; and as a further result, saves life, promotes health, and limits the scope of operative surgery needed. Ideal surgery, in the broadest application of the term, is preventive surgery. The surgeon who reduces his death rate in abdominal surgery to less than five per cent. has ample cause to be thankful; but the practitioner who devises means which will prevent the morbid conditions which call for surgical intervention, is entitled by far to the greatest meed of praise. As the evolution of appendiceal surgery does not permit us to attain to any such ideal, we can do no more than limit our study to the vital question, "*What is conservatism in the treatment of appendicitis?*" Which class of practitioners is entitled to the honorable appellation of conservative? Those who operate promptly in cases of appendicitis, or those who wait for symptoms which render an operation imperative; or, again, those who routinely trust to the *vis medicatrix naturee*, plus purgatives, diet, rest, intestinal anti-ferments, hot or cold applications, etc.? What does the course pursued by each class of practitioners mentioned conserve? Our mission is not only to conserve life, but also health, suffering and loss from labor and pleasure.

What is conserved by medical treatment? An operation for the time being possibly, not probably for all time, is avoided. We say not probably, for we think we are within bounds when we claim that 50 per cent. will recur, and later will need an operation. An useless organ is saved, but one which few will deny is far better out of the abdomen than in it, and certainly its retention after once having been infected and damaged structurally is for all time a serious menace to life, health and usefulness. As an evidence of the frequent recovery from appendicitis without an operation, the claim is often made that post-mortems show that 80 per cent. of all who die have at some time in their lives had inflammation of the appendix. This, it is said, is revealed by scars, adhesions, etc. While not wishing in the slightest to discredit the observations of an earnest investigator, we recognize the possibility of an error and the need for further confirmation of this claim. Moreover, it is fair to suppose that a large per cent of these cases had appendicitis so mildly that no clinical evidence existed during the lives of the individuals. This will not seem improbable if we recall the fact that even very gross lesions may co-exist with a very indistinct clinical picture of appendicitis.

Does operative intervention conserve life, health and usefulness? Eighty per cent. of cases of appendicitis treated medically as such, or as intestinal colic, indigestion, renal colic, ovarian or tubal disease, cholelithiasis, etc., recover. Twenty per cent. die, and quite a large number of the late surgical cases which die should be credited to the mistake of treating them too long medically. If the policy of not doing forlorn appendectomy was adhered to, the death rate incident to medical treatment of appendicitis would be markedly increased. Certainly it is within conservative limits to claim that but five per cent. will die from appendicitis if operated upon within the first twenty-four hours. The death rate, then, incident to medical treatment is fifteen per cent. greater, and this estimate is, we think, an underestimate, as we, even at this date, hear of

organized and more difficult to separate. Again, deaths from peritonitis (supposed idiopathic), from typhoid fever of extraordinary short duration and atypical manifestations.

Obviously, it is not fair to hold our medical conferees responsible for this fifteen per cent. of deaths in appendicitis, for the attending physician cannot always dictate to the patient. Not infrequently the patient refuses to be operated upon. Very recently a case in my practice, in spite of a full knowledge that he was doomed without an operation, day after day held out, and died without being operated upon. It is equally true that some cases in which I have advised an operation have refused and have recovered, but this does not lessen the force of my plea. In many instances what does recovery mean? It means other attacks in seventy-five per cent. of cases (McRae); to live in dread of recurrences; to suffer from chronic inflammatory conditions—*i. e.*, adhesions, pain, constipation, auto-infection from bowels, poor health, and perhaps chronic or acute ileus.

The cases refusing to be operated upon, in a majority of instances, have been educated by that class of practitioners who do not see deaths from appendicitis, but who do meet with cases of gout of the cæcum and cases of bowel trouble in which death occurs because the doctors cannot get anything through them (septic paresis incident to appendicitis). The public press contributes to this hurtful education by impressing the fatal issue whenever an operation is performed, and takes no notice of the case which is lulled into its grave by opium, or procrastinated with until the eleventh hour and then referred to some surgeon, upon whose shoulder must rest the whole responsibility. I am always glad when I can let one of my doubting Thomas friends look into an abdomen and see the gross morbid changes incident to appendicitis. In more than one instance I have seen its educational results. One particularly good friend had the misfortune to meet in his practice several very acute cases. It is now dangerous for a member of his clientele to complain of a pain anywhere between the diaphragm and pelvis. It certainly will contribute to good if we exert our best efforts to have this vexed question—the treatment of appendicitis—settled within the seclusive precincts of our profession, and not encourage its discussion by or in other than medical circles. The uninitiated harp upon the fact that doctors will differ, and seem to glory especially in noting the differences as to the treatment of appendicitis. This is

much to be regretted, as a human life, health and usefulness is the penalty entailed by this smattering of medical knowledge.

One deservedly eminent as a surgeon has recently truly said that a vast deal of bad advice is given as to the treatment of appendicitis by physicians, who, by want of study or lack of opportunity to obtain clinical experience, are incompetent to advise.

In every instance of delayed intervention, some one has erred—the family physician, through a mistaken idea of what is conservative treatment; the patient, through a wrong education as to the benefits *pro* and *con*, or through the influence of the surgeon who hopes to operate during the interim of attacks. No one doubts that, in a majority of instances, we can safely wait for subsidence of the acute attacks, but a vast number of experienced surgeons concede our inability in the incipency of an attack to say which case is going from good to better and not from bad to worse. It is common experience to meet with gross lesions and minor symptoms. The clinical picture of appendicitis may be clear, but not its type, and our inability to say what morbid changes are going on within the abdomen is the influence which prompts so many surgeons to operate as soon as the diagnosis is made in all instances. In the absence of clinical pictures which admit of differentiation, or perhaps in acknowledging that it is not yet within the power of man to interpret the delicate differential tracings, what are we to do to save the fifteen per cent. lost under medical treatment?

If the medical man (wrongly called conservative) cannot offer a solution of this problem until his evolution has progressed, it seems logical that he must yield the field to the surgeon and let him save the fifteen per cent. now lost.

A majority of surgeons will plead guilty to the charge of having operated unnecessarily, plainly in cases of mistaken diagnosis—cases in which the macroscopic evidences of appendicitis are absent. Of course, no one wants to perform an uncalled-for operation, but what is the result from a perfectly excusable mistaken diagnosis in appendicitis? A practical nil mortality and a freedom from the possibility of appendicitis. What is the regret incident to an unnecessary appendectomy as compared to that of an operation which is too late to save the patient? It is far better, in my opinion, to operate many times unnecessarily than once too late. Of the many surgical regrets of my life, none are so numerous or conspicuous as the disasters incident to the late operations in appendicitis. The disaster in a majority

of instances is credited to the surgeon, or rather to surgical intervention; the death should be credited to delayed intervention and the responsibility for the delay be placed where it belongs, or, in any event, we should impress the fact that the mortality is not due to the operation *per se*, but rather to a continuation of the disease, which the late operation is powerless to check.

Every case of appendicitis at some time in its history is, strictly speaking, a local inflammatory trouble limited to the appendix. As such it calls for a minor surgical operation (an uncomplicated appendectomy) for its relief. The question is not unfrequently asked, are you going to advise the general practitioner to invade the sacred precincts of the peritoneal cavity in every case of appendicitis? Yes; far better a simple appendectomy by the trained novice than distended and paretic bowels, rotten appendix, stinking and corroding pus, intense toxæmia, etc., in the hands of the expert. Is it conservative surgery to wait for possible perforation; for necrosis molecular or *en masse*; for pus formation; for matting of bowels; for septic phlebitis or lymphangitis or septic or suppurative peritonitis—major surgery now calling for the highest possible surgical skill and entailing a high death rate in the hands of 95 per cent. of operators. Unfortunately, the operable stage of so many general practitioners is the inoperable stage of the experienced surgeon. No one wants to operate upon advanced cases, and we would be justified in saying to those who bring us moribund cases, medical treatment must bear the responsibility of this death. We would be justified in not operating under such circumstances but for one fact, which is pointedly made by Greig Smith in discussing the propriety of operating upon patients supposed to be moribund from typhoid perforation; he asks, "Who can say beyond all question when a patient is moribund?" A majority of surgeons feel that, if the patient has but one chance in a thousand, he is entitled to that chance. A few—and we are glad the number is small—regard their statistics more than human life, and wait in forlorn cases, as they say, until the patient is in condition for an operation.

Surgeons cannot always place the blame for procrastination where it belongs, because in too many instances it would reflect upon the attending physician; but so often, while making a forlorn fight with tangled, distended, necrotic bowel and acute toxæmia, I have felt that operative surgery should not, as is so often the case, be blamed for the impending death. I would not be understood as making light of

appendicitis even in its incipency. Every case should be considered as serious—far too much so to be let alone—as we can never know in advance the dose of the infection or its potency for evil. In every case we are between two evils—that of operating and that of waiting; the former is by far the lesser.

Do all cases need to be operated upon? By no means; but, as we have said, which do and which do not is beyond the power of man to say in the incipency of the attack; of course, any one can diagnose the late case with gross lesions and typical manifestations.

"Absolute accuracy of diagnosis in the abdomen is very far from being possible; only the ignorant assert that it is, and only fools wait for it."—(Tait). Since we cannot be emphatic as to our diagnosis, obviously it is wrong to be dogmatic as to treatment. If the atypical cases were not so common, and if it was not so frequently the case to have gross structural changes, with minor or even total absence of local and constitutional indications, we could wait. It is not unique experience to meet with a gangrenous appendix or abscess and matting, with normal temperature and pulse, a non-resisting abdomen and placid facies, while not infrequently, in spite of a recession of symptoms, a perforation with or without a local pus collection may occur.

When, if ever, are we warranted in postponing operative intervention? (a) When there is an appreciable tumor. (b) Possibly after the third or fourth day, when presumably we are too late for the early operation and too early for the late. (c) In the supposed moribund cases. Many practitioners search anxiously for a tumor—anxious not because its presence gives a sense of security, as it should, but rather because to find it is confirmation complete of the diagnosis. Greig Smith impressed the idea that the tumor denotes a less virulent infection and major resisting powers—*i. e.*, local fibro-plastic or fibro-suppurative peritonitis, matting, and exudate. The most dangerous case is that in which there is no tumor—no barrier between the focus of infection and the general peritoneal cavity. The presence of a tumor should convey a sense of security, and possibly warrants delay, with the hope that inflammatory reaction will subside and exudate be absorbed. It remains an open question how long we can wait. The advantages incident to operating during a quiescent period are undoubtedly very great. Exudate is absorbed, inflammation is less diffused, and peristalsis is re-established in the adherent bowels. To offset these, we have to recall that adhesions, which are not absorbed, in time become better

there is always a danger that exacerbations of inflammatory action, with necrosis of the restraining barriers, may occur, or we may have an extension of infection through the occurrence of septic phlebitis or lymphangitis. Nature's resources may become exhausted if we tax them beyond endurance.

When Mr. Treves impressed the idea that we are sometimes too late for the early operation and too early for the late, we think he had in view such cases and contingencies as we have just discussed. Obviously, his idea was that it is better, if called to the case late and it shows a tendency to result in local pus formation, to wait until the retaining wall is well organized and adherent, as this enables us to open and drain the focus of infection without breaking into the general peritoneal cavity.

One of the open questions of the day in the treatment of circumscribed appendicial pus collections is, Shall we content ourselves with primarily draining the abscess and subsequently removing the appendix, or shall we, at the primary operation, break up all adhesions in order to do a complete operation and remove the appendix? Upon this point of treatment there is a wide diversity of opinion, and perhaps an answer to the query—Which is best?—depends upon the operator. Those with exceptionally wide experience can perhaps safely do the complete operation, while the large majority will do better only to drain the abscess. The incomplete operation is always a disappointment to patients and friends, and yet it is very safe and tides him in a majority of instances over the crisis, and, at least for the time being, is curative. I say in a majority of instances, because exceptionally there is more than one pus pocket, and the drainage of one is not always all that is needed. A majority of surgeons, I think, agree that incision and drainage, with a subsequent removal of the appendix, is conservative surgery when the pus cavity is adherent to the abdominal wall. I would impress the idea that a patient should not be discharged without an emphatic warning that he has only been saved from immediate danger. He should be warned that he has a damaged appendix which may give him trouble at any time, and that he cannot rest secure until it is removed. It has been claimed, and it is sustained by experience, that the primary cure incident to incision and drainage is not infrequently a cure for all time; that the lumen of the damaged appendix is continuous with the abscess cavity, and is drained and obliterated with the abscess proper. Such an outcome is by no means invariable. Not infrequently the lumen of the appendix does

not communicate directly with the abscess cavity, and hence is not drained and obliterated; and, unless this does occur, the damaged appendix remains a source of danger. A majority of surgeons will probably recall cases of recurrence and deaths. I do not think permanent cures from drainage alone are sufficiently frequent to warrant us in ever discharging patients without instructing them to return for an appendectomy in the quiescent period.

An early operation, of course, implies an early diagnosis. Typical cases of appendicitis, as commonly met with, should be as easy to diagnose as typical typhoid fever, pneumonia, etc., but it is equally as true of appendicitis as of typhoid fever, that we have many atypical cases, and the practitioner who waits for a chain of evidence with no missing link will not infrequently wait too long. "Procrastination is the fool's paradise."—Price.

Of the many valuable truths impressed by Dr. Senn, few are more important than the assertion that a physician cannot be well rounded and complete as such unless he is a good surgeon. In short, he must be competent to recognize promptly cases of appendicitis, ileus, malignant disease, and all morbid conditions, the curability of which depends to such a large extent upon their early recognition and prompt treatment. With equal emphasis, Dr. Senn impresses the idea that the well rounded surgeon must be a good physician, in order to bring to his aid all that can be accomplished by the application of intelligent principles of hygiene, dietetics and therapeutics, etc. Not every physician may elect to do operative surgery. This choice may be adhered to in large towns and cities, but I have tried to impress the students I instruct that the physicians in remote rural sections must do major as well as minor emergency surgery. Too much valuable time is lost if he attempts to send many acute cases to the city or to send to the city for aid. He cannot pursue this course safely in cases of gastric, duodenal or typhoid perforation, nor in strangulated hernia, acute ileus, acute appendicitis, and in contused or penetrating wounds of the abdomen with visceral lesion.

The question is often asked, Will you advise every cross-road doctor to open the abdomen when he has such cases to contend with? By all means, rather than sanction the practice of soothing them into their graves by means of opium, blisters, etc. McDowell, Sims and Baynham have shown the world what cross-road doctors can accomplish, and at present the cross-road doctor is not infrequently fresh from his post-graduate and an up-to-date sur-

geon, technically speaking, and possessed of a degree of self-reliance born of having to assume responsibility because there is no one to share it. By no means is it infrequent to hear that cross-road doctors are doing good surgery, and commonly it is some man who has recently taken advantage of a post-graduate course or has served an apprenticeship under some master surgeon. By all means encourage the cross-road doctor to do an appendectomy while it is simple surgery—certainly if he cannot promptly refer it to a specialist. Far better an early operation, preventive in its scope, by an amateur than the late operation by the average specialist. Minor surgery in the incipiency of the attack; major surgery, and not infrequently forlorn surgery, with the occurrence of gross lesions. With poor surroundings and a limited experience in operating, the death rate in even simple cases will be larger than that at the hands of the expert, but we think it will not be equal to the death rate of advanced cases in the hands of the specialist called at the eleventh hour.

Few have put this question more tersely than Prof. H. H. Hare, when he wrote: "The wise physician is he who calls in the surgeon early, and the wise surgeon is he who is ready to operate at a moment's notice." As has been aptly said, if the delayed operation is good, few will deny that an early operation is better. Preventive surgery is in the broadest sense conservative. An early operation seeks to prevent the disastrous consequences of appendicitis, and is ideal when contrasted with the desperate surgery called for in neglected cases."

"I have seen a number of cases at the eleventh hour, after several days' illness, when no diagnosis had been made until it was too late. He is a brave surgeon and an honest one who will give such an unhappy case a chance for his life."—I. N. Love, *The Journal*, A. M. A., January 6th, 1900.

Is comfort and usefulness conserved by non-operative intervention, or even by late operation? There are few practitioners of experience who have not seen cases of appendicitis remain quiescent for years, giving minor trouble a great deal of the time, and not infrequently having an acute attack engrafted upon the chronic.

Recently I operated upon a young man sixteen years of age, who, when three years of age, had peritonitis and was desperately ill for months. Not until his sixteenth year did he have another acute attack, but for much of his boyhood life he was in delicate health. A section revealed old adhesions and also recent

products of inflammation. A section in another case, called for by an attack of acute bowel obstruction, revealed a band encircling the ileum, eight or ten inches from the ileo-cæcal junction. There was no trace of an appendix attached to the cæcum. Ten or twelve years ago he had a violent inflammation of his bowels (so-called), and was desperately ill for weeks. For ten years since he had suffered from obstinate constipation and poor health. Obviously, an appendicitis ten or twelve years ago had wrapped the appendix around the ileum and had torn it loose finally from the cæcum, and gradually tightening this encircling band (the appendix) until complete obstruction was the sequence. This patient was not operated upon for thirty-six hours after the first onset of acute obstruction symptoms. In that time, fibrino-plastic peritonitis was quite general. The patient recovered from the first operation, but in six weeks from his discharge was again under treatment for acute obstruction, and upon making a second section, we found the second attack of obstruction due to the bowel matting—a sequence of fibrino-plastic peritonitis. An early operation in this case would have saved ten years of poor health from obstruction (chronic) and a final acute obstruction, entailing celiotomy twice performed. A somewhat similar case was recently met with. A young man had an acute appendicitis, recognized and treated as such six or eight years ago. He was sick for several weeks. Since that time he has had numerous attacks (supposed recurrences), and has been in poor health. A section disclosed matting and adhesions of small bowel to the left of the median line and only a little tit on the cæcum to mark the site of the destroyed appendix.

Such instances of prolonged suffering and persistent danger warns us that we can never say when a patient is cured after having had one or more attacks of appendicitis and only treated medically. It would seem that the sum total of suffering and loss from work or pleasure is vastly greater in such cases than would result from an early appendectomy. And if we recall that many such cases die without operation, credited to inflammation of bowels, obstruction, stomach and hepatic troubles, etc., without the causative influence of appendicitis being appreciated, we must credit the medical treatment of appendicitis and its consequences with more deaths than is usually done. Such instances as I have noted are by no means exceptional occurrences. Surgeons have so often cured intestinal indigestion by

removing damaged appendices that such events are no longer unique.

As our diagnostic powers increase, we eliminate more and more frequently cases from the vague field of functional gastro-intestinal disturbances, and indict inflammatory conditions and their sequences occurring in the appendicular or bile tract regions, and we prove the correctness of such indictment by operation and microscopic and macroscopic findings.

It is claimed that seventy-five per cent. of cases treated medically recur and call for constant medical supervision, or else later an operation. While it is well known that the number of attacks is no index to the extent of the adhesions—as in one attack we may have extensive matting and on the other hand many attacks with but little local damage—each attack predisposes to a renewal of the attacks and to the formation of adhesions, and finally making the operation more difficult. In the surgery of the appendix, the ounce of prevention is far better than the pound of cure, and conservative surgery is by no means a synonym for delayed intervention.

6 N. Fifth Street.

SOME POINTS ON ACUTE NEPHRITIS OR ACUTE BRIGHT'S DISEASE.*

By S. B. MOORE, M. D., Garfield, Va.

Dr. Bright, of England, over fifty years ago, first described this disease; since then it has very generally been called *Bright's Disease*.

Its pathogeny remains somewhat obscure; but we at least know the circumstances that favor its origin and development. It occurs most frequently in the male adult, in whom it is favored mostly by exposure to cold and wet; also alcoholism plays a small part, but it is questionable whether or not this is responsible as a sole cause of the acute form.

In children, this disease, may occur at any age; or it may come on apparently as a primary disease—mostly due to infectious origin, although the point of entrance of the infection may be difficult or impossible to determine.

This form is most frequently secondary to some acute infectious disease, as scarlet fever, which is mostly of the acute diffuse type. It not only attacks the epithelium and glomeruli, but the deeper structures, as stroma and Malpighian bodies. This form occasionally follows diphtheria and exposure to cold and dampness. Measles, varicella, empyema, typhoid fever,

acute diarrhœal diseases, pneumonia, meningitis, influenza, etc.—all come in for their part, but none of these latter diseases is followed by a type of nephritis so severe as that of scarlet fever. In the Wesley Carpenter Lecture, Dr. Christian Herter claims that many of the lesions of acute nephritis were the result of combined infection. He says, in fact, that a large proportion of all cases are due to infection with the pneumococci, pathogenic streptococci and staphylococci, bacilli of typhoid fever or plasmodiæ of malaria, which is backed up by many other well known authorities. Pregnancy is thought by some to be a cause, but is not yet fully determined, but really, indirectly at least, it is a cause. Certain drugs, in full medicinal doses, as cantharides carbonic acid, turpentine, chlorate of potash, will cause renal congestion, and, if long continued, will be followed by a nephritis. Burns also play a part in causing acute nephritis. I have seen one case of this kind.

After summing up, according to all the data I can find, the *greatest predisposing factor* appears to be exposure to cold and wet, which suppresses cutaneous exhalation.

Cold and wet produce inflammation of the kidneys as they would other parts of the body, as the pleura, lungs, bronchial tubes, etc. The skin and kidneys hold such a close relation to each other that, as a rule, when the functions of one are in any way impaired or lessened, those of the other are correspondingly increased.

As for *pathology, symptoms, etc.*, it would be like threshing chaff to go over these subjects, as our text books have the latest ideas on them. In fact, all of the subject is pretty thoroughly covered; so that any one has to scour medical literature thoroughly to get any new points.

In making a *diagnosis*, we often find the general symptoms so slight and obscure that the diagnosis must rest on the analysis of the urine. Generally, in the acute type, there is moderate fever, and the associated symptoms are dull lumbar pains, nausea and vomiting, Dropsy usually begins in the cellular tissue of the eyelids; next you will notice that the patient complains of his shoes being tight after standing for some time, but this is relieved by the fluid gravitating to some lower point when he lies down.

In making an *analysis of the urine*, you should collect the full amount for the twenty-four hours; measure this, and take a sample, because in this way you will get a more accurate result as to the amount of solids. At certain times in the twenty-four hours, there is

* Read before the Fairfax County [Va.] Medical Society during its regular meeting in May, 1900.

more excreted than at others, especially just after meals. In many cases, the analysis is the only thing we can depend on in making a differential diagnosis between acute nephritis and the acute exacerbations of chronic parenchymatous nephritis. In fact, it is the only positive method of making a diagnosis of any form of nephritis. Urine is composed of water, nitrogenous compounds, pigments, and solids. It amounts to an average in healthy persons of about three pints or less in twenty-four hours, the amount of solid matter aggregating about 5ij. Of this, nearly 5j is urea; gr. xii uric acid; 5ij of pigment and extractives, and 5vj salts. Of the two drams of pigment and extractives, very little is positively known. Of the 5vj salts, about four drams are sodium chloride, one of phosphates, and one of sulphates.

In making analysis of urine, most of us are acquainted with the proper methods sufficiently for all practical purposes. Probably to refresh memory on some points would be of service to some of us.

In most cases, we can be positive or satisfied by taking sp. gr., multiplying last two numbers by $2\frac{1}{3}$, and we will get an estimate of the amount of solids expressed in grams per liter. Examine for albumin, sugar, reaction, and amount in twenty-four hours. This is about all that is required by most of the standard life insurance companies. Sometimes this does not disclose all the knowledge of the case that is necessary.

In latter years casts, urea and uric acid are of more significance in making a diagnosis. The outfit for this work will be more expensive. You should have a good microscope, centrifuge and ureometer. The one designed by Dr. Chas. Doremus I find about as accurate as any, and more suitable for clinical work, as it takes less time and is accurate enough for all practical purposes.

According to Dr. Haig, of London, *urea and uric acid* are stored up in the blood, due to lowered alkalinity of the blood. The diseased kidney not being able to pass it off as fast as it is formed, causes a long list of symptoms, as high arterial tension, from capillary obstruction, headaches, vertigo, nausea, mental depression, dyspnoea, asthma, bronchitis, anemia, hæmoglobinuria, liver and kidney congestion. But urea and uric acid play a small part in nephritis directly, except that they, like all the other solids and pigments, are less in the amount of excreted urine in certain kidney affections. A toxemia results from their reten-

tion in the blood, causing uræmia and like troubles.

Dr. Johnson proved, by recent experiment, that these leucocains were so poisonous that a mouse injected with an infinitesimal dose had tetanoid and convulsive symptoms and quickly died.

In examining for casts, we must have a centrifuge and a microscope, with No. 3 and 7 nose pieces, which will do for all practical purposes. The old method of allowing the urine to settle is entirely too slow for clinical work. By the centrifuge, we can throw down a sediment in about three minutes that is sufficient for examination. This is very important in cases where a quick diagnosis is necessary. Casts are frequently found in the urine of persons apparently healthy. One author notes fifty cases where a thorough examination was made in persons whose ages ranged from 15 to 65 years. The result was that in 40 per cent. traces of albumin were found; in 26 per cent. casts were present, most of them of the hyaline variety. Some of these cases undoubtedly would sooner or later develop some form of nephritis.

According to Dr. Osler, the character of the casts is of use in diagnosing forms of Bright's disease, but scarcely of such value as has been stated in the past few years. The hyaline and granular casts are common to all varieties of the disease. *The blood and epithelial casts, particularly those made up of leucocytes, are most common in the acute form. At the age of 50 or 60 years, it is quite common to find hyaline casts from errors of diet.

According to Dr. Holt, in children you find in the acute diffuse type casts in large number chiefly hyaline, granular, and epithelial casts from the straight tubes; not infrequently you will find blood casts occasionally twisted, or cork-screw casts are seen; these come from the convoluted tubes, and are regarded by Dr. Ripley, of New York, as of grave significance, indicating that all parts of the kidney are involved. Red blood cells are present in large numbers; also many leucocytes, and always an amount of renal epithelium.

Albumin is due to changes in the renal epithelium; also changes in the blood itself. This part of the subject has been covered pretty thoroughly by our text-books, and medical journals are continually giving us something on the subject, which leaves very little to be said. They are constantly bringing up some new test; but, for all practical purposes, the old well-tried heat and nitric acid test—seeing that the cloudiness or precipitate does

not clear up on addition of acetic acid—will do for all clinical tests. A great many, especially in Europe, use the ferrocyanic acid test. They claim that whether the urine is acid or alkaline, it will precipitate albumin and nothing else.

Dr. William Warren, of Detroit, in Dr. Canfield's notes, gave the following as quantitative formula, which would do for all clinical purposes:

When albumin is 2 to 3 per cent., the whole is completely coagulated on boiling.

1 p. c. coagulum reaches half way up tube.

.5 p. c. coagulum reaches $\frac{1}{2}$ way up tube.

.1 p. c. coagulum reaches $\frac{1}{10}$ way up tube.

.05 p. c. curved part of tube is barely filled.

.01 p. c. there is slight cloudiness—no precipitate.

Sometimes some articles of food will cause a slight amount of albumin, as cheese, pastries, and other indigestible articles, which increase the solids.

I present a table of differential diagnoses between acute Bright's and the different forms of chronic Bright's:

LARGE WHITE KIDNEY.	ACUTE BRIGHT'S.
1. Usually the result of acute Bright's.	1. Usually the result of exposure to cold or some acute disease.
2. Heart hypertrophies.	2. Heart normal.
3. Urine normal or slightly increased in amount.	3. Urine diminished in amount.
4. Cast hyalin, granular, and epithelial.	4. Blood and few hyalin casts.
5. Sp. gr. diminished.	5. Sp. gr. increased.
6. No blood in urine.	6. Urine bloody.
7. Temperature normal.	7. Temperature elevated.
CIRRHOTIC KIDNEY.	ACUTE BRIGHT'S.
1. Edema slight.	1. Dropsy well marked.
2. Disease of slow progress.	2. Disease rapid in progress.
3. Urine increased in amount.	3. Urine diminished.
4. Urine low sp. gr.	4. Sp. gr. high.
5. No blood in urine.	5. Bloody urine.
6. Few casts hyalin and granular.	6. Blood and hyalin.
7. No acute symptoms at first.	7. Symptoms acute from beginning.
FATTY OR WAXY KIDNEY.	ACUTE BRIGHT'S.
1. History of wasting disease or suppuration.	1. History of exposure to cold or some acute disease.
2. Symptoms appear slowly.	2. Symptoms come on rapidly.
3. Urine increased.	3. Urine diminished.
4. No blood in urine.	4. Bloody urine.
5. Fatty and waxy cast.	5. Blood and hyalin casts.
6. Uremic symptoms rare.	6. Uremic symptoms common.
7. Temperature normal.	7. Temperature elevated.
8. Sp. gr. low.	8. Sp. gr. high.

As for treatment of acute Bright's, I believe it is nearly the same by all authors—that is:

Rest in bed.

Milk diet; but better, skim milk in severe cases.

Saline laxation or catharsis.

Support the heart with digitalis and fight the anæmia with some iron preparation. I believe the best is Basham's mixture.

Produce diaphoresis by hot air or vapor baths, and if heart is in good condition, pilocarpin hydrochlor. gr. $\frac{1}{8}$ hypodermically once daily. Let the patient take hot bath daily for the œdema of the legs; tap under aseptic precautions if necessary. For the dropsy of the serous cavities in most cases, you can reduce the fluid by saline catharsis; do not be afraid to give a plenty.

If it is not taking too much of your time, I will cite a few cases that I have had the good fortune to see.

CASE I.—B. V., white, male, aged 60. Led very active life mostly on a farm; was caught in rain-storm and kept wet clothes on for several hours; first noticed œdema of eyelids and was unable to get his shoes on; felt drowsy and bowels sluggish; slight fever. Dropsy increased very rapidly in a short time; abdomen was very much distended; penis and scrotum very much enlarged, and complained so very much of shortness of breath that he was unable to lie down. I saw the patient a few days after the dropsy had started, and found him in condition described.

I ordered saline cathartics to be given until stools became liquid. I started on ten drops of the tincture digitalis, *t. i. d.*, for weak heart, and ordered strict milk diet. I obtained sample of urine every morning, and made examination to find if albumen was increasing or decreasing. We arranged a crude hot air apparatus and gave hot air baths night and morning.

The salts seemed to be slow in starting an action; after that, they certainly made up for all delay. According to the patient's statement, he passed about five gallons of liquid by bowels that day; this exhausted him to a certain extent for awhile, but the dropsy disappeared down as far as the knees, and the patient was able to lie down. After this, I started him on 5j doses of Basham's mixture three times daily, and the patient was discharged as cured in four weeks.

CASE II.—M. D., white male, aged 27; worked at Arlington Cemetery as laborer digging graves, etc., where he was exposed to considerable dampness. A part of the history of this

case I was unable to get, as he came into my hands with the request to make him easy; there was no hope, as two other doctors had given him up. One was a homœopathic, who had stopped all medicine and told his family that he could eat anything he liked. I must confess I had small hopes of the man, as the dropsy was something immense. I placed him on same treatment as in Case I, but placed him on skim milk diet. He passed only 5ss urine in twenty-four hours; on boiling, it was completely coagulated. I tapped legs to keep skin from breaking. The urine gradually increased, and dropsy grew lower daily to my great surprise in one week; he passed about two pints of urine in twenty-four hours, and patient was able to sleep in bed.

In this case the albumin remained in the urine for two months, but finally disappeared entirely, and patient apparently is as strong as ever.

CASE III.—J. W., colored male, aged 26; worked on dairy farm; according to his statement, caught cold washing milk cans; in a few days noticed eyelids puffed and unable to keep shoes on all day, but did not notice any urinary symptoms until I questioned him on the subject. He then said he did not pass as much urine as usual. On examination, I found a considerable amount of albumin, sp. gr. 1022; patient was drowsy; appetite poor; bowels sluggish. I placed him on skimmed milk diet; gave him three grains of calomel and soda, and followed up with saline cathartics. Patient came by on his way home, which was about twenty miles distant. I instructed him to place himself under treatment as soon as he arrived at home (but this he failed to do), but follow up diet and treatment. I gave him salines and Basham's mixture. He came back in about a month. No albumin nor casts.

ALCOHOL AS A FOOD.*

By A. T. CUZNER, M. D., Gilmore, Fla.

In order to a proper understanding of the relationship of any article in the *Pharmacopœia* claimed as food, it will be as well to examine and see if we have a clear conception of what constitutes or qualifies an article, or in other words, what functions, process or processes it is necessary it should serve or conserve in order to the maintenance of growth, repair and functional activity of the animal tissues.

* Abstract of a paper read before the American Medical Association, at the June meeting at Atlantic City.

CELL LIFE.

The different tissues are made up of an aggregation of morphological units, each having a life history of its own. At their death they are resolved into effete material, very deleterious to healthy cells if retained in the tissues.

All cells are the result of the life of previous cells; "*Omne vivum ex ovo.*"

In the course of its development, every cell proceeds from the condition of a unit, in which it resembles every other morphological unit, through a series of stages of gradually increasing divergence, until it becomes an element or part of a special tissue.

The vital functions of the cell may be enumerated as contractility, irritability, automatism, reception of nutritive material and its assimilation, metabolism, secretion, excretion, and finally, reproduction.

During their life history, they are sensitive to and are favored or injured by their environment and by circumstances over which they have but slight control.

Having a very limited power of choice in respect to absorption or rejection of substances brought to them by the circulation, much good is effected, and also much evil, by the presentation of certain drugs in certain conditions.

NUTRITION.

There are three sources of demand for food material. *First.* To restore or replace the loss consequent upon the wear and waste of the tissues. *Second.* For the production of energy or force. *Third.* For the supply and maintenance of animal heat.

VITAL HEAT.

The industrious student of natural history—animal or vegetable—is impressed by the fact that oxygen and oxygenation seem to be the principal factors in all processes of organic life. The established principle of the conservation of energy teaches that light, heat, electricity and motion are energies capable of conversion, the one into the other. To illustrate:

Place and ignite fuel under a boiler—as a result heat; this heat, in the form of steam, acting through the engine, becomes power; this power, acting through the dynamo, becomes electricity, light and heat.

Lavoisier taught that the oxygen taken into the lungs during respiration combined immediately with the carbonaceous materials in the pulmonary tissues and fluids, resulting in carbonic acid and water, evolving heat.

Liebig believed that the heat of the body was produced by the oxidation or combustion of certain elements of the food while circulating in the blood, these substances being converted into carbonic acid and water by the oxidation of their carbon and hydrogen. He divided food into two classes. First, the plastic or nitrogenous elements—albumen, fibrin, gelatin, etc.; and second, the hydrocarbons and the carbohydrates, or respiratory elements—oils, fats, sugars and starches, regarding them as so much fuel. We dissent from both these scientists as being inaccurate in their views. We hold that the vital or morbid chemical actions and processes going on constantly in the body are sufficient to account for the heat evolved.

We admit, as held at the present day, that the carbohydrates and hydrocarbons taken into the body as food, more largely go to the production of heat and energy than the nitrogenous elements. During sleep, when the vital or morbid chemical actions or processes of the body are at a minimum, the heat evolved is at a minimum; but when these processes are at a maximum, they attain the maximum.

Prof. Atwater bases his fallacious proposition that "Alcohol is a Food" on certain facts relating to the development of heat in simple forms of organic life. I thought we had better go over the ground carefully, in order to a proper understanding of his premises and the sophistical conclusion he has reached in his proposition, "*That to a certain extent alcohol is a food, and can take the place of certain other foods in the production—through oxidation—of energy, and that he is enabled to measure the amount of energy thus obtained.*"

Food.

Upon the right understanding of the term food depends the soundness of the proposition. We cheerfully concede at the outset of our argument, *that the oxidation of alcohol results in the evolution of heat and energy.*

The term food has such an extended application that it is almost impossible to give a concise definition of it that will not be open to objection of excluding some one element considered by many as food, and including some other not usually considered as such:

To illustrate by a few samples:

"Whatever is eaten by animals for nourishment, or whatever supplies nutriment to plants, something that sustains, nourishes and augments, aliment, sustenance or nutriment."—Nuttall's Dictionary.

"That which supplies nutriment. Syn. sus-

tenance, provisions, fare."—Webster's Dictionary.

"Under the term 'food' are included all those substances, solid and liquid, which are necessary to sustain the process of nutrition.

"The first act of the process of nutrition is the absorption from without of those materials which enter into the composition of the living frame, or of others which may be converted into them in the interior of the body."—Dr. J. C. Dalton.

"Whatever is taken to maintain life is food."—Crabb.

"Any substance which, taken into the body, is capable of sustaining or nourishing the living being."—Encyclopedic Dictionary. Turning to Encyclopædia Britannica, under the heading "Dietetics"—it has no article on food—we find the following:

"The physiology of the action of alcohol has a very important bearing on the physical management of the mental functions. When a man has tired himself by intellectual exertion, a moderate quantity acts as an anæsthetic, stays the wear of the system which is going on, and allows the nerve force to be turned to the due digestion of a meal" (italics mine), and, in addition, would say, *that an anæsthetic acts on and through the nerve tissues*—A. T. C. Hence the last clause is faulty. We would define food as any substance or material which can be taken into the body without injury, and applied, primarily, in building and repairing its tissues and framework, and, secondarily, in the evolution of heat, such as the fats, sugars, and starches. Dr. Beinfait, of Liege, speaking very forcibly and radically upon this question of what constitutes an article of food, follows:

"In order to be a food, it is not sufficient that a substance be decomposed or oxidized in the tissues. Under these conditions, many harmful substances would be considered food. Ether is decomposed in part; chloroform is partially destroyed." Muscarine, morphine, and other poisonous drugs are likewise oxidized in the body. "But do we consider these substances food? Certainly not.

"Other things than decomposition are necessary to nutrition. It is necessary that the decomposition be effected in a way that will not injure the vitality of the cells. A part of the alcohol that is destroyed in the body undergoes this decomposition in a way that is injurious.

"Observe that whereas true food, such as sugar and fat, are destroyed slowly, easily, without provoking too lively a combustion, al-

cohol is burned too rapidly, provoking a veritable explosion. Suppose that a locomotive has to run a certain number of kilometers; in order to do this, it must be given fuel. This is the coal, which it burns slowly and methodically. If, in the place of coal, we throw naphtha on the fire, or gunpowder, or nitroglycerine, they all produce the same kind of energy, differing in degree and suddenness.

"The combustion may furnish as much heat, or more, as the coal, but it is burned instantaneously, in the form of an explosion. The heat thus produced is not utilized in the machine. What naphtha is for the locomotive, alcohol is to our bodies; it is an explosive, but is not a food." Now, as words are but clumsy vehicles of thought, and thought is much more comprehensive than there are words for its conveyance, the above explanations, classifications, and descriptions of what constitutes an article a *true food* may be open to objection.

ALCOHOL AS A FOOD.

If I understand Prof. Atwater right, he does not claim that alcohol is a true food, in any amount, but that it is a food only to a limited extent. Let me quote his reported words: "It has been claimed that I say that alcohol is a food. Mrs. Hunt says she understood it so. If any one did understand it so, let me say again what I said yesterday. Alcohol, if you call it a food, is only a very limited food." In the same address, he is reported as saying: "Is alcohol a narcotic? Why, yes; I suppose it is. Is alcohol a poison? Why, yes; under certain circumstances, alcohol is unquestionably a poison, a narcotic poison." Again, he is reported as saying: "Alcohol cannot serve for building body tissue. It contains no nitrogen, but it is commonly supposed that it can be used in limited quantities for fuel. These experiments [at Wesleyan University] were planned to compare its action as fuel with that of the fat, sugar and starch of ordinary food."

If these reported statements of Prof. Atwater are correct, then in his output of the results of his experiments he has been greatly misunderstood. As I understand his teaching, it simply amounts to this:

Alcohol being oxidized in the body, and as oxidation is but a form of combustion, therefore, "when partaken of by man in limited quantities, it performs a like function with sugar, fat, starch—that is, the production of heat, therefore alcohol can with propriety be classed as a food." He does not claim it as a good or a proper food, or that it can be substituted for

natural foods, such as fats, sugars and starches but, on the contrary, he claims it can only be used in very limited quantities as substitutes for these foods, and that it is a narcotic poison. This, then, is the outcome of those great and costly scientific experiments heralded at great expense through this broad land, to the deep concern and horror of the unscientific temperance people, and of such great comfort to the lovers of the "social glass." When I was a lad, I was much interested in reading "Æsop's Fables." Among them was one of a mountain in great labor. It belched forth fire and vapor—the thunder roared, the lightning flashed, the rock split, and from the opening came forth a little innocent mouse. It is evident, from the quotations which follow from other scientists, that they understand Prof. Atwater as I do. But it is also evident, likewise, that the unscientific, and those whose living is made by the manufacture and sale of alcohol, and those who indulge in its use as a beverage, understand Prof. Atwater to teach that alcohol is a food and proper to use as such.

"Prof. Atwater's own figures, as set forth in Bulletin 69 of the United States Department of Agriculture, do not support his claim. He states that 'whether the body [of the man experimented upon] was at rest or at work, it held its own just as well when alcohol formed a part of the diet as it did with a diet without alcohol. His tables, on the other hand, show at once that when alcohol is substituted in part for carbonaceous foods, there is an increased loss of body nitrogen. We cannot, therefore, understand or accept his statement that alcohol protected the material of the body just as the corresponding amounts of sugar, starch, and fat.'"—Prof. Seneca Egbert, of the Medico-Chirurgical College of Philadelphia, and Prof. Frank Woodbury, of the Philadelphia Polytechnic and College for Graduates.

"The third conclusion, that the alcohol protected the material of the body from consumption just as much as the corresponding amounts of sugar, starch, fat, is far from being a justifiable conclusion from data given in Bulletin No. 69. The experiments there, in which alcohol was used, show an actual loss of nitrogen, showing a consumption of body proteid during the period.

"Prof. Atwater can draw but one tenable conclusion from Bulletin No. 69; namely, alcohol is oxidized in the system, but is not a food."—Wingfield S. Hall, Ph., D., Professor of Physiology, Northwestern University Medical School, Chicago.

"One fails to find any support for the view

that alcohol, like corresponding amounts of sugar, starch, and fat, protects the body against proteid waste, in Dr. Atwater's own figures. Thus in experiment 7, where 417 grains of proteid were given in four days, there was a loss of nitrogen equivalent to 48.2 grammes of proteid.

"In the other alcohol experiment (number 10), there is a similar though somewhat smaller loss of nitrogen. One is, therefore, compelled to admit that these experimental data do not support this third conclusion of Dr. Atwater.

"Indeed, if persons on a diet adapted to keep them in nitrogenous equilibrium regularly showed such losses of nitrogen while using alcohol as are shown in Dr. Atwater's tables, we should have very satisfactory evidence that alcohol was acting as a poison to the cells of the body; that is, as a protoplasmic poison. The two Atwater experiments with alcohol (in Bulletin No. 69) were carried on for so short a period that they throw no light whatever on the food value of alcohol when used continuously. Even if these experiments demonstrated that alcohol can replace a portion of ordinary non-nitrogenous food during four days in a healthy man, this fact would afford no scientific basis for the view that such replacement can be indefinitely carried on without detriment to the organism. It is difficult to believe that an investigator occupying an important government position should be so unintelligent as to give utterance to views favorable to the use of alcoholic drinks on the strength of experiments of such limited scope as those published in Bulletin No. 69."—C. A. Herter, M. D., Professor of Pathological Chemistry, University and Bellevue Hospital Medical School, New York.

Prof. H. W. Conn, Prof. Atwater's associate in the above noted experiments, took care at an early date of their discussion to place himself before the public in the following reported position. He says:

"Alcohol is not used as a food. It is always for its influence upon the nervous system, and one of the well known results is that, at least among Americans, the use of alcohol in small amounts is almost sure to pass speedily into its use in large quantities.

"To state that alcohol in any quantity is safe is a woeful misinterpretation. No one can state what is a small and what is a large dose. No one can yet state at what point. A physicist could experiment with gunpowder, and prove it is easily oxidized and gives rise to a large amount of heat and energy. From this

it might be argued that gunpowder is a most useful kind of fuel for cook stoves. Such a conclusion would be hardly less logical than the conclusions that have been drawn from these experiments with alcohol, and which regard it as a useful food for the body. Gunpowder is a very unsafe fuel because of its secondary effects, and in the same way the food value of alcohol cannot be determined by its power of being oxidized, but must include the consideration of its secondary effects as well." But suppose we for a moment stop and admit for the sake of argument that alcohol in limited amounts, on account of its being oxidized in the body and thereby generating or liberating latent energy and heat, may be classed as a food, does it not logically follow that all those drugs and chemicals that undergo oxidation in the body are foods, "when taken in limited amounts," whether they be *narcotic poisons* or *anæsthetics*, and must in consequence be admitted into our list of foods?

Another thought! It is claimed and admitted that alcohol, being an anæsthetic and narcotic, has the power, and exerts the same, of dilating or relaxing the small arteries and capillaries, admitting a larger portion of blood than ordinary, and that the blood at this point loses a large amount of heat; and it is further claimed, and has not been successfully disputed, that the loss of heat in consequence is greater than that produced by the oxidation of the alcohol. If these statements and positions are correct, what becomes of the hypothesis that "alcohol is a food to a limited extent?" What sort of bank assets would a man have who, having on deposit \$25, deposited \$25 more and drew out \$50? You would say that man's assets were nil! Likewise it is with alcohol; it does oxidize in the body, liberating heat, but it at the same time causes a greater loss to the body in another direction by its poisonous action on its tissues.

Therefore, gentlemen of the medical profession, we cannot afford in the interest of science, truth, and morality, to give aid and comfort to the users of alcoholic beverages by admitting alcohol into our list of alimentary substances. We must still retain it in our list of drugs as a *narcotic poison*, useful at times, which times and circumstances must be judged of by each individual physician, the same as he does in regard to the administration of strychnine, arsenic, opium, etc.

AN ASEPTIC SOAP CONTAINER.

By STUART McGUIRE, M. D., Richmond, Va.,

Professor of Surgery and Clinical Surgery, University College of Medicine; Surgeon in Charge St. Lukes Hospital; Visiting Surgeon to Virginia Hospital, Richmond, Virginia.

Experiments in bacteriological laboratories show that green soap, as purchased in the market, is usually infected with microorganisms. It is, therefore, important for the surgeon who desires to do clean work to use some method for sterilizing it, and to provide some container to prevent its subsequent in-

fection. Personal observation in several leading hospitals, where asepsis was carried to the point of sterilizing iodoform and investing the hands in rubber gloves, failed to note a single instance where an effort was made to eliminate the possibility of infection from the soap dish. The almost universal custom was to have an open jar or bowl of green soap on the washstand, into which the operator, assistants and nurses freely inserted hands always soiled from routine work, and sometimes actually septic from a previous operation.

This practice was so repugnant to the



writer's surgical conscience, that he has made repeated but unsuccessful efforts to find a soap container on the market which would correct the evil. With the aid of Powers & Anderson, instrument makers, of Richmond, Virginia, he has lately perfected a simple device, which after use, has proven eminently satisfactory. It is made of metal, nickel-plated, and consists of a base or piston, a cup or barrel, and a cap or stopper.

The method of operation can be seen by a glance at the accompanying cut. After the barrel has been partly filled with soap, it is placed in a sterilizer and boiled for an hour. It is

then placed again on its base and allowed to cool. When soap is needed the cap is removed and downward pressure causes the soap to protrude through the opening in the top.

The apparatus as at present manufactured, is six inches in height and three inches in diameter. It works practically like the collapsible tube used by artists for their paints, with the exception that when it is empty it can be refilled. Only the desired quantity of soap is exposed, and the bulk is perfectly protected from infection. The apparatus is clean, economical and durable.

A PHYSICIANS' HOME.

By JNO. S. HARRIS, M. D., Minor Hill, Tenn.

Having conceived a plan whereby a home or sanitarium may be put into effect, and that, too, profitably and to the honor and credit of the medical fraternity, I propose in this article to give it to the brotherhood through your valuable journal, as it is an exponent of profitable measures relative to our noble healing art. Let those who read this consider, measuring as they go the faith they have in such a cause, and make it known to the general profession.

Now, the idea is this: Raise, by subscription, enough money to erect a handsome sanitarium, known as the "Physicians' Home"; locate it at a point most suitable to the profession of medicine in the United States; place it in charge of competent physicians—physicians of national reputation and first class honesty and integrity; let them accept the situation for a percentage of the profits, so they will strive hard to make the institution a success.

We are all aware of the fact that the cause of medicine demands the hardest and most irksome labor known to the whole laboring world; and that physicians tire, run down, wear out, become diseased in mind and body, and must have rest, recuperate, change surroundings, take treatment, etc.; and that to go to some costly sanitarium would be more than the majority of doctors' financial conditions would allow and do justice to themselves and family. Besides, owing to the expense accruing at such sanitarium, their time, if they attempted to go, would be so limited that they would have to leave before a cure was accomplished. I have known this to be the case.

Now, the object of such a home is to receive all physicians who subscribe to the cause, or any member of his family, free without cost to himself or the medical fraternity, except board and washing. Have him pay a board and laundry bill. This institution should be so broad in its measures to the profession in the United States as to receive any true physician or any member of his family without cost other than stated above. How noble such an institution would be, and how incalculable the good to the medical profession!

But one says: "The expense would eat it up." No. Have every stockholder interested; have him to send patients to the sanitarium for treatment. How many physicians send patients annually to specialists or sanitariums? Numbers of them. Now, they could go to the "Physicians' Home," receive good authoritative

treatment at the regular sanitarium rates. These profits would amount annually to more than enough to pay expenses of operation, pay the physicians in charge, and leave a surplus fund, which fund could be used in improvements on the home, and after improvements were accomplished, subject the remainder (upon good authority) to the deserving, poor, worn-out physicians and their widows. Many physicians die absolutely without support to their widows, misfortune having overshadowed them all along their medical pathway. Then it would be just, right, and in harmony with brotherly love, charity and benevolence for the medical profession to extend a helping hand. Of course, it might take one or two years for a surplus to accumulate. Now, there are deserving physicians all over the United States by the thousands; so, in the raising of this fund to purchase grounds, erect building and furnish it, it need not require more than an outlay of one dollar each. Say twenty-five thousand subscribe one dollar each; this will put it into effect. Subscribers are not to be asked for new remittances, assessed, nor taxed, but asked to work for the support of the Home. Annual reports could be made, through ethical medical journals, of the financial condition and progress of the institution. We would like to hear from the editor of the *Virginia Medical Semi Monthly*, and the profession generally through the columns of this journal, or by mail. This is a subject of vital importance and one worthy of our time and attention. So, brethren, speak out and let's hear from you.

A PLEA FOR PSYCHIATRY IN THE AMERICAN ARMY.

The Brain Break and Nerve Strain of the American Soldier—His Mind and Nerve Exhaustion and Insanity.*

By C. H. HUGHES, M. D., St. Louis, Mo.

This paper points out the liability of the soldier to insanity and its tendency to actively develop under the strain of military life, noting the fact that the government is particular to secure able-bodied recruits and care for them surgically.

This paper asks for equal care in guarding against the development of the insanity of overstrain in the soldier and the suicide which

*Original Abstract of paper read before the Section on General Medicine at the meeting of the American Medical Association at Atlantic City, June 8, 1900.

is usually an insanity of overstrain or privation.

The army has a good surgical staff, but the government has made no provision for alienists and neurologists therein or for hospitals for the insane in the new possessions or in Cuba. The insane now have but one government hospital, and that at Washington, D. C.

The insane soldier in the new possessions should have skilled care on the spot. His malady should be detected and treated early, and the chances of recovery improved. Early skilled hospital treatment means recovery in most recent cases. Delayed care by transportation across the sea imperils recovery.

There were forty-six cases of insanity in the government hospital up to April 1st from the Philippines, and more have come since. Between the 1st of May, 1898, and the present time, about one hundred suicides are reported in the American army, mostly due, of course, to insanity. Higher rank and a greater official recognition, with these added to it, is asked for the volunteer medical staff of the American army.

Methods of modern warfare are now so changed that discretion is especially the better part of valor. So, also, is the proper psychological and physical care of the soldier the better part of strategy. As in civil life, to be weak in brain and nerve is to be a failure; so in military life, not to be strong in brain and nerve force is to be inefficient, and in great crises of imperative action fail.

Analyses, Selections, etc.

What to Send to the Microscopist and How to Prepare It.

Dr. T. E. Oertel, Augusta, Ga., Professor of Pathology and Bacteriology in the Medical Department of the University of Georgia, in the July (1900) issue of the *Atlanta Journal-Record of Medicine*, tells in a practical and concise manner *what tissue should be selected by the busy practitioner for microscopical examination*, and also the simplest mode of preserving them for transmission to the laboratory. He says that "a piece of *tumor* should be excised, but it need not be large, nor is a general anesthetic indicated in other than exceptional cases. Cut out a piece about a quarter of an inch square, being certain it comes from the new growth, and put it directly into at least one ounce of strong alcohol without being previously washed

in water, neither should it be handled more than necessary. If absolute alcohol can be obtained, so much the better. The tissue may now be sent to the laboratory in a bottle filled to the cork with alcohol, as this prevents possible damage.

The location of the neoplasm, its size, the rapidity of its growth, and any general data bearing upon it, should always be noted and the information sent with specimen.

Tissues in general procured by autopsy may be preserved in any one of the fixing agents in common use; formulæ for which may be found at the end of this article.

If possible, the autopsy should be held within six hours after death, in order to guard against post mortem changes. In cold weather such changes may not take place for several hours longer. Small portions of the various organs should be put directly into fixing agent.

If the fluid selected be alcohol, the pieces should not be more than a quarter of an inch thick, though they may be somewhat longer and wider, except in the case of lung tissue. Unless lung is solidified it is impossible to cut it so thin without crushing it and causing it to collapse. The nature of lung structure admits of more ready penetration by the fixing agent, and we may therefore cut pieces half an inch in thickness and still secure good fixation with alcohol. Sections of all tissues should be made with a very sharp knife, and at one stroke.

If Müller's fluid or Zenker's fluid be used, the pieces of denser organs may be as thick as half an inch. If, on the other hand, bichloride of mercury solution be used, the pieces should never be larger than one-quarter of an inch square, as it does not penetrate well.

The examination of *blood* is of especial importance in suspected malaria, anæmia, leukæmia, trichinosis and septic and pyæmic conditions. In many cases a blood count is desirable, but this is impossible unless the microscope can be brought to the bedside. Smear preparations must be made. These keep indefinitely and serve for examination for malarial parasites, bacteria and for differential counts of white blood corpuscles. Whether the spread be made upon the cover glass or glass slip, the two essential features that are necessary for a successful smear are absolute cleanliness of the glass and a drop of blood of the proper size. The beginner is apt to make the smear too thick. The usual method of procedure is as follows:

Clean two cover glasses ($\frac{3}{8}$ squares, No. 2, are the most suitable) with soap and water in order to remove any trace of grease, polish

each with a soft, clean cloth, and this must be repeated at bedside of patient; clean the lobe of ear with soap and water, make a free puncture in the lower part of lobe, wipe away the first few drops that flow, and then catch a fresh drop of medium size upon one of the cover glasses preferably held in a forceps; quickly invert it and bring it in contact with the other cover glass, allowing the edge to slightly overlap. The blood should spread evenly between the two surfaces and the glasses should then be pulled apart by *sliding* one from the other. If correctly done this should give a thin, even smear on each cover glass. They are allowed to dry in the air and then may be kept for months, and, if protected from dirt and moisture, will not deteriorate.

Smears may be made upon the glass slips by catching a drop of blood on the end of one and with the slip slightly inclined drawing this end across the surface of another slip which has been properly cleaned.

A micro chemical test may be made of stains which are suspected of being blood stains, and it may thus be definitely ascertained whether blood be present or not. The article upon which the stain is, may be sent intact or the stained portion cut out, if it be a garment. Stains upon walls and floors or pieces of furniture may be excised and sent to the laboratory, care being taken in forensic cases that this be done in the presence of witnesses, that there may be no question as to the identity of the stains examined.

Among the elements of great diagnostic value in the microscopic examination of *sputum* may be mentioned elastic fibers, indicating a destructive process in the lungs, spirals, fibrinous casts of the smaller bronchi molds, which may at times be pathogenic in the lungs, actinomyces, echinococcus cysts and hooklets, crystals and bacilli. Among the latter the tubercle bacillus is by far the most important.

In tubercular cases, the sputa first raised in the morning is more apt to contain the bacilli. It is not necessary to add any preservative to sputum, as it will keep for several days and the B. tuberculosis may be found if present even after putrefaction and liquefaction have taken place. One may add a few drops of carbolic acid in case only an examination for B. tuberculosis is to be made, as this enhances the staining qualities of the organism and acts as an antiseptic as well. If animal inoculation is desired, or cultures are to be made, of course, this is not permissible.

The *urine* may best be preserved by adding

a drachm or so of chloroform to a four-ounce bottle of urine. It is better to collect the urine passed about two hours after a hearty meal.

If it is desired to make a quantitative analysis, the total quantity passed in twenty-four hours must be collected and measured and a mixed sample of this sent to the laboratory together with data as to the total amount passed.

The urine may be examined for tubercle bacilli in suspected tubercular diseases of the genito urinary tract. If this is desired, it is well to collect a considerable quantity of urine, allow it to stand for about ten hours, and decant the clear, upper portion, reserving the lower, in which will be sediment, for examination. If the microscope fails to reveal the tubercle bacillus, it may be that an animal inoculation may prove its presence.

A minute examination of *vomited material* will often aid in the diagnosis of gastric ulcer, chronic gastritis, and cancer of the stomach. Pus has also been found in vomit, indicating a suppurative process of the gastric wall or a rupture in the gastric cavity of a neighboring abscess. The addition to vomit of a small quantity of chloroform will prevent decomposition and will not interfere with the future investigation of its solid constituents.

Fecal matter may contain various intestinal parasites and their ova, tubercle and other bacilli, blood, pus, portions of undigested food, etc. It is best to send it without adding a preservative, provided the delay in transmission is not too great. Of course, in a bacteriological examination by culture, or if animal inoculation is desired, the material must be collected in sterile vessels and through aseptic precautions taken in its subsequent manipulation.

Crusts and scales from cutaneous diseases may be sent dry. An examination of these may reveal the nature of the malady if it be due to some cutaneous parasite.

The mistake, which is quite common, of sending the crusts from a supposed epithelioma with a request for information as to whether or not such is the case, should be avoided, as a piece of tissue only is of value.

Hairs may be examined to determine a pathological condition, such as the forms of fungi which frequently attack them, and also for medico-legal purposes. In either case they should not be submitted to the action of any reagent. It is best to put them in a small clean bottle. If they are from a forensic case they should be collected and placed in the bottle in the presence of witnesses, and the bottle sealed and marked with a distinguishing sign, in

order that there may be in the future no possible question as to the identity of the hairs examined. The hairs of many of the lower animals are very different in structure from human hair, and it may be a simple matter to prove that hairs found upon an instrument supposedly used in committing murder are not human hairs, which would, of course, be a strong point in favor of the defence.

Pus from various situations may be examined for pyogenic organisms, actinomyces, anthrax, *B. tetani*, tubercle bacilli and gonococci. If other than a microscopic examination is desired, of course the material should be collected and handled under aseptic precautions, and no reagent added.

It is generally very difficult to demonstrate the tubercle bacillus in pus from an abscess or tubercular joint except by animal inoculation. This consists in injecting subcutaneously or into the peritoneal cavity of a guinea pig some of the suspected material. The animal is allowed to live five or six weeks, when, if the injected material was tuberculous, the characteristic lesions will be found in the animal.

The secretions of the urethra, in cases suspected to be due to the diplococcus of Neisser, may be positively diagnosed by means of the microscope.

Smears of the pus should be made upon the glass slips sold for microscopical purposes, or, if these are not at hand, upon strips of window-glass, or the pus may be collected in a vial, or even, as a last resort, upon a piece of cloth, or the stained dressings may be sent to the laboratory. Several examinations may be necessary before a positive conclusion is arrived at.

Examination of *cystic fluid* obtained by aspiration sometimes leads to the determination of the cause of the pathological process. Hooklets and other portions of echinococcus cysts may be found in hydatids. The addition of chloroform in small quantities will act as a preservative.

In rape cases the contents of the vagina, obtained by wiping it out with a piece of clean gauze, may show the presence of *spermatozoa*. These may exist in the vagina for several days.

Any stains upon the garments should be examined also in order to determine their nature. The whole garment, or the stained portion alone, may be sent to the laboratory, the usual precautions as to the identity of specimens in medico-legal cases having been taken.

FORMULE.

Müller's Fluid.

Bichromate of potassium	1 part.
Sulphate of sodium.....	2.5 "
Water	100 "

One of the best general fixing agents. About twenty times the bulk of the tissue should be used and the fluid changed as often as it becomes turbid, which will be every day for several days.

Zenker's Fluid.

Bichromate of potassium.....	25.00
Sulphate of sodium.....	10.00
Bichloride of mercury.....	50.00
Water.....	1,000.00 c. c.

Before using, add 1 c. c. of glacial acetic acid to each 20 c. c. of the mixture. This solution is much used, and is a very good fixative, but tissues do not always stain well after being fixed in it. The tissues should be allowed to remain in the fluid for from two to twenty-four hours, according to size.

They will, when fixed, be found to be quite solid. They should then be removed and washed in running water over-night and preserved in 80 per cent. alcohol.

Formalin.

Aqueous solutions of commercial formaldehyde may be used in from two to ten per cent. strength. Fixation is fairly good.

For the eye, this is the best agent at our command. It must be used in 10 per cent. solution, and a small nick should be made in one side of the globe to allow the fluid to penetrate the vitreous. *Alcohol must never be used for preserving eyes.*"

Unexpected Termination to an Unusual Number of Epileptiform Convulsions.

This case is reported by Marcus P. Hatfield, M. D., Professor Pediatrics, Chicago Clinical School, Chicago, in *Chicago Clinic*, July, 1900.

Dorothy D., girl, $\text{æt. } 3\frac{1}{2}$ years, was brought November 20th, 1899, to Wesley Hospital, for treatment of a serious case of petit mal.

Repeated careful examinations showed a well nourished and unusually bright little girl, whose organs seemed to be working normally, except the bowels were constipated. Her habits in eating were not good and indulgence in sweets increased the number of attacks, which, at the time of her admission, averaged one an hour. The convulsions began with a twitching and pursing of the right eye-

lid, in which the left soon participated. The hands outstretched and clutched at the air, and rotation of the head to the left occurred, the body making at the same time an effort to turn over in the same direction, which effort never was entirely successful. The attack lasted about one and one half minutes, and left the child dazed and drowsy. No frothing at the mouth or biting of tongue.

The previous history of the case, as given by Dr. Newell, the family physician, is as follows: During the summer of 1899 she had a fall down stairs, and about a year previous some sort of an attack—probably eclamptic in character. One week after her fall downstairs she began having convulsions with increasing frequency, especially after over-eating. The family history is bad—the grandmother a nervous wreck, mother ditto, from uterine troubles, and the father an over-worked, sensitive man, literary in his habits, in charge of a flourishing seminary, and burdened with many cares and anxieties.

The father was induced to leave Dorothy in the care of a special nurse at the hospital, with the hope that regulation of diet and good care would diminish the number of the attacks and possibly remove them altogether. The hope proved fallacious, for the hospital records for the next ten days showed that the child had, in that time, two hundred and seventy-two convulsions, or, on an average, more than one an hour day and night. Medication at first was mixed bromides, with an occasional dose of calomel, sufficient to thoroughly empty the bowels. As the urinalysis showed the presence of abundant uric acid, ethereal sulphates and trace of indican, all meat was taken from the diet, and fruits, cereals and milk substituted, but without any apparent effect. Trional (grs. 2) was given for a few nights, but uselessly. The same was true of increasing doses of bromides, to which Fowler's solution was finally added, to prevent bromisms. The addition of tinct. pas. flor. to the mixed bromides produced no appreciable improvement. Trional (gr. iij) and codeine had no better effect when used alone, but when alternated with the mixed bromides reduced the attacks to 23-17 4 and 1 per diem for five days. An intercurrent cold increased them again to 4-7, and then her mother appeared upon the scene, and, being frightened at the drowsiness of the child, peremptorily ordered the discontinuance of all medicine. With this the attacks at once resumed their former frequency—more than twenty a day; while in this condition, the mother, in high dudgeon, took the child away

from the hospital, but retained the nurse she had had while there.

For several weeks the mother took the child from one physician to another without any essential change, except the development of slight paresis on one side—which one was not stated. The child was finally taken to its country home, and there, under intelligent nursing and careful regulation of its diet, made an entire recovery, while taking no medicine of any kind.

May, 1900, the father assures me his child has been for months without an attack, and, except that it is hyperesthetic, seems to be perfectly well. From whatever standpoint you view the case, it is interesting and unusual. Entire recovery without cerebral lesion, after the extraordinary number of attacks from which this little girl suffered, is hardly less than miraculous, but such seems to be the well attested fact in this case. A still more remarkable fact is that the child's mother suffered in the same way, though not to the same extent, when about Dorothy's age. In the case of the former, the paralysis was more marked, but recovery took place in about the same time. The little girl was carefully examined by the writer, and Drs. D. R. Brower, C. H. Lodor, and H. T. Patrick, neurological experts; all agreed that her only hope for recovery lay in a surgical operation.

Wounds in the Boer War.

One of the most remarkable facts established by the South African War is the great humanity of the modern bullet, and the possibility of rapid and complete recovery from wounds of almost any organ of the body. The brain, lungs, liver and abdomen have been traversed by bullets, with comparatively trivial results. The only vital organ for the Mauser or Lee Metford bullet seems to be the heart. Many of the ideas previously held as to treatment have been quite exploded. The percentage of recoveries among the wounded treated at the hospitals has sometimes been as high as 96. Mr. Treves stated that in his experience 60 per cent. of those shot in the abdomen recovered without operation, while, on the other hand, the result of operations in the field was bad. He considered that laparotomy was indicated only when the patient was seen within seven hours of the injury, and only when the transport was short and easy, when the wound was anteroposterior above the umbilicus, and the bullet had escaped, when there was excessive hemorrhage, and in some wounds below the umbilicus with escape of the bullet,

especially if hemorrhage had occurred. He attributed the high rate of recovery without operation to the fact that most of the men, when shot, were fasting, that peristalsis was inhibited for some time by the shock, and that the Mauser bullet makes a very small "slit-like" hole in the intestines. In wounds of the knee-joint, amputation was scarcely ever performed, and in most cases recovery was rapid and the mobility of the joint was little, if at all, impaired. This is a strong contrast with Sir Thomas Longmore's report that in the Crimea "Not one wound of the knee-joint recovered without operation," and the fact that in the Civil War out of 3,355 recorded cases, 2,431 were treated by amputation at the knee joint or through the thigh, with a mortality of 55 per cent.—*London Letter—Jour. Amer. Med. Assn.*, July 14, 1900.

Study of the Circulation in 72 Cases of Feeble-Minded Children.

The following are the conclusions of a paper read before the Section on Diseases of Children of the American Medical Association, during its session at Atlantic City, New Jersey, June, 1900, by Drs. J. Madison Taylor and F. Savary Pearce, of Philadelphia, Pa.:

In a detailed study of the circulation of seventy-two cases of feeble-minded children at the Elwyn School for feeble-minded children, the writers have found great cardio-vascular signs, and these out of proportion to the mental defect—so much so as to warrant the organic vascular disease as being a large actiological factor in continuing the downward course of a case of imbecility. The plea is urged for careful anthropometric studies and for observations in detail of somatic disease beyond that of the nervous system in care of mental enfeeblement.

It is also impressed by this study that many of the high grade cases can be bettered much more by attention being paid to therapeutics of cardio-vascular disorder in imbeciles. The scientific laboratory studies of the blood and excretions will also in the future give valuable data, no doubt, in this direction.

The action of certain alkaloids upon the peripheral circulation needs careful introspection. Also the proper use of calisthenics (and imbeciles are notably good and willing imitators) will greatly help these afflicted beings, and in uplifting the physique to however slight a degree, will the mentality be improved.

It is to enjoy that over-exercise of backward children is to be strenuously avoided, and as part of their training, the impression should

be made upon them to withhold physical overwork in view of the preponderating lowered physique in them, and especially of the liability to cardiac disease.

We do not wish to interdict at all the good hygiene which fresh air and proper directing of employment entails.

It can be safely affirmed that America leads in the practical application of scientific truths (that are gradually being elucidated) to care of the dependent classes.

Differentiation of Chorea from the Disorders Simulating It.

Dr. Augustus A. Eshner, of Philadelphia, read a paper on this subject, in which he pointed out that true chorea presents some features of an acute infectious disease. The etiology is as yet undetermined, although it is believed that the symptoms are independent upon irritative disturbances of the motor cells of the cerebral cortex of either infectious or toxic origin. The disorder thrives best upon neurotic soil. The choreiform movements attributed to reflex influences are probably a manifestation of spasmodic tic. There seems to be some relation between chorea and rheumatism, the latter of which also is probably of infectious, though as yet undetermined, origin. Chorea is to be differentiated from so called habit-chorea, habit spasm, or, preferably, spasmodic tic; from painless facial spasm, or mimic spasm; from the athetoid movements that attend certain lesions of the brain; from so-called chronic, or senile chorea; from various hysterical disorders of movement; from torticollis, or spasmodic wry-neck; from the nodding or rotatory spasm observed in rachitic children; from saltotonic spasm, jumpers, myriachit and latah, as well as other forms of myoclonus.

Typhoid in the Army.

According to Vaughan, about one fifth of the soldiers in the national encampment in the United States in 1893 developed typhoid fever. Army surgeons correctly diagnosed a little less than half the cases. The percentage of death from this cause was about 7.5. More than 80 per cent. of the men who developed typhoid had no preceding intestinal disorder, and the deaths from typhoid were more than 80 per cent. of the total deaths. The incubation period is from eight days or less to eight weeks. In military practice typhoid is often apparently an intermittent disease.—*Denver Med. Times*, July, 1900.

Treatment of Cutaneous Cancer.

In the *Medical Review of Reviews*, July 25, 1900, Dr. Daniel Lewis, Editor, says editorially: "We were the first to introduce Marsden's paste to the profession of the United States as a remedy for cancer." (See *Amer. Prac.*, Dec., 1874.) The following conclusions were based upon seven cases treated in this way, which the experience of twenty-five years has not suggested a revision of:

"1. It is to be preferred to any other caustics as giving less pain during its application.

"2. In cases to which it is adapted it is superior to excision, (a) because of the greater readiness of patients to submit to it; (b) the less amount of shock, and (c) the avoidance of anæsthetics.

"3. It acts in a remarkable degree on the cancer, while the surrounding healthy tissues are comparatively unaffected by it.

"4. When properly used it is free from danger, and the fear, therefore, of poisoning is groundless.

"5. It is most efficient in the earlier stages of cancer, the same being true of all other modes of treating this affection.

"6. It being of such easy application, cancer patients may be treated promptly at home and by their usual medical attendant.

"7. Finally, a general acceptance of this plan of treatment would so far promote the early removal of cancer that many lives, which would otherwise be lost in consequence of the dread of a surgical operation, would thereby be saved."

In February, 1893, the same question was discussed by us before the Medical Society of the State of New York (*Annals of Surgery*), April, 1893).

The treatment of cancer of the breast, tongue, tonsil, eyelids and orbit, rectum or any disease involving a large extent of the mucous surface by caustics was condemned. Then follows a paragraph containing cutaneous cancer:

"All the objections to caustic treatment disappear, however, when we consider cutaneous cancer, which is usually treated more satisfactorily by escharotics than by any other method, and for various reasons. The patients are usually past middle age and often far advanced in years, and, as a class, not good subjects for etherization. The antipathy to a surgical operation often leads them to delay treatment until the pre-cancerous stage, as Mr. Jonathan Hutchinson has termed it, has been followed by one of active malignancy. You can always quite readily persuade them to have a plaster applied. The disease can be thoroughly de-

stroyed by caustic application, which will act sufficiently upon diseased tissue without destroying the healthy skin, so that there is almost an excuse for the assertion that they exercise a positive power of selection. The resulting cicatrix, when the deep subcutaneous tissues are not involved, is a smooth, white, and in every way healthy one, and far less conspicuous than those remaining after operation. The only cases in which an operation should be preferred to a caustic are those affecting the mucous surface of the lip, the eyelids, and all others which have involved a large surface, in which dangerous poisoning might result from absorption."

In the selection of a proper caustic we can again refer to the paper from the *Annals of Surgery*, in which we brought to the attention of the profession for the first time in this country Bougard's paste, the formula for which is found below:

"Since that time (1880) I have employed Marsden's paste in over 100 cases. It is usually satisfactory, and has received the indorsement of many authorities. In some instances the reaction is very great and the pain severe. The paste is composed of arsenious acid, two parts; mucilage of acacia, one part; mix into a paste too thick to run. It is then applied to only one square inch of the ulcer, covered with cotton to absorb any superfluous paste, and left on until some swelling of an inflammatory character appears around the borders of the plaster, when it is removed, and a line of demarcation usually surrounds the surface cauterized. From one to three days are required to produce the desired effect. Warm flaxseed poultices are then applied until the slough separates (usually about a week), when, if the disease is all removed, healing by granulation is prompt and uninterrupted. The same application is to be repeated, if necessary, until the disease is all destroyed. Marsden insists that no cancer of more than four square inches in extent should be thus treated, and only one square inch at a time, and the case very carefully watched. The surgeons of the London Cancer Hospital inform me that even Marsden himself now seldom employs the paste. They have substituted an application called Bougard's paste, after the Belgian surgeon who first published the formula in his work on caustics.* The author brought it forward as a cure for mammary cancer, but as such, in my judgment, it is open to the same objection as all other caustics; but in cutaneous and lip cases, and all surface epitheliomata, where an escha-

* *Etudes sur le Cancer*, Brussels, 1882.

rotic is admissible, this is decidedly the best we have at present. It is less painful than Marsden's, forms a more dry and friable slough, can be safely applied to a larger surface, and can always be ready for instant use, for in a covered jar it will keep for many months. With both pastes the surfaces must be denuded, if not already ulcerated, by caustic potash, to render the action prompt and effective in the shortest possible time.

Bougard's formula is as follows :

R. Wheat flour.....	60 grammes.
Starch	60 "
Arsenic.	1 "
Cinnabar.....	5 "
Sal ammoniac.....	5 "
Corrosive sublimate...	0.50 centigram.

Solution of chloride of zinc at 52 deg. F.,
245 grammes.

"The first six substances are separately ground and reduced to fine powder. They are then mixed in a mortar of glass or china, and the solution of chloride of zinc is slowly poured in, while the contents are kept rapidly moved with the pestle so that no lump shall be formed. A thick layer of this is spread on cotton and left in position twenty-four hours, and then managed in every way as Marsden's paste. Few cases require a second application. The ulcer may be dressed with balsam of Peru or aristol ointment of varying strengths, according to the stimulation required, and all exuberant granulations are to be kept in check by the usual methods."

The application of these powerful escharotics requires extreme watchfulness as to the *time for removing them*, and to the lack of such care is to be attributed all the unfavorable comments upon their employment in cutaneous cancer with which we are acquainted. The patient should be under close observation while the caustic application is at work and every stage of cicatrization receive the same unintermitting attention.

We believe that no operative procedure can be more satisfactory than the use of these caustics in a large majority of cases of cancer involving the skin only and in areas not exceeding four square inches.

How to Free a Town from Mosquitos.

At a meeting of the Società Medico-Fisica Universitaria of Sassari, on March 23, Dr. C. Fermi gave an account of certain experiments made in Sassari, in conjunction with Dr. Lumbeau and Dr. Cossu-Rocca, with the object of

freeing the town of mosquitos. He was able to discover all their breeding places in different parts of the city, in drains, cisterns, puddles, etc. The method adopted was the destruction of the larvæ by means of petroleum placed in the breeding grounds twice a month. The mosquitos were destroyed in shops by means of chlorine, and in houses by means of other culicids, such as a mixture of pyrethrum, chrysanthemum flowers, valerian, and calamus aromaticus, or the "zanjoline" of Celli and Casagrandi. The results obtained were so satisfactory that Dr. Fermi concludes from them that it is always possible to free a town from mosquitos unless the conditions are exceptionally unfavorable—as, if it be situated in the midst of a swamp. He estimates the expense of freeing a town of fifty thousand inhabitants at 1,000 to 1,500 lire (\$200 to \$300) a year. This includes the wages of the staff required to carry out the measure prescribed.—*Brit. Med. Jour., Cincinnati Lancet-Clinic*, July 28, 1900.

Ingrowing Toe-Nail.

The following treatment is very strongly recommended by Dr. Kinsman in the *Columbus Medical Journal*:

1. Remove all pressure from the nail by cutting away a piece of the shoe.
2. Disinfect with hydrogen dioxide until no more "foam" appears.
3. Apply a drop of strong solution of cocaine in the base of the ulcer.
4. Apply a drop of Monsell's solution in the ulcer, then cover loosely with gauze. Repeat this process every second day until the edge of the nail is released by the retraction of the hyperthrophied tissue. The patient suffers no pain from the application, and all pain has disappeared the second day. The cure is effected in a week or two without inconvenience or interference with business.—*Texas Medical News*, July, 1900.

Marriage of First Cousins.

Mr. Jonathan Hutchinson says: "There is nothing likely to be prejudicial to offspring in a consanguineous marriage *per se*, but if there be in the family any definite tendency to such diseases as tuberculosis, cancer, or insanity, there is a risk that it may be intensified. On the other hand, if the family has a good life history, then there may be greater security in such a marriage than in one with a stranger whose antecedents may probably be less well known."—*Med. Record*, July 28, 1900.

Correspondence.

"Magnetic Healers" not Legal Practitioners in Virginia.

Editor of the Virginia Semi-Monthly:

A very important case to the medical profession of this State was tried in this county (Patrick) on July 24th. A "magnetic healer" was tried, convicted and fined \$50.00. He was a native of the county, and had his diploma, which he obtained by paying Weltmer \$25.00. He had been operating about eight months, and had a considerable following. The case was one of much interest, being out of the general run of law cases, and, so far as I know, being the first of its kind ever tried in this State. The usual defense—that his methods did not constitute the practice of medicine—did not succeed with the learned judge, J. R. Moore, who held that any kind of treatment of the sick for a fee comes under the provision of the law, even if the healer did not administer medicine.

The medical profession of this State will always owe a debt of gratitude to the commonwealth attorney, J. M. Hooker, Esq., of this county, for the faithful, earnest and successful work done in this case, and to Judge J. R. Moore for his learned opinion of the law in such cases.

R. S. MARTIN, M. D.,
clary Med. Exam. Board of Va.

Book Notices.

Surgical Anatomy. By JOHN B. DEEVER, M. D., Surgeon-in Chief to the German Hospital, Philadelphia. In Three Volumes. Illustrated by about 400 Plates, nearly all drawn for this work from original dissections. Vol. II—Neck; Mouth; Pharynx; Larynx; Nose; Orbit; Eyeball; Organ of Hearing; Brain; Male Perineum; Female Perineum. Philadelphia: P. Blakiston's Son & Co. 1900. Royal 8vo. Pp. 709. Price for the three Volumes in handsome Cloth, \$21; Full Sheep, \$24; Half Green Morocco, Marbled Edges, \$24; Half Russia, Gilt, Marbled Edges, \$27, net.

In the title, we name the anatomical regions considered in this *Volume II*, which is in every way a masterpiece. The illustrations are superb, and all the work of the publishers is simply as near perfection as we could expect. It is a work that will last the practitioner a lifetime; so that the prices given in the adver-

tisement are not prohibitive. It cannot be compared with any other work on anatomy or surgery, for there is none like it. It gives the general practitioner especially a book of intense interest. Dissections were carefully made from which drawings that appear faultlessly correct were correct. Each section is preceded by illustrated articles on superficial anatomy, showing the surgical and medical landmarks. The proper use of this book gives it a value that is almost equal to a course of study on anatomy. The unique feature of the book is in its progression from the part dissected to consideration of the same anatomical facts as they govern diagnosis and treatment of diseases and injuries.

Only a few issues ago, we favorably noted *Volume I*, which is related to the upper extremity; back of neck, shoulder and trunk; cranium, scalp and face. *Volume II* is the one under notice. *Volume III* is announced as about ready for press. Its contents will relate to the abdominal wall and cavity; pelvic cavity; chest; and lower extremities.

The Index to this Vol. II is very full—covering 30 pages of triple columnar—and appears to be correct in its page references.

Annual and Analytical Cyclopædia of Practical Medicine. By CHARLES E. DE M. SAJOUS, M. D., and ONE HUNDRED ASSOCIATE EDITORS, Assisted by Corresponding Editors, Collaborators and Correspondents. Illustrated with Chromo-Lithographs, Engraving and Maps. VOLUME V. Philadelphia, New York, Chicago. The F. A. Davis Company, Publishers. 1900. Large 8vo. Pp. 662. Cloth.

This Volume V takes up all subjects, alphabetically arranged, included between *Methyl-Blue* and *Rabies*. This is the volume of greatest interest to specialists—including, as it does, the articles on neurology, obstetrics, ophthalmology, otology, and laryngology, pediatrics, etc., beside the sections usually classed under general medicine and surgery. Each main subject receives full consideration, and abundant cross references to articles in other volumes of this *Annual* are given so as to make the article complete. Each article in each volume is written practically up to date of its publication. The very best of collaborators are on the editorial staff. This is a most valuable book of reference as well as a book for the busy practitioner. It is expected that the next annual volume will complete the original set of the *Analytical Cyclopædia*. After that, it is probable that a volume a year will be issued so as to present advances, revisions, etc., and thus keep the work continuously up to date.

Tuberculosis—Its Nature, Prevention and Treatment; with Special Reference to the Open-Air Treatment of Phthisis. By ALFRED HILLIER, B. A., M. D., C. M., London, etc. With 31 Illustrations and 3 Colored Plates. Cassell & Co., Limited. London, Paris, New York, and Melbourne. 1900. Cloth. 12mo. Pp. 243. Price, \$1.25, *net.* (For sale by the Bell Book and Stationery Co., Richmond, Va.)

While many monographs exist as to some special phase of tuberculosis, the author is not aware that a single book in English is devoted to the subject as a whole. Such a statement sounds singular. But as to the merits of the book now before us: The work consists of eight chapters, dealing respectively with the nature of tuberculosis; the different clinical forms; transmission from man to man; transmission from animals to man; prevention in every day life; prevention by legislation and public action; treatment of tuberculosis; and national movements against tuberculosis. To this last chapter an *Appendix* is added containing leaflets published by the National Association for the prevention of tuberculosis, which are valuable. The text is well prepared, full of facts of a most interesting character, and much that is valuable in the line of treatment. But the fact remains that tuberculosis is year by year becoming less frequent in the houses of wealth and abundance and free living. It is the common disease of the poor who cannot escape the contagion, or who receiving the bacillus cannot get rid of it. It would be economy for any State or country to establish its sanitarium for consumptives—just as it does for its insane, etc. Nothing but the most competent of medical men should be in medical charge. We wish legislators and doubters as to the contagiousness of tuberculosis would attentively read this book for facts and suggestions.

Contributions from the William Pepper Laboratory of Clinical Medicine. University of Pennsylvania. Published on the Phoebe A. Hearst Foundation. Philadelphia. 1900. *In Memoriam.* Quarto. Paper. Pp. 479.

Dr. Alfred Stengel, Director of the Laboratory, favors us with this most creditable volume. It is made up of thirteen contributions of rare merit. Dr. Wm. G. Spiller discusses "Two Cases of Muscular Dystrophy, with Necropsy," also a "Case of Amyotrophic Lateral Sclerosis, in which Degeneration was Traced from the Cerebral Cortex to the Muscles." Dr. D. J. McCarthy's Contribution Studies: (a) Iron Infiltration in the Ganglion Cells; (b) Forced Movements due to Cellular Degenera-

tion of the Cerebellum, following Rattlesnake Poisoning." Drs. A. E. Taylor and Joseph Sailer report a "Fatal Case of Sulphonal Poisoning." Dr. Sailer gives a paper on "Melanotic Sarcoma of the Spinal Cord;" also a case of "Primary Endothelioma of the Left Superior Pulmonary Vein." Drs. A. E. Taylor and C. H. Frazier's paper is on "Restitution of the Blood Plasma following Intravenous Saline Injections after Hemorrhage." Dr. Taylor also writes on "Studies in Leukemia." Dr. Alfred Stengel writes on the "Pathology of the Erythrocyte." Dr. D. L. Edsall discusses the "Influence of Immoderate Water Drinking upon Metabolism and Absorption." Dr. C. H. Frazier gives an "Experimental Study of the Etiology of Appendicitis." Dr. Geo. Woodward presents a "Clinical Method for the Estimation of Breast-Milk Proteids." Dr. Joseph Walsh writes on the "Etiology of Pertussis—the Bacillus of Czaplowski-Hensel." These contributions are each of the highest merit.

Practical Treatise on Sexual Disorders of the Male and Female. By ROBERT W. TAYLOR, A. M., M. D., Clinical Professor of Venereal Diseases, College of Physicians and Surgeons (Columbian University), New York, etc. *Second Edition, Thoroughly Revised.* With 91 Illustrations and 13 Plates in Color and Monochrome. Lea Brothers & Co., New York and Philadelphia. 1900. Cloth. Svo. Pp. 438. \$3 *net.*

There is scarcely an owner of the first edition of this work, issued in 1897, to whom it has not been of great service. The present edition is much more valuable, for the whole text of the former edition has been revised, amplified, added to and in places modified. The chapters on "sexual disorders of women" are fuller, and the sections on vaginismus, masturbation and kraurosis vulvæ have been rewritten, so as to be really new chapters. The same may be said of the chapters on "anatomy and physiology of the sexual apparatus; on physical impotence and masturbation in the male," etc. Many interpolations have also been added. This work is as useful to the general practitioner or surgeon as to the specialists. What gives importance to this book is the fact that the author is himself an authority regarding the subjects of which he writes; and his therapeutic advices are clear and to the point. The new illustrations—abundantly introduced—are mostly drawn from original cases, and from laboratory work done under his direction. The index is very full, and is accurate—so far as we have been able to verify the figures.

Atlas and Epitome of Special Pathologic Histology. By DOCENT DR. HERMANN DURCK, Assistant in the Pathologic Institute in Munich, etc. *Authorized Translation from the German.* Edited by LUDWIG HERTZEN, M. D., Professor of Pathology in Rush Medical College, Chicago. *Circulatory Organs; Respiratory Organs; Gastro-Intestinal Tract.* With 62 Colored Plates. Philadelphia: W. B. Saunders. 1900. Cloth. 12mo. Pp. 158. Price, \$3. net.

This is one of the popular "Saunders' Medical Hand Atlases," and is the first of three volumes. Two other volumes are to follow shortly—one completing special pathologic histology; the other, dealing with general pathologic histology. Opposite nearly every page of text of full and appropriate description is a colored plate of the tissue or section of the organ under consideration. This *Atlas* must prove of great value to students of histology. To realize the accuracy of the drawings and descriptions, one must examine the pages of this book. It is a valuable book alike to student and to the practitioner who takes interest in studying minute or microscopic tissues.

Text-Book of Medical Treatment of Diseases and Symptoms. By NESTOR TIRARD, M. D., Lond., F. R. C. P., Professor of the Principles and Practice of Medicine, King's College, London, etc. *Adapted to the U.S. Pharmacopœia.* By E. QUIN THORNTON, M. D., Demonstrator of Therapeutics, Pharmacy and Materia Medica, Jefferson Medical College, Philadelphia. Lea Bros. & Co., Philadelphia and New York. 1900. Cloth. 8vo. Pp. 632.

There is a great deal in this book of value to the practitioner. Its use as a suggester is as valuable as its specific prescriptions. It considers diseased conditions from the clinical standpoints, stating those facts of causation and pathology of importance in a plain simple manner, which greatly helps in matters of diagnosis and treatment. Symptoms of frequent importance are sometimes given entire sections of the book, as if they were diseases. The need of such a book as this becomes the more apparent when one examines the mass of text-books on practice of medicine and sees how little space is given to treatment. Many of these books are not works on *practice* at all, but on the etiology, pathology, symptomatology, etc., dismissing the subjects of treatment with barely more than some such statement as "Treat this disease on general principles." Nothing is more fretting to the doctor who has a case of disease on hand, and refers to his standard text-book for advice, and finds scarcely more than such advice.

Editorial.

Virginia State Board of Medical Examiners.

During the June, 1900, session of the Board in Lynchburg, Va., some changes were made as to registration, etc., which will go into effect during the Fall meeting, 1900, for the examination of applicants for licenses to practice in Virginia. This meeting will be held at Richmond, Va., December 17, 18, 19, and 20, 1900. Attention is called to the fact that the new law requires applicants to *present their diplomas when they register with the Secretary of the Board.* Under graduates must present their certificates of such branch or branches successfully passed on by them at College, and can stand examination before the Board only on those branches. Applicants coming from other States having diplomas and their respective State Board certificates will have to stand an oral examination before a committee appointed by the Virginia State Board of Examiners.

In order that there can be no cause for misunderstanding the rules when the meeting of the Board is to be held in this city, we herewith publish, by order of the Medical Examining Board of Virginia, its *Rules for Conducting Medical Examinations*:

(1) So far as possible, but one applicant at a desk.

(2) Applicants shall be seated by lot at each examination, signing their papers by the register number only.

(3) No compend, notes or text-books allowed in the examination room.

(4) Conversation of any kind between the applicants will be considered as an attempt to either give or receive information, and the applicants so conversing will be thereby disqualified for that examination.

(5) Applicants are not permitted to leave the room except when accompanied by an examiner, and then not within one hour from the time questions are announced.

(6) No visitors allowed within examination hall during the progress of an examination.

(7) For future examinations, plain paper must be used by applicants, and any reference by sign or expression which shall indicate the school of preparation or graduation, or any reference to a professor in same, shall disqualify the applicant making such reference or indication.

(8) At the bottom of each examination paper, each applicant must write and sign, by his registered number only, the following

pledge: I, No. —, hereby swear that I have neither given nor received any assistance during this examination, so help me God. Signed No. —.

(9) Questions will be given out, and answers collected, punctually at time specified for each section.

In addition to the above, the Board issues the following *Circular of Information* for the Medical Examining Board of Virginia:

(1) Fee of ten dollars required of each applicant, and said fee is paid to Secretary before examination is entered upon. Those failing will not be required to pay the fee when they appear before the Board again.

(2) All examinations shall be in writing. Applicants furnish their own stationery, pen, ink and blotters.

(3) The examination shall continue three days; session from 9 to 12, 12 to 3, 4 to 7 each day until otherwise ordered by the Board. Three hours is the time allowed for each section.

(4) A total average of 75 per cent.—that is, 675 points—shall be necessary to license a candidate (he or she having otherwise complied with the law): provided, that in no one section shall the percentage be less than 45 per cent.; if so, the candidate shall be rejected regardless of the total average.

(5) No one is allowed to practice in this State without a temporary license or regular license, as prescribed by law.

(6) To obtain temporary permits, proceed as follows:

Stand an oral examination on all the sections before the member of the Board living in the Congressional District in which you expect to practice, and, if your examination is satisfactory, he will recommend you to the President as worthy of a special permit. This must be done sixty days before any regular meeting of the Board.

(7) At present time, the examination comprises the following subjects: Hygiene and Medical Jurisprudence, Anatomy, Physiology, Chemistry, Histology, Pathology and Bacteriology, Materia Medica and Therapeutics, Obstetrics and Gynecology, Practice and Surgery.

(8) Applicants must present their diplomas from some recognized medical college to the Secretary of the Medical Examining Board when they apply for examination. "Undergraduates taking a graded course in any regularly chartered medical college shall be entitled to an examination on such branch or branches as he or she may present a certificate

from the said college of having passed a satisfactory examination; and having once passed a satisfactory examination, &c." (See law.)

(9) Applicants of the Homœopathic school of medicine will be examined in the subjects of Practice of Medicine, Materia Medica and Therapeutics, in accordance with the tenets of their school.

(10) The filing of an application or the taking of an examination does not entitle the applicant to practice medicine.

For further information, address R. S. MARTIN, M. D., Secretary and Treasurer, Stuart, Va.

In addition to the rules and regulations made by the Virginia Board under the new law, the following *Resolution in Regard to Reciprocities* was adopted by the Medical Examining Board at its last meeting held in Lynchburg June, 1900:

"Resolved, That the Virginia State Medical Examining Board desires to reciprocate with the Medical Examining Boards of other States, but deems it necessary, for its own protection, that every applicant claiming such recognition shall present, with his petition, a diploma from a reputable college, together with an attested certificate from a State Medical Examining Board, and shall pass a satisfactory oral examination before a Committee of the Board. Having complied with these requirements, a certificate will be issued on payment of the usual fee."

"Magnetic Healers," et Omne Genus, Not Legal Practitioners in Virginia.

On another page of this issue we publish a letter from the wide awake and able Secretary, etc., of the Virginia State Board of Medical Examiners, Dr. R. S. Martin, of Stuart, Va., which is of interest to the entire profession, and of special interest to the doctors of Virginia. The letter relates to the trial of a so-called "Magnetic Healer," for practicing medicine, etc., in the county of Patrick, Va., without first having passed a satisfactory examination before the State Board of Medical Examiners. The learned judge of the county, Judge J. R. Moore, held that "any kind of treatment of the sick for a fee comes under the provision of the law—even if the 'Healer' did not administer medicine." This ruling ought to be heralded all over the States so as to prevent, as far as possible, the useless incoming into Virginia of other quacks or charlatans. The profession is now awake to the importance of keeping its eye open to such barefaced attempts on the part of impostors; and with this ruling fresh in memory, we trust every duly qualified and licensed doctor in the State will see to it

that offenders of the law are duly arrested and tried by the proper courts.

The case in point seems to have had some unique features, and was, so far as we are advised, the only one of its kind ever tried in Virginia. The "magnetic healer" in question was convicted for unlawful attempt to practice, and for so doing was fined \$50 for this his first offence of the kind.

While the judge of the court, Judge J. R. Moore, and the Commonwealth's Attorney, J. M. Hooker, Esq., did only their duty in the premises, their earnest and successful work done in this case entitle them to the gratitude of the profession. We have heard of some disgraceful instances where the Commonwealth's Attorneys, and even the judges, of other counties have refused to enter proper complaints, or to consider charges against violators of the law under the medical practice act, simply because of some personal friendship or kinship on their part with the offender. Let it be kept in mind by the profession that such judges and attorneys of the Commonwealth are liable to impeachment, for such disregard of the law.

We have also heard that certain Commissioners of the Revenue or other county or city officers, whose duty it is to issue licenses, have declined even to interrogate the applicant for license as to whether or not he had ever passed a satisfactory examination before the State Board of Medical Examiners. Hence we fear there are still other illegal practitioners in Virginia who are deserving of punishment that from now on the profession must be on the alert about.

Polk's Medical and Surgical Register of the United States and Canada, 1900.

The Sixth Revised Edition of this almost invaluable Register—so far as colleges, houses doing business with doctors, journals, medical publishers, parties sending out reprints of articles, or catalogues, etc., are concerned—is just issued. Beside a list of physicians and surgeons of the United States and Canada, arranged by States and Provinces, giving post-office addresses, with population and location of the same, it also contains an "Index to the Physicians of the United States, arranged alphabetically, with the number of the page on which the name appears." It gives a list of all the medical colleges in the United States and Canada, the various medical societies, State prisons, hospitals, sanitariums, dispensaries, asylums, and other medical institutions. It also gives a list of the Boards of Health Boards,

of Medical Examiners; and, *what is of special and constant importance*, a synopsis of the laws of registration as a doctor in the various States and Provinces. It also gives a list of the medical journals of the United States and Canada, mineral springs of the same countries, a list of medical officers of the U. S. Army, Navy and Marine Hospital Services, statistics relating to climate, temperature, number of deaths from consumption, etc., etc. The publishers, Messrs. R. L. Polk & Co., of Detroit, Baltimore and Chicago, are issuing the volume of about 2,750 pages, bound in cloth, for \$10. A great deal can be done to keep this Register complete and up to date if physicians would only promptly address a postal to the publishers at either of the three cities just named, stating change of location, or of business, etc.

"The Gout"

Is a nearly life-size drawing of foot, published originally "by H. Humphrey, 27 St. James street," London, showing the swelled big toe and a vulturous monster on top of the foot, with fangs and sharp claws clawing into the flesh to add to the agony of the victim. The picture is about 12 x 16 inches, with suitable margin for framing for the doctor's office. The reproduction of the picture has been copyrighted by Messrs. Battle & Co., St. Louis, Mo., who will mail a complimentary copy to any practicing physician who may favor them with his P. O. address.

American Medical Association Officers, etc.

The session of the Association at Atlantic City was a largely attended and most successful one. The next session is to be held at St. Paul, Minn., June 4-7, 1900. One of the most popular and able medical men of the country, Dr. Charles A. L. Reed, of Cincinnati, Ohio, was elected *President*. The *Vice-Presidents* are Drs. A. W. Calhoun, Atlanta, Ga.; A. A. Woodhull, Colonel U. S. Army; Phillip Marvel, Atlantic City, New Jersey; and Wm. E. Quine, Chicago, Ill.; *Secretary and Editor Journal American Medical Association*, Dr. Geo. H. Simmons, Chicago, Ill.; *Assistant Secretary*, Dr. William Davis, Minneapolis, Minn.; *Treasurer*, Dr. Henry P. Newman, Chicago, Ill.; *Librarian*, Dr. George Webster, Chicago, Ill.; *Chairman of Committee of Arrangements for Session 1901*, Dr. John F. Fulton, St. Paul, Minn. *Board of Trustees*, Dr. Alonzo Garcelon, Lewiston, Me., *President*; T. J. Happell, Trenton, Tenn.; I. N. Love,

St. Louis, Mo.; E. E. Montgomery, Philadelphia, Pa.; H. L. E. Johnson, Washington, D. C.; J. M. Mathews, Louisville, Ky.; Miles F. Porter, Fort Wayne, Ind.; E. Fletcher Ingals, Chicago, Ill., and W. L. Rodman, Philadelphia, Pa. *Chairman of Judicial Council*, Dr. H. D. Didana, N. Y. The following will deliver the *Orations* during the session of 1901: *Medicine*, Dr. N. S. Davis, Jr., Chicago, Ill.; *Surgery*, Dr. John A. Wyeth, New York city; *State Medicine*, Dr. Geo. M. Kober, Washington, D. C.

The city of St. Paul is the capital of Minnesota, and has a population of about 175,000. To meet a common inquiry, we are assured that the hotel accommodations are abundant.

The Journal of Surgical Technology

Is the title of a new monthly periodical, beginning July 1, 1900. It will be devoted to the consideration of the technic of surgical procedures, at a subscription price of \$1.00 a year. Valuable premiums are offered with the first subscriptions. Address the Technique Publishing Co., 404 East 14th St., New York City, N. Y., for sample copy.

Professor of Histology, Bacteriology, Etc., Medical College of Virginia.

At a called meeting of the Board of Visitors of the Medical College of Virginia, held at the college building July 17, 1900, Dr. Ennion G. Williams, of Richmond, Va., was unanimously elected Professor of Histology, Pathology and Bacteriology, *vice* Dr. Ernest C. Levy, resigned.

Dr. Williams, who is at present studying in Munich, Bavaria, will not return to Richmond until early this fall, at which time he is to take charge of his work as Professor.

New York Medical Journal.

In the recent transfer of ownership of the *New York Medical Journal* from Messrs. D. Appleton & Co., due to their failure, to Mr. A. R. Elliott, owner and publisher of the *American Druggist*, it was glad to learn that the services of Dr. Frank P. Foster, who has been the editor of the journal for the past twenty years, will be retained. Dr. Foster's ability as a writer is well known, and his editorials are interesting and always worthy of note.

We are surprised to learn that, although this journal claimed a paying subscription list of 6,000, and having the liberal advertising patronage which it did, it was a financial failure.

We have long looked upon the firm of Messrs. D. Appleton & Co. as one of the old reliable publishing concerns of this country, and we

trust they are not crippled permanently, but may soon resume work and make for themselves a name to which their past record entitles them.

Rush Medical College "Affiliation" with the University of Chicago.

These are separate and independent institutions, but work in close co-operation through the arrangement called "affiliation." Neither the College nor the University resigns any portion of its independence in consequence of the relation. The two boards of trustees and the two faculties have agreed to correlate their facilities for instruction, so that each will supplement the other, as far as possible. The Rush Medical College agreement involves the following steps toward satisfying the highest educational requirements:

1. The University is to exercise a general supervision of the educational policy of the College.

2. The University is to conduct the entrance examinations for the college, and insist upon qualifications equivalent to those for admission to corresponding grades in courses for the Bachelor's degree.

3. The first and second years' work of the College is to be transferred entirely to the University grounds, as soon as practicable. When this change is accomplished, only those will be received in the purely technical courses of the College who have completed the work of the Junior College at the University, or, in general, the sophomore work of a college of high grade.

4. Distinctly professional work of the curriculum is to be increased to three years—thus making a *total medical course of five years*. The additional year is to be required of all students who enter upon the third year's work July 1, 1904, and thereafter.

The attempt is to combine the resources of a body of professional educators with those of a body of medical experts.

Country Practice for Sale or Exchange,

A country practice in Tidewater Virginia, close to the Bay. This practice is compact, large, and has telephonic communications not only with its various parts, but with nearly all cities.

The practice pays about \$1,500 per year, 90 per cent. of which is cash. This is an unusual opportunity for a physician desiring to move to such a place. Full particulars and reasons for leaving on application. Address "*Chesapeake*," care of *Virginia Medical Semi-Monthly*, Richmond, Va.

Medical Society of Virginia.

The Thirty-First Annual Session of the Medical Society of Virginia will be convened at Charlottesville Tuesday, October 23d, 1900, and will be in session through the 25th, if it does not extend to the 26th October. Although the preliminary postal announcement of the session will not be issued until a month hence, the titles of a number of papers to be presented during the session have already been received. Dr. Hugh T. Nelson, Charlottesville, Va., is President; Dr. Landon B. Edwards, Richmond, is Secretary; Dr. Richard T. Styll, Newport News, Va., is Treasurer. Every indication is that this will be a very largely attended session.

Virginia Hospital to be Enlarged.

The Board of Directors of the Virginia Hospital, Richmond, Va., at a recent meeting decided to make additional improvements to the present structure. Among other things, it is proposed to build a large wing—consisting principally of wards for the medical clinic cases of the University College of Medicine—besides adding another story, which is to have many extra rooms. The work will be rushed, so that it will be about completed by the opening of the next college session. The hospital will be closed during the month of September for these repairs and additions. It will be opened about October 1st for clinic cases of the University College of Medicine, and soon thereafter for private patients.

Physicians' Home.

While the idea presented by Dr. John S. Harris, of Minor Hill, Tenn., in his article on this subject in this issue is not new, it is none the less deserving of favorable consideration. It may be that the plan proposed by the author of the paper will not commend itself to all; it nevertheless gives suggestions for the formulation of something upon which all may agree. The doctor's life is a peculiar one. His sympathies are being constantly appealed to in such a way that he must yield to the demand upon his time. The amount of his charities is enormous, if estimated in dollars and cents. He is proverbially a poor man, and appears improvident, because he is not strictly a good business man. Infirmities of various kinds soon come upon him; and notwithstanding the amount he has "booked," he cannot collect more than a small part. To such a broken-down doctor, with money going or gone, and practically deserted by friends, such a "Home" would be an inestimable boon.

State Board of Medical Examiners of New Jersey—Reciprocity with Other State Boards.

At a regular meeting of the State Board of Medical Examiners of New Jersey, held at Newark, N. J., July 5, 1900, the following resolution was adopted:

"Resolved, That this Board will endorse the licenses of any State Board of Medical Examiners in the United States, in lieu of an examination, provided:

"First. That the candidate for endorsement shall present satisfactory evidence of having the academic and medical education required by this Board; and,

"Second, That the license presented for endorsement shall have been issued after a State examination of the same grade and kind as that required by this Board."

Dr. WM. PERRY WATSON, New Brunswick, N. J., President; Dr. E. L. B. GODFREY, Camden, N. J., Secretary.

This Issue Has Been Delayed

In the hope that the report of the examinations held by the State Board of Medical Examiners of Virginia would be in hand for publication. But as it has not been received up to the time of going to press, we will have to delay its publication until the first August number.

Obituary Record.

Dr. Oswald B. Finney

Died at his home at Onancock, Accomac county, Va., July 23, 1900. He was 81 years of age on July 18, 1900. He joined the Medical Society of Virginia in 1879, and was an ardent member—rarely absenting himself from a session of the same. In the early days of the Medical Examining Board of Virginia, he was elected a member by the Medical Society of Virginia, and for several years he served faithfully at considerable expense and sacrifice of personal interests until he declined reelection. He took decided interest in politics, and served a term in the Virginia Senate about 1881-2. It was to him that the Medical Society of Virginia went to patronize medical bills in that branch of the General Assembly, and he was never found wanting in earnest zeal. He was a man of strong prejudices when he felt he had cause, but was a staunch friend. He was a devoted Episcopalian, and contributed largely to the erection of the beautiful Episcopal church at Onancock, of which he was Senior Warden.

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Original Communications.

THE NEUROLOGICAL AND MEDICO-LEGAL ASPECTS OF SPINAL INJURIES FROM RAILROAD ACCIDENTS.*

BY WHARTON SINKLER, M. D., Philadelphia, Pa.

The relation between the neurologist and the railroad surgeon is a close and intimate one, for the large majority of railroad accidents sooner or later develop neurotic or psychic disorders. The injuries which most frequently lead to disturbances of the nervous system are those involving the head and spinal column, although there are many cases of cerebral and spinal shock met with, in which there has been no direct violence done, either to the cranium or spine. The railroad surgeon is the first to see the patient after an accident, and he, as is natural, makes a close and careful examination for external injuries, cuts, bruises or fractures. The presence and extent of these are noted with care, and the patient's general condition is, as a rule, thoroughly gone over. It often happens, however, that the nervous phenomena are overlooked, either through lack of a sufficiently careful examination, want of intimate knowledge of nervous diseases, or through the assumption that a person would naturally be in a generally nervous state immediately after an accident. It has been said that every man, by the time he is forty, is either a fool or a physician, and, in the same way, every surgeon thinks that he knows as much of neurology as any one else. But this is not the case. While neurology is by no means a more deep or learned science than any other branch of medicine, the man who is constantly seeing different forms of nervous diseases acquires a quicker perception which enables him to see at a glance when there is something wrong in the nervous make up of a patient, just as the surgeon intuitively

takes in a spinal deviation or an abnormal outline in a joint or limb.

It is of great importance that every case of railway injury should be examined as soon as possible after the accident, not only for the purpose of observing the amount of injury inflicted, but to discover and record any evidence of disease or malformations antedating the accident. It has not unfrequently occurred that persons have obtained from railroad companies large damages for diseases which had existed prior to the accident which was alleged to have caused them. Several years ago there was under my care a man who was suffering from locomotor-ataxia—in a typical and extreme form. Some time before I first saw him, he met with an accident on a railway train. He was standing in the wash-room of a Pullman car while the train was being backed into a station. The car was bumped violently into a standing train or some obstruction, and the patient was thrown backwards, striking his occiput against the door. He brought suit against the company, and recovered large damages, alleging that his difficulty in walking and cerebral symptoms were due to the injury. There was no question as to the man's condition at the time of the suit, but it was not brought out that marked symptoms of tabes had been present before the accident. The defence, as I recall it, depended mainly on the statement that the man had suffered from syphilis previously, no doubt hoping to discourage him in this way from pushing his suit.

Estridge has recently recorded two cases in which damages were obtained for diseases from which the plaintiff had suffered before the accident. One was a person who brought suit after being in a railroad accident, and who was awarded large damages for paralysis of one leg, which was claimed to have been the result of the injury at the time. Some time after the suit had been settled, Dr. Estridge learned that the plaintiff had suffered from polio-myelitis in childhood, and had ever since had an atrophied and partially palsied leg. The other case was a man who had suffered

* Read by request before the Association of Surgeons of the Southern Railway Company, at Charleston, S. C., May 11, 1900.

from paralysis agitans for six years previous to the railroad accident, and he also received damages, asserting that the disease was the result of the injury. In each of these cases the company would have been spared paying damages if the plaintiff had been examined soon after the injury by a neurologist in conjunction with the railroad surgeon.

Injuries of the spine, the result of railroad accidents, are two-fold. First, those in which organic disease has been produced either by direct trauma to the spinal cord or nerves, or where organic disease has resulted from concussion, wrenching, or extreme bending of the spinal column. Secondly, those cases in which there is no organic or structural disease in the central nervous system, but in which there is a condition of neurasthenia or hysteria, which has developed as a result of violence done to the spinal column. These symptoms may result either from direct injuries to the spine or head, may result from blows or strains to some other part of the body, or may be due to general shock to the system without any local injury having been inflicted.

The first class—that is, the organic diseases—should be easily made out by a competent neurologist. Spinal meningitis, myelitis, spinal hemorrhage, and lateral sclerosis, are the commonest diseases which result from trauma, and these are readily recognized by their peculiar features. If fracture or dislocation of the spine has occurred, there is abolition of function below the seat of injury; that is, there is anesthesia, paralysis of motion, and paralysis of the bladder and rectum. Such conditions give little trouble as to diagnosis or prognosis, and the company should be only too ready to settle such cases without going to trial. There is a large class of cases, however, which come under the second head, in which various symptoms arise which mimic organic disease, and which render the patient more or less incapable of exertion of any kind for months. These are the so-called traumatic neuroses, and comprise, to a great extent, what was formerly known as spinal concussion.

Railway Spine, Railway Shock, and Erichson's Disease.—Erichson, who was one of the earliest writers on the results of railway injuries, regarded these various symptoms as due to spinal concussion, and believed that some changes took place in the spinal cord, which gave rise to the various phenomena which are presented by these cases. These symptoms often result from direct violence to the spine, such as blows or wrenches, or may be due to an injury, the impact of which has been received

upon some other part of the body. For example, a man now under my care was standing on the curbstone, at a point near which the tracks of the trolley cars came so close that when the car came around on a curve the rear end of the car swung over the pavement. He did not observe that the car was likely to strike him, and as it passed he was swept off the pavement and on to the street. He struck his arm just below the shoulder, and received some superficial abrasions on the forehead and cheek. He was not unconscious, and was able to get up and walk into a nearby store, and in a short time went to his home. He was dazed for a few hours, but the next day felt better. A few days later he began to complain of pain in the spine, distress in the occiput, and inability to attend to his business or exert his mind in any way. Six months have now elapsed since the accident. The man is thoroughly neurasthenic; says that his back aches constantly, and if he walks two or three squares he is used up. His head feels badly, and mental effort, even reading a book, fatigues him. Yet, on careful examination, no signs of cord disease, such as paralysis of motion or sensation, can be discovered. In many cases of railway injuries, the body receives a twist and wrench, and, as a result, the muscles of the back are sore and stiff for many months. The patient holds himself in a rigid and constrained position, and, in addition, presents numerous neurasthenic symptoms. At the same time, there are no palsies, and no structural changes can be detected, and eventually the patient recovers.

The question as to the pathology of the traumatic neurosis has been discussed for many years without a general agreement having been reached. Two views are presented: one that there has been concussion of the spine, with some resultant molecular changes or anæmia of the cord; or, that as a consequence of the injury, a spinal meningitis or myelitis has been set up. The other theory is, that all the symptoms are due to a functional disturbance of the nervous system. The latter view is now most generally held. The theory of spinal concussion producing anæmia or molecular changes in the cord is not tenable on anatomical grounds, nor are the symptoms which are presented those which would follow mechanical disturbance of the elements of the cord. What is most likely to occur after violent spinal concussion is hemorrhage into the substance of the cord. If meningitis or myelitis is present, the symptoms of these diseases would be readily observed, such as paralysis

or contraction of the legs, pain on movement, incontinence of urine, and bed sores. On the other hand, the symptoms which are present are those which are common to neurasthenia from other causes, plus certain symptoms due to trauma, such as lumbar rigidity and local tenderness. The symptoms which follow functional disturbances of the nervous system after accidents are either traumatic neurasthenia or traumatic hysteria. The great majority of authorities at the present day believe and teach that the symptoms of traumatic neurasthenia and traumatic hysteria are identical with those of neurasthenia and hysteria not due to trauma, with the exception of a few symptoms which will be noted later.

Traumatic neurasthenia.—"Neurasthenia," or nerve prostration, is one of the commonest of the neuroses, and every physician is constantly seeing cases of it. It is frequently confounded with hysteria, and justly so, because the two conditions often co-exist in the same patient, and neurasthenia frequently runs into hysteria, so that the line of definition between the two is by no means sharp and well defined. At the same time, it is of much practical importance, for the purposes of diagnosis and prognosis, to separate and make distinct the two disorders. Neurasthenia is essentially a state of nerve exhaustion and general fatigue. There is no reserve muscular or mental force. Every effort or outlay of energy of any kind is followed by prostration and fatigue entirely out of proportion to the effort made. There is never complete loss of power of motion or sensation, as is seen in hysteria, but there exists merely a condition where the muscular strength is soon exhausted. Mal-nutrition is essentially an underlying cause of neurasthenia. Hysteria, on the contrary, is a psychic disorder, and its seat is in the cortical cells of the brain. There is not, of necessity, physical weakness in hysteria. There may be complete loss of power in one or more limbs, and there may be absolute anaesthesia to touch and pain over a greater or less extent of the body. There may be disorders of vision, convulsive seizures, and emotional states.

Symptoms of traumatic neurasthenia.—At a more or less remote period from the accident—that is, after a time which has been termed "the latent interval," the patient begins to experience various symptoms of nervous disorder. It is often the case that a person who has been in a railway wreck is unconscious of having received any injury. He goes about helping the injured, often walks some distance, and goes home thinking that he has escaped with-

out harm. After a day or two, however, he begins to complain of pain in the back. He then recalls that he received a blow on the head or spine, or a jar or shock of some kind. Then follow in more or less rapid succession a rather constant train of symptoms. The most uniformly present of these is the pain and stiffness in the back, which has already been referred to as the result of wrenches. This is usually in the lumbar region, and is due to twists or blows received in the accident. Dercum has called especial attention to these symptoms, but it was noted by other writers before him. Rigidity is a notable symptom, the patient holding himself as if he was afraid of a jar or movement of any kind. Pressure over the spine, or motion, aggravates it. Even if no traumatic lumbago is present, there is usually aching in the spine, accompanied by pain and hyperaesthesia in various parts of the body. There is a sense of physical and mental depression, and the patient often becomes almost melancholic. He is given to introspection, and is constantly thinking or talking about himself. He is emotional, crying readily without sufficient cause. Parasthesia is often complained of; that is, a sense of pins or needles, or numbness in the extremities. The vision is seldom affected to any extent, but after prolonged use of the eyes, the fields of vision are sometimes found narrowed. The hearing is at times affected, being sometimes dulled, but is oftener abnormally sensitive. Frequency in the action of the pulse is one of the commonest symptoms. Occasionally there is great acceleration of the heart, the beat varying from 90 to 140 in a minute. The patient is continually conscious of his heart-beat, and a most annoying symptom is the fact that the pulsation of the heart is felt all the time. This seems due rather to hyperaesthesia than to any actual increase in the force of the heart's action.

Vaso-motor disturbances, such as sweating over the whole or parts of the body, flushing, and cold extremities are common. Sexual weakness or exhaustion after intercourse, or impotency are often complained of. The knee-jerks are increased, but there is no clonus, and the plantar reflexes are generally normal. No trophic changes are observed. The digestion is bad; the tongue coated; the bowels constipated, and, as a result, the nutrition is imperfect. The urine is usually full of phosphates and urates.

The principal features of traumatic neurasthenia are these: an easily exhausted muscular system, with lack of recuperative action, self-consciousness and introspection, vaso-mo-

tor disturbances and insomnia, with spinal tenderness and lumbar rigidity. It will be seen, then, that traumatic neurasthenia differs only from the non traumatic type in the lumbar rigidity, which is not always present, and the tender points over the spine.

Traumatic hysteria.—The old-fashioned hysteria gives but a faint and incomplete idea of hysteria. It is true that the emotional and psychic side of hysteria is marked, and the patient is liable to causeless and immoderate laughing and crying, but this is by no means the essential part of the disease; and, by the way, we must remember that hysteria is a disease, and not a condition. Hysteria is generally preceded by a more pronounced neurotic heredity than is neurasthenia, and, as before remarked, hysteria indicates greater disturbance of the cerebral cortex than does neurasthenia. The only difference between traumatic hysteria and hysteria not due to injury is, that in the former an injury is more likely to direct the attention of the patient to the part which has been injured, and this is more liable to be the seat of palsy, contractures or anæsthesia.

Hysterical anæsthesia is frequently met with after accidents. It varies in extent, sometimes involving the entire body; sometimes one lateral half of the body, and at other times involving only segments, as is seen in the so-called glove, stocking or sleeve anæsthesias. Hysterical anæsthesia differs from organic anæsthesia in several particulars. The reflex action of the skin in the anæsthetic areas is nearly normal in hysteria, but is absent in the organic disease. In hysterical anæsthesia the hand can still be used without the aid of sight, and although the patient may be unable to distinguish pin pricks or pinches in the fingers, he is still able to pick up small objects with the eyes closed. When the arm or leg is involved in the anæsthesia, this may cease abruptly at the wrist or ankle, or at the hip or shoulder, or at a point midway between the joints. In hysterical anæsthesia, the loss of sensation may extend up to or just beyond the median line in front, or may not reach the median line in the back; and sometimes the loss of sensation does not extend to the median line either anteriorly or posteriorly. Transference of the anæsthesia from one side to the other may be made by suggestion or by the application of magnets. In organic disease, the anæsthesia follows the course of the distribution of the nerve supply, and is not influenced by suggestion or magnets.

In hysterical anæsthesia there is often a condition known as crossed amblyopia, the eye

most affected being the one on the side on which there is anæsthesia.

Hysterical hyperæsthesia is frequently met with. This may be in various parts of the body—over the spinal column, in the ovarian region, or in the mammary region. In the areas of tenderness, the so-called heterogenic zones, the pain and tenderness are superficial, and deep seated pressure does not increase the pain.

In traumatic hysteria aphonia is not uncommon; and there may be complete paralysis of one limb, hysterical monoplegia, or paralysis of one side. The paralysis is often of long standing, but it differs from that of organic disease in several particulars. It is rare, but it is of possible occurrence that the face is paralyzed in hysteria. In hysterical hemiplegia the foot is dragged or shuffled in walking, and is not swung around in bringing it forward, with the toes catching the floor, as in paralysis from organic disease. The reflexes in hysteria are generally exaggerated. True clonus is not present, but spurious clonus is sometimes met with. There may be ptosis in hysterical cases, but this is quite different from true ptosis. The former is due to spasms of the orbicularis, while the latter is from paralysis of the upper lid. Tremor is a frequent symptom in traumatic hysteria, and is often wonderfully persistent. Voluntary motion usually increases the tremor, but it often occurs that if the patient's attention is strongly directed to something else, or if he is taken unawares, the tremor is found to be absent. Incontinence of urine and feces scarcely ever occurs in hysteria, although I have seen it in one case. Hysterical convulsions and coma are not of unfrequent occurrence. The movements in hysterical convulsions are much more extreme, and apparently increase in severity when attempts are made to control them, and they are of longer duration than epileptic convulsions. The pupils are dilated, and the eyelids are usually closed, and an attempt to open them is resisted. The positions assumed in hysterical convulsions are often characteristic. For example, opisthotonos is quite common. It is important to remember, however, that many typical and characteristic hysterical phenomena co exist with organic disease, and one should not be misled by the presence of hysterical symptoms, into failing to search carefully in every case for evidence of organic disease.

MEDICO-LEGAL ASPECTS.

In nine cases out of ten, as soon as a man

recovers his senses after a railroad accident, he begins to think of damages for the injury which he has sustained, and if the idea happens not to occur to him, he soon meets a friend who suggests it. The prospect of a suit, and the unconscious desire to make his case as strong as possible when the examination is made, together with the interest taken in his case by his friends, make the patient's thoughts turn strongly to himself. As examinations are made by the doctors called by the plaintiff, and those employed by the railroad, new ideas and symptoms are suggested, and even the most honest and cold-blooded man cannot help making personal tests to see if the symptoms asked about may not be lying latent in his case. The influence of expectancy in traumatic neuroses is most potent. Once litigation has begun, the individual becomes more self-centered, and as the case drags its weary course, and hearings in court are postponed time after time—for no case ever came to trial when first called—the plaintiff becomes neurasthenic, and all of his symptoms are accentuated. He does not resume business because he does not feel well enough to do so, and thinks that he will wait until the case is settled in one way or the other. He thus leads an aimless life, and although treatment may be steadily pursued, he gets no better, but rather worse: The fact that the plaintiff at once begins to improve, or to rapidly get well as soon as a suit is settled, is by no means proof that he has been an impostor. The strong element which has been holding him back—that is, expectancy—has been removed, and he is in a condition to derive benefit from treatment which before had been unsuccessful. The question of simulation is always an important one in persons claiming damages for injuries in railroad accidents, or in those for which any corporation may be responsible. The idea formerly prevailed that simulation was very common, and that many persons bringing damage suits were feigning their symptoms. Now, however, the pendulum has swung in the other direction, and writers are asserting that malingerers are rare. A recent authority remarks that, while it is uncommon to see diseases feigned, exaggeration is frequent. This is a charitable way of stating the case, but it amounts to the same thing in the end, for it requires an expert to make a close and intelligent examination to discover how much is exaggeration and how much is real in a given case. Therefore, while willing to admit that it is unusual for persons to make up their symptoms out of the whole cloth, I believe that

there are many cases in which the phenomena are so grossly exaggerated that it requires the same skill to detect this, as if the symptoms were altogether feigned. No doubt in many cases—probably in the majority—the person unconsciously exaggerates all the symptoms, but there are some cases of out and out malingerers. A case came under my observation some years ago of a man who was applying for a pension for paralysis of one arm. The examining surgeon having some doubts as to the genuineness of the case, sent the man to me for an opinion. He declared that he could not move the left arm, and that it was devoid of sensation from the shoulder to the finger-tips. He protested that he did not feel pins stuck into the arm, or a strong Faradic current. When, however, an intensely strong electric current was used, which doubled up the limb, the man complained loudly of pain in the precordium. He was then etherized, and when "about half seas over," the paralyzed arm was swung about and used to pull the ether towel from his face. The man's chagrin and wrath at the exposure were amusing, and he went away, swearing loudly at me in choice Pennsylvania Dutch.

In making an examination of a person who has been in an accident, the expert had best first see him with no one present. He should be allowed to give a free and full account of the accident and his symptoms, and while he is talking, the examiner can make quite an extensive note of the general condition of the person. The clothing should then be removed, and the statements of the plaintiff may be verified or otherwise by physical tests. Careful note should be made of scars, malformations, deviations of the spine, atrophies, etc. The degree of mobility of the spine should be carefully studied, and evidences of muscular rigidity should be looked for. The reflexes, both superficial and deep, must be examined. Sensibility requires special attention. Tests for tactile and pain sense, as well as for thermo-anæsthesia, should be made. If anæsthesia is found, one must determine if it is real or otherwise. If the pricks of a pin or needle are not felt, the Faradic brush should be used. If pain sense is lost, and tactile sense is preserved, the case is not likely to be one of simulation, but if thermo-anæsthesia and pain sense are present, and tactile sense remains intact, then we may feel sure that the disease is organic. It is hard for a malingerer to successfully simulate all of the symptoms unless he has been carefully coached; or, as has been said by a recent writer, that, through assuming

symptoms of traumatic neurasthenia, he has become a neurasthenic.

In cases of paralysis or anæsthesia, where one cannot be reasonably sure of the diagnosis, it is well to get the patient's consent to take ether on some pretext, and this is usually an infallible test. It is always well to examine the condition of the muscles of the arms and the palms of the hands as evidence of use in suspected cases. In a case seen by me some years ago, I detected simulation in a man who alleged that he could not use his arm, by finding callous places in the palms of the hands. In all cases of paralysis, it is well to make an electric examination, for sometimes this is of great diagnostic value, although not invariably so, as we must remember that in organic hemiplegias, the muscles all respond readily to the Faradic current.

The physician ought never to act in the dual capacity of assistant and prompter to counsel, as well as an expert witness, as it is liable to bring contempt upon him. One should try to be as impartial as possible, and if he cannot conscientiously testify to the side by which he is called, he should have nothing to do with it.

In conclusion, I would urge you to discourage litigation for either plaintiff or defendant. It is better for a plaintiff to settle for a small sum than to have litigation hanging on for years, and have health and resources suffer far more than large damages can repay. Remember, too, that hysteria is not a fraud, but that it is a true disease, and may be induced by trauma, especially in persons of neurotic diathesis. Also bear in mind that the presence of hysteria does not exclude the existence of organic disease, which may be present and masked by the manifestations of hysteria.

PREVENTIVE TREATMENT OF PUERPERAL FEVER *

By STEPHEN HARNSBERGER, M. D., Catlett, Va.

Clinical observation and experience has gradually convinced me that the development and full activity of puerperal fever may, in most instances at least, be prevented by very simple and easily carried out procedures, especially in the country. It is claimed by most teachers and writers on the subject that all depends upon asepsis and antiseptics. The amount

of washing, scrubbing, etc., would really consume more time than a busy physician could spare in just one case. For both hygienic and cosmetic reasons, I believe that every woman, her garments and bed clothes should be as clean as pure water and good soap can make them—to say nothing of the benefit of clean surroundings.

But after proper initial bathing of the lying-in woman, I cannot agree with those who advocate several minutes' additional scrubbing of the hands, etc., each time it is necessary to make an examination or to render some slight manual or instrumental assistance. Recent investigations by Gottstein and Blummer,* whose tests and experiments lasted through three years, show that asepsis of the hands can only be realized in about 75 per cent. of the attempts, which clearly mean that asepsis does not even reach 75 per cent. under the most favorable conditions of experimental tests; and if not under the most perfect conditions, how far short of 75 per cent. must asepsis fall under the adverse conditions of actual general practice! And further, in tincture of soap we have the most efficient disinfectant for the hands yet discovered. Tricot gloves, frequently changed during aseptic operations, are the best guarantee of asepsis. They act as a filter, and, by frequent changes, they remove the accumulated germs from within and without. This use of the gloves may do in general surgery, but, for manifest reasons, not in obstetric work, and yet it is the nearest approach to asepsis known.

I believe in cleanliness, but I insist that the manifold procedures resorted to in some of our lying-in institutions, and taught as obligatory in all cases of labor, is certainly not borne out by my observation and experience. Efforts at asepsis and antiseptics assiduously plied in the large hospitals may render infection less virulent, but it is certainly an impossible method for the prevention of infection from existing conditions in the country districts; and I believe this reason applies as well to all cases of labor coming to the care of the physician in the homes of the patients, whether in town or country.

Nature provides her own barrier against infection. I think it is now pretty well conceded that the normal secretions in the normal births of all women in a normal state of health are sufficiently antiseptic. Therefore it appears to me that scrubbing, douching, curetting, etc.,

* This paper was intended for the session of the Medical Society of Virginia held in Richmond, Va., October, 1899, but the author requested the MS. in order to make some revisions, and did not return it in time to appear in the *Transactions*.

* Having my notes, I cannot give the number, etc., of journal, but it was either the *Journal American Medical Association* or the *Philadelphia Medical Journal*.

only tend to disturb this physiologic protection and encourage the growth of otherwise innocuous micro-organisms. I take the precaution to order the vulval pad to exclude germs and to prevent, as much as can be, the possibility of degenerative changes in placental fragments and blood clots that may be retained.

Thirty-three per cent. of puerperal fever patients die. Granting that asepsis and antiseptics have reduced the number of cases of the disease, it is still a fact that cases do occur; and it is our duty to endeavor to improve our preventive methods and still further minimize the danger from latent infection. I have never used the ante-partum douche. I have never seen any necessity for using it. For its moral effect in the minds of patients and their friends I do occasionally order the douche to be used after the birth of the child. I never use bichloride of mercury, and only infrequently weak solutions of carbolic acid. My preference is normal salt solution; secondarily for its cleansing, and primarily for its tonic contact effect.

If I find abrasions or erosions, I sometimes secure protection by applications of an ointment composed of boric acid, acetanilid, zinc oxide, and euthymol (liquid), thoroughly incorporated with good country hog's lard. The occlusive vulval pads are saturated with the following:

R.—Euthymol (liquid)..... ʒi-ij
 Boric acid..... ʒij-iv
 Water q. s. *ad*..... ʒviij-xvj . Mix.

Occasionally this same solution is used as a douche for its healing properties.

Personally, I consider that the cardinal point in the treatment of puerperal fever is immunity. I do not claim that in the blood of the normal person rests the secret of successful therapeutics of puerperal infection, or that we can attain perfect immunity. But I do claim that I have never seen puerperal fever in the normally robust person. With this experience as a basis of reasoning and effort, it has been my invariable rule, for a number of years, to watch my patients, direct them by advice when advice is needed, and to prescribe drugs when drugs are required; in other words, to use every means possible to keep them or bring them up to the normal standard of health. When this is done, I find no cause for anxiety; no cause for antiseptics.

From my own observation and experience, I do not believe that puerperal infection takes place in any but those who are predisposed from lack of nerve force and vital power. The

tendency of this lowered vitality is to invite the absorption, and to incite into activity the otherwise quiescent toxic organisms. The rational treatment in all such cases should be directly sustaining and constructive. Those who have given this subject consideration seem to rest content with enjoining asepsis and antiseptics without attaching the slightest importance to the treatment of precedent conditions. They appear satisfied with the evidences of the existence of some success by strenuously attacking the causative germs locally in their lodgment place.

Volkmann* and others tell us that a number of virulent pyogenic micro organisms may be introduced into a wound, and yet that wound may heal by first intention; and also that these germs may and do inhabit mucous surfaces, either singly or in colonies, with or without any inflammatory reaction. They are there, waiting for an opportunity to become active and destructive. That being the case, it is a point in favor of the inhibitory power of the normal secretions of those mucous surfaces of the prohibitory power of the normal body.

On general principles, and as a hygienic measure, I urge the importance of cleanliness, and, in certain cases, order the obturator pad to the vulva, and there usually rests the matter of asepsis and antiseptics. While I am willing to concede that aseptic precautions have done much to lessen the risks of puerperal infection, I know that absolute asepsis is out of the question. I prefer to take no chances, and therefore when, in my judgment, it is necessary, I supplement cleanliness by giving the major part of my attention to the general physical and mental condition of my patients.

The protection of the lying-in woman should begin at the moment of conception; and strange as it may seem at first glance, I go a step farther and claim that, were it possible, in a great number of cases, protection would well antedate the birth of the mother—perhaps I should say parents—as I will try to explain presently.

I have had only one case of puerperal fever in my own practice. That was an intimate friend, with inherited tuberculosis. This case was caused, I feel sure, by neglect on the part of a nurse to carry out instructions.

It was in the month of July twelve years ago. The weather was excessively hot, and, to keep out the glare and moderate the heat, unusually large awnings were stretched over each window of the lying-in room. Explicit orders were given to keep both doors and win-

* Curtis, *Medical News*, Vol. LXXIV, No. 25, and *Philadelphia Medical Journal*, Vol. IV, No. 1.

dows open to let in all the air possible. I had occasion to be absent all of one day, and when I returned I found the windows down, the curtains drawn, and pillows packed against them. My patient was thoroughly prostrated and in a profuse perspiration. The great relaxation and consequent circulatory stasis had given entrance to the disease producing germs. She was ill for weeks, but recovered, and is still well.

On September 7th, the year before, a sister of my patient, residing in an adjoining county, died from puerperal fever. Of course they bore the same family history.

As I mentioned above, I incline to the opinion that a majority of the cases of puerperal fever can be directly or remotely traced to the children of parents suffering from somatic disease, which seriously impairs that inherent vital state of a healthy body; therefore, defective and cannot withstand the invasion of bacterial organisms. While I have had the good fortune to meet with but one case of puerperal fever in my own practice, I have been called to several cases in the care of midwives and others, and without exception they have been the offspring of parents inheriting tuberculosis, alcoholism, etc. Therefore, I would suggest as a probable fact that puerperal fever, other things being equal, is more likely to select the woman predisposed by inheritance to those diseases which usually impress degenerative changes upon the offspring; and in less degree but next in susceptibility, those whose vitality is lowered by present ailment, hemorrhage, shock, etc. Nor have I seen a case of puerperal fever in a woman of robust person, with a good family history. It has only occurred, in my knowledge, in women of bad family history, in run-down bodily condition, and after severe hemorrhages and other prostrating causes. Whatever lowers the individual vitality increases the susceptibility to infection.

The general practitioner is, as a rule, the family physician, and as such he is usually aware of the condition of the pregnant woman from the time of conception. Hence, it is his duty to watch and direct in every case known to him to the day of labor. He should direct the diet, exercise, habits, etc., and see that the woman is kept in the best possible physical and mental condition to withstand any and all of the injurious influences that are likely to affect her at confinement. Whether the case terminates in the normal way or is brought to an end by surgical art under anesthesia, if the lying-in woman possesses ordinary good

health, a speedy and safe puerperium is almost assured, even in spite of undue regard to cleanliness of person, cleanliness of clothes, and cleanliness of surroundings.

I will relate one or two cases from many:

CASE I.—I was called to see Mrs. F. about 7 o'clock on the evening of January 10, 1899. Nagging pains had been present since early in the day. These increased in intensity during the afternoon. Examination showed the child high up; in fact, I could not get any kind of satisfactory information, so concluded to await developments. Another hour passed and still no progress. After 10 o'clock, I saw that the case was likely to tax the skill of more than one physician. I wired for assistance but could get none, as there were no trains for several hours. I was, of course, put to my utmost to decide what course to pursue. Finally, however, I explained the nature of the case to the family, and they agreed for me to go ahead and do what I could without help, especially in the interests of the mother, as she was certainly "losing ground." After chloroforming her I applied the forceps, but could not move the child. The head would not pass the upper straight. I removed the instruments and tried again, but with no better result. I could not risk an abdominal section; was afraid of making a bad job still worse if I tried version, so finally determined to try excerebration, and with the aid of hook, forceps, etc., to rid the mother of present danger. Even after removal of the soft contents and much of the bony structures of the cranium, it seemed almost impossible to affect delivery. Only by opening the perineum back to the structures of the rectum could I get that latitude of movement and precision of grip equal to the difficulty encountered. And even after this the task was not easy. The placenta was retained, and that I took manually. The woman was so small that I could with difficulty insert my hand. As soon as I removed the after-birth and got good uterine contractions, I stitched the perineum. I then dusted the vulva and vagina with a little iodoform (I had nothing else with me), and applied the occlusive pad to the vulva. These pads were changed as often as required. After that, I ordered an ointment of boric acid, euthymol (liquid), etc., which proved more grateful to the patient and equally as beneficial. About the fifth day, there was noticeable increase of pulse rate and a slight rise of temperature, which lasted only three or four days. From that time on progress was uneventful. The woman was under the full influence of chloroform for four hours. She

is now stout and without ache or pain. The child measured eight inches across the shoulders and twenty-three inches in length, with the loss of cranial vault not estimated. It might be well to state that some months prior to this conception, there had been the history of a five-month's premature birth, which also necessitated the use of instruments.

CASE II.—Mrs. G., strongly neurotic, moved to my neighborhood from North Carolina in 1897. Some months subsequently she suspected pregnancy and came to me for advice and relief. Of course, I could do nothing but advise her to "let matters run." She gave a history of three births at term and of so many floodings. She was ill after each confinement, and it was only after several weeks following the third one that there was any hope of her ultimate recovery. When well, she was told by her former physician that "another birth would certainly kill her." So, it is hardly necessary for me to say that when I was called to this, her fourth labor, I found her in that terrible depression of one without life. As soon as I arrived I laid out in convenient place everything that could possibly be needed in an emergency. Clinical observation had taught me that these extremely depressed patients are commonly delayed from inertia, but not so in this case. In twenty-five minutes from the time of her first strong pain, the baby was born, and almost before I could secure the cord, she was blanched from hemorrhage. Energetic measures availed. It took constant care and the use of stimulants both day and night for several weeks to hold body and soul together. Her treatment consisted of stimulants, posture and ergot; no douching. She passed her puerperium without infection or rise of temperature. I feel sure that had I not watched and directed her case for several months prior to labor, that she could not have stood the physical and mental strain. With this satisfactory clinical experience following other methods of treatment than rigid asepsis and antisepsis, am I wrong in not abandoning what has served me faithfully?

While it is incumbent upon us to watch and direct each pregnant woman before labor and thus endeavor to fit her to resist infection, we must not ignore the fact that we are necessarily called to attend lying-in women of whom we had no previous knowledge. These often require our closest investigation, and we should never be unmindful of the frequent necessity of an immediate recognition of debilitating influences and disorders in interperance, syphilis, tuberculosis, diabetes, chronic neph-

ritis, malaria, etc. Study and meet the requirements of the individual patient, giving particular attention to their secretory and excretory functions, diet, sleep, etc. In these cases strychnin, especially the nitrate or arseniate, is rarely ever not indicated. It possesses a wonderful capacity for strengthening the faulty adjustments of the body and for rendering it resistant to the invasion of infecting germs.

Posture is worthy of further trial. The attitude assumed by the lying in woman has a decided influence in favoring spontaneous drainage and asepsis of the vagina and uterus after labor. The advantages to be derived from posture in cleansing the field for operation far more than counterbalances any slight risk heretofore taught us as almost certain to follow any deviation from the time-honored and routine injunction to "keep quiet in bed for at least eight to ten days." In my own opinion, it is an indifferent matter how early the lying in woman gets out of bed, unless, of course, there is some special indication to the contrary, which must certainly be of very infrequent occurrence. I do not believe in absolute rest in bed. Practically, I have tested this in many cases, and the results correspond with my belief. Just as soon as possible after the birth of the baby and the expulsion of the placenta and membranes, I have my patients bathed. Then, if the perineum is lacerated to any considerable extent, I put in sutures. As the clothing of the patient is considered as serious a source of infection as hand contact, the sooner the entrance to the vagina is protected from outside contributing factors the better. We should apply the obturator vulval pad at once and change all soiled linen.

It is of first importance to use every care to prevent retention of the secretions. A well drained uterus and vagina must rarely become the seat of infection. Ergot and posture will leave nothing undone in this respect. In all lying in women, and particularly those in whom there is seen the least shadow of evidence of the occurrence of puerperal fever, we should give ergot in small doses, frequently repeated, to induce and prolong the contractility of the uterus, and see that these patients lie on either side, move from one side of the bed to the other, and especially that they get out of bed and sit on the chamber as often as necessary. The ergot prevents absorption and posture ensures thorough drainage and asepsis. With free drainage, the endometrium and mucous surfaces can purify themselves. Where posture is absolutely contraindicated from ex-

cessive hemorrhage, cardiac disease, etc., we may use ergot and assist natural drainage of the uterus and vagina by elevating the hips. Should ergot fail to sustain uterine contractility, long and copious irrigations of the rectum with hot normal salt solution will usually give efficient aid.

The blood supply of the uterine mucosa is derived directly from the deep vessels of the uterine substance. Therefore, when the uterine mucosa becomes impaired from blood stasis and muscular inaction, the invasion of the toxic micro organisms becomes possible. With this brief explanation, it is easier to understand why obstetric asepis and antiseptis, unreliable at best, should be less efficient in preventing infection than procedures which effect a more rapid blood flow and a more efficient contraction of the uterus. Hence, when I meet with tardy and inefficient uterine contractions or stasis from vasomotor or other weakness, I order cardiac, vasomotor and other stimulants, hot rectal irrigation and ergot—one or all as indicated. A better equalization of the circulation removes the blood stasis in the submucous vascular net work, which is probably the most important exciting factor in producing infection in lying in women.

I believe I am correct in stating that the measures I suggest for the care of women during pregnancy and the puerperium are the best we can use to secure proper involution and to insure not only a lessened mortality but a lowered morbidity, and as a consequence save many of our patients from the hands of the gynecologist.

In conclusion, I want it understood that I am not opposed to cleanliness. In fact, we need more cleanliness than we can possibly get, and it is principally on that account that I urge the importance of more attention to the precedent and present condition of lying in women and a fair trial of posture and ergot.

THE SUBMERGENCE OF INDIVIDUAL JUDGMENT.*

By T. CLARKE MILLER, M. D., Massillon, O.

Your program is so rich and comprehensive, and furnishes so much that stimulates thought and invites discussion, that I feel justified in presenting a few thoughts somewhat aside from the general trend of the meeting.

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Of late years the field of the general practitioner has been invaded from all sides. Within the memory of some of us the physician was expected to be able to cope with almost anything physically abnormal. His great field was the treatment of the more acute and imperative diseases which were always present and always demanding relief. He was also the embodiment of the best accessible qualifications in the numerous fields which the specialist has since invaded and is continually fortifying. The "family physician" was the physician and surgeon. He was the captain, the pilot, and the crew on all occasions when the physical or mental craft was beset by storms or threatening seas. Disease was then, perhaps, less complicated and elaborate than now, largely because, in every respect, the people lived simpler and more natural lives. It seems that every refinement and self-indulgence and accomplishment and vice that has been cast into the stream of human life has disturbed its placidity, changed its currents and rendered its navigation more uncertain and dangerous. Even the great improvements in methods and machinery, the admirable growth in intelligence, and the better observance of sanitary and hygienic law have added to the complexity of the problems that confront the physician.

The trend to specialism does not affect the physician alone. The all-round mechanic or machinist is in worse plight than the "physician and surgeon" can ever be. An architect plans the most ordinary house. A dozen mills work out the materials, and the man who used to be a carpenter and joiner, simply sets it up. The machinist who could construct a machine from the approximately raw material has become extinct. His successor has acquired an admirable skill in making a peculiarly shaped hole with a remarkably intelligent power-driven tool, or cutting down an iron or steel beam on a machine so ingeniously constructed as to make the minimum demand on the atrophied muscles and brain of the operator. The machinist has become the least interesting and admirable feature of the machine. Even the old-time farmer who raised, practically, everything he needed for his family, has turned up as a wool grower or a stock raiser, or he makes a specialty of corn, or wheat, or tobacco, or what not.

I suppose that the treatment of children can hardly become a full-fledged specialty. And I take it that this Society is not aiming at such an end, but that our object is rather to protect this part of the practitioner's field

from submergence. Very early in the growth of specialism the general practitioner became willing to concede that, on certain lines, he did not know so much as the specialist. The camel's nose, thus hospitably admitted, became the initial aggression which rather rapidly grew into a demand that it should also be conceded that the said general practitioner does not know, even that which his experience and observation have taught him, half so well as the most immature and unripe specialist. Is it not possible that there was something real about the old-fashioned "sense of touch" which we read about but to a great extent have lost, through our dependence on thermometers, charts and other mechanisms? Do you not suppose that our fathers could measure the "fighting chance" that any given patient might have, nearly as well as we can? Is it no longer possible to assemble, in one man, the elements necessary to every day diagnosis and treatment and every day diseases?

But I am taking up valuable time and wandering rather circuitously to my theme—"The Submergence of Individual Judgment." I shall not attempt more than is necessary to a definition.

The attitude of the mind implied by the word "judgment" presupposes information, mental training and experience. Much of medical knowledge is accepted on authority. Certain rules of conduct and practice are so well settled that we are under obligations to keep within those lines. We are not able, and we are not permitted, to bring all questions to a settlement at the bar of individual judgment. We ought not to be reluctant to rally around our banner when it is planted in knowledge and experience. On the other hand, we ought not to hurry to enfile ourselves under every rag of assumed authority that enthusiasts or pushers of trade may raise. Discoveries should have the shop finish worn off before they are made the basis of laws that we are bound to respect. Neither the consensus nor the individual judgment ought to be submerged by an array of shrewdly manipulated figures or the acute enthusiasm of a few men. The knowledge and experience of the past ought not to be discarded in favor of the mere promise of the future. Yet we must not be too slow in submitting ourselves to the dominance of new, established truth. The triumphs of vaccination furnish a good illustration of the submergence of an antagonistic consensus. It won its way to honorable success and general acceptance against all opposition. Now, whatever judgment or opinion I may have

constructed that is antagonistic to this experience and to these facts, must be submerged. The question is no longer open to argument. The wisdom and necessity of vaccination must be conceded even though I may recoil from the seeming brutality of the measure, or may have been able to maintain an attitude of skepticism. As a physician, entitled to good repute, I am not at liberty to oppose vaccination nor to refuse it to my patrons. Yet, the one time preference of the profession for humanized lymph was rather rudely submerged by the horrible possibilities urged upon the people by a few sensational doctors, abetted by the greed of trade. This, too, when the methods of production of animal lymph were extremely crude and the supply of even the impure animal lymph was too small to meet a limited demand. In this unfair battle the people's confidence in vaccination was so staggered that it has not yet recovered, and the loud mouthed "antis" were furnished with arguments and horrors which they continue to use to the great injury of the public. We are easily enough dominated by the new, for we always want something better than we have. But the modern method seems to be to magnify the failures and tragedies of the past and exaggerate the successes and triumphs of the new idea in a popular, rather than in a professional way, until our patron is ready to demand that we do our work in a certain way or give place to some one who will.

The chemist has sometimes undertaken to dominate medical thought, but people—inside—are something more than laboratories, and chemical reactions are not always uniform and according to pre arrangement in the human organism. The chemist is a worshipful authority, and no price can be put on his facts, but his speculations are not more than respectable.

There may be some abnormal conditions of body or mind which are not chargeable to germs. If so, the bacteriologist will never entirely and permanently dominate professional judgment, though he will be conceded all the importance to which he shall prove himself entitled. The experience of the profession has, I think, established serum therapy on a substantial basis. The antitoxine of diphtheria, whether correctly named or not, is a "positive advance in medical science" and practice, yet what strenuous and ingenious efforts have been made to quickly and completely submerge all conservative or antagonistic sentiment. By reason of the enthusiasm and unprofessional vaporings of a few physi-

cians and the urgent greed of manufacturers and dealers, it has come about that the night-soil man is qualified to sit in judgment on your therapeutic measures in a case of diphtheria, and in some fairly well civilized communities a board of health, or some other public authority, will undertake to contradict or approve your diagnosis, dictate your therapeutics, and even treat your case for you, while at the same time the responsibility remains on your shoulders. Though scarcely any other disease is more easily and certainly recognized, you are told that a diagnosis that omits a bacteriological examination is scarcely a respectable guess. If you allow your judgment to be warped in this way, you, at once, begin to distrust your knowledge and experience. Your confidence forsakes you, your judgment goes with it, and that which was only an impudent suggestion becomes a humiliating truth.

If the Klebs-Löffler bacillus may be present in a healthy throat, why may it not be present in a diseased throat which is not diphtheritic? If so, it seems to me that the moribund bedside diagnosis must be resuscitated. I am not at all sure that the time has fully come when the individual judgment and the evidence of the educated senses ought to be subserved. I am not quite ready to deny that the physician ought to determine, in the light of all present conditions, whether antitoxine ought or need not be used in a given case of diphtheria. Possibly a consensus has not yet been reached, in spite of urgent and imperative dicta. Of course, as soon as a professional consensus has been fully formed, we will perform our little mechanical and brutal office as tamely as we now do in vaccination.

Is it not possible to be too ready to succumb to an array of statistics? It seems, sometimes, as though figures do mysteriously juggle themselves. The ingenious anti-toxine statistician will expunge a class of cases because they were "seen too late," "they were practically hopeless when the serum was administered," or they were so "evidently hopeless" that the shrewd maker of statistics "declined to use the potent remedy at all." If any one of you should be permitted to give your old-fashioned methods the benefit of this kind of expurgation, no doubt you could present some very pleasing figures.

We are told that the results become progressively poorer from day to day after the inception of the disease. This is no doubt true, for we know that a large percentage of the cases are well on the way to recovery in three or four days, under older methods of treatment,

if the cases are taken in hand near the beginning of the disease. One way or the other diphtheria gets in its work in quite a short time. As a basis of comparison, the mortality previous to the days of the serum treatment is placed at about 50 per cent. of the cases treated. I incline to doubt whether the average experience of those present would justify us in saying that the mortality was half as high as that, what could have been the basis of this estimate of a 50 per cent. mortality? At the same time we are told that nearly 50 per cent. of the clinically diagnosed cases are bacteriologically spurious. Any considerable array of statistics bearing on the pre-antitoxine period must have been largely collected in the pre-bacteriological era, hence the aggregates ought to be cut in two, for we would expect to find the percentage of spurious cases about the same as now, and the supposed spurious cases are claimed to be rarely if ever fatal. Consequently if the normal mortality was 50 per cent. of the cases or thereabouts, the genuine diphtheritic cases, practically, all died. However, it may not be the truth to say that Klebs-Löffler diphtheria is the only diphtheroid disease attended by danger of fatal issue, and I am in doubt whether 50 per cent. of genuine Klebs-Löffler cases will die in the absence of any treatment whatever.

It seems probable that some of our sanitary authorities overreach themselves when they refuse to take any precautionary account of diphtheroid diseases characterized by the presence of other germs than the Klebs-Löffler, or when the microscope fails to demonstrate the presence of the germ of Klebs, on the ground that the disease is "not infectious," or is "only feebly infectious." If not infectious, how does the individual contract the disease? If we are called upon to concede that the microscope is the only reliable and practically sufficient test, it becomes a very serious fact that a vast majority of physicians cannot have a bacteriologist at their elbows. Are they bound, then, to forget, ignore or discredit all their experience in the diagnosis and treatment of these grave troubles?

The value of diphtheria anti-toxine has been established by sufficient evidence and a superabundance of testimony, and its freedom from serious dangers is perhaps as fully confirmed, and yet I feel that you may still be allowed the exercise, to some extent, of your individual judgment as to whether in a given case its use is necessary or not. There is, I think, considerable evidence that the use of diphtheria anti-toxine confers a measure of shortlived immu-

nity in persons who have been exposed to diphtheria infection, so that its use for this purpose seems to be justified. I would like to be allowed, however, to claim that such use has not yet become absolutely compulsory.

A few months ago a very eminent American physician claimed as the result of "actual experience" "that immunity, after exposure, may be conferred for at least ten days, by a small dose of serum, provided it is given twenty-four hours previous to actual infection." He goes on to say that "A physician who fails to promptly immunize the members of a family in which diphtheria breaks out neglects to do his duty by those whose safety lies in his hands." This unprofessional pronouncement was reproduced in a good many medical journals all over the country, and probably contributed to the damnation of a good many physicians who were fully as worthy of respect as the dictator himself. I believe that that physician had a right to think what he said, provided the evidence was conclusive, as he saw it. I am not sure that he had a right to sow such a pronouncement broadcast. If he had, then none of us has a right to think differently or at least to act otherwise than he directs. He has foreordained our condemnation if we do.

We are so beset by new names and new pathologies that we are in danger of coming to distrust or forget all that we had considered established and reliable. We are buried in an avalanche of new drug combinations and inventions, each adapted to almost all diseased conditions, or at least infallible in some, until we are liable to distrust all therapeutic measures.

The bactericidal furor seems likely to overwhelm our confidence in even unsterilized sunlight. All of nature's life-sustaining products seem to be charged with dangers before they have passed the portals of nature's laboratory. On the most contemptible evidence we are officially assured that a quart of milk is likely to infect a large family with a terrible and almost hopeless disease.

Unless we keep our cool judgment in hand we will soon, as a profession, be in that confused mental state suggested by the pregnant though inelegant question, "Where are we at?"

Jugglery and slight-of-hand performances, of course, interest and mystify us, but we can afford to cherish a moderate degree of skepticism on the question of the applicability of such accomplishments to useful purposes.

The apostle to the Gentiles cautioned his

hearers, "not to be carried about with every wind of doctrine," etc.

When conservatism becomes singular, of course, it should receive another name.

We should keep ourselves informed; keep our facilities in training, and, under ordinary circumstances, refuse to distrust our own judgment. Yet, when the profession has found, and given voice to a consensus, we must hear and obey.

CONTINUED USE OF THE ANTISEPTIC AND ELIMINATIVE TREATMENT OF TYPHOID FEVER WITHOUT ANY DEATHS.*

By T. VIRGIL HUBBARD, M. D., Atlanta, Ga.

Continued and uninterrupted success with the antiseptic and eliminative treatment, with convincing clinical illustrations of its inevitable correctness, forces me to disregard the sage advice of Shakespeare and repeat some remarks I made before this Association one year ago.

Assuming the risk of being ridiculed for repeating the truth, and perhaps denounced for making it so emphatic, I acknowledge my cheerfulness to submit to either, if by so doing I may induce some of my professional friends to cast aside their theoretical objections, which are too often but the delusions of a dream which can be swiftly dispelled by the awakening light of clinical experience with the treatment.

With profound respect for those gentlemen (for some of them I love) who differ with me from a theoretical standpoint, I must confess a failure to see the logic in attempting to combat *clinical results* with *theoretical* argument, and especially when that argument is based on an acknowledged inexperience with this treatment and is influenced and sustained by passion and prejudice naturally engendered by following for years a contrary course of treatment. If medicine were an exact science—if we could demonstrate the correctness or incorrectness of its theories as we can a mathematical problem—there would be some logic in resorting to mere argument to meet the mortality statistics; but at the present time the court that renders the final decision, and from which there can be no appeal, is the number of deaths which follow from this or that line of treatment. That we are all creatures of habit and routine is unfortunately too true, and medical

* Read before the Georgia Medical Association, April, 1900.

men are no exception to the general rule. A study of the history of medicine reveals the fact that all new theories or advance in treatment undergo a struggle for existence in their infancy, and the friends of this treatment are not in the least discouraged because it is undergoing the fire of denunciation and criticism which characterizes the radical change of any established treatment. It would be nothing short of a miracle if the medical profession should spontaneously adopt the eliminative treatment, which is almost the opposite of what has been taught and practiced for the past twenty five years, regardless of its *correctness* or *incorrectness*. A child reared in a Protestant family, and who has been taught the edicts of that religion, is not likely to embrace Roman Catholicism, and *vice versa*. So the young man who is taught in his college course that cold water is the proper treatment for typhoid fever, and has practiced it for years after leaving his *Alma Mater*, is not likely to adopt the eliminative treatment without indubitable evidence of its correctness.

I will briefly repeat the treatment which I recommended in a paper read before this Association one year ago, and I have very few additions to make to the same. When called to a case of typhoid fever, I usually commence by giving the patient a capsule of calomel, $\frac{1}{2}$ gr., guaiacol carbonate, 2 grs., podophyllin, $\frac{1}{16}$ to $\frac{1}{8}$ gr., every two hours for twenty four to forty-eight hours, depending on the condition of the bowels. I continue this until I have secured four or five intestinal evacuations for two successive days, and then I leave off the calomel and add $\frac{1}{2}$ gr. of menthol to the guaiacol and podophyllin. If, after discontinuing the calomel, there is any tendency (as there frequently is) of the bowels to become inactive, I administer a small dose of salts or Hunyadi water in the morning. I always endeavor to secure at least two or more evacuations daily, depending upon the temperature and the condition of the bowels. If, after four or five days of treatment, the temperature remains high, or rises after having remained stationary, I again resort to the calomel as before for twenty-four hours or less, as necessary, and it invariably reduces the temperature and results in a general improvement in the patient's condition. I continue the administration of guaiacol and menthol throughout the course of the disease.

In addition to this, I frequently resort to the administration of normal salt solution *per rectum*, and have been very much gratified with its results, especially in those cases where

the skin and kidneys failed to act well. It seems to me, in any toxæmia, normal saline solution would do good by diluting the poison in the blood and favoring its elimination by the skin and kidneys; and in cases of very high fever or severe toxæmia, and an exhausted condition of the patient, I would promptly resort to its subcutaneous administration.

I will consider first the *least important*—the *antiseptic part* of the treatment. It has been said by the opponents of this treatment that it was impossible to render the alimentary canal *aseptic* by the administration of drugs—an opinion in which I have always heartily concurred. But I was surprised a year ago to find opposition to this treatment from some of our surgeons who practice aseptic technique in their operations; for, if they will only reflect for a moment, it is this same broad principle which, applied to surgery, has rescued it from a chaotic state of empiricism and elevated it to a scientific basis. Would any modern surgeon fail to wash out and drain an abscess cavity because he could not render it aseptic at the first operation? Should he fail to irrigate an infected wound because he cannot cleanse it of every drop of pus and every micro-organism at the first irrigation? If a patient is bleeding from three ruptured arteries, and from an anatomical situation one of them cannot be reached, does it lessen the obligation of the surgeon to place a ligature around the other two? So in typhoid fever; if we cannot *thoroughly disinfect* the bowels and thus reach *ideal* results, must we peacefully fold our hands and acknowledge with mortification and chagrin that we can do nothing but amuse the patient by pouring cold water on the skin? Is this the course the surgeon pursues in a case of infection? Is it not our plain and unequivocal duty, with our present knowledge of causation and pathology of typhoid fever, to resort to those measures—first, that will remove, so far as possible, the offending agent from the bowels; and, secondly, render the intestine, so far as possible, an unfit culture tube for multiplication and development of the various micro organisms which are to be found there, as well as to prevent fermentation and putrefaction of food products? Is not the efficacy, which has for a long time been attributed to that good old remedy, turpentine, been due almost exclusively to its antiseptic properties? But whatever may be said in favor of the administration of intestinal antiseptics in typhoid fever, they play an insignificant part as compared with those remedies which have for their function the promotion

of elimination from the system of the toxins and by stimulation of the emunctory organs. It is to the accomplishment of this result that the successful clinician will chiefly address his efforts.

To those who have attempted to refute something I have never claimed in reference to intestinal *antiseptics*, I would most respectfully invite their attention to the *eliminative* part of this treatment. I presume no one is so absolute in his views as to maintain for a moment that the intestinal ulceration *per se* in the bowel wall is the cause of the constitutional symptoms of typhoid fever. If so, how does he account for those fatal cases of typhoid in which no intestinal lesion is found post mortem? The most convincing fact gleaned from my experience with the eliminative treatment is that entirely too much importance has heretofore been attached to the intestinal ulceration and too little importance to the constitutional condition of the patient. The sins of omission are too numerous to mention which will be justly heaped upon that timid physician who sits by a case of typhoid waiting and expecting perforation of the bowel or fatal hemorrhage, while assuming an attitude of passive indifference, fearing something which, in a large majority of cases, will never happen, and on this account withholding both food and drugs while the life of his patient is surely, but slowly, ebbing away from starvation and toxæmia. That a healthful reaction has set in against a too restricted diet in typhoid fever no one can deny who is familiar with recent articles in the leading medical journals. I am convinced a large number of typhoid patients have died from want of food, and it is equally true that a great many have passed to the "beyond" because they were unable to digest and assimilate what was given them, owing to the torpid condition of the liver and diminished secretion of gastric and intestinal juices, which could be largely overcome by the administration of proper drugs. The ulceration of the bowel has been the great bug-bear of the physician—the objective point on which he has centered his therapeutic vision—and if it does not produce perforation or a fatal hemorrhage, it is of no more prognostic significance than if it were on the leg of the patient, barring the exception that it may act as an absorbing surface for other germs than the bacillus of Eberth. While the attention of the physician has thus been directed to the condition of the bowel, and temporarily distracted by the fear of perforation or a fatal hemorrhage, which only occur in about two or three per

cent of the cases, he has wilfully and persistently neglected those measures at his command which would prevent the death of his patient from exhaustion and toxæmia. Some old writer has said that the physician should always obviate the tendency to death, and we can sometimes learn more from one case that dies than from ten cases that recover by studying the cause of the death. I think we will gain some practical information by closely observing the cause of the tendency to death, and become more active in the use of those remedies to combat that tendency. The sooner we look upon typhoid fever as a constitutional poisoning of the system very similar to an average case of septicæmia, and treat it accordingly by assisting nature to eliminate the poison or destroy it in the system, the sooner we will diminish the mortality of this disease.

There are certain facts proven about this disease that I think all will agree and accept. First: that the cause of typhoid fever does not originate *de novo* in the human organism; consequently it must be introduced from without. Second: that this causative agent introduced from without and the poisonous products it generates within, come under the definition of constitutional poisoning and may be found in almost every tissue of the body. Third: at the present time we do not possess a direct chemical antidote whereby this poison may be changed into a harmless compound.

With these propositions admitted—a poison introduced into the system, circulating in the blood, and found in the different tissues of the body, and for which we have no chemical antidote—our duty becomes very plain and the therapeutics of this disease very much simplified. What would we do in other cases of poisoning with something for which we had no direct antidote? Would we not attempt to eliminate it from the system? The rational procedure then is the elimination of the poison from the system, and its egress can only be accomplished by stimulating to the fullest functional capacity the liver, bowels, kidneys, and skin—the natural eliminants. That nature when left alone attempts to throw off the poison by these organs is clearly shown by the fact that their secretions contain the lethal products and will convey the disease. Futerer found that bacteria injected into the portal vein appeared in the general circulation in one minute, and he also demonstrated that elimination of the germ from the system by the liver and kidneys was very promptly inaugurated. He suggests that this eliminative function of the liver explains why the typhoid germ is so often found in the gall-bladder and

bile ducts, where it frequently sets up an inflammatory process.

Adami has also demonstrated that the liver cells normally possess a bacterioidal function aside from that of elimination.

With these facts before us, I think we should apply those remedies which from a knowledge of their physiological effect will most actively and harmlessly assist nature in this eliminative process. While opinions may differ as to the efficacy of this or that drug, there can be no question as to the object to be accomplished. Those who practice and teach drug nihilism in reference to the treatment of typhoid fever should recognize the fact that their sins of omission are sometimes greater than those of commission, and that there are other pit-falls in the pathway of the physician than that of mischievous activity in the administration of drugs. The innocuous desuetude into which some teachers and practitioners of medicine have lapsed in reference to the drug treatment of infectious diseases, and especially typhoid fever, and the common acceptance of the purely imaginary theory that because a disease is produced by a germ it must necessarily run a definite and specific course, uninfluenced by any remedial measures, is to my mind the most rational explanation of why so many laymen are today seeking relief at the hands of the water-cure man, the Christian scientist and osteopathist—glaring illustrations of which we have in our own city. The advice given by a prominent text-writer in this country that the physician in managing a case of typhoid fever should assume an attitude of "armed expectancy," it seems to me, if strictly adhered to, would be the indirect cause of more deaths from this disease than any advice which might be couched in any other two words in the English language. Analyze those words; what do they imply? They mean that the physician should nurse the patient and wait for complications, thus shattering to smithereens the good old doctrine that an ounce of prevention is worth a pound of cure. Of what practical value is the most up-to-date and thoroughly equipped therapeutic armamentarium in the presence of perforation of the bowel or a severe hemorrhage in typhoid fever? Even though the physician expected it to occur, even though he be prepared with all known measures to meet the condition, of what practical value is it to the patient, when he almost invariably passes to that land "from whose bourne no traveller returns," and leaves the physician in a state of melancholy reflection on the inadequacy of his "armed expectancy."

I think it wiser to use those measures which, in a large number of instances, will prevent the complication, than it is to await their development, and then try to repair their ravages. That complications can be prevented by the administration of the proper medicines I have conclusively demonstrated by my own clinical results. In selecting those remedies which will most effectively promote elimination, we naturally place mercury at the head of the list as the great glandular stimulant. That it is justly entitled to the first place as a secretory and excretory stimulant, years of experience has conclusively proven. It is immaterial into what remote part of the system or what complex tissue the typhoid germ or its toxin may migrate, that it cannot evade the presence of this protean drug is shown by the fact that the secretion from the testicle of the male and the mammary gland of the female are no exceptions to the ubiquitous presence of this drug. Those who have never used mercury throughout the course of typhoid fever, and have objected to it on the grounds that it was exhausting and tending to weaken the patient, entirely overlook the fact that it is a tonic in small doses in health and disease. Cabot and others have demonstrated that it will increase the number of red blood corpuscles and the hæmoglobin and augment the body weight, in small doses. There is practically no drug of value, which in the hands of the careless or ignorant would not do harm. Quinine is a specific in malarial fever. Mercury is a specific for syphilis. But who will deny that you can kill a malarial patient with quinine and a syphilitic with mercury? But does this lessen their value when properly, carefully, and scientifically administered in these diseases?

It is to the proper administration of calomel in typhoid fever that I desire especially to call attention. If those gentlemen who are skeptical regarding the efficacy of this treatment will administer the drug in small and oft repeated doses, carefully watching for its constitutional effect, they will find that it will control the unpleasant symptoms and fatal tendency of this disease. While it has this effect in small doses, yet to give it in five to seven grain doses three times a day would be as irrational and as open to criticism as to start a syphilitic on the same large dose. I have conclusively proven that a typhoid patient can take no mercury without purgation or salivation than the same individual can take when not suffering from the disease. I think we may attribute some of the good effect of mercury in typhoid to the stimulation of the production of white

blood-cells, which are the great protectors of the system in all infectious processes. While I cannot state this positively, because I have not counted the cells while a typhoid patient was taking mercury, yet I think we are justified in assuming this on theoretical grounds.

I have, up to the present time, treated twenty cases of typhoid by this method without any deaths. Other men have treated a large number of cases without any deaths, and the collected results give a mortality of less than 2 per cent. The erroneous position of those who oppose this treatment, and at the same time admit that they have never used it, is too conspicuous to require more than passing notice. If our friends will resort to the same unprejudiced investigation and seek that same high class of indubitable evidence, clinical results, which has characterized our investigation of the subject, they will then be competent witnesses, and we will welcome with enthusiasm a report of their results. When an individual or a scientific body of investigators desire to determine the efficacy of any new therapeutic measure, do they seek the opinions of physicians, who, from want of experience with that measure, are unfamiliar with its results? Or do they rather inquire of those men, who having had clinical experience with the use of the measure under consideration are qualified to give testimony? If a physician treat a given number of cases of appendicitis medically and get a mortality of 10 per cent., by what rule of logic would he be justly entitled to condemn the measures of a surgeon who operated on an equal number of cases and got a mortality of 2 per cent.?

The physician who has never witnessed the contract in the clinical picture of a typhoid patient on the eliminative treatment as compared to the expectant plan can no more appreciate its efficacy than a person born blind can appreciate the beauties of nature. If he has never witnessed the prompt disappearance of delirium, the restoration of consciousness to the clouded intellect, prompt return of the appetite and digestive capacity and gradual but sure reduction of temperature, he has in store for himself one of the triumphs of his profession, and a scene which will give him renewed confidence in the healing art. It is the truth we are seeking in this matter regardless of the source from whence it sprang, and if our opponents will show by clinical experience with this treatment that the mortality is as great or greater than any other method now known, we will then, *but not till then*, cheerfully acknowledge our error.

SYNOPSIS OF PAPER ON THE VARIATIONS IN HUMAN GAIT.*

By E. H. BRADFORD, M. D., Boston, Mass.

Human gait is ordinarily divided into the walk and the run, the distinction between the two being based on the fact that in the former one foot is always on the ground, while in the latter both feet may be in the air at the same time. The walk, however, can be subdivided according to the force used in propelling the trunk forward, and the manner in which that force is used.

The varieties are as follows: First, the upright gait, which is commonly seen in adults walking on an even surface. It is characterized by the erect position of the trunk and the firm planting of the heel of the forward leg upon the ground. The trunk is pulled forward by the muscular action of the glutei and the hamstring muscles, and this is aided by the push of the rear leg. This gait is seen in cities and is common among shoe-wearing people. It is exaggerated in people, the muscles of whose feet are weakened by shoes and by a life of leisure. In this gait the front of the forward foot is used but little, and of the rear foot only at the end of the stride. The gait, consequently, taxes the muscles of the soles of the feet governing the action of the toes and the front of feet but slightly. This gait can be easily recognized by the erect position of the trunk, with the head well behind the striking point of the front heel. In extreme cases there is added to this an exaggerated toeing out of the feet and an enlarged angle formed by the foot with the plane of the ground as the heel strikes the ground. The erect gait is common in corpulent persons and in persons walking down an incline.

The second form of gait is usually seen in bare-footed individuals, and is characterized by the utilization of the weight of the body falling forwards as a means of propulsion. The body is inclined forward from a stationary point, and would fall forward if this were not checked by the forward leg thrust out to prevent the fall. The heel of the front foot may or may not strike the ground first, but if it does, it is immediately followed by the whole of the sole and the toes. Ordinarily, however, the falling weight is caught on the whole sole. The front of the foot pressing upon the ground pulls the inclined body forward, and in bare-footed or moccasined individuals and soft ground, the pressure of the toes pulls the body forward, progression being also aided by the

push of the rear foot at the end of the stride. The heel is but little used as a point by which the body is pulled forward, but the front of the foot is largely used somewhat as in animals, to claw the ground. This gait is characteristic of bare footed and moccasined people. It is common in young children, and is seen in persons in snow shoeing, walking in slippery places, and up a sharp ascent. The knees are usually slightly bent and strain comes upon certain muscles of the leg not used in the other variety of gait, that is, in the muscles of the soles of the feet and the front of the thighs. Less strain comes upon the muscles of the calf as the weight of the body is not raised by the feet, but chiefly by the knees. As the heel does not strike the ground with a straight limb, there is less jar on the spine, and as the body falling forward is utilized as an aid to propulsion, there is a muscular economy in this gait. A combination of these two gaits is seen in strong and active walking, the weight of the falling body being utilized, but the stride is long, a strong push of the rear leg being used.

Varieties also exist in the manner in which the feet are used at the different parts of the step, and in the attitude of the trunk during walking. These are dependent upon differences in the relative strength of the muscles brought into action in walking. An acquaintance with these variations is necessary in the recognition of the pathological varieties constituting a limp.

A CASE OF TRAUMATIC TETANUS CURED WITH ANTITOXIN.

By BLANTON A. HILLSMAN, M. D., Richmond, Va.

This case is reported not on account of the rarity of the disease, but on account of the negative results previously obtained from tetanus antitoxin in Richmond. Tetanus antitoxin has been used in Richmond three or four times, death resulting in each case. Only one case I am informed showed any improvement, finally dying from heart failure, said to have been caused from smoking cigarettes. This last complication was in my case guarded against by the free use of stimulants.

On the night of May 16th, 1900, a lady called at my office in regard to her daughter, a girl eleven years old, who she said was suffering from sore throat, and could not open her mouth. Thinking it a case of quinsy, I prescribed a gargle and promised to see her the next morning. About two hours after she again came and asked me to call and see her

child at once. Upon arriving at her house I found the girl sitting up in bed complaining of a stiffness in her jaws, which could only be opened about one fourth of an inch. I could not see in her throat, so gave bromides to quiet her nervousness and left. I called the next morning and found her no better. Asked to see her tongue, and, after protruding it, she bit it before she could return it to her mouth. I asked her to take a seat in a chair, but she could not bend herself and went over backwards like a log of wood. On examination I found the muscles of the lower extremity, abdomen, neck, and jaws very tense. Pulse quick, temperature $100\frac{1}{2}^{\circ}$ F. and no pain. On inquiry, her mother said that four weeks previously she had stuck a nail in her foot, but it did not go deep. On examination, I found the wound healed, without any tenderness on pressure. My father, Dr. J. A. Hillsman, was called in, and agreed on the diagnosis of lockjaw. She was given a liquid diet (which she took very badly), calomel in broken doses, followed by salts daily, Bromides, chloral and cannabis indica were given to control the paroxysms.

May 18th. Found patient worse; could take only a spoonful of food at a time, and paroxysms much more frequent. Dr. J. G. Trevillian was called in and agreed in diagnosis and treatment, except recommended incising the site of nail wound and irrigating it with antiseptics. This was done.

May 19th. Child worse; cannot sleep at night for biting her tongue; taking scarcely any nourishment. I suggested antitoxin to parents, but they were too poor to buy it.

May 20th. Condition same. A lady called to see me and furnished the money to buy the antitoxin. Messrs. Poythress & Co. telegraphed at once. I, in the meantime, used a bottle they had in stock, which lasted until May 24th; this was not the kind I ordered, and no results were observed.

May 24th. Parke, Davis & Co.'s antitoxin arrived, and its use commenced at once. 15 cc., or one bottle, was given every twelve hours. Bromides, chloral and cannabis indica continued. Pulse, 110; temperature, 101° F.

May 25th. No improvement in condition.

May 26th. Some improvement; can bend legs slightly, and abdominal muscles not so tense. Muscles of neck and jaws show no improvement. Still biting tongue.

May 27th.—Condition same; treatment continued.

May 28th.—Can open mouth wider, and does not bite tongue any more.

May 29th to June 5th.—Steadily improving;

no antitoxin given since May 28th; bromides, chloral and cannabis indica continued.

June 6th—Patient can walk a little; muscles not tense or drawn, but she seems to have forgotten how to walk.

June 15th—Child seems entirely well; goes where she wants to and does not complain; discharged as cured, and at this writing there has been no further trouble.

I used in this case six bottles of P., D. & Co.'s antitoxin. I did not see any results from the first lot used, which was put up by another firm, but this may have been because it was not fresh. The improvement with P., D. & Co.'s antitoxin was steady after the third day. The only untoward result was a dermatitis all over the body, first commencing at the site of the punctures, and I do not think it was caused by the bromides, as only 10 gr. doses were given. The dermatitis soon disappeared with simple treatment. The bromides, chloral and cannabis were kept up through the disease, and whiskey in ʒss doses was given every four hours to guard against any depression from the antitoxin. The bowels were kept thoroughly open with Epsom salts daily.

1001 *Floyd Avenue.*

REPORT OF A CASE OF TYPHOID FEVER, WITH PERFORATION.*

By W. B. FRENCH, M. D., Washington, D. C.

The case I desire to report to night is one of typhoid fever in a child of ten years, and the special feature, upon which I hope some light may be thrown in the discussion, is perforation. Of course, no claim is made in what I have to say to anything specially new or novel. It was such a case as many of us have the misfortune to meet once in a while, yet are powerless to render such aid as we would like to. If an apology is needed for taking up your time on the subject of typhoid, I can only say that I believe it is one of the most interesting diseases with which we have to deal, and that its study and discussion cannot but result in benefit to some of us.

The patient was a girl of ten years, the only child of healthy parents. She had had, three years prior to this time, scarlatina of moderate severity, with complete recovery. The kidneys had been watched from time to time since then, and were in good order. A year ago she had diphtheria, from which she made a good

recovery, again with no kidney or other trouble, and remained well—in excellent health—up to the beginning of the present attack, November 5th, 1899. The usual prodromal symptoms of typhoid—languor, loss of appetite, intermittent temperature, and some headache—appeared, absent in the mornings at first, but beginning in the afternoon and lasting until bed time. Indeed, the intermissions of symptoms were so distinct that, for three or four days, I was so confident that I had an ordinary quotidian fever to deal with that I ordered quinine, rest in bed, and liquid diet, and did not think it necessary to examine the blood. Quinine failing to make any impression on the symptoms, I made a blood examination and found it negative for malaria, and that, together with more frequent temperatures, soon revealed the true state of affairs—typhoid fever. The progress of the case was marked by a steady rise for a week, as shown on the chart, a fastigium of eighteen days, and a descent to nearly normal on the twenty fifth day of the disease. The eruption appeared about the tenth day, was well marked on abdomen and chest, with a few spots on feet and ankles. Constipation, requiring suppositories, was present. Occasional vomiting and constant nausea on taking nourishment were troublesome throughout the attack. Delirium, sometimes talkative, sometimes a quiet muttering, with pronounced tremor of hands, and at times the muscles of the chin and mouth, were distressing features of the fastigium. The temperature range was from 103° to 104°, usually below the latter, relieved temporarily by sponging. The ice cap was used in the hope of further reducing temperature and diminishing the delirium, but with indifferent success, until about the end of twenty-five days, when the fever had nearly reached normal. Instead of remaining down, it began a rather abrupt ascent, and in about four days had reached the height attained in the original attack, averaging a little higher. Delirium now increased, the patient at times becoming violently excited, especially upon any attempt to nourish her, and even without provocation at others. Several attempts were made to bite the cup or tumbler when food and water were given, and once a small china cup was bitten in several fragments. The mother and nurse each had an index finger badly pinched in attempting to bathe the mouth and teeth. At other times the delirium would quiet down, but only to return again after a short rest. The eruption re-appeared—not so profusely as during the first attack, but still very well

* Read before the Medical and Surgical Society of the District of Columbia, March 1, 1900.

marked and plentiful. Diarrhœa—that is, four or five movements in twenty-four hours—marked the relapse. An undue frequency in passing water called my attention to the kidneys and bladder, and I found, upon examination, the urine filled with pus cells, a very few hyaline casts, and a trace of albumin due to the pus. Urotropin grs. iv was given every four hours, and at the end of a few days all bladder symptoms had gone; but the drug had to be again given upon re-appearance of pus in the urine. About the end of the fifth week there was an acute suppression of urine for eighteen hours, but twenty-four hours of hot and frequently renewed poultices over the kidneys, together with an increased quantity of water containing 15 to 20 grains citrate of lithia, re established the flow.

Meanwhile, the little patient was doing fairly well under the circumstances, and there was hope of recovery. The pulse was growing more rapid than in the original attack, and had now reached 140, but it had sufficient volume to encourage us that it would soon improve with the drop in temperature now due to finish the relapse. The expected drop in temperature occurred about the thirty-eighth day, as shown on the chart, rather abruptly to be sure, but with no indication of hemorrhage, and touched normal for a few hours only; and then ascended with equal abruptness to 102° and 103°, accompanied by maniacal delirium at times, screaming out and tossing about in bed so as to require physical restraint. The pulse rapidly ran up to 180, became very small and compressible, but improved under increased doses of strychnia and whiskey. On the morning of the fortieth day, I found the pulse about 160, temperature 102.5, and other conditions rather better. At 1 P. M. sudden collapse occurred, and I found the patient an hour later in a *dispetate* condition—evidently dying. An examination showed a moderately distended abdomen, somewhat tympanitic, cold extremities, labored and hurried breathing, a tumultuous heart action, and a pinched facial expression. Death occurred at 4:30, three and one half hours after the onset of collapse, due to perforation.

Some of the interesting features of this case were the cystitis, undoubtedly due to the presence of the specific bacillus of typhoid, and its prompt disappearance under treatment, to return again as soon as treatment was suspended, showing rather conclusively its origin. It is a complication that I have seldom met, and I would like to know from some of our members how often it has occurred in their work. I re-

gret now that I did not determine bacteriologically the presence of the bacilli; but it has been done by others sufficiently often to establish the condition as a fact. It emphasizes the necessity of disinfecting the urine in all cases, for there may well be enough organisms in the urine of cases who do not have a distinct cystitis, to infect others if not properly disposed of. A solution of bichloride of mercury was used in this case. The almost complete suppression of urine, only four ounces in twenty-four hours, occurring about the thirty-seventh or thirty-eighth day, was no doubt chargeable to the disturbing influence of the typhoid organism in the kidneys. This was my first experience in the use of urotropin, which is said to break up in the bowel and liberate formaldehyde, and to be excreted by the kidneys. It appeared to act well, the urine clearing of pus after a few days use of it, and the trouble returning after a few days suspension of it. Its use was interrupted to avoid constant disturbance of the little patient, as she was taking her nourishment, whiskey and strychnine, at rather frequent intervals, owing to the irritable condition of the stomach. I could discover no material influence of the drug on any of the symptoms except those due to the kidneys and bladder.

The termination in perforation in childhood is said to be rather rare by most authorities, Osler giving it as low as 6 per cent., though Murchison states a much larger percentage, nearly 20. However, my personal experience and observation has led me to think that it is seldom met with in little people—children under ten years, for example. Generally speaking, the disease may be said to be a mild one in children, and I think we are justified in encouraging the parents by so stating to them in the beginning of the attack, always, however, reminding them of the treacherous nature of the disease, and of some of its possible complications. The case in question, after the first week, had every characteristic of a very severe attack in the adult. The nervous system was decidedly affected; the circulatory system held its own fairly well until towards the last. The eruption was rather profuse, and altogether the disease behaved as it often does in older patients. I would like an expression of views as to the prevention of perforation—that is, is there any known method of preventing it, beyond rest and proper diet? In this case I was unable to trace the source of infection.

While on the subject of typhoid, I desire to recall to the Society a case of this disease which I reported, which occurred in the Fall of 1897, and which was complicated by pulmonary tu-

berculosis. The patient, a woman of 40 or more, entirely recovered from the lung infection, and has remained well ever since—in fact, is now and has been in robust health. She admits a weight of 145 pounds, to which may well be added enough to make it 160 from all appearances.

506 E. Capitol Street.

DISCUSSION.

Dr. Stone said he did not recall any case of the intestine operated upon by Washington surgeons, while he knew of cases successfully operated upon by surgeons of other cities. The objection to surgical intervention in these cases was the operation had to be done in the patient's home, where surgical asepsis was impossible. He recited two cases which he had seen some years ago where operation would have been of benefit. He inquired whether there were any symptoms to indicate an impending perforation.

Dr. Kober said the most manifest of perforation is shock.

Dr. Stone said the shock was caused by the hæmorrhage.

Dr. Kober was under the impression the perforation caused the shock, and that life depends upon its extent and also upon the bowel contents. Perforation cannot be foretold, nor is it absolutely fatal. Murchison states that 4 per cent. of cases of perforation recover, and about 12 per cent. of all deaths from typhoid are due to perforation. Keen states, if operated on within twenty-four hours after perforation one in three may be saved. There may be a rise of temperature and tenderness for twenty-four hours preceding perforation, but this is not enough to warrant surgical measures.

Dr. Thomas related his experience with typhoid fever during the late war and cited a case of perforation. The autopsy showed rupture of the gall-bladder. There was no history of shock, but, according to the clinical chart, the perforation must have occurred four or five days previously. In another case of shock there was a sensation of floating away, pulse fell, collapse became deep, remained so for twenty-four hours, and then the pulse became normal. There was no evidence of hæmorrhage in stools; no tympanites, but phlegmasia alba dolens was present.

Dr. Hickling said that the urine in cases of typhoid fever, when it contains albumen, is a source of infection, and should be disinfected, as well as the stools. He had not seen a case of cystitis unless due to infection from cathe-

terization. Urotropin is quite useful in septic conditions of the bladder. The best preventive of perforation is a thorough cleansing of the intestinal tract by calomel during the first few days of the disease, followed by the free use of guaiacol carbonate, with menthol and thymol, and of course a proper restriction of the diet as to quantity, as well as to the quality of the nourishment given. Since adopting this treatment, he had not only failed to have a case of perforation, but had found his patients free from gaseous distension and abdominal pains, which had been so constant under other forms of treatment.

Dr. French, closing, said he had inquired of the Society the premonitory symptoms of perforation and hæmorrhage. He did not know them; the cases are seldom seen before collapse.

Analyses, Selections, etc.

Medical Laws of Virginia.

We receive so many inquiries about the medical laws of Virginia that we have decided to publish them as they appear in Polk's Medical Directory. It will be noticed that many important changes went into effect July 1, 1900. One is that undergraduates cannot be examined by the Medical Examining Board of Virginia except on such subjects as they have passed upon at their respective medical colleges, and must present certificates of such fact. Another is that those claiming to be graduates must bring their diplomas with them for inspection as to genuineness, etc. Furthermore, each applicant who receives the certificate of successful examination by the State Board of Medical Examiners must have the certificate recorded in the county or corporation clerk's office in which he proposes to begin the practice of medicine or surgery.

A bill to amend and re enact sections 1744, 1745, 1746, 1747, 1749, 1750 and 1752 of chapter 77 of the Code, regulating the practice of medicine and surgery in Virginia.

1. Be it enacted by the General Assembly of Virginia, That sections seventeen hundred and forty four, seventeen hundred and forty five, seventeen hundred and forty-six, seventeen hundred and forty seven, seventeen hundred and forty nine, seventeen hundred and fifty, and seventeen hundred and fifty-two, of chapter seventy seven of the Code, regulating the practice of medicine and surgery in Virginia, be amended and re-enacted so as to read as follows:

Sec. 1744. *Board of Medical Examiners—Number and Terms of Members.*

There shall be for this State a board of medical examiners, consisting of one member from each congressional district in this State, and two for the State at large, and, in addition, two homœopathic physicians from the State at large, whose term of office shall be four years, or until their successors are appointed and qualified. The term of office of the board first appointed after this act takes effect shall commence on the first day of April, nineteen hundred and two, but the board in office under the law in force at the time of the passage of this act shall constitute a board of medical examiners under this act until a new board shall be appointed and qualified.

Sec. 1745. *How Appointed—When Office Deemed Vacant.*

The said board shall consist of men learned in medicine and surgery, and shall be appointed by the governor on or before the first day of April, nineteen hundred and two, and every fourth year thereafter, from a list of names to be recommended by the Medical Society of Virginia. He shall also appoint two homœopathic physicians, who may be nominated to him by the Hahnemann Medical Society of the Old Dominion, in the manner hereinafter provided. Vacancies occurring in such boards for unexpired terms shall be filled in the same manner. Such recommendations shall be by the votes of a majority present at some meeting of the said societies, and the same shall be certified to the governor by the president of such society; provided, however, in case the governor shall consider any of the persons so recommended unsuitable, he may decline to appoint such person or persons, and communicate the same fact to the president of the society presenting the nomination, and such society shall, within ninety days thereafter, make other recommendations in the same manner as hereinbefore prescribed, which shall stand on the same footing in all respects as those first made; provided, further, if such society fail to make such recommendations prior to the time of appointment, or within the ninety days, the governor shall appoint such board, either in whole or in part, without regard to such recommendations. If any of such examiners shall cease to reside in the district for which he was appointed, his office shall be deemed vacant.

Sec. 1746. *Qualification of Members—Officers of Board—Its Meetings—Quorum.*

The members of said board shall qualify by taking the usual oath of office before the county or corporation court of the county or corpora-

tion in which they respectively reside, or before the judge of such court in vacation. The officers of said board shall be a president, vice-president, and secretary (who shall also act as treasurer); said officers to be members of and selected by the board. Regular meetings of the board shall be held at such time and places as the board may prescribe, and special meetings may be held upon the call of the president and any five members; but there shall not be less than one regular meeting each year. Five members of the board shall constitute a quorum. The board may prescribe rules, regulations and by-laws for its own proceedings and government, and for the examination by its members of candidates for the practice of medicine and surgery.

Sec. 1747. *Examination of Applicants for the Practice of Medicine and Surgery—Re-examination—Fees of Board.*

It shall be the duty of the said board, at any of its said meetings, to examine all persons making application to them, who shall desire to commence the practice of medicine or surgery in this State; provided, said applicant shall produce before said board a diploma, or other satisfactory evidence of his graduation in some medical college chartered by the State or territory in which the same is situated. And when an applicant shall have passed an examination satisfactory as to proficiency before the board in session, the president thereof shall grant to such applicant a certificate to that effect. A fee of ten dollars shall be paid to said board, through such officers or members as it may designate, by each applicant before such examination is had. And in case any applicant shall fail to pass a satisfactory examination, he shall not be permitted to stand any further examination within the next six months thereafter, nor shall he have again to pay the fee prescribed as aforesaid; provided, however, no applicant shall be rejected upon his examination on account of his adherence to any particular school of medicine or system of practice, nor on account of his views as to the method of treatment and care of diseases; and provided, further, that when, in the opinion of the president of the board, any applicant has been prevented by good cause from appearing before the board, he shall have authority, in his discretion, to grant a special permit to such applicant to practice medicine or surgery until he shall have an opportunity to appear before the board in session for examination; which said special permit shall be revocable at the discretion of the president, and in no case shall it entitle the holder thereof

to practice after the next regular meeting of said board. The said board shall have, in their discretion, authority to accept in lieu of examination of an applicant a diploma or other satisfactory evidence of the graduation of the applicant in some medical college chartered by the State or territory in which the same is situated, and a certificate from the examining board of any other State or territory of the United States or the District of Columbia, showing that such applicant has passed a satisfactory examination as to his proficiency, and obtained license from said board to practice medicine and surgery in said State, territory or District.

Sec. 1749. Applicant to have Certificate of Board Recorded—Fee of Clerk.

Before any person who obtains a certificate as aforesaid may lawfully practice medicine or surgery in this State, he shall cause the said certificate to be recorded in the clerk's office of the county or corporation in which he resides in this State, or, if he resides in the city of Richmond, in the clerk's office of the chancery court of said city; but if he does not reside in the State of Virginia, he shall cause the said certificate to be recorded in the clerk's office of the county or corporation in which he offers to practice in this State, or in the clerk's office of the chancery court of the city of Richmond, if he offers to practice in said city. The certificate shall be recorded by the clerk in a book to be kept for that purpose, and it shall be indexed in the name of the person to whom the certificate is granted. The clerk's fee for recording shall be the same as for recording a deed.

Sec. 1750. Who Prohibited from Practicing Medicine or Surgery Without Certificate—Penalty for Practicing Illegally—What Courts have Jurisdiction to Inflict.

No person who shall have commenced the practice of medicine or surgery in this State since the first day of January, eighteen hundred and eighty-five, or who shall hereafter commence the practice of the same, shall practice as a physician or surgeon for compensation without having first obtained a certificate from the State board of medical examiners and caused the same to be recorded as aforesaid, or a special permit from the president of said board. Any person shall be regarded as practicing medicine or surgery for compensation within the meaning of this act who shall profess publicly to be a physician or surgeon and shall offer for practice as such, or who shall prescribe for the sick or those needing medical aid, and shall receive therefor money or other

compensation, directly or indirectly. Any person who shall practice medicine or surgery in this State in violation of the provisions of this section, shall be fined not less than fifty nor more than five hundred dollars for each offense; and it shall not be lawful for him to recover by action, suit, motion or warrant in any of the courts of this State, any compensation for services which may be claimed to have been rendered by him as such physician or surgeon. The county and corporation courts shall have exclusive original jurisdiction to try offenses for violations of the provisions of this section committed within their respective counties or corporations.

Sec. 1752. Who Exempted from Examination.

Nothing in this chapter shall be taken as including or affecting in any way any dentist or midwife, nor any commissioned officer or contract surgeon of the United States army, navy or marine hospital service in the performance of his duties as such, nor to any physician or surgeon residing in any other State or territory of the United States, or in the District of Columbia, called into consultation in a special case with a physician or surgeon residing in this State; nor shall this chapter be construed as affecting or changing in any way the laws in reference to the license tax required to be paid by physicians, surgeons and dentists.

2. All acts or parts of acts in conflict with this act are hereby repealed.

3. This act shall be in force from July 1, 1900.

A BILL to amend and re enact section 4106 of the Code of Virginia, as amended and re enacted by an act approved February 23, 1894, as amended and re enacted by an act approved March 5, 1896, as amended and re-enacted by an act approved February 9, 1898, in relation to the jurisdiction of police justices and justices of the peace as to the trial of offenders in certain cases.

1. Be it enacted by the General Assembly of Virginia, That section forty one hundred and six of the Code of Virginia, as amended and re-enacted by an act approved February twenty-third, eighteen hundred and ninety-four, as amended and re enacted by an act approved March fifth, eighteen hundred and ninety six, as amended and re enacted by an act approved February ninth, eighteen hundred and ninety-eight, relating to the jurisdiction of police justices and justices of the peace as to the trial of offenders in certain cases, be amended and re-enacted so as to read as follows:

Sec. 4106. *What Criminal Offenses Police Justices and Justices of the Peace May Try.*

The several police justices and justices of the peace, in addition to the jurisdiction exercised by them as conservators of the peace, shall have concurrent jurisdiction with the county and corporation courts of the State in all cases of violations of the revenue laws of the State, and of offenses arising under the provisions of chapter one hundred and eighty-seven of section thirty-eight hundred and one, thirty-eight hundred and two, thirty eight hundred and three, and thirty eight hundred and four of the Code of Virginia; and, except where it is otherwise provided, shall have exclusive original jurisdiction for the trial of all other misdemeanor cases occurring within their jurisdiction, in all of which cases the punishment may be the same as the county and corporation courts are hereby authorized to impose. But the grand juries hereafter sworn in the county and corporation courts are hereby authorized and empowered to inquire into and bring to the attention of the court, by presentment or indictment, all such misdemeanors as were cognizable by such grand juries prior to March fifth, eighteen hundred and ninety-six, and in all cases of misdemeanors in which a presentment or indictment is found by a grand jury, and for the trial of which said justices have exclusive original jurisdiction, a copy of such indictment or presentment, together with the names of the witnesses upon whose testimony such indictment or presentment was made, shall be certified and delivered by the clerk of the court in which it is found to some justice of the district in which such offense was committed, said justice to be designated by the court in its order, and such justices shall forthwith deliver such copy of said indictment or presentment to the sheriff or some constable of his county, or sergeant or policeman of his corporation, which copy shall have the force and effect of a warrant of arrest, and the officer shall thereupon arrest the person or persons so indicted or presented, and carry such person or persons before said justice for trial, and shall summon the witnesses aforesaid to appear before such justice, and the same proceedings shall be had thereon as are had upon a warrant issued by a justice; provided, that in any city in which there is a police justice, the powers and jurisdiction conferred by this section shall not be exercised by any other justice of such city, except when acting for and in the stead of the police justice according to law. Each police justice and justice of the peace shall try or procure some other justice to try every mis-

demeanor which is brought before him as herein provided.

2. In force after July 1, 1900.

A BILL to amend and re-enact sections 90 and 93 of an act approved March 6, 1890, entitled an act to provide for the assessment of taxes on persons, property and incomes, and on licenses to transact business, and imposing taxes thereon for the support of the government and public free schools and to pay the interest on the public debt, and prescribing the mode of obtaining licenses to sell wine, ardent spirits, malt liquors, or any mixture thereof, in cases where a court certificate is required.

1. Be it enacted by the General Assembly of Virginia, That sections ninety and ninety-three of an act approved March sixth, eighteen hundred and ninety, entitled an act to provide for the assessment of taxes on persons, property and incomes, and on licenses to transact business, and imposing taxes thereon for the support of the government and public free schools, and to pay the interest on the public debt, and prescribing the mode of obtaining licenses to sell wine, ardent spirits, malt liquors, or any mixture thereof, in cases where a court certificate is required, be amended and re-enacted so as to read as follows:

Sec. 90. No person shall, without a license authorized by law, practice as attorney-at-law, physician, surgeon or dentist; and no person who shall hereafter apply for license to practice as a physician or surgeon shall have such license granted to him unless at the time of such application he shall exhibit to the commissioner of the revenue to whom such application is made a certificate from the president of the State board of medical examiners that such person has passed a satisfactory examination before said board, or a special permit from the president of said board, or shall file with him an affidavit that such applicant commenced the practice of medicine or surgery in this State prior to the first day of January, eighteen hundred and eighty-five, which affidavit shall be subscribed and sworn to by such applicant. Any person who shall make a false oath in such affidavit shall be deemed guilty of perjury, and liable to all the prescribed penalties therefor.

Sec. 93. No person shall practice as a physician, surgeon or dentist for compensation, or sell any medicine, salve, liniment or compound of a like kind, unless he be a licensed merchant, whether he be the manufacturer

thereof or not, without a license; but a license to practice either medicine or surgery shall confer the privilege of practicing both of said professions; and a license granted to practice in any county or corporation shall authorize such physician, surgeon or dentist to practice throughout the Commonwealth without additional license. Any person violating any of the provisions of this section, or who shall practice in either of the professions named without having first obtained a license therefor, shall pay a fine of not less than thirty dollars nor more than one hundred dollars for each offense, and shall be debarred from recovering any compensation for such services by action, suit, motion or warrant in any of the courts of the Commonwealth. And any commissioner of the revenue who shall grant a license to practice as a physician or surgeon to any person who shall not have complied with the provisions of section ninety of this act shall be deemed guilty of a misdemeanor, and shall be subject to a fine of fifty dollars for each offense.

2. This act shall be in force from July 1, 1900.

Another amendment gives undergraduates the right to come before the board after their second year at college, on sections passed on at college, and finish their examination after finishing college, end of fourth year. The board grants certificate on both examinations if they make required average.

Intraspinal Cocaine Anæsthesia.

Tuffier (*La Semaine Médicale*, May 16, 1900), was one of the first to take up this new method of anæsthesia, and he has already published several reports upon his experience with it. Furthermore, one of his assistants, Cadol, has published a graduation thesis this year upon the same subject.

Tuffier himself has at present a record of sixty-three cases in which this form of anæsthesia has been employed. The outcome was in every way successful in every case.

The author employs an ordinary sterilizable hypodermic syringe. The needle, however, must be specially applicable to the work to be done. It is made of platinum, and measures nine cm. in length.

Cocaine is used in a two per cent. solution, which should always be sterilized and fresh.

The injection is made with the subject in the sitting posture. The lumbar region is first aseptized by brushing with soap and alcohol.

The iliac crests are then located, and an imaginary transverse line drawn between them passed flush with the fifth lumbar vertebra. Beneath this vertebra our injections should be made. The patient first bends his body far forward, and then the needle is driven in about one cm. outside of the line of the spinous processes. If it enters the spinal canal, there is an absence of resistance, while an escape of the cerebrospinal fluid at the proximal end of the syringe is the surest warrant that the operation is successful. Without this escape of endorachidian fluid we have no authority to inject cocaine.

One cubic centimeter of the anæsthetic solution is now injected, this operation requiring at least one minute. Some four to ten minutes elapse before the anæsthesia is complete. The loss of sensation, which may extend as high as the thorax, is absolute; enough so for the successful performance of amputations and other major operations. The duration of the anæsthesia is from an hour to an hour and a half. There may be certain obstacles to this form of anæsthesia. If the spinal column is in any way deformed, it may be difficult to introduce the needle. We must then seek out a new intervertebral space, and the puncture should not be regarded as complete until the cerebrospinal fluid escapes.

With regard to complications, Tuffier knows of nothing serious. We may get a sense of oppression in the epigastrium, anxiety, nausea, vomiting, headaches, sweating, rapid pulse, tremor of legs; but these are all trifling in character. In a limited number of cases Tuffier has noted rising temperature.

The sixty-three cases in which the author used this form of anæsthesia include operations on the legs (tenotomy, osteotomy, resections, amputations of the leg and thigh, etc.); operations on the genito-urinary organs (nephrotomy, lithotripsy, hypospadias, etc.); gynecological work (vaginal hysterectomy, and other vaginal operations); piles, fistula in ano, extirpation of rectum, and, finally, hernia and appendicitis.

The author is a partizan of this process, but says that it may readily be completed by ether anæsthesia, should anything go wrong with the injection method.—*Medical Review of Reviews*, July 25, 1900.

True Role of Drugs in the Management of Consumptives.

Dr. Solomon Solis Cohen, M. D., of Philadelphia, Pa., read a paper on this subject before the American Medical Association, Atlantic

City, June 7, 1900, of which the following is a summary:

First. Drugs play a secondary but useful part in the treatment of pulmonary tuberculosis.

Second. We have no specific against the exciting cause of processes of the disease.

Third. We have a number of agents which are useful in supplement to general hygienic measures, for the purpose of building up vital resistance. Chief among these are arsenic, iron, strychnin, and the hypophosphites. In a secondary rank are gold, silver and palladium. Auxiliary in special conditions are cardiants, diuretics and the like, and agents to improve digestion.

Fourth. Drugs used in improving local conditions in the lungs are iodine and its compounds, especially iodoform, creosote and its compounds, of which creosote carbonate is best; guaiacol and its compounds, myrtol, eucalyptol, and the terebinthines in general. Drugs useful by inhalation for the correction of local conditions in the throat, trachea, and bronchial passages, and especially in combating the secondary septic processes, so much more destructive than tuberculosis in itself, are ethyl iodid, formaldehyde and creosote.

Drugs useful by inhalation, for the purpose of modifying cough and other unpleasant symptoms, are chloroform, bromoform, ethyl iodid, terebene, eucalyptol, myrtol, etc.

Drugs useful in the control of special symptoms and accidents, such as hæmorrhage, night sweats, diarrhœa, and the like, are calcium chlorid, hydrastinin hydrochlorate, camphoric acid, agaricin, atropin, etc.

The paper lays stress not so much upon the particular drugs to be employed as upon the importance of knowing what is expected to be gained by the use of drugs, and in the choice of a group of agents, one of which will accomplish the desired object. The use of drugs for different purposes is not to be allowed to interfere with the adoption of those measures—namely, the use of air at modified pressure, the use of water therapeutically, internally and externally, the proper regulation of diet, rest and exercise, and above all the insistence upon life in the open air, with abundance of sunlight, upon which must depend that reinforcement of vital energy, which can alone produce recovery from pulmonary tuberculosis, and which does produce recovery from this disease in an increasing number of cases.

Book Notices.

Manual of Personal Hygiene. Edited by WALTER L. PYLE, A. M., M. D., Assistant Surgeon to Wills Eye Hospital, Philadelphia, etc. CONTRIBUTORS: Drs. J. W. Courtney, George Howard Fox, E. Fletcher Ingals, Walter L. Pyle, B. Alexander Randall, G. N. Stewart, and Chas. G. Stockton. Illustrated. Philadelphia: W. B. Saunders & Co. 1900. Cloth. 12mo. Pp. 344. Price, \$1.50 net.

This is, in the common sense of the term, an elementary work for doctors, but is evidently intended for the layman. Its object is to set forth plainly the best means of developing and maintaining physical and mental vigor. Throughout the book, there is an exposition of proper living upon a physiologic basis. Purely technical phraseology has been avoided as far as possible. Numerous explanatory diagrams and illustrations have been introduced throughout the text. It is a book which we wish laymen especially would read and study.

Cancer of the Uterus—Its Pathology, Symptomatology, Diagnosis and Treatment; and the Pathology of Diseases of the Endometrium. By THOMAS STEPHEN CULLEN, M. B. (Toronto), Associate Professor of Gynecology in Johns Hopkins University. With 11 Lithographic Plates and over 500 Colored and Black Illustrations in the Text, by Max Brödel and Hermann Becker. New York: D. Appleton & Co. 1900. Royal 8vo. Pp. 693.

This is one of the neatest, handsomest books we have ever seen issued from a medical press—in materials used, in typography, in illustrations, and in press work. It is the aim of the present volume to give the family physician—who, as a rule, is the first consulted, and upon whom largely falls the responsibility of arriving at a timely diagnosis—a clear idea of the early signs of carcinoma. The skilled pathologist is sometimes in doubt as to the exact nature—benign or malignant—of a given scraping. "Nevertheless, it is evident that a careful comparison of the chemical histories with the pathologic findings, in a large number of cases, will undoubtedly allow him to speak with authority in the majority of instances." The work is essentially surgical. In fact, no encouragement is to be found in this book for any local applications. The operations for hysterectomy are described in detail, and it is a most valuable book for the surgeon—so far as operative work is concerned. The chapter on the "Anatomy of the Uterus" is a gem. It is about the most perfect and complete description of the uterus we know of in exist-

ence. This chapter is fully illustrated. An excellent Index is appended to the volume. While an early diagnosis of cancer is essential to successful operation, it does not seem that cases of uterine cancer coming primarily in the hands of surgeons, fare better than those that come primarily into the hands of physicians. Surgeons, in coaxing physicians to feed them with patients, have too much adopted the habit, indirectly at least, of abusing the latter for negligence of duty when they are not certain that their patients have cancer. How often does the physician have to correct the diagnosis of the surgeon?

Editorial.

Dr. T. M. Lippitt, Assistant Surgeon U. S. Navy,

Reported in our issue of July 13th, 1900, as probably the first one of the U. S. Medical Corps to be killed in the impending war with China, is now reported as having been severely wounded while assisting in the defense of the Legations in Peking. We trust that when definite news arrives we will hear of his recovery. He is twenty-eight years of age, instead of twenty-three, as misprinted in our note of July 13th. He graduated from the University College of Medicine, Richmond, Va., 1897, and was commissioned Assistant Surgeon U. S. Navy in June, 1898.

The Virginia Medical Examining Board Report

Of the session held in Lynchburg, Va., June, 1900, is not yet received. We understand from the Secretary that the delay is entirely due to the failure of two of the examiners to make their returns in due time. The officers of the Board are powerless in the premises. We regret to have to postpone the publication of the results of that session, held about seven weeks ago.

Dr. Hunter McGuire

Has improved considerably since our last mention of his condition. Though yet unable to articulate words, he now almost daily enjoys evening carriage rides.

Yellow Fever

Is again officially reported in some of the Florida seaports. Strict precautionary measures have been taken by the U. S. Marine Hospital Service to meet any danger of a spread of the fever.

Mississippi Valley Medical Association.

The twenty-sixth annual meeting will be held at Asheville, N. C., October 9, 10 and 11, 1900, under the presidency of Dr. Harold N. Moyer, of Chicago. The Executive Committee have chosen Dr. I. N. Love, of St. Louis, to deliver the address in Medicine, and Dr. C. A. Wheaton, of St. Paul, Minn., the address in Surgery. The mere mention of these names is guarantee sufficient that the Association will hear only the best. Negotiations are in progress by which the members of the Association may obtain a one-fare rate for the round trip for this meeting. The Association will not be divided into sections at this meeting. The headquarters will be at the Battery Park Hotel, at which place the sessions will be held. Those who will read papers are requested to hand them to the Secretary (Dr. Henry E. Tuley, 111 West Kentucky Street, Louisville, Ky.)—typewritten—for use of the Publication Committee.

New Chesapeake and Ohio Railroad Hospital.

A new hospital of the system inaugurated by the Chesapeake and Ohio Railway was opened at Huntington, W. Va., recently. The grounds and building are the property of the railway, while the cost of furnishing was borne by the C. & O. Hospital Association, composed of employees of this road of all grades. Dr. C. W. P. Brock, Richmond, Va., is the efficient Chief Surgeon of this railway system, and to him are due many of the arrangements for the surgical care of the employees, etc., along the line.

Bubonic Plague in London, England.

The following cablegram was received August 2d from Past Assistant Surgeon Thomas stationed in London:

"Marine Hospital, Washington.

"There have been four cases of plague and two deaths from plague in London. Diagnosis confirmed by bacteriological examination. Do not think there will be further spread.

"(Signed),

THOMAS."

Medical Laws of Virginia.

As so many important changes were made in the medical laws of Virginia—especially those that relate to the State Board of Medical Examiners—we publish such of them as appear in Polk's *Medical Directory*, 1900, recently issued. We would especially advise all Virginia doctors, or those proposing to come to this State to enter upon practice to read this reprint which appears in the department of "*Analyses, Selections, etc.*," of this issue.

Country Practice for Sale or Exchange,

A country practice in Tidewater Virginia, close to the Bay. This practice is compact, large, and has telephonic communications not only with its various parts, but with nearly all cities.

The practice pays about \$1,500 per year, 90 per cent. of which is cash. This is an unusual opportunity for a physician desiring to move to such a place. Full particulars and reasons for leaving on application. Address "Chesapeake," care of *Virginia Medical Semi-Monthly*, Richmond, Va.

Valentine's Meat Juice Co's Rights Infringed.

The (London) *Times*, July 24, 1900, reports the appeal of this Richmond company to restrain the "Valentine Extract Co.," of England, from carrying on business as manufacturers or vendors of any preparation of extract of meat or meat juice under any name or title of which the name "Valentine" or "Valentine's" formed part, or to restrain the defendant, "C. R. Valentine," from carrying on any such business under any such name or title without clearly distinguishing that business from the business of the plaintiffs. The Valentine Meat Juice Company did not complain that the defendants had got up their goods so as to resemble the plaintiffs, but only that the defendants had made use of the name "Valentine" in such a way as to deceive the public into the belief that the goods sold by them were manufactured by the plaintiffs. Mr. Justice Stirling dismissed the action, but without costs, as there were features of suspicion about the case, but the want of good faith on the part of the defendants had not been proven. The plaintiffs appealed.

The American Association of Obstetricians and Gynecologists

Will hold its thirteenth annual meeting in the Assembly room of the Galt House, Louisville, Ky., Tuesday, Wednesday and Thursday, September 18, 19 and 20, 1900, under the presidency of Dr. Rufus Bartlett Hall, of Cincinnati, O.

The following-named papers have been offered:

1. President's address, R. B. Hall, Cincinnati.
2. Ovarian fibroma—case with microscopical report—L. H. Laidley, St. Louis.
3. Cholelithiasis—with report of cases—H. E. Hayd, Buffalo.
4. Appendicitis during pregnancy, Charles G. Cumston, Boston.

5. Diagnosis of ectopic pregnancy before rupture, based on ten cases, J. F. Baldwin, Columbus.

6. Three cases of extrauterine pregnancy, with specimens, W. B. Dorsett, St. Louis.

7. The private hospital, Joseph Price, Philadelphia.

8. Paper (title undetermined), E. F. Fish, Milwaukee.

9. Paper (title undetermined), C. C. Frederick, Buffalo.

10. Extirpation of the rectum and sigmoid per vaginam, John B. Murphy, Chicago.

11. Paper (title undetermined), H. O. Pantzer, Indianapolis.

12. Paper (title undetermined), J. H. Carstens, Detroit.

13. The hymen—of what significance is its presence or absence in determining virginity, John Milton Duff, Pittsburg.

14. Paper (title undetermined), W. P. Mantton, Detroit.

15. Paper (title undetermined), F. Blume, Pittsburg.

16. A satisfactory method for suspension of the uterus, Robert T. Morris, New York.

17. Paper (title undetermined), H. W. Longyear, Detroit.

18. Some points regarding surgery of the gall-bladder, A. Vandler Veer, Albany.

19. Surgery of the liver and bile ducts, W. G. Macdonald, Albany.

20. Observations respecting malignant disease of pelvic organs, Augustus P. Clarke, Cambridge.

21. Paper (title undetermined), M. Rossenwasser, Cleveland.

22. Bilateral celiotomy and shortening of the round ligaments for complicated retroversion of the uterus, A. Goldspohn, Chicago.

23. Paper (title undetermined), W. B. Chase, New York City.

24. Paper (title undetermined), Charles A. L. Reed, Cincinnati.

25. Round ligament ventrosuspension of the uterus, D. Tod Gilliam, Columbus.

26. Paper (title undetermined), L. S. McMurry, Louisville.

The titles of papers are announced in the order of their reception. The permanent program will be classified and issued about August 25, after which date no further titles can be added or changes made in the printed program.

A cordial invitation is extended to the medical profession to attend the several scientific sessions of the association.

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Original Communications.

MALARIA.*

By J. T. WILSON, M. D., Sherman, Texas,

Ex-Superintendent North Texas Hospital for the Insane,
Terrell, Tex.

The subject of malaria is a very large one and is of great interest to us all. It has been known from the days of Hippocrates that malaria develops in swampy regions, along streams, in low-lands, where water stands and becomes stagnant. It is seldom observed in mountainous regions. Since the discovery of Laveran of the plasmodium of malaria, it is admitted that the organism which he described is the cause of the disease. There is a separate organism for each form of the disease, viz.: tertian, quartan, and æstivo-autumnal

Where salt and fresh water meet we are apt to have malaria, and it prevails in the swampy regions of our coast line. Alluvial soil is also very favorable to its development; but in deep, sandy soil, even though it be wet, it is less prevalent. As a boy, previous to the Civil War, I never saw but one person with a chill, and that was a negro man; the reason was, I presume, that the country was well-drained and in a high state of cultivation.

According to my observations epidemics of malaria are more frequent in Missouri than in Texas, or in that part of it in which I have lived. I have noticed that when we would have a wet spring, followed by a hot, dry summer, and vegetation very rank, when it began to decay we had more malaria than when the springs were not so wet and vegetation not so luxuriant. The fevers were more prevalent there during the months of August and September. The contour of the country seems to play an important part in the production of malaria. On one side of the Missouri river is generally found an abrupt tall bluff; while on the opposite bank, for some distance in-

land, are low-lands, and often swamps. There was always a great deal of malaria in the low regions and even in the adjacent hills.

A well developed case is easily diagnosed; it is the obscure cases that puzzle us. I have not seen many typical cases in Texas. Complications often exist. A case came under my observation presenting fairly well marked symptoms of pneumonia, with fever, cough, rusty sputum, dullness over a certain area, and sub-crepitant râles. I diagnosed the case as pneumonia. I gave the child purgatives, quinine and an expectorant mixture. The next day, when I saw the child, much to my surprise the symptoms of pneumonia had all vanished. On the third day, I saw the patient again, and the pneumonic symptoms had returned, so that I was still of the opinion that I was dealing with a case of pneumonia. The treatment was continued with fairly good doses of quinine, and the child made a rapid recovery. I know now that it was malaria manifesting itself in one of its many forms.

CASE II.—A child was having spasms, and I was at a loss to know the cause of the trouble. When the spasm subsided, I left some medicine and gave instructions for an enema to be given. The next morning, the child was much better. On the third day, there was a recurrence of the spasm and with fever, and on the sixth day was worse than it had ever been. I began the administration of quinine in pretty large doses, and the child made a good recovery. The next year following some of these observations, a German cyclopedia of medicine, edited by Von Ziemssen, was published, and in the second volume an extensive article on malaria appeared. In this I found a description of several cases similar to mine, and this gave me a clue to the more intelligent study of these cases.

CASE III.—There was a typical typhoid condition in this case—the tongue characteristic, fever continuous, with high evening and low morning temperatures, and with a diarrhœa. About the sixth day, I had consultation, and my consultant diagnosed the case as typhoid;

*Discussion of Points in Malaria before the Practitioners' Society, of Dallas, Texas, July 16, 1900.

he felt very positive as to the diagnosis. We, however, continued the quinine and the patient got well. I have seen some cases that I believed were of a double infection, but I think that they are extremely rare.

Sequelæ.—In Case I, there was a complete paraplegia following an attack of malaria. The rectum and bladder were paralyzed, but the arms and the upper portions of the body were not affected. We gave him potassium iodide and quinine, and used counter-irritation. There was complete recovery in about three months. We believed this condition due to the attack of malaria. Since this case I have seen seven or eight similar ones.

CASE II.—A girl about twelve years old had facial paralysis affecting one side of the face, which disfigured her very much. The cause of the trouble was not known until the patient had recovered. The treatment was quinine, iron and strychnia, upon which she made very good progress. After a thorough investigation the parents remembered that she had had an attack of malaria shortly before the attack of paralysis. I frequently have had cases of this kind which were diagnosed by the treatment—had to give quinine before they would get well. Malaria in young children frequently produces spasms, sometimes very severe.

There is also a cerebral complication which is frequently seen.

The *algid form of malaria* is the most dangerous. It is accompanied with intense nausea and vomiting, severe chill and high fever, followed by a sub-normal temperature; unless you remain with these cases and use vigorous measures until they are better, they will, in many instances, die. Whatever is done must be done promptly.

A typical case of this kind came under my observation in a woman who had been apparently healthy. She was entirely rational but had no radial pulse, arms and legs cold to the elbows and knees. There was hemorrhage from the nose, rectum and vagina, and there was a profuse clammy perspiration and sub-normal temperature. Quinine was given by hypodermic injection and by enema with the addition of strychnia. Counter irritation was used quite extensively. I informed her husband that I had very little hope of her recovery. The treatment was vigorously pursued during the day; by eight o'clock that night she was so much improved and continued to do so that I did not have to see her again.

According to my personal observations such cases are more frequent in Missouri than here in Texas, and yet Texas was once considered a

very hot-bed for malaria. At one time many insurance companies would not allow their policy holders to come south of Red River between the months of May and October without a special permit, which was very difficult to obtain.

Treatment.—Nearly every one has his favorite method of treating malaria. Quinine is the *sine qua non*. The method and time of administration are matters of importance. Small doses of calomel and colocynth should be given as a preliminary purge. I also use alkalines in the first stages, viz.: acetate, citrate and bicarbonate of potash. When the fever has been broken up a good tonic should be given. I like the following, as I have had good results from its use:

R̄—Quinæ sulph.....	gr. 1½
Strych. sulph.....	gr. ʒ⅞
Ferri sulph exsic.....	gr. 1
Ac. arseniosii.....	gr. ʒ⅞
Pulv. rhei.....	gr. ½

M.—Make one capsule.

Sig.—Take one three times daily after each meal.

The Mosquito in Malaria.

By P. L. CAMPBELL, M. D., Dallas, Texas.

The most advanced thinkers in the profession to-day are of the opinion that the mosquito plays an important part in the transmission of malarial fever to man.

Manson thinks that the mosquito is the agent that removes the parasite from the human body and gives it an opportunity of continuing its existence as a species. He considers malaria as a disease of insects, the malarial organism being agrariform and being able to live either in the body of man or the mosquito. Ross claims that he has given malaria to healthy men by administering to them water in which malariated mosquitoes had died. Ziemann has for over a year been collecting evidence bearing on the mosquito theory of the propagation of malaria. After a laborious search, which included the investigation and sectioning of hundreds of individuals of thirteen different species of mosquitoes, a variety of anopheles was finally found which gave a positive result. Thirteen per cent. of the mosquitoes of this species, caught in a certain malarial locality, contained in their stomachs malarial coccidia in various degrees of development and corresponding closely to those described by the Italian investigators. Experiments with insects, cultivated from the larvæ, gave negative results, but the same

insects, after sucking blood containing malarial crescents, became infected.

Blood Changes in Malaria.

By J. E. WILSON, M. D., Dallas, T-xas.

Anæmia is the prime factor in malaria, due to the destruction of the red blood cells by the plasmodium malariae. Melanæmia is a secondary consideration, depending upon the liberation of the pigment of the parasite when they segment. The blood becomes hydremic, and, in cases where there is a rapid disintegration of the red cells, we frequently find a hemoglobinemia.

In malarial cachexia, the anæmia is frequently very profound; often the blood count gets as low as one or two million per cubic millimeter. The general characteristics are those of a secondary anæmia, and we get all the changes common to this disorder.

All of the organs of the body suffer. The heart is one of the first to be affected. It, having been accustomed to resisting blood of the normal specific gravity (1060), soon begins to get irregular, and palpitation is noticed. The lowered specific gravity of the blood causes a different resisting force to be exerted, and we detect it as a hemic murmur, which is best heard over the thyroid axis.

The alimentary tract not receiving its proper nourishment, due to the impoverished condition of the blood, cannot perform its functions and secrete the juices for digestion, and we see the results in indigestion and diarrhœas.

The liver gets cirrhotic and the spleen hypertrophied, due to the poor condition of the blood and the deposit of the pigment of the malarial parasite.

The nervous system is also affected, most commonly as anæmic neuralgias.

Hæmaturia of Malaria.

By SAM'L E. MILLIKEN, M. D., Dallas, Texas.

In all the severe forms of malarial fever, we may have hemorrhage from the mucous membranes. It is most commonly met with coming from the kidneys, either as a hæmaturia or hemoglobinuria. The urine is usually bloody, but may range from a light red to a dark color almost black. The amount is almost always decreased and is of a high specific gravity. Red blood cells are very scarce, as it is usually a hemoglobinuria. This condition lasts from one to five days. The chief indication is to

control the hemorrhage, although some of our best authorities say to push your quinine and the hemorrhage will stop. I have not been so fortunate in this line of cases; in fact, I believe that quinine aggravates the trouble instead of benefiting it.

Mousseos, in the *Greece Medical* (Syria), says that during the early stage of hemoglobinuria, if there is cyanosis under the nails and in the face, lips, nose and ears, the trouble is due to quinine in 80 per cent. of the cases. This may also appear with malarial hemoglobinuria, but it vanishes with the chill, while in quinine hemoglobinuria it lasts for several hours after the chill.

I have had good results with sodium hypophosphite administered in 15 grain doses until the bowels and kidneys are flushed. I also give hypodermics of morphine and atropine to quiet the patient.

General Discussion.

Dr. L. Ashton, of Dallas, Texas: In malarial fever it is well to bear in mind the period of incubation, which is from seven to twenty days. The pulse after the chill is frequently dicrotic. The spleen is greatly enlarged and the liver congested. Pernicious malaria occurs in profoundly malarial districts, and while it is often difficult to make a diagnosis, if the plasmodium of Laveran is present it is absolutely conclusive. As to the treatment, there is but one treatment—or may I say antidote?—for the poison: quinine in some form. This is almost as nearly a specific for malaria as mercury and iodides are for syphilis. First unload the portal circulation by giving calomel and colocynth, and then administer the quinine—preferably during or after the fever. If the malaria becomes chronic, arsenic or the iodides will destroy the parasites when the preparations of cinchona fail; but remember to always try first the derivatives of Peruvian bark. If it is, as I believe, a water-borne disease, then the first thing to do is to get your patient out of the malarial district as soon as possible, that he may not continue to take in the malarial poison.

Dr. J. B. Titterington: I saw one case of cataract occurring from malarial fever. Quinine was given, and it soon disappeared.

Dr. L. Ashton: Dr. Wilson, how do you like the terebinthines in hæmaturia?

Dr. Wilson: I have used them, but do not like them, for they annoy the stomach.

Dr. S. E. Milliken: Dr. Wilson, how long do your cases of hæmaturia last?

Dr. Wilson: Three to four days, but they may last two or three weeks.

Dr. Callender L. Johnson: Dr. Wilson, when quinine is contraindicated by cerebral symptoms, what would be your treatment?

Dr. Wilson: Infusions of cinchona can be tolerated when quinine cannot be used. This is especially true of children.

Dr. J. E. Wilson: Dr. Wilson, how do you like methylene blue where quinine is contraindicated?

Dr. Wilson: I do not like it, for it disorders the stomach.

MODERN PATHOLOGY AND TREATMENT OF APPENDICITIS.*

By PINCKNEY FRENCH, M. D., St. Louis, Mo,

A few years ago, surgeons were considering a variety of diseases in the right iliac fossa. Perityphlitis, typhlitis, and other inflammations in this region were then regarded as separate and individual diseases. To-day, we discuss appendicitis as the essential cause—in fact, the only factor in all the diseases of this region.

The first authentic record of a proper description of appendicitis was by Mestivier, in 1759. No progress was seemingly made from this accurate description. At that time the profession did not understand fully the peritoneum. In 1803, a distinguished Frenchman described accurately and fully the peritoneum, and within the next twenty years articles were so frequently written upon the subject that we became familiar with its functions, its different folds, and its relation to the viscera of the abdominal cavity. From 1824 to 1827 several surgeons recorded cases of appendicitis, enumerating all the symptoms known to-day as being indicative of that disease. About this time Melier made not only an accurate description of several cases of appendicitis occurring in his own practice, but suggested laparotomy and the extirpation of the appendix just as the operation is performed to-day. *Guy's Hospital Reports* for 1836 contain a well written description of appendicitis by the distinguished Dr. Addison (Addison disease fame). Yet the operation for relief of appendicitis was not done until 1867, when Dr. Willard Parker, of New York, not only suggested the advisability of removing the appendix, or opening the abdomen where there was suppurative disease,

or infectious inflammation, but performed the operation, and soon demonstrated the fact that by operative procedure seventy-five per cent. of the cases recovered, whereas previously the majority had perished. In 1883, a surgeon from New York reported one hundred (100) operations for appendicitis, and one gratifying part of the report was that ninety of the operations were performed in this country, and only ten outside of America. Of this number a large percentage had recovered. This settled the question as to the advisability and success of the operation. At the present time our knowledge of the subject is so advanced that instead of eighteen per cent., which was the percentage of mortality given by Wyeth some years ago, we are to-day able to report that in skillful hands a mortality of only about two per cent. In this connection may be mentioned the achievements of Missouri surgeons, which entitle them to rank among the scientific surgeons of the world.

A complete understanding of the *pathology of appendicitis* is essential to a proper treatment. Guided by information thus secured, one can reasonably foretell early in every attack:

1. Whether the infection will be local and the course of the disease mild; or
2. Whether the infection will be general and the course of the disease severe.

Pathology not only enables one to interpret the symptoms so as to distinguish between the manifestations of a mild and severe attack, but points out a correct course of medical and operative means of relief. For this reason we give a brief review of the pathological features.

Changes in the mucous membrane of the appendix are often associated with similar lesions in the mucous membrane of the cæcum, and are doubtless often dependent upon them.

In other cases we recognize as a first step some abrasion or ulceration of the mucous membrane of the appendix through which micro-organisms make their way into the adenoid tissues and to the peritoneum. The tissue destroyed by this invasion may be limited in depth, width, or length; a very small area may be involved or the whole organ may become gangrenous.

Invasion of the peritoneum causes either a localized septic peri-appendicitis, or general septic peritonitis, owing to rapidity of the infection. Perforation and extravasation result from the sloughing of the necrotic area. The opening is generally larger on the inside of the appendix than on the outside. It is possible that the necrotic process may be limited to the

* Synopsis of a paper read before the Missouri State Medical Association, May, 1900. The original MS. was given to the *International Journal of Surgery*.

mucous and adenoid layers, but the almost invariable rule is that all the layers are involved. Frequently this process goes on without any symptoms whatever until the peritoneal coat becomes affected, then the very first symptom in many cases is caused by an infection of the peritoneum, which may be all the way from a minute slow local invasion to a rapid and extensive fecal extravasation and general infection.

The course, the prognosis, and treatment of the disease depends almost entirely upon the exact seat and size of the perforation in the appendix. When it is situated at the tip of the organ the extravasation is slow, giving time for exudates to be thrown out and imprison the infective material, and thus localizing the peritonitis. When at or near the base, the extravasation and invasion of the infection are so rapid that the peritoneum cannot erect a barrier to the spreading infection in time, and general septic peritonitis or blood poisoning takes place. We must remember that the rapidity of the extravasation depends also upon the size of the lumen of the appendix and also upon the liquid state of the cæcal contents. Now, from this statement it can be readily seen that when perforation is of large size, when its seat is near the base of the appendix, and when the lumen of the appendix is large, and when the stools are in a liquid state, rapid fecal extravasation will result, and the infection will be general, and if not relieved by prompt operation, rapidly fatal.

Before bacteriology became a recognized science, surgeons were mainly interested with clinical phenomena. Now much information can be gained by *pathological examination of the blood*, and especially is this true in deep seated abscesses, or suppurations, and in virulent infections.

In all acute suppurative processes in any part of the body the blood taken shows an increase in the number of polynuclear leukocytes. The amount of increase is independent of the amount of pus. The increase of leukocytes points to the spread of the infection and may be the only evidence of it. In cases of appendicitis, when pain, tenderness, temperature and pulse rate all subsided, and when the leukocyte count steadily rose, subsequent operation proved the indications as given by the blood to be correct. A chart count should be made and not a single count. It is the rise or fall of the count that enables you to make a proper prognosis and also to select proper time for operation. In cases where pus is firmly walled off, or where the

bacteria in the pus have become inactive, no leukocytosis is present, which simply shows that no active infection is going on. In fulminating cases of appendicitis, of extreme severity, where the patient promptly succumbs to general peritonitis, blood count may be normal. The worst cases of pneumonia and diphtheria show the same condition of the blood. So in the very mildest and the very severest cases leukocytosis is absent. Wherever there is a hard fight between the infection and the powers of the system, leukocytosis is present in ninety out of every one hundred cases. Now, if there is an overwhelming victory either for the infection or the system, there is no increase of the leukocytes. Not only are we able to secure reliable indications for operative interference by blood count, but the progress of the case after operation and drainage is established can be accurately interpreted by the chart. If free exit is given to the pus of an abscess the leukocyte count will fall to nearly normal; and just as soon as granulation is formed on the fresh incision surfaces the count will be normal, and remains so if free drainage is kept up. Now, if you disturb the granulations by curetting or probing, or even remove sutures, the leukocyte count will rise again, and this rise is also noticed in stitch-hole abscesses, pocketing of pus, etc.

Thus we expect the greatest leukocytosis in the most virulent infections, that are well resisted by the system. A gangrenous appendix will raise the count higher than an abscess containing a quart or two of pus. Then we note that it is not the product of the infection but its virulence and spread or invasion that govern the increase of the leukocytes. An average case of appendicitis shows from 15,000 to 33,000 leukocytes to the cubic mm. Local appendicitis (catarrhal) does not raise the count above 15,000 c. mm.

A careful consideration of the modern pathology of appendicitis brings to our minds several important inquiries respecting the *medical and surgical management of the disease*.

First. Why is the use of purgatives in appendicitis never justifiable?

Second. In what cases is operative interference unnecessary and unjustifiable?

Third. What is the best method of dealing with the appendix in cases where abscess is present?

Fourth. At what time in the history of each case should we operate?

1. In answer to the first question, when the opening in the appendix is large and situated near the cæcum and (this cannot be ascer-

tained by noting the spread of the infection in the very incipency of the case), the use of purgatives, especially saline cathartics, will prove positively injurious, first, by increasing peristaltic movement, and second, by liquefying the contents of the cæcum, both of which will actually contribute to the rapid invasion of the infection. We do not object to emptying of the large intestine by gentle enema, but modern pathology points out the danger in the use of purgatives in appendicitis.

2. The answer to the second question is necessarily brief. In chronic lesions of the appendix, in which the peritoneal layer is unaffected and no adhesions exist, operative interference is not needed, and is never justifiable.

3. I think the third question is answered properly by stating that in all cases of abscess where the appendix is not readily accessible, no attempt should be made to remove it. No extensive search or manipulation should be made in these cases for fear of disturbing the adhesive barrier formed between the abscess and the general cavity of the peritoneum and thereby creating general infection. In all such cases incision, disinfection with simple drainage, is attended by the best results. It is difficult for me to understand how a safe or an experienced surgeon can insist upon finding and removing the appendix in every case, and at every period of the attack, in the face of the obstacles mentioned which are well calculated to jeopardize the patient's life. The course of action herein indicated is based upon the observation and the experience of our greatest and most successful surgeons. What weight should be given to a reckless and inconsiderate recommendation occasionally made, that in addition to the incision and evacuation of the pus, the appendix must be sought for and removed and all adhesions broken up in every case? Such advice, if persistently followed, would, in my judgment, be far more effective in destroying human life than if the cases were left entirely to nature. I have taken positions on the questions here discussed somewhat more decided than some of my surgical associates.

4. WHEN TO OPERATE.

When the invasion of the infection is rapid, indicating that the perforation is large and situated near base of appendix, and where the severity of the symptoms presage a general instead of a local infection, and where the blood count shows the virulence of the infection, and all of these at the very onset of the

attack indicating an infection rapidly becoming general, operate at once; and the conditions in a case like this are the only ones demanding an early operation. Hence, the statement that every case of appendicitis be operated upon as soon as the diagnosis is made, is not supported or approved by those surgeons most experienced and most successful in the management of the disease. It is always desirable to ease the patient, if possible, through the attack, with the view of removing the appendix in the interval of health. After recovery without operation from one severe attack, the operation should be urged upon the patient, and the same advice should be given in every case where the patient has suffered several mild attacks.

When the invasion of the infection is slow—when the perforation is small and situated at or near tip of the appendix, when the mildness of the symptoms and the blood count indicates a local infection—delay in operating beyond the third or fourth day is desirable for fear of converting a local into a general infection. That this danger is great, the observation of experienced surgeons prove. Many a patient that was doing well has had the tide turned against him by injudicious interference at this stage of the disease. Whatever may have been the indications in the early hours of the attack, the probable course of the disease can be determined with absolute certainty at the end of the third or fourth day. The infection at this time is successfully localized, and in a large number of cases at this time there is an amelioration of both local and constitutional symptoms.

In those cases in which the local and constitutional symptoms continue mild, the patient usually recovers from the attack without operation. In other cases, when the symptoms continue severe, the spread of the infection is indicated by increase of pain, by blood count, board-like rigidity of right rectus-abdominis, constant vomiting, and high rate of circulation, with the presence of tumor, or at least dulness, indicative of a localized collection of pus, operation is now advisable.

We therefore give the following summary in answer to the question: When to operate?

First. In fulminating appendicitis, when the perforation is large and situated near base of the appendix, when invasion of the infection is rapid, when symptoms are severe, and blood count shows the virulence of the infection, operate in the earlier hours of the attack.

Second. After recovery without operation from a severe attack

Third. After suffering several mild attacks.

Fourth. After the third or fourth day in cases where blood count, pain, vomiting, and high rate of pulse indicates a spread of the infection, or an increase in its virulence.

My conviction is that the process we call inflammation, or peritonitis, is a conservative process; and if I knew the dividing line between the process of repair and destruction, where the one leaves off and the other begins, I might be able to name the very hour in which operation on the last mentioned cases should be done.

MENTAL OVERWORK AND LACK OF INTEREST IN PHYSICAL DEVELOPMENT AND HYGIENIC CARE OF SCHOOL CHILDREN A MENACE TO THE FUTURE OF THE RACE*.

By E. A. EDLEN, A. B., B. S., M. D., Moline, Ill.

The present system of education in public schools tends to develop the mind at the sacrifice of bodily health and physical development. The school teacher takes pride in developing the intellectual faculties and ignores the physical well-being of the child. No discrimination in favor of the weak and backward children is practiced. Subjects beyond the grasp of the intellectual faculties of the child are studied. The reason of backwardness and inability is seldom inquired into, to the detriment of many children. The teacher concerns himself with very little outside his studies.

School hours are too long and lessons are made uninteresting. Children are unable to fix their attention on any subject but for a short time, still they must sit still during hours at a time, in an overcrowded room, in an uncomfortable position, trying to learn an unintelligible lesson in direct violation of nature's laws. The multiplicity of subjects bewilders the youthful mind, causing great strain on the nervous system and a resultant breakdown.

A child is sent to high school without due regard to inclination, ability or physical strength. Too much intellectual work is required of boys and girls during their period of evolution. Four to five different languages are studied. Higher mathematics and philosophy, only possible to be understood by mature minds, are required in the high school course. There is now very little difference

between a high school and a college course. It is too much for the pupils and economically unbearable by the community. Only superficial knowledge can be obtained under the present methods. This educational intemperance leads to disastrous results.

The high school boy is superficial, self-conceited, vain, allwise, and too self-important to notice any one but himself. Civilization has taken a step beyond the limits of common sense to produce him. He is a product of vicious education. The high school girl is a mentally surcharged hot house plant, an hysterical being with exalted ideas of life, morbid desires, and a stranger to her own sphere of usefulness.

The physical development of school children is ignored by the board of education, although it is equally important as mental culture. It must be taken into consideration or the future of the nation will be endangered. There should be several recesses during the day, and gymnastics should be a daily subject in the school. The seats should be adjustable. The hygienic care should be under the supervision of medical school inspectors. Epidemics could thus be prevented and the general status of health would be improved. Radical changes are necessary in our present system in order to save the nation from decay. It is a question worthy the consideration of our law-makers. Nature cannot be violated continually with impunity.

ANKLE SPRAINS.*

By EDWARD H. OCHSNER, B. S., M. D., Chicago, Ill.

Sprains are by far the most common joint injuries, and of all the joints of the body the ankle is the one most frequently involved; in fact, ankle sprains are probably as numerous as all other sprains combined.

If one looks through the literature on this subject, one cannot help but be impressed with the chaos that exists on so simple a subject as the treatment of ankle sprains. A considerable number of text-books and teachers state in unmistakable terms that the only proper treatment for ankle sprains is a plaster-of-Paris cast, applied directly after the injury and worn some weeks. Another almost equally large and authoritative number state with equal emphasis that the only satisfactory treatment consists in subjecting the sprained ankle to active and passive motion and mas-

*Original synopsis of a paper read before the Illinois State Medical Society during its meeting, May, 1900.

*Original synopsis of a paper read before the meeting of the Illinois State Medical Society, May 17, 1900.

sage, directly after the injury. A minority recommend cold or hot applications with elevation of the limb and firm bandages, later, plaster-of Paris cast, and finally, massage and active and passive motion.

After thinking the matter over, it seemed strange to me that any one would care to confine himself so rigidly to either of the first two methods, as some of the authors would have one believe that they do. Of the three general methods outlined, the third certainly commends itself most highly to one's common sense, and it is the one that I would adopt were it not for the fact that I have seen a method demonstrated which is far superior to it in its results.

The method which I wish to describe comprises practically all of the good features of the three, without any of the objectionable ones. It consists in careful and systematic strapping with rubber adhesive straps. The straps are cut from half to three-quarters of an inch in width, and the proper length. The width depends upon the size of the limb. If a small ankle, the straps should be half an inch wide; if a large ankle, they may be three-quarters of an inch, but no wider. Upon this, and upon the accuracy with which they are applied, depends the success of the method. If the straps are too wide, or if they are applied in a haphazard manner, failure is sure to be the result.

The foot is held at slightly less than a right angle and a trifle everted. The former element in the position is observed because it is easier to walk on a painful ankle if it is held slightly in the calcaneum position than if held in the equinus position. The latter element is observed because, as you well know, ankle sprains are usually caused by a sudden inversion of the foot, thus injuring the external ligaments; hence, slightly everting the foot, relieves the tension of these ligaments and places them at rest. With the foot in this position, one end of a long strap is applied to the inner surface of the foot near its posterior end, brought under the heel and up on the outer posterior surface of the leg to within a few inches of the knee. At the lower end this falls into the depression just posterior to the external malleolus. A shorter strap is now applied by placing one end to the inner surface of the heel near the sole of the foot, then bringing it around over the tendo Achilles to the outer surface of the foot, making it cover the first strap at a right angle and passing along parallel to the under border of the sole of the foot, then over the dorsum to the little toe. Another long one is now ap-

plied, anterior to the first, overlapping it about one-third of its width; then a short one, and so on, alternately, until the outer anterior aspect of the ankle is reached. Over all this a hard rolled bandage is now carefully and snugly applied. The patient is directed to lie still with the foot elevated until the warmth of the body has caused the plaster to adhere firmly. In a great majority of instances the patient can walk, with reasonable comfort, after a few hours.

The question that all who have not tried this treatment are prone to ask is, "How is it possible that so simple an appliance, or dressing, can give such excellent results?" I can answer this only in part. Where it is applied before the swelling has taken place, it prevents, or at least limits, the effusion of blood and serum into the joint and surrounding tissues. It partly immobilizes the joint and supplants, in a measure, the lacerated ligaments. It relaxes the muscles and gives the joint a feeling of security.

In older sprains, it supplies the very best kind of massage possible. The massage which a joint gets by the unconscious or subconscious motion under a dressing which exerts uniform pressure, besides being much cheaper and more accessible to all, is infinitely better than the massage which the most experienced masseur can give. This constant massage and motion rapidly dissipates the swelling by causing absorption of the effusion. It quickly and surely relieves the pain. It overcomes the tendency to stiffness. It restores the muscles and ligaments to their original vigor and strength. It reduces the period of treatment from weeks to days. It does all this, while the limb may be used with reasonable comfort and perfect safety from the day the bandage is applied.

710 Sedgwick Street.

Correspondence.

Congress of Professional Medicine.

PARIS, July 30, 1900.

Dear Dr. Edwards,—In compliance with your request, I avail myself of this opportunity to give your readers a few points that may be of some interest, not altogether from a medical standpoint, but also from the standpoint of a tourist travelling in a foreign country gathering up gems of various kinds to store away in the great laboratory of mind.

I boarded the Potsdam, the great pet of the

Holland-American line, at New York harbor, on the morning of July 7th, and after a most delightful voyage across the great "Father of Waters," landed at the city of Bologne on the morning of the 17th of July. After four hours' ride on one of the fastest trains of France, I reached this great white city. I have about finished up my sight-seeing at the great Exposition and during the past five days have been attending, as delegate, "*The Congress on Professional Medicine.*"

This Congress was a great success, with the exception of two important factors. The attendance was not as large as expected. Out of about 4,800 delegates appointed from the various nationalities, there were only about 200 in attendance. The French language was the only language used in the discussion of the various important topics, hence those of us who read papers in our mother tongue (the French excepted) were not permitted to have our papers discussed, but were merely filed away for publication, and will appear in the regular volume of proceedings only in the French language. These were the two exceptions above referred to. The president-elect of Congress, Monsieur L. Lereborillet, is one of the handsomest and most courteous gentlemen in all Paris. He is about fifty years old, but is as quick and active in all his movements as if he were only thirty. He is about five feet eleven inches tall and weighs about 200 pounds, and, in his dress suit of broad cloth, makes an ideal presiding officer worthy any occasion. On presenting him my card and observing that I was a delegate from America, he seemed very much pleased, and made it his special duty to show me every possible courtesy; was specially invited to his palatial residence, in company with five other delegates, to dine on the evening of the 25th. At the conclusion of the reading of my paper, he made it a point to give me a special introduction to the audience as an official delegate from the *great United States of America*. This seemed to serve as a signal for applause, which was duly acknowledged by the writer. At the banquet, given by the citizens of Paris, I was honored again by having the pleasure of responding to the toast, "America." Of course, I did my best to show up the bright side of America, and during my remarks I did not forget Old Virginia, the *great mother of States and statesmen*. One consolation I had, however, that helped me was that only about two or three of my audience could understand the English language, hence I felt at my comfort's ease, knowing that I had so few critics. It was my great

pleasure to be associated very closely with that distinguished medical writer, Mr. A. Smith, of London, who is one of the most congenial gentlemen that I ever met. He well represented England's interest in this convention as well as his medical journal, the "London Lancet." Among the most important subjects discussed before the Congress was in reference to the promiscuous prescribing of proprietary and poisonous medicines. Mr. Givrogo D'Urso, of Naples, was the leader in this discussion. Mr. Benedict, of Vienna, made a fine speech on this subject, taking the ground that no intelligent physician would condescend to prescribe a medicine whose formula was not clearly set forth on the label. Mr. Philippeau, of Paris, made a strong speech on the subject of Preventive Medicine, maintaining the view that it was a matter only of time when all remedial medicine would be relegated as a back number, and preventive medicine substituted in its place. Mr. Smith, of London, read a very able paper on the importance of organizing medical syndicates for the better protection of the medical profession. It would require too much of your space as well as too much of my time to give a synopsis of all of the important papers presented and discussed at this great Congress of Professional Medicine. Will try to send you a copy of the proceedings when they are published. We never hear of the title of Doctor in Paris. All professions are addressed by Monsieur.

The Thirteenth International Medical Congress convenes here on the 2d of August and lasts until the 9th. Being a delegate from the A. M. A., I shall attend with a great deal of pleasure. I have registered in the sections of bacteriology, parasitology, and general surgery. I am now taking a private course here on bacteriology and microscopy, and hope to derive much benefit by attending the section on bacteriology, as we have very able men to read papers on that subject; such men, for instance, as Behring, of Berlin; Buckner and Metchnikoff, of Paris, and Danilevsky, of Grassi, Rome. The latter gentleman will read a paper entitled "Parasites of Cancer," which I hope will be sufficiently ventilated to clear up some of the confusion now existing among modern writers on the etiology of that dread disease, cancer. I have for the past five years held the belief that cancer is a parasitic disease, bearing a near relationship to tuberculosis. Any one who may have read my paper that I presented before the State Medical Society two years ago at Virginia Beach on this subject cannot fail to see the position I mod-

estly took on this broad subject, notwithstanding the fact of my timidity in treading along this *unhallowed ground*.

Park, whom I quoted as favoring the parasitic origin of cancer, has recently boldly come forward and declared his conviction on this subject. Quite a number of German authors have also confirmed Park's position on the subject, and have found and classified the species of bacilli producing this disease. As previously maintained, I am strongly inclined to believe that heredity plays an important part, as well as mechanical injury, in the etiology of cancer. These factors, I think, leave a fertile field for the implantation and development of the parasite, just as is the case with tuberculosis. These are simply my own deliberate views on the subject, and like "Banquo's ghost," they will not down for mere shadows. I am now working, as it were, in a search light on this subject in the Pasteur Institute, and after leaving here I shall spend about six weeks in Kosh's laboratory in Berlin, where I hope to continue my researches with the microscope. The Pasteur Institute is a very fine place for painstaking work, more especially at this season of the year, when the private classes are much smaller than in the fall and winter months. The memory of the great Pasteur is observed as sacred in this city as that of Napoleon. The great reception rooms and halls of this institute are constantly crowded with new patients, who claim to have been bitten by some mad animal. It is quite interesting to observe the process of administering the hydrophobia serum. I watched this process for one hour last Friday, when one hundred and eighty persons were treated in that short space of time. The serum is kept in a small sterilized tank near the operation; five hypodermic syringes are sterilized and filled with the fluid and handed by an assistant, one at a time, to the operator, while a second assistant is preparing and sterilizing the needles and filling the syringes as handed him by the operator and returned by the first assistant. The operator inserts the needle of the syringe, containing the serum, into each side of the abdomen near the groins. This is done very quickly, and to my judgment too carelessly, by simply plunging the needle into the fascia without any pinching up of the skin whatever, and I asked the operator if he were not afraid of producing shock and possibly inflammation of the peritoneum in some of his cases, to which he replied that only in very rare cases he produced shock, and never inflammation, but the injections were sometimes followed by considerable

soreness, due, he thought, to the patient's rubbing the places with the hand. The patients were prepared in an adjoining room and allowed to march in rotation to the operating room. All classes and *both sexes* were treated alike. The males were marched in with their shirts rolled up above their abdomen, and the females with their clothing rolled up in the same way, and all were required to stand erect during the treatment, which lasted only one-third of a minute to each patient. The *made-moiselles* do not seem to object in the *least* to exposing their abdomens to the *monsieurs*, which is quite different from America and nearly all other enlightened countries.

The laboratories of this institute are very fine indeed, and it will amply pay any physician to spend at least a week here just to see the wonderful results of this new science. It is also interesting to walk over the grounds and observe the well-filled pens and kennels of mad-dogs, mad-cats, mad-monkeys, mad-cows, mad-horses, mad-rabbits, etc., all suffering from rabies in its various stages.

In conclusion, I will say for the benefit of your readers who contemplate visiting the World's Exposition, that the Exposition is a grand success, and far surpasses that of Chicago in the sense of "mammoth greatness." The nations are better represented here than at Chicago. Everything is on a grand scale, making it more comprehensive and far easier to get a definite understanding of the various classified exhibits. I am glad to say that America's exhibit is fairly good as compared with other foreign nations. While our exhibit is not so abundant, yet it is of a first class order. If our great national pavilion had been filled with United States exhibits characteristic of our country instead of being a mere empty resort for tired and lazy loungers, it would have been more creditable and in keeping with our country's industrial pride. The city of Paris is thronged with Americans. We can find their names on nearly every hotel register in the city. I observed the name of Mr. J. Bryan, of your city, on the register of the United States pavilion yesterday, and hope to have the pleasure of meeting him to-day, as I try to look up all Virginians when they chance to be on my routes. It matters but little about previous acquaintance; when you see two Americans meet here they at once feel like old friends; and this is doubly so when two Virginians meet.

The cost of living here is about the same as in New York or Chicago. A man can spend from two to twenty dollars a day; all depends

upon his habits and tastes. The French people are great wine drinkers, and never sit down to a meal without that national beverage. The women drink as much as the men, if not more; but it is a very rare thing to see a drunken person on the streets. This city, while ahead of many of our American cities in fine buildings and clean streets, yet in the sense of interior accommodations and hygienic arrangements of their laboratories, etc., the city is far behind. Will write you again later on when I reach Germany.

Respectfully,

BITTLE C. KEISTER, M. D.

Proceedings of Societies, etc.

VIRGINIA STATE BOARD OF MEDICAL EXAMINERS.

The regular Spring meeting (1900) of the Medical Examining Board of Virginia met for the transaction of business at 8:30 P. M., Monday, June 25, 1900, in Dr. R. W. Martin's office, Lynchburg, Va.

The Board was called to order by the Vice-President, Dr. W. L. Robinson. The President, Dr. R. W. Martin, appearing in a few minutes, took the chair.

On roll call by the Secretary, Dr. R. S. Martin, the following other members were found to be present:

Drs. Samuel Lile, Lynchburg, Va.; W. B. Robinson, Tappahannock; E. T. Brady, Abingdon; C. W. Rodgers, Staunton; Herbert M. Nash, Norfolk; J. E. Warinner, Brook Hill. Drs. E. C. Williams, Richmond, and M. R. Allen, Norfolk, Homeopaths.

Dr. E. T. Brady's resolution, which was laid over at the last meeting of the Board in regard to changing a by-law, was read and adopted.

Questions on Chemistry, Anatomy, Practice, Histology, Pathology, and Bacteriology, Hygiene and Medical Jurisprudence, Materia Medica and Therapeutics, Surgery, Gynecology and Obstetrics, and Dr. Williams' Homeopathic questions on Materia Medica and Therapeutics, were read and adopted.

The following is the order of the examinations:

Tuesday, June 26th, beginning at 9 A. M.—Gynecology and Obstetrics, Surgery, Materia Medica and Therapeutics.

Wednesday—Hygiene and Medical Jurisprudence, Chemistry, Physiology.

Thursday—Histology, Pathology and Bacteriology, Practice, and Anatomy.

The Secretary, Dr. R. S. Martin, made a report to the Board in regard to reciprocity, reading letters from the secretaries of nineteen different State Boards.

The following resolution was introduced by Dr. E. T. Brady, and adopted in regard to it:

Resolved, That the Virginia State Medical Examining Board desires to reciprocate with the boards of other States, but deems it necessary, for its own protection, that every applicant claiming such recognition, shall present with his petition a diploma from a reputable college, together with an attested certificate from a State Medical Examining Board, and shall pass a satisfactory oral examination before a committee of the Board. Having complied with these requirements, a certificate will be issued on payment of the usual fee.

The question as to how best to enforce the new medical law being under discussion, Dr. E. T. Brady introduced the following resolution, which was adopted:

Resolved, That a committee be appointed to collect an authentic list of the illegal practitioners of the State, and present it, with a plan of action towards stopping them, to the medical societies, and request their moral and financial aid in prosecuting all offenders.

Remarks were made on this subject by Drs. W. L. Robinson, R. W. Martin, and R. S. Martin.

Dr. E. T. Brady introduced the following resolution, which was adopted:

Resolved, That the Medical Examining Board fully endorses the action of and tenders its thanks to the Secretary, Dr. R. S. Martin, for his very proper and efficient work towards preventing legislation tending to defeat the purpose of the law regulating the practice of medicine and surgery in this State.

Dr. H. M. Nash introduced the following resolution, which was adopted:

Resolved, That the thanks of this Board be extended to State Senator E. J. Harvey, Dr. A. S. Priddy, and members of the Senate and House of Delegates, for their very efficient services in securing the passage of the law regulating the practice of medicine and surgery in Virginia.

Drs. Lile, Williams and Warinner were appointed a committee to audit the accounts of the Treasurer.

Board adjourned.

Board met for further consideration of business in Dr. R. W. Martin's office, June 26th, at 8:30 P. M.

Present: Dr. R. W. Martin, President; Dr.

R. S. Martin, Secretary; Drs. Lile, Williams, Allen, W. B. Robinson, Randolph, Warinner, Rodgers, Nash, Brady, and Slaughter.

Questions on Physiology read and adopted.

Drs. Brady, Rodgers, and R. S. Martin were appointed a committee to collect the number of illegal practitioners in the State, and report to the Medical Society of Virginia.

The following is the report of the Auditing Committee:

We, your Auditing Committee, having examined the accounts of Dr. R. S. Martin, Secretary and Treasurer, find the same to be correct in every particular.

SAM'L LILE,
E. C. WILLIAMS,
J. E. WARINNER,
Committee.

Dr. R. M. Slaughter introduced the following resolution, which was adopted:

Resolved, That applicants taking the examination by instalments as allowed by our present law, be required to make 75 per cent. on each of the primary branches.

Dr. Robert Randolph moved that a committee be appointed to write up the By-Laws of this Board, and they be printed and a copy sent to each examiner.

The President appointed Drs. Randolph, W. B. Robinson and Warinner as the committee.

Drs. Nash and Brady, the committee appointed to examine applicants coming from other States, each having a diploma and certificate from his State Board, reported that they had examined the following applicants, and recommended that they be granted certificates:

Drs. R. S. Knight, George Roberts, B. R. Kennon, W. E. Reid, and Wm. R. Blakeslee. Board adjourned.

Board met June 28th, at 8:30 P. M., in Dr. R. W. Martin's office.

Present; Drs. R. W. Martin, President; R. S. Martin, Secretary; W. L. Robinson, J. E. Warinner, W. B. Robinson, Sam'l Lile, Robert Randolph, E. C. Williams, H. M. Nash, and R. M. Slaughter.

The committee to codify the By-Laws reported as follows:

We, your committee, after carefully going over the By-Laws of this Board, find that they constantly conflict, and it is almost impossible to find under which we are at present working. We therefore respectfully submit the following:

Resolved, That a committee be appointed to

draw up a complete set of by-laws to govern the action of this Board, and submit them to the Board for approval at its next regular meeting.

ROBERT C. RANDOLPH,
J. E. WARINNER,
W. B. ROBINSON.

Report adopted, and the same committee appointed to report on same subject at next meeting of the Board.

Dr. E. C. Williams moved that the next meeting of the Board be held in Richmond, December 17th, 18th, 19th and 20th, 1900. Adopted.

Drs. Slaughter and Nash reported that they had examined Dr. J. B. Baggett, and recommended that a certificate be granted him.

On motion of Dr. Lile, the Board adjourned.
R. W. MARTIN, *President.*

R. S. MARTIN, *Secretary.*

The following are the *Questions adopted for Examination of Applicants in the Sections*:

SECTION ON TOXICOLOGY AND MEDICO-LEGAL JURISPRUDENCE.

Dr. R. S. Martin, Stuart, Va., Examiner.

Block 1. (a) Mention the duties of a physician at a coroner's inquest.

(b) Give the signs that are sometimes found on the dead body that will determine whether it is suicide or homicide.

(c) Suppose a woman pleads her pregnancy in bar of execution after a capital conviction, will the law grant her stay of execution until after her delivery?

Block 2. (a) How would you discover whether a person found dead in the water was drowned or thrown in the water after death?

(b) Can menstrual blood be distinguished from that effused from blood vessels in child murder?

(c) What is the legal definition of a wound?

Block 3. (a) Give limited period of natural gestation and signs of recent and remote delivery.

(b) State medical facts upon which reliance can be placed as furnishing evidence of infanticide.

(c) Give medical proof of abortion.

Block 4. (a) Describe the physical, chemical, and microscopical characters of blood stains found on fabrics, wood and cutting instruments.

(b) Name the different modes of death, and give signs in order of their importance.

Block 5. (a) How long after death before rigor mortis begins? How long does it last? Does the cause which produces death make any difference as to the appearance of rigor mortis?

(b) How is death produced in hanging? What marks of violence would you find about the body?

(c) Give symptom of poisoning by strychnia, arsenic, and opium, and antidote for each.

Answer any four blocks of above questions.

SECTION ON HYGIENE.

Dr. R. W. Martin, Lynchburg, Va., Examiner.

Ques. 1. Mention the diseases which render the flesh of animals unfit for human food; and indicate the main points which characterize a healthy animal.

Ques. 2. How long should an individual be quarantined after last exposure to the infection of small pox, scarlet fever, diphtheria, measles, whooping cough, mumps?

Ques. 3. (a) Define aseptic, antiseptic, disinfectant, germicide, foinites, zymotic.

(b) Name the five fevers classed as zymotic.

Ques. 4. Define vital statistics. In collecting vital statistics what items of inquiry are necessary to be observed?

Ques. 5. (a) What two salts are most frequently used as constituents of baking powder, exclusive of bicarbonate-soda?

(b) Which is injurious and why?

Answer four blocks only.

SECTION ON ANATOMY.

Dr. W. L. Robinson, Danville, Examiner.

Ques. 1. Describe the lower extremity of the humerus.

Ques. 2. Describe the shoulder-joint and name the muscles that strengthen the joint.

Ques. 3. Name the muscles that arise from the anterior surface of the clavicle.

Ques. 4. Describe the third portion of the subclavian artery and its relations.

Ques. 5. Describe the spleen, and give its relations and blood supply.

Ques. 6. Give superficial origin, foramen of exit, and distribution of the twelfth pair of cranial nerves.

Ques. 7. In an amputation through the middle of the arm, name the tissues that would be divided.

SECTION ON HISTOLOGY, PATHOLOGY AND BACTERIOLOGY.

Dr. R. M. Slaughter, Theological Institute, Va., Examiner.

Ques. 1 (a) Describe the technic of the examination of sputum for the tubercle bacillus.

(b) Name the bacilli found in human tissues and secretions which resemble the tubercle bacillus in appearance and staining peculiarities.

(c) What medium (alimentary) is the most common source of typhoid infection and why?

Ques. 2. (a) Give names, number, and type of the salivary glands.

(b) Give the types and general histological structure of tubular glands.

Ques. 3. (a) Define an infarct, and explain how infarcts are formed.

(b) Explain how metastatic abscesses are formed.

Ques. 4. An individual known to have aortic valvular disease is suddenly seized with right hemiplegia, aphasia, etc., and dies in a few days; what is the lesion and where located? What condition of the brain is to be found post-mortem?

Ques. 5. (a) Define cysto-uretero-pyelitis and *(b)* Pyonephrosis, explaining the causation of both.

Ques. 6. Give the physiological prototype, nature (*i. e.* benign or malignant), common age of occurrence, and microscopic character of adenomata.

Ques. 7. Give the bacterial cause and morbid anatomy of empyema (purulent pleurisy).

Ques. 8. (a) Describe the gonococcus, and state whether positive or negative to Gram's stain.

(b) Name the most important of the ductless glands, and give the histological characteristic of ductless glands.

(c) Name the two most common varieties of parasitic worms found in the intestine.

SECTION ON PHYSIOLOGY.

Dr. Robt. Randolph, Boyce, Va., Examiner.

Block 1. (a) What are the vital or physiological characteristics of protoplasm? Name four.

(b) Name the four elementary tissues.

(c) What are the three great primary divisions of organic substances forming

the chief part of the solid and fluid tissues of the body?

- Block 2.* (a) Give physical properties and histological characteristics of the blood.
 (b) Give process of coagulation or clotting of the blood.
 (c) What physical factors are necessary to the maintenance of arterial blood pressure?
- Block 3.* (a) Describe the mouth digestion.
 (b) What is the action of the gastric juice on food?
 (c) What is the succus entericus, and what are its functions?
- Block 4.* (a) Describe the pancreatic juice, naming its ferments and describing the part each plays in digestion.
 (b) Describe the mechanism of normal intestinal movements.
 (c) Describe vomiting and its mechanism.
- Block 5.* (a) Give number of spinal nerves and the function of anterior and posterior roots.
 (b) Locate the visual centre.
 (c) Locate the respiratory centre.
- Block 6.* (a) What is the function of the third cranial nerve?
 (b) What is the function of the fourth cranial nerve?
 (c) What nerve supplies the posterior one-third of the tongue with taste and sensation?

SECTION ON CHEMISTRY.

Dr. O. C. Wright, Jarratts, Va., Examiner.

- Block 1* (a) What is chemistry?
 (b) What is chemical affinity?
 (c) Explain the difference in an atom and a molecule.
 (d) What is weight, and what is meant by the specific gravity of a substance?
 (e) What is the unit or standard chosen for comparing the specific gravity of gases of liquids?
- Block 2* (a) Give the physical properties of oxygen.
 (b) How is oxygen obtained? How and for what is it used in medicine?
 (c) What are oxides, and what is meant by oxidation, combustion, and slow combustion? What are oxidizing agents?
 (d) Into what three classes are oxides divided?
 (e) State difference in ozone and oxygen.
- Block 3* (a) For what is phosphorus principally used?
 (b) How many oxides of phosphorus are

known? Name them, giving chemical formula of each.

- (c) Give antidote for phosphorus poisoning.
 (d) Show why it is an antidote.
 (e) What substances should be especially avoided in phosphorus poisoning and why?
- Block 4* (a) State average quantity of urine passed by adult male in 24 hours and tell what per cent. of it is solids.
 (b) Give specific gravity and reaction of normal urine.
 (c) If given the specific gravity of urine, how would you determine the amount of solids?
 (d) Give a reliable test for albumen, for sugar, for uric acid and for pus in urine.
 (e) Where is the origin of pus that is found in acid urine?
- Block 5* (a) What is the reaction of fresh cow's milk?
 (b) Give approximately its specific gravity.
 (c) Mention the principal physical and chemical changes which take place in milk when allowed to stand.
 (d) How can these changes in milk be artificially produced, hindered, and controlled?
 (e) What are the most commonly practiced methods of adulterating milk? Explain how you would determine when milk has been adulterated by these methods.
- Block 6* (a) What are alkaloids?
 (b) To what two groups of compounds do alkaloids belong?
 (c) What is the principal difference (in their physical properties) in the two groups?
 (d) What is the color and taste of most alkaloids?
 (e) Give antidotes for poisoning by alkaloids, mentioning one drug that is an antidote for practically all alkaloids.
- In answering, omit two of each block.

SECTION ON PRACTICE OF MEDICINE.

Dr. E. T. Brady, Chairman and Regular Examiner.

Dr. E. C. Williams, Homœopathic Examiner.

- Ques. 1.* Give differential diagnosis between—
 (a) Bronchitis.
 (b) Catarrhal pneumonia, lobular pneumonia
 (c) Pleurisy.
- Ques. 2.* Give causes, varieties, course, duration and termination of jaundice.
- Ques. 3.* Give brief definition and description

of, and prescribe for each of the following:

- (a) Hæmoptysis.
- (b) Angina pectoris.
- (c) Dysentery.
- (d) Cholera morbus.

Ques. 4. Give usual causes, course, prognosis, and termination of general paresis.

Ques. 5. Define and give etiology and symptoms of the different forms of nephritis.

Ques. 6. Describe an attack of malarial remittent fever, giving treatment and prognosis.

Ques. 7. What are the poisonous reptiles and insects of Virginia? Treat their effects. (Not only the dangerous ones, but also those which simply produce excessive irritation.)

Answer any six questions. Number them. Where a question is asked as to any disease not specified it is intended for the acute form.

SECTION ON MATERIA MEDICA.

Dr. W. B. Robinson, Examiner, Tappahannock.

Block 1. (a) Give physiological effect of cinchona locally; upon the nervous system; upon the circulation, temperature and secretions. How eliminated?

(b) Name and give dose of the alkaloids of cinchona.

(c) How is pepsin prepared?

Block 2. (a) Name the officinal preparations of the chlorides and iodides of mercury.

(b) Give the physiological action of the mercurials.

(c) Give the incompatibles with and the aids to the preparations of iodine.

Block 3. (a) Give dose of the following medicines: Strychnine sulphate, fluid ext. ergot, fluid extract digitalis, apomorphine, zinc sulphate, syrup ipecac, oil of copaiba, manganese sulphate, atropine sulphate, tr. hyoscyamus, codia sulphate, tr. veratrum viride, salicylate of sodium, tr. benzoin, santonine.

(b) To what active principle do most of the vegetable astringents owe their astringency?

(c) Name and give the physiological effects of the preparations of zinc.

Block 4. (a) Give the physiological action of sodium salicylate.

(b) What are antacids? Give examples.

(c) In what state should these be when administered, and why?

Block 5. (a) Give the physiological effects of pilocarpus.

(b) What are diuretics? Give examples.

(c) Give physiological action of cod-liver oil.

Answer four only of the above blocks.

SECTION ON MATERIA MEDICA.

Homœopathic Questions.

Dr. E. C. Williams (Homœopathic), Examiner.

Answer four blocks of questions.

1. (a) Give the similar physiological effects of belladonna, hyoscyamus and stramonium, and the different effects of each.

(b) Give five leading characteristics of chamomilla and five of colocynth.

2. (a) Give the tissues or organs of the body on which the following remedies especially act: (1) chelidonium, (2) croton tiglium, (3) sabina, (4) cannabis sativa, and (5) aesculus.

(b) Give the physiological action of arsenic on (1) the skin, (2) mucous membranes, (3) kidneys, and (4) blood.

3. (a) Describe the action of lycopodium on (1) the digestive organs, and (2) the urinary organs.

(b) Give (1) the chest symptoms of antimonium tartaricum, (2) the syphilitic symptoms of aurum metallicum, (3) the gastric symptoms of antimonium crudum, and (4) the glandular symptoms of iodine.

4. (a) Give the time aggravations of arsenicum, belladonna, mercurius, pulsatilla, natrium muriaticum, nux vomica, eupatorium perfoliatum, and podophyllum.

(b) Distinguish between the use of silica and hepar in suppuration.

5. (a) Describe the cough of phosphorus and of bryonia.

(b) Describe (1) the mental symptoms of cannabis indica, (2) the heart symptoms of cactus grandiflorus, (3) the febrile symptoms of haptisia, and (4) the ovarian symptoms of lachesis.

SECTION ON THERAPEUTICS.

Dr. J. E. Warinner, Examiner, Brook Hill, Va.

Block 1. (a) Give three modes of introducing drugs into the system, and state how doses vary by different methods.

(b) Why are heat and cold used at different stages of an inflammation?

(c) What changes are necessary in cow's milk when substituted for human milk as a diet for infants?

- (d) Direct a diet for diabetes mellitus, stating what should be especially avoided.
- Block 2. (a) Why is atropine combined with morphine for hypodermatic use?
- (b) Give therapy of codeine and its advantages over morphine.
- (c) Give therapy of creosote, including dosage and mode of administration.
- (d) How is camphor gum pulverized, and what is its use in a cantharides blister?
- Block 3. (a) Name in order of activity four of the best cholagogues and the dose of each.
- (b) Give the difference in action of the three principal mineral acids.
- (c) Write four prescriptions for the use of mercury as a specific.
- (d) Name three of the best antigalactagogues and give directions for using.
- Block 4. (a) Name the urinary acidifiers, and state whether the bicarbonates should be given before or after meals for such effect.
- (b) Name four urinary alkalinizers and give dose of each.
- (c) Give names and doses of drugs used for their antiseptic effect on the urine.
- (d) In what two principal ways do diuretics act, and name three drugs belonging to each class?
- Block 5. (a) Give reasons for the choice of ether or chloroform as an anæsthetic.
- (b) Give means of resuscitation if dangerous symptoms arise.
- (c) What are antiperiodics? Name the most important and their doses.
- (d) Classify the following: Valerian, sparteine, strychnine, spigelia, bromine, aconite, phosphorus.
- Answer only four blocks.

SECTION ON THERAPEUTICS.

Homœopathic Questions.

Dr. E. C. Williams (Homœopathic), Examiner.

Answer four blocks of questions.

1. (a) Differentiate between cinchona, arsenic and natrium muriaticum in intermittent fever.
 - (b) What symptoms would cause you to give rhus toxicodendron in a case of eczema?
 - (c) Mention four remedies especially applicable to early morning diarrhœas.
 - (d) What is the principal use of trillium pendulum?
2. (a) Give the treatment of a case of opium poisoning.
 - (b) Give three remedies of use for the flushes of heat of the menopause.
 - (c) What symptoms would indicate nux vomica in rheumatism?
 - (d) Differentiate between mercurius corrosivus and nux vomica in dysentery.
3. (a) What are the indications for the use of hepar sulphuris in croup?
 - (b) When would you use sabina and when secale in threatened abortion?
 - (c) Give the principal uses of caulophyllum and of arnica.
 - (d) When is apis of use in ovaritis?
4. (a) Give the directions for diet in a case of dysentery.
 - (b) Give the indications for belladonna in metrorrhagia.
 - (c) What two remedies are especially useful in any evil results from vaccination?
 - (d) What are the principal uses of dulcamara?
5. (a) Differentiate between the use of bryonia and rhus toxicodendron in typhoid fever.
 - (b) Give the indications for the use of arsenicum in gastritis.
 - (c) When is coffea indicated in insomnia?
 - (d) Describe a case of measles for which pulsatilla would be given.

SECTION ON SURGERY.

Dr. Sam'l Lile, Lynchburg, and Dr. M. R. Allen, Examiners.

- Ques. 1. Define inflammation, abscess, carbuncle, ulcer, fistula, gangrene, necrosis, caries, thrombus, embolus, septicæmia, pyæmia and erisipelas.
- Ques. 2. Define and treat Colles's fracture, Pott's fracture.
- Ques. 3. Diagnose an hysterical joint, a phantom tumor.
- Ques. 4. What is scoliosis, kyphosis, lordosis and Pott's disease? Give causes.
- Ques. 5. What is hernia? Give varieties and describe best operation for radical cure of oblique inguinal hernia.
- Ques. 6. (a) Mention the general and local anæsthetics.
- (b) Give description of their application.
- (c) What precautions are necessary before anæsthesia relative to patient?
- (d) In case of complications arising during anæsthesia, what measures should be adopted?

SECTION ON OBSTETRICS AND GYNECOLOGY.

OBSTETRICS.

Drs. H. M. Nash, Norfolk; C. W. Rogers, Staunton; and M. R. Allen (Homœop.), Examiners.

- Ques. 1.* Name the most frequent complicating affections occurring during pregnancy, with suggestions as to prophylaxis.
- Ques. 2.* Define abortion, and note its predisposing and exciting causes.
- Ques. 3.* What causes, other than instrumental traumatism, may produce deformities of the fetal head during labor?
- Ques. 4.* Give the prognosis and treatment of prolapse of the cord.
- Ques. 5.* Describe briefly the essentials necessary to prevent sepsis during the process of parturition.

GYNECOLOGY.

Dr. C. W. Rodgers, Staunton, Va., Examiner.

- Ques. 1.* (a) Describe the anatomical and physiological changes occurring in the female at puberty.
- (b) Give a resumé of the hygienic management during that period.
- Ques. 2.* Symptoms and diagnosis of tubal gestation.
- Ques. 3.* (a) Symptoms and physical signs of uterine myomata.
- (b) Differentiate from other pelvic lesions and from pregnancy.
- Ques. 4.* Etiology, semeiology and treatment of cystitis in the female.
- Ques. 5.* Diagnosis of a "relaxed pelvic outlet," and describe the operative measures to secure its restoration.

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 25-28, 1900, HELD AT LYNCHBURG, VA.

Anderson, M. L., Richmond, Va., Med. Col. of Va., 1900.

Baggett, J. B., Newport News, Va., Washington Univ., Balto., 1869.

Baker, C. H., Graham's Forge, Va., Univ. of Va., 1900.

Baker H. B., Richmond, Va., Univ. Col. of Med., 1900.

Buchanan, A. E., Ellendale, Va., Med. Col. of Va., 1900.

Brumback, H. M., Blies, Va., Univ. Col. of Med., 1900.

Blanton, J. C., Adrianne, Va., Med. Col. of Va., 1900.

Bassett, H. W., Richmond, Va., Chicago Homœopathic Med. Col., 1889.

Blakeslee, W. R., Newport News, Va., Univ. of N. Y., 1874.

Beville, R. P., Wellville, Va., Univ. Col. of Med., 1900.

Bosher, R. S., Richmond, Va., Med. Col. of Va., 1900.

Brown, J. W., Jr., Hampton, Va., Univ. of Va., 1899.

Clark, J. S., Allisoria, Va., Univ. Col. of Med., 1900.

Chewning, W. J., Richmond, Va., Univ. Col. of Med., 1900.

Cottingham, G. R., Ottoman, Va., Univ. Col. of Med., 1900.

Copenhaver, W. N., St. Clair Bottom, Va., Univ. Col. of Med., 1900.

Collins, E. F., Norfolk, Va., Woman's Med. Col. of Pa., 1899.

Draper, S. A., Shawsville, Va., Med. Col. of Va., 1900.

Dickerson, E., Charlottesville, Va., Leonard Med. Col., 1900.

DeShazo, J. N., Daisy, Va., Med. Col. of Va., 1900.

Ebersole, R. E., Winchester, Va., Univ. of Va., 1900.

Easley, E. M., Bluefield, W. Va., Med. Col. of Va., 1900.

Edwards, A. J., Winston, N. C., Univ. of Md., 1899.

Ferguson, W. F., Salem, Va., Med. Col. of Va., 1900.

Fisher, E. C., Richmond, Va., Univ. Col. of Med., 1900.

Fontaine, C. O., New Canton, Va., Med. Col. of Va., 1900.

Gills, W. A., Richmond, Va., Med. Col. of Va., 1900.

Gary, P. G., Wakema, Va., Univ. Col. of Med., 1900.

Guerrant, J. R., Roanoke, Va., Col. Phys. and Surg., N. Y., 1890.

Hawes, C. M., Huntington, W. Va., Univ. of Va., 1900.

Hargrave, E. T., Richmond, Va., Med. Col. of Va., 1900.

Hunter, H. H., Sunbury, N. C., Med. Col. of Va., 1900.

Hagy, J. H., Greendale, Va., Med. Col. of Va., 1900.

Hill, E. G., Manchester, Va., Univ. Col. of Med., 1900.

Hopkins, E. G., Glen Allen, Va., Univ. Col. of Med., 1899.

Hughart, H. H., Cliff Top, W. Va., Univ. Col. of Med., 1900.

Hume, B. L., Petersburg, Va., Med. Col. of Va., 1900.

Hart, James O., Applegate, Va., Med. Col. of Va., 1900.

Hyslop, J. E., Keller, Va., Univ. of Md., 1900.

Harris, J. E., Norfolk, Va., Med. Col. of Va., 1900.

Harris, G. T., James River, Va., Kentucky School of Medicine, 1898.

Hix, N. F., Prospect, Va., University of Virginia, 1900.

Janney, W. H., Occoquan, Va., Univ. Col. of Med., 1900.

Johnson, H. R., Roncerverte, W. Va., Univ. of Md., 1890.

Kennon, B. R., Norfolk, Va., Univ. of Va., 1893.

Kight, R. S., Norfolk, Va., Univ. of Md., 1900.

Lipscomb, P. D., Crozet, Va., Univ. of Va., 1900.

Lukin, F. H., Leesville, Va., Univ. Col. of Med., 1900.

Moomaw, B. C., Roanoke, Va., Univ. of Va., 1899.

McNair, R. T., Jarratt, Va., Med. Col. of Va., 1900.

Nelson, J. G., Richmond, Va., Univ. Col. of Med., 1900.

Price, R. L., Boone Hill, Va., Univ. Col. of Med., 1900.

Purdy, J. J., Rural Bower, Va., Med. Col. of Va., 1900.

Rea, M. L., Crozet, Va., Univ. of Va., 1900.

Roop, F. S., Childress, Va., Univ. of Va., 1900.

Robinson, W. A., Brink, Va., Univ. Col. of Med., 1900.

Richards, L. G., Richmond, Va., Univ. Col. of Med., 1900.

Robertson, L. A., Fall Creek, Va., Univ. Col. of Med., 1900.

Richardson, A. S., Valley View, Va., Univ. Col. of Med., 1900.

Rodgers, G. C., Staunton, Va., Univ. Col. of Med., 1900.

Reid, W. E., Portsmouth, Va., Leonard Med. Col., 1900.

Randolph, B. M., Richmond, Va., Med. Col. of Va., 1898.

Roberts, George, Lincoln, Va., Univ. of Pa., 1868.

St. Clair, W. H., Bluestone, Va., Univ. of Va., 1900.

Smith, T. G., Tazewell, Va., Univ. of Va., 1900.

Sparks, G. H., Crooked Run, Va., Med. Col. of Va., 1900.

Staley, T. F., Boston, Mass., Med. Col. of Va., 1900.

Stratford, W. H., Greensboro, N. C., Univ. Col. of Med., 1900.

Simmonds, J. B., Lancaster, Va., Non-graduate.

Stover, G. A., Richmond, Va., Univ. Col. of Med., 1900.

Stinson, L. R., Beesville, Va., Univ. Col. of Med., 1900.

Stiles, A. W., Bristol, Tenn., Baltimore Med. Col., 1897.

Solliday, D. S., Neersville, Va., Med. Col. of Va., 1900.

Terrell, E. H., Norfolk, Va., Med. Col. of Va., 1900.

Thurman, A. G., Thurman, Va., Univ. Col. of Med., 1900.

Tutwiler, H. L., Rockingham, Va., Med. Col. of Va., 1900.

Thomason, D. M., Charlottesville, Va., Univ. of Va., 1900.

Turner, Ashby, Leesville, Va., Univ. Col. of Med., 1900.

Vest, W. W., Randolph, Va., Non graduate.

Walker, E. E., Forksville, Va., Univ. Col. of Med., 1900.

Wright, R. H., Petersburg, Va., Univ. of Va., 1900.

Williams, H. McG., North Garden, Va., Univ. Col. of Med., 1900.
 Williams, G. E., Simmonsville, Va., Non-graduate.
 White, H. S., Richmond, Va., Univ. Col. of Med., 1900.
 White, J. E., Wakefield, Va., Med. Col. of Va., 1900.
 White, C. P., Richmond, Va., Howard, Univ., 1898.
 Wilkins, T. H., Portsmouth, Va., Univ. Col. of Med., 1900.
 Young, G. W., Georcel, Va., Hospital Col. of Med., Ky., 1898.

Nos. of examination papers.	LIST OF INSTITUTIONS Whose Graduates were Rejected by the Medical Examining Board of Va., at its Regular Fall Meeting, June 25-28, 1900. With Percentage Marks of each.	COLLEGE OF GRADUATION.											Average Percentage	REMARKS.
		Hygiene and Med. Jurisprudence.	Chemistry.	Anatomy.	Physiology.	Histology, Pathology, Bacteriology.	Obstetrics and Gynecology.	Materia Medica and Therapeutics.	Practise.	Surgery.	Total.			
7	University of Virginia.....	69	80	60	58	60	79½	65½	84	60	612½	68+		
17	University of Virginia.....	65	80	75	84	50	75	67½	82	50	628½	60+		
20	Non-Graduate.....	67	75	78	88	78	78½	85½	65	45	657	73+		
22	University College of Medicine.....	67	79	73	70	70	75	83	73	65	655	72+		
25	Medical College of Virginia.....	77	80	58	88	70	76	55	75	55	634	70+		
29	Non-Graduate.....	71	79	71	64	75	80	76	79	60	655	72+		
30	Non-Graduate.....	68	88	59	75	45	75	63	68	50	580	63+		
32	Non-Graduate.....	66	84	43	68	40	81	62	77	40	561	62+		
37	University College of Medicine.....	74	93	68	67	55	78	77½	75	65	652	72+		
40	Non-Graduate.....	73	82	72	73	72	70	78½	85	60	665	73+		
42	Non-Graduate.....	73	78	66	79	70	80	76	80	65	670	74+		
49	University College of Medicine.....	87	78	70	72	65	67	77½	79	65	660½	73+		
65	Non-Graduate.....	75	85	75	85	48	64	82½	70	55	639½	71+		
68	Non-Graduate.....	66	86	68	83	75	80	74	70	55	657	73+		
72	University of Virginia.....	77	76	76	52	60	64	83	80	63	630	71+		
73	Southern Homeopathic.....	71	85	52	59	45	72	76	62	75	597	66+		
74	Leonard Medical College.....	70	70	63	92	45	72	71½	78	65	626½	69+		
77	Medical College of Virginia.....	66	77	45	87	45	83	57	80	45	545	60+		
81	Non-Graduate.....	73	75	69	71	60	78	83½	64	83	608	70+		
84	College of Physicians and Surgeons, Balt.....	60	73	45	50	45	51	76½	85	40	525	58+		
93	Non-Graduate.....	57	80	57	62	30	65	68	62	30	511	56+		
94	Leonard Medical College.....	76	72	69	86	45	82	85	80	50	645	71+		
96	Leonard Medical College.....	66	85	70	86	50	81	79½	68	65	650½	72+		
101	University of Baltimore.....	75	77	65	66	35	32	78	78	43	569	63+		
102	Non-Graduate.....	72	75	54	61	45	85	74½	77	75	618½	68+		
104	Medical College of Virginia.....	75	75	61	70	60	59	84½	75	70	629½	69+		
108	University of the South.....	60	72	75	74	75	77	76	75	50	634	70+		
111	University of Maryland.....	83	72	60	60	45	68	66½	84	45	583	64+		

INSTITUTIONS REPRESENTED BY APPLICANTS WHO CAME BEFORE THE MEDICAL EXAMINING BOARD OF VIRGINIA, SPRING SESSION AT LYNCHBURG, VA., June 25-28, 1900.	Total Number of Applicants from each College.	Total Number of Applicants Licensed from each College.	Total Number of Applicants Rejected from each College.	With- drawals.	Partial Examina- tion.
Medical College of Virginia, Richmond, Va.....	28	25	3		
University of Virginia, Charlottesville, Va.....	17	14	3		
University College of Medicine, Richmond, Va.....	1	1			
College of Physicians and Surgeons, Baltimore.....	1		1		
University of Maryland.....	5	4	1		
Baltimore Medical College.....	1	1			
University of Baltimore.....	1	1			
University of Pennsylvania.....	1	1			
University of the South.....	1		1		
Louisville Medical College.....	1			1	
Physicians and Surgeons, New York.....	1				
Howard University.....	1	1			
Hahnemann Medical College.....	1			1	
Hospital Medical College, Louisville, Ky.....	1	1			
Leonard Medical College.....	5	2	3		
Southern Homeopathic.....	1				
Chicago Homeopathic Medical College.....	1	1			
University of New York.....	1	1			
Women's Medical College of Pennsylvania.....	1	1			
Washington University.....	1	1			
Kentucky School of Medicine.....	1	1			
Non-Graduates.....	16	3	11		
Total.....	120	88	28	2	2

INSTITUTIONS REPRESENTED BY THE APPLICANTS

BEFORE THE

MEDICAL EXAMINING BOARD OF VIRGINIA,

FROM THE ORGANIZATION OF THE BOARD, JANUARY 1, 1885,

TO JUNE 25, 1900.

	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 Withdraw.
Medical College of Virginia.....	267	221	40	17	7	3	3	1	1	.....	.....	6
University of Virginia—Medical Department.....	338	103	7	1	3	1	1	.....	.....	.....	.....	1
University College of Medicine, Richmond.....	173	158	10	7	9	3	1	.....	.....	.....	.....	1
Baltimore Medical College and University Col. of Medicine, Richmond	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
College of Physicians and Surgeons, Baltimore.....	185	96	33	4	3	2	1	.....	.....	.....	.....	4
University of Maryland.....	156	121	8	3	8	3	1	.....	.....	.....	.....	2
Baltimore Medical College.....	45	20	22	4	3	3	1	.....	.....	.....	.....	3
Baltimore University.....	10	10	.....	2	2	.....	.....	.....	.....	.....	.....	.....
Washington University, Baltimore (Extinct).....	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
National Medical College, Washington, D. C.....	3	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
University of Georgetown, D. C., Medical Department.....	3	.....	2	1	.....	.....	.....	.....	.....	.....	.....	.....
Howard University, Medical Department, Washington, D. C.....	21	6	20	2	2	1	.....	.....	.....	.....	.....	.....
University of Maryland and Baltimore Medical College.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Georgetown College, Washington, D. C.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jefferson Medical College.....	41	4	28	12	3	1	1	.....	.....	.....	.....	1
University of Pennsylvania.....	22	19	3	1	.....	.....	.....	.....	.....	.....	.....	.....
Medico Chirurgical College of Philadelphia.....	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Medical College of Philadelphia.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Woman's Medical College of Pennsylvania.....	1	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hahnemann Medical College and Hospital (Homoeop.), Philadelphia.....	8	5	2	.....	.....	.....	.....	.....	.....	.....	.....	1
University of the City of New York, Medical Department.....	29	18	11	.....	1	1	.....	.....	.....	.....	.....	.....
University of New York.....	3	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
University of Virginia and New York.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bellevue Hospital Medical College, New York.....	20	19	.....	1	1	.....	.....	.....	.....	.....	.....	.....
University of Virginia and Bellevue Hospital Medical College.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
College of Physicians and Surgeons, New York.....	15	13	.....	1	2	.....	.....	.....	.....	.....	.....	.....
College of Physicians and Surgeons, New York (Extinct).....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
College Physicians and Surgeons, New York, and University of Va.	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Long Island College Hospital, Brooklyn.....	4	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Yale Medical School, New Haven.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
University of Vermont, Burlington.....	2	.....	2	1	.....	.....	.....	.....	.....	.....	.....	.....
Miami Medical College, Cincinnati.....	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Columbus Medical College.....	3	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Homoeopathic Hospital, College, Cleveland.....	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pulte Medical College, Cincinnati (Homoeopathic).....	18	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Palme Medical College.....	18	1	9	2	2	.....	3	.....	.....	.....	.....	1
University of Louisville, Medical Department.....	16	11	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kentucky School of Medicine, Louisville.....	9	8	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hospital Medical College, Louisville.....	11	8	3	1	.....	.....	.....	.....	.....	.....	.....	.....
Vanderbilt University, Nashville.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
University of Tennessee, Nashville.....	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
University of the South, Swanne, Tenn.....	4	1	3	1	.....	.....	.....	.....	.....	.....	.....	.....
Leonard Medical College, Raleigh (Colored).....	28	17	10	3	3	.....	2	.....	.....	.....	.....	.....
Medical College of State of South Carolina, Charleston.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Southern Medical College, Atlanta.....	4	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Atlanta Medical College.....	3	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tulane University, Medical Department, New Orleans.....	3	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
University of Louisiana (probably Tulane University).....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Medical College of St. Louis.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Louis Medical College, Missouri.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Detroit Medical College, Michigan.....	3	2	1	1	.....	.....	.....	.....	.....	.....	.....	.....
University of Michigan, Medical Department, Ann Arbor.....	5	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Michigan College of Medicine and Surgery, Detroit.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chicago Homoeopathic Medical College.....	3	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hahnemann Medical College and Hospital, Chicago.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
University of Heidelberg, Germany.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
George's Hospital, London.....	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Georgetown University.....	2	1	.....	1	1	.....	.....	.....	.....	.....	.....	.....
King College, London.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tennessee Medical College, Knoxville.....	4	1	3	2	2	1	1	.....	.....	.....	.....	.....
Chattanooga Medical College.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Western Reserve Medical College, Cleveland.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rush Medical College, Chicago.....	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
National University of Ohio.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Electric School, Cincinnati.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cincinnati Medical College.....	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Southern Homoeopathic Medical College, Baltimore.....	7	4	3	1	.....	.....	.....	.....	.....	.....	.....	.....
Woman's Medical College, Chicago.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Columbia College.....	6	4	2	1	1	.....	.....	.....	.....	.....	.....	.....
Jefferson Medical College, Phila., and Baltimore Medical College.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Harvard Medical College.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Central Tennessee College.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Woman's Medical College, Cincinnati.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Northwestern University, Chicago.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
College of Surgeons, London.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Colleges unknown.....	7	4	2	.....	.....	.....	.....	.....	.....	.....	.....	1
University of Vermont and Leonard Medical College.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
College of Physicians and Surgeons, D. C.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Starrling Medical College, Ohio.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Beaumont Medical College.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
McHurry College, Nashville, Tenn.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Albany Medical College.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Orleans School of Medicine.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
University of Vermont and Bellevue Medical College.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Missouri Medical College.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Howard Medical and Michigan.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Washington University, St. Louis.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Non-Graduates.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Non-Graduates taking partial examinations.....	2	65	133	9	13	.....	3	.....	.....	.....	.....	8
Totals.....	1,594	1,129	422	78	57	16	20	1	2	1	.....	29

Analyses, Selections, etc.

The Immediate Hermetic Sealing of Wounds—Is it Safe?—Is it Advised?

A paper⁽¹⁾ upon wound technic by Dr. Marcy, of Boston, will be read by the profession with more than ordinary interest, when we recall that he was Mr. Lister's first American pupil, and was the first in America to make careful laboratory studies upon the bacteria of wounds.

Dr. Marcy and Surgeon-General Sternberg were the pioneers in this important field of research, which has done so much in revolutionizing medicine and surgery.

Perhaps Dr. Marcy's most important contribution to surgery is the buried animal suture, derivable as the legitimate sequence from the ligation of arteries in continuity, by animal structures, first by Dr. Jameson, of Baltimore, in 1827, and later rediscovered and placed upon a sure scientific foundation by Lord Lister.

Based upon the practice of closing aseptic wounds by buried continuous sutures, Dr. Marcy advocated the advancement of the drainage tube more than fifteen years ago as not alone superfluous, but positively dangerous in all aseptic wounds as the "open door" of infection. From this came the legitimate deduction that Nature's vitalized structures were important to be retained in aseptic wounds as the first process of their reparation. This accepted, the only object of subsequent dressing of such a wound is to prevent infection from exterior sources. This, Dr. Marcy believes, is best accomplished by the use of the collodion seal. He reviews with care the modern technic of operative surgery, and refers to recent valuable papers published in England by Dr. Granville Bantock, of London, and Dr. George Wilson.

The key-note of both of these papers is that the constant presence of micro-organisms, now usually regarded as specific causes of disease, is associated with the disease only because they here find the conditions necessary for their development; that is to say, that their presence is the result rather than the cause of the pathological conditions found. "The surgeon must not alone be a *scientist*—which includes the familiarity of a technic to be carried out with the automatism of a well-mastered ritual, an equal familiarity of the anatomy of the parts and their relationship—but to these

should be added other almost equal requirements—that of the *artizan* and the *artist*. There is no excuse for bungling over wounds by the hour, devitalizing their structures by the application of dozens of strong forceps, leaving tissues shreddy and half disorganized—all done in a so-called painstaking attempt at aseptic technic; and on this account comes the well merited, impatient protests of great surgeons like Dr. Bantock, with a justification for the appeal that the *soil* is as important as the *seed* in every surgical procedure." * * *

"Very possibly this paper would not have been written had not a recent visit to a number of the leading hospitals in America demonstrated to me that unscientific and very objectionable methods of wound treatment were still the routine practice of many surgeons. Dr. Marcy gives an illustrative case—the operative cure for hernia on a small boy, where bandage after bandage was applied, and finally *splints* from knee to navel. When asked of the distinguished surgeon their value, the reply was, 'Doubtful if any, but it has long been the practice in this hospital.'"

The object of the surgeon is to make and maintain a wound aseptic. Like structures should be coaptated and held at rest by buried aseptic, absorbable sutures, and the technic is complete in the application of a dressing to prevent subsequent infection. "This is secured so simply and easily by iodoform collodion, strengthened by a few fibres of cotton, that this dressing reaches an ideal completion. It is *fluid proof* in that no exudate can escape from beneath it, and, as a consequence, it is *germ proof* in that by no means is it possible that any foreign material can enter the wound. Beyond this, it holds in even coaptation and at rest with a certain fixity of support the approximated parts." * * * "Iodoform is soluble in it, and under certain conditions is inhibitory to the development of the micrococcus-albus in the proliferating epithelium, and for this purpose is quite as valuable as the silver salts, which are much more difficult of application. To one who may doubt the effect of a potent agent seemingly locked up in a collodion film, we need only to cite the powerful desiccating effect of cantharidal collodion. A wound made and maintained aseptic in well vitalized structures, held at rest in easy coaptation by buried tendon sutures, and sealed with iodoform collodion, will not suppurate, and will be followed by a non-inflammatory primary union." * * * "The fear, the anxiety, the constant supervision and watchfulness of the wound by nurse and at-

(1) Abstract of a paper contributed to the Southern Surgical and Gynecological Association, New Orleans, December 6, 1899.

tendant, are entirely abrogated. Subsequent dressing is of no avail except to keep the parts from extraneous injury. The work of the surgeon for good or ill has its finality at the primary period of manipulative intervention."

Railway Accidents.

The following statistics from the Interstate Commerce Commission (Washington) Report, July 5, 1900, is full of interest as general reading, and especially so to the doctors. It shows the magnitude of the service of railroads in the U. S., and in figures that speak louder than words it shows the urgent necessity that all railroads should have in their general staff a full *medical corps* of competent doctors, who should be well equipped to respond at once to an emergency call. The Chesapeake and Ohio R. R., under the medical charge of Dr. C. W. P. Brock, of Richmond, Va., is year by year perfecting its already good medical service all along its lines from Newport News and Fortress Monroe to Cincinnati and Louisville.

The total number of casualties to persons on account of railway accidents during the year ending June 30, 1899, was 51,743. The aggregate number of persons killed as a result of railway accidents during the year was 7,123, and the number injured was 44,620. Of railway employees, 2,310 were killed and 34,923 were injured during the year covered by this report. With respect to the three general classes of employees, these classes were divided as follows: Trainmen—1,155 killed, 16,663 injured; switchmen, flagmen and watchmen—273 killed, 2,992 injured; other employees—782 killed, 15,268 injured. The casualties to employees resulting from coupling and uncoupling cars were—persons killed, 260; injured, 6,765. The corresponding figures for the preceding year were—killed, 279; injured, 6,988.

The casualties from coupling and uncoupling cars are assigned as follows: Trainmen—killed, 180; injured, 5,055; switchmen, flagmen and watchmen—killed, 74; injured, 1,533; other employees—killed, 6; injured, 177. The casualties resulting from falling from trains and engines are assigned as follows: Trainmen—killed 337, injured 3,053; switchmen, flagmen and watchmen—killed 60, injured 377; other employees—killed 62, injured 540. The casualties to the same three groups of employees caused by collisions and derailments were as follows: Trainmen—killed 280, injured 1,713; switchmen, flagmen and watchmen—killed 14, injured, 115; other employees—killed 40, injured, 325.

The number of passengers killed during the year was 239, and the number injured was 3,442. Corresponding figures for the previous year were 221 killed and 2,945 injured. In consequence of collisions and derailments, 82 passengers were killed and 1,557 passengers were injured during the year embraced by this report. The total number of persons other than employees killed was 4,674; injured, 6,255. These figures include casualties to persons classed as trespassers, of whom 4,040 were killed and 4,730 were injured. The total number of persons killed at highway crossings was 693; injured, 1,125; distributed as follows: Employees—19 killed, 38 injured; passengers—2 killed; 17 injured; other persons trespassing—170 killed, 168 injured; not trespassing—502 killed, 902 injured. The number of persons killed at stations was 443, injured 3,306. This statement covers: Employees killed, 83, injured 2,139; passengers killed 37, injured 580; other persons trespassing killed 282, injured 444; not trespassing, killed 41, injured 143. The summaries containing the ratio of casualties show that 1 out of every 420 employees was killed, and 1 out of every 27 employees was injured. With reference to trainmen—including in the term enginemen, firemen, conductors, and other trainmen—it is shown that 1 was killed for every 155 employed, and 1 was injured for every 11 employed. One passenger was killed for every 2,189,023 carried, and 1 injured for every 151,998 carried. Ratios based upon the number of miles traveled, however, show that 61,051,580 passenger-miles were accomplished for each passenger killed, and 4,239,200 passenger-miles accomplished for each passenger injured.

OUR MEDICAL COLLEGE ADVERTISEMENTS

Which Medical College to Attend.

Practically speaking, all the reputable medical colleges of this country have adopted the four years' graded course of over six months each of all their matriculates; so that there cannot be any material difference of choice in this particular. Indeed, such have been the rapid strides in medicine and surgery during the past two years that the tendency on the part of some medical educators is to advocate even a five years' graded course for all medical students, in order that they may acquire knowledge of some of the "side departments" of medicine before entering upon practice. Other colleges—indeed, the majority of them—deem

it best to graduate the competent student in four years, and then let him select a post-graduate course, especially suited to the probable needs of his future life work. All are agreed that the doctor of the future is to be a person of education—at least in the branches of learning that bear upon the study of medicine.

Who are to be medical students? Here and there we have known of persons lacking in proper every-day school education who were specially fitted for the acquiring of a high degree of medical knowledge; but such geniuses are "few and long between." He is by far the better prepared to undertake the study of medicine who has a good high school or college education. We surely would not advise any one, in this day, to undertake the study of medicine who cannot read, spell and write correctly. He should have at least a college Freshman's knowledge of Latin and Greek, since the technicalities of medicine are almost wholly derived from these two languages. He should know something of chemistry, of physics, of biology, etc., before he matriculates in a medical college. An acquaintance with the microscope and some of its revelations is also a great help to the understanding of the earlier lectures he may attend—although later on he acquires information on such things in the schools of histology, practical pathology, bacteriology, urinalogy, etc.

Nor should the intending medical student lose sight of the business aspect of his abilities. He should arrange beforehand for the probable cost of his four years' tuition. Numbers of young men have started with zealous interest into their first year of study of medicine unable, before the first session ends, to pay their board bills, to buy their text-books, and even without funds enough to return to their homes when compelled to give up their college course. They become the borrowers of their class mates, and waste time they can never regain in worries to repay, or else in explaining why they cannot repay. Such impecuniosity covers the individual, and causes a social ostracism among his college mates that, to say the least, is exceedingly embarrassing, and prevents him from applying his time and energies to his studies, and thus he fails on examination day. While now the tuition fees, etc., of reputable colleges are sufficiently small to meet expenses of these institutions, they must be paid in order to keep the college in good repair and properly equipped.

Being prepared by satisfactory preliminary education and by a reasonable expectancy of ability to pay as he goes, what next? He should

go to his medical college in good health, with a well grounded determination to be a faithful, constant student to the end of his course. Ample recreation hours are now arranged in most well regulated graded courses for healthy students. Gymnasias are now a part of the general run of properly equipped medical colleges, so as to retain good health.

What is to become of the medical graduate? As year by year rolls by, enterprises are constantly springing up which require the services of medical advisers, etc. The changed policy of the United States has placed this government on a future war footing, requiring enlarged navy, army, etc., and consequently a constantly increasing number of surgeons for the respective medical or surgical corps. State asylums and sanitariums have to be established. Life insurance companies are constantly extending their fields as people become more and more educated to the necessity of keeping their lives insured; and the examinations for these companies require the services of doctors. Railroad corporations are more and more finding out their need for medical advisory services. Specialties of all kinds are increasing in numbers. Deaths are daily leaving vacancies in the profession. And communities are growing in population. So that with the relative decreased number of future yearly graduates in medicine because of the lengthened four years' course, of colleges, there will probably be room for competent graduates for years to come.

Now, as to which college the student is to select, we must leave to himself or herself. We present the claims of a number of the best institutions in this country—including the Woman's Medical College of Pennsylvania, which is one of the very best of medical colleges of America, and the New Orleans Polyclinic, especially well fitted for the Southern practitioner.

MEDICAL COLLEGE OF ALABAMA, Mobile.

The good standing of the graduates of this institution (which is the Medical Department of the University of Alabama) before the various Medical Examining Boards of the States in which they have located, proves the high standard of this college. Mobile offers ample clinical material, which is made use of daily during the entire course. The rigorous climate of the Northern States during the winter months compel many citizens of those States to winter in the Gulf States; and to the medical student friends of such persons, no college can offer stronger inducements or better advantages, clinical or didactic. The labo-

ratories are provided with the latest modern appliances.

MEDICAL DEPARTMENT OF COLUMBIAN UNIVERSITY, Washington, D. C.

The location of this medical college in the National Capital stimulates its faculty to keep it abreast of the very best medical institutions. Besides its ample halls and well equipped laboratories with apparatus up to date, the new University Hospital, and several other hospitals of the city, furnish abundant facilities for clinical teaching and observation in every department of medicine, surgery, obstetrics, etc. The record of its graduates in appearing before the Government Medical Examining Boards—Army, Navy, U. S. Marine Hospital Service, etc.—as well as before the various State Medical Examining Boards, at once shows the standard the Medical Department of Columbian University has established. As a place for student residence, no city of the country can offer equal inducements as Washington.

NORTHWESTERN UNIVERSITY MEDICAL SCHOOL,

Formerly known as the *Chicago Medical College*, 2421-2437 Dearborn Street, Chicago, is maintaining its adherence to the cause of advanced medical teaching. Its buildings are large, new and well equipped. Wesley Hospital is erecting three new pavilions immediately adjoining the college. Upon its completion, together with Mercy and St. Luke's Hospitals, the school will control for clinical purposes, for its own students exclusively, over 600 beds.

The College Dispensary treats over 25,000 cases annually. Comparison of this wealth of material with the clinical methods of the school will show an opportunity which has few equals. It has a corps of thirty professors, and as many lecturers, assistants, etc.

NEW ORLEANS POLYCLINIC.

This is the only distinctive institution in the Southern States intended for bedside teaching of practitioners of medicine. Since it was founded in 1887, it has, each year, become better and better prepared to give practitioners who may attend its sessions thoroughly practical bedside courses of instruction. This fact is becoming more and more appreciated, as the constantly growing sizes of the classes will show, to any of whom reference may be made. The clinical advantages of the New Orleans Polyclinic, for either special work or the purposes of the general practitioner of medicine or surgery, cannot be surpassed by any like insti-

tution in the country. For the Southern physician or surgeon especially, one cannot suggest an institution where he could gain more useful experience for his special purposes.

THE COLLEGE OF PHYSICIANS AND SURGEONS OF BALTIMORE.

This college, established twenty-eight years ago, has just entered its magnificent new buildings erected last year. Its laboratory equipments are modern and complete, and all the new aids for teaching medicine are amply provided. Its clinical opportunities are most excellent, as reference to the advertisement of this College of Physicians and Surgeons in this journal will convince the reader. Baltimore offers many advantages for the medical student in the matter of costs. Board near the college in excellent families is relatively cheap.

UNIVERSITY OF MARYLAND (FACULTY OF PHYSIC).

The School of Medicine of the University of Maryland, northeast corner of Lombard and Greene streets, Baltimore, is one of the oldest and best known institutions in America—having been founded in 1807—and ranks fourth in point of age among the medical colleges of the United States. The course of instruction comprises four annual graded courses of seven months each, in which clinical teaching is a most prominent and important feature. Each student, before graduating, has personal experience in practical obstetrics in the Maternity Hospital, and personal instruction at the bedside of the sick in the University Hospital. The laboratory equipment is excellent.

THE UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE, New York City,

Represents the consolidation of these two former colleges—each of which had established for itself a most envious record among the medical colleges of the country. Its faculty is large—composed mostly of the professors of each of the two institutions above referred to. Their purpose is to make this *pre eminently a school of practical medicine*. Its abundantly equipped laboratories, with apparatus, etc., of the latest design, and its numerous clinical advantages in the hospitals near by and at its command, furnish opportunities suited to every student—whether his studies are in reference to a specialty or to general medicine or surgery.

CORNELL UNIVERSITY MEDICAL COLLEGE.

This medical college (414 E. 26th Street, New York City) will begin its Third Annual Session in October in the magnificent new building which has been designed as a combination of

a medical college and a dispensary. Cornell has always been justly famous for the practical character of its instruction. This is chiefly imparted by daily recitations from standard text-books, participated in by small sections which pass directly from the class room to the study of walking cases in the dispensary and to those confined to bed in hospital wards. A great number of instructors are required for this kind of teaching, but the interest of the profession in the work is so great that no difficulty has been experienced in obtaining the co-operation of its most distinguished members. The visiting staff of a dozen or more hospitals are represented upon the faculty, and students are thus taken on daily visits to wards and operating-rooms. The anatomical, pathological and clinical laboratories are conducted on the same general plan in the belief that the personal experience of each student properly guided in every subject furnishes the most permanent and profitable education.

MEDICAL COLLEGE OF WESTERN RESERVE UNIVERSITY, Cleveland, Ohio.

This institution (formerly known as Cleveland Medical College) is taking an advanced stand among the medical colleges of the country. The endowment of a number of its departments, with its fully equipped laboratories, gives this college advantages which are being availed of to stimulate the student to the highest grade of perfection when he graduates. After the coming session, no new student can be matriculated who has not completed the junior course in a recognized college, or an equivalent. No college can offer better clinical advantages than does the Medical College of Western Reserve University with its very abundant hospital connections in Cleveland.

JEFFERSON MEDICAL COLLEGE, Philadelphia, Pa.

The Seventy-Sixth Annual Announcement of this sterling institution has been issued. From reading it, one can see that the enterprising spirit which constructed the new buildings and laboratories has been rewarded by large and enthusiastic classes. The demands of a scientific education must be met by just such a liberal spirit on the part of college authorities everywhere. The time has gone by when the medical student will be content with the waxed model and mannikin shown in a hasty hour by a busy practitioner. Hospitals, museums, laboratories, libraries, all must be worked for the advantage of the medical student under the eye of experienced teachers, whose whole working hours must be devoted

to this business. The courage to spend handsomely on new appliances, to take an advanced position in standards of education, has never had a better fruition than is illustrated in Jefferson Medical College.

WESTERN PENNSYLVANIA MEDICAL COLLEGE, Pittsburgh, Pa.

This college is the Medical Department of the Western University of Pennsylvania. It is about to open its *fifteenth annual session* better prepared than ever to give a thorough course of instruction in each of the branches of medical science. Its laboratories and apparatus are ample for every purpose of the medical student. The manufacturing interests of Pittsburgh compel a large population of the working class, which keep the hospitals well filled with cases of disease and injuries of all grades and kinds common to that section of country, that give the students ample clinical material and opportunities. The corps of professors and assistants are well selected for their special duties. And the results of their work, as tested by various Medical Examining Boards, State and national, is most gratifying.

WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA, Philadelphia.

The Woman's Medical College of Pennsylvania (North College Avenue and 21st Street, Philadelphia) will open its Fifty-first Annual Session September 26th with abundant laboratory and clinical facilities. The records of the State Medical Examining Boards of Pennsylvania and other States testify to the thoroughness of the instruction, and the appointments secured by members of the last graduating class show the demand for the alumne as hospital residents. Its graduates are taking high stand wherever they locate. Dr. W. L. Rodman (formerly of Louisville, Ky.) has recently been appointed Professor of the Principles and Practice of Surgery, and Dr. W. V. Laws, Professor of Operative and Clinical Surgery.

MEDICAL DEPARTMENT OF VANDERBILT UNIVERSITY, Nashville, Tenn.

Vanderbilt's announcement for 1900-1 indicates that it is meeting the advancements in medical teaching along all lines. The enrolment for the past year shows a marked increase in patronage, drawn from all sections of the United States, and reaching even beyond. The class graduating next spring is the last of the three-year classes. After this, it will require four years to complete the course. The building, specially designed for medical teaching, is amply equipped with modern apparatus for

practical laboratory work, which is a leading feature of the institution. Nashville, Tenn., possesses everything needful for the medical student. Hospital privileges are abundant.

THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF NASHVILLE

Will enter upon its Fiftieth Annual Session early in October. This school is one of the oldest in the South, ranking third in the order of establishment. Nurtured in an atmosphere of broad scholarship and lofty traditions, the spirit of advance and emulation of higher standards has become a natural heritage. The faculty were the first to inaugurate a four-year course in the South. Mindful always of the benefits to accrue from practical methods of instruction, the laboratories and clinical facilities are maintained at a high grade of excellence.

UNIVERSITY OF VIRGINIA (MEDICAL DEPARTMENT), Charlottesville, Va.

The seventy-seventh session of the University of Virginia will open on the 15th of September, 1900, and the work of the Medical Department will at once begin and continue for nine months. The thoroughness of instruction which has marked the career of this school in the past is fully maintained, while the teaching facilities are being expanded with the progress of medical education in the United States. The new hospital building is being roofed in, and it is hoped that in a short time it will be in use.

THE MEDICAL COLLEGE OF VIRGINIA, Richmond, Va.,

Is one of the oldest and best known of southern medical institutions, and embraces departments of Medicine, Dentistry and Pharmacy. Founded in 1838, it has kept thoroughly abreast with the many advances in medicine, surgery and medical teaching. It was the first of the three medical institutions in this State to adopt the four-year course of medical instruction, and, as evidence of the public appreciation of its progressive spirit, there was an increase of fifty per cent. in the number of students in attendance last session.

Its progress and prosperity are shown by the continued improvement of its equipment and the increase of its hospital accommodations, which include a separate building used exclusively as a maternity hospital. During the past three years the principal lecture-halls have been furnished with opera-chairs and handsome new desks, thus adding greatly to their comfort and convenience. A most im-

portant adjunct to its teaching facilities will be the elaborate new Charlotte Williams Hospital, which is now being erected at the corner of Broad and Twelfth streets, two blocks distant from the college building. The faculty of this college will have the exclusive right to use the hospital and its clinical material for teaching purposes. This hospital, planned on the most scientific hygienic principles, with a capacity of two hundred beds (the largest hospital between Baltimore and New Orleans), will enable this college to offer students advantages in systematic clinical instruction not to be found elsewhere in the Southern States from Maryland to Louisiana.

UNIVERSITY COLLEGE OF MEDICINE, Richmond, Va.

This institution now has a compulsory four-year course in medicine, though it has always maintained an optional four-year course. It continues to improve its curriculum each year, and is now adding a large three-story building to its hospital equipment for clinical purposes only. The records of its graduates, before different State Examining Boards, in each of its departments of Medicine, Dentistry and Pharmacy, has been a remarkable one, and still continues to be at the head of the list. The next session, continuing seven months, begins on October 2d, 1900.

Nine Hours vs. Nine Days.

An old practitioner of imedicine states that for many years his invariable response to the inquiry: "What shall I take, doctor, for rheumatism?" was: "Take nine weeks."

Since the therapeutic action of Tongaline was called to his attention, he prescribes that product with much gratification, feeling confident that his patients will experience some improvement in nine hours, and in nearly every instance will be cured within nine days.

Tongaline is the logical prescription for rheumatism, neuralgia, grippe, nervous headache, gout, sciatica, and lumbago, since on account of its wonderful eliminative powers, the poisonous and viscid secretions which cause these diseases are more promptly and thoroughly removed than by any other combination.

Chinese Medical Corps.

According to the newspapers, there is no properly organized medical corps in the Chinese army.

Book Notices.

Text-Book of Practical Medicine. By WILLIAM GILMAN THOMPSON, M. D., Professor of Medicine in Cornell University Medical College, New York city, Physician to the Presbyterian and Bellevue Hospitals, New York. In one magnificent octavo volume of 1010 pages, with 79 engravings. Cloth, \$5.00 net; leather, \$6.00 net. Half morocco, \$6.50 net. Lea Brothers & Co., Publishers. 1900.

This is a book we have long awaited. It is a work well suited to the purposes of a class text-book, while the general practitioner will find it to be the book he wants for reading and reference. It deals sufficiently with the definitions of diseases, their history, etiology, symptomatology, etc., to make the pages full of interest to the reader. But it is of greater value to the clinician, who has to decide upon the diagnosis and the line of treatment to be followed. Yet whatever of words of praise we may have to bestow upon this book for the practitioner, we regret, for the *College student's sake*, to find no introductory chapter giving a general definition of terms, etc., such as are found in some of the older books. Like other able text-books of the day, its first chapter begins with a lengthy consideration of typhoid fever; then follow in order other chapters on other infectious diseases. The volume is neatly published at a very low retail price. Its Index covers 31 double column pages. The engravings are mostly original and well illustrate the diseased states undertaken to be represented.

Treatise on Appendicitis. By JOHN B. DEEVER, M. D., Surgeon-in-Chief to the German Hospital, Philadelphia. *Second Edition. Thoroughly Revised and considerably Enlarged. Illustrated with 22 Full-page Plates.* 8vo. Pp. 300. Cloth. \$3.50 net. P. Blakiston's Son & Co., Philadelphia. 1900.

It was a compliment to the author that a demand for a second edition of this monograph should have been called for in less than three years. While we find many additions in this edition, we note that there have been no material changes in opinion as to the necessity for prompt operation. The book is well illustrated. The operations for appendicitis are well described in every step. As we go from page to page, we note so many additions as to force upon us the conviction that this is a new work. Practitioners in the country or away from surgical centres should carefully study

this book, for they cannot tell when they may be called upon in haste to operate for appendicitis. Deaver on *Appendicitis* will long remain a standard work on the subject.

Manual of Operative Surgery. By LEWIS A. STIMSON, B. A., M. D., Surgeon to New York and Hudson Street Hospitals, etc., and JOHN ROGERS, Jr., B. A., M. D., Surgeon of Gouverneur Hospital, etc. *Fourth and Revised Edition. With 293 Illustrations.* Philadelphia: Lea Brothers & Co. 1900. Royal 12mo. Pp. 586. Cloth, \$3.75.

Unlike most revised editions, this fourth contains fewer pages than the third edition by omission of portions of the text and about 40 cuts which the author claims had outlived their usefulness. The part of the text, however, given to conclusions drawn from personal experience has again been somewhat increased. In its present shape, the *Manual* contains the real pith of operative surgery, and serves as a most excellent guide-book for the general practitioner or surgeon. It contains also a number of little items of usefulness that either are not stated in some larger works, or else are so covered up in sections or paragraphs where one would be least apt to look for them as to be practically lost to the reader. This *Manual* is neatly published in good type, and the drawings are clear. A good index concludes the book.

Diseases of the Eye. By EDWARD NETTLESHIP, F. R. C. S., Ophthalmic Surgeon, St. Thomas Hospital, London, etc. *Revised and Edited* by WM. CAMPBELL POSEY, A. B., M. D., Ophthalmic Surgeon to Howard and Epileptic Hospitals, Philadelphia, etc. *Sixth American from Sixth English Edition. With a Supplement on Examinations for Color Blindness and Acuity of Vision and Hearing,* by WILLIAM THOMSON, M. D., Emeritus Professor of Ophthalmology in Jefferson Medical College of Philadelphia. *With 5 Colored Plates and 192 Engravings.* Lea Brothers & Co., Philadelphia and New York. 1900. Royal 12mo. Pp. 560. Cloth, \$2.25.

The high appreciation of this book is shown by the demand for twelve editions—six in England and six in this country. It is a favorite with college students, and practitioners have found it to be the book on the eye that they want. Even specialists use it as a guide book in their work. The frequent revisions of this book have made it each time thoroughly up to date. The present edition shows up well in this respect. Its teachings are thoroughly practical lessons, told in the plainest way, so that it is easy to understand. The work is nicely issued.

Editorial.

Medical Examining Board of Virginia.

We present in this issue the Official Report of the Medical Examining Board of Virginia, which held its session during June at Lynchburg. In our last issue we published the pith of the laws of the State that refer to the duties of this Board—pointing out especially that parties hereafter claiming to be graduates must present, for verification of their claims, their diplomas from some reputable medical college. It also has been ruled that undergraduates who apply for examination can be examined *on those branches only for which they present satisfactory certificates of proper proficiency* from the reputable medical college from which they secured the certificate. Discretionary powers have also been granted the Board to accept the certificate of other State Boards of Medical Examiners from persons who have passed these Boards—Boards, we mean, whose standard of graduation and of proficiency in undergraduate department is acceptable by the Virginia Board. These things are all improvements. The new law went into effect July 1, 1900.

Our long established conviction of the need of Medical Examining Boards, and our advocacy of the purposes of the Virginia Board, as well as our thorough confidence in the straightforward integrity of the members, saves us, we trust, from the charge of unfriendly criticism in commenting upon a feature or two of the last report.

We submit, first, that there were too many questions in some of the sections to expect one to answer the required number satisfactorily within the specified limit of three hours—for each set of questions. Fewer questions, and such as require shorter answers, could test the merits of the applicant for license just as well.

In the second place, remembering that so many of those who apply for examination are from colleges remote from Virginia; and remembering also that none of the standard text-books on the practice of medicine do not treat of such things as the venomous reptiles and insects of the State of Virginia, it does not appear to us that the question referring to the naming of such reptiles, etc., common in Virginia, ought to have been asked as test questions. Of course if the question were limited to the recognition and treatment of the effects of venomous bites and stings, it would have been altogether proper.

In some of the section questions, we find

some questions that are entirely irrelevant to the section in which they were asked.

We believe the profession generally will approve of the disposition of the Board to give a list of questions and then leave it to the candidate for examination to select and to answer only a stipulated number of them. It is not the object of the Board to look for questions that cannot probably be answered, but simply to test the diploma-holder as to his acquirements—to see if the college is sending out parties competent to begin the practice of medicine or surgery. The beginner must know that much information is to be gained by the school of experience.

Additions to Virginia Hospital, Richmond.

Extensive additions and improvements have been begun on this building, which have compelled the closing of its doors against the reception of patients for at least six weeks. The contractor promises that, while it will probably require over six months to complete the entire work, he will be able to finish the additional story of the present building early in October for the reception of patients again. In the meantime, work on the new wing will be going on, which will be a building of about 100 feet in length and several stories in height, with amphitheater, wards for patients, etc. This latter building will be connected by a covered bridge with the University College of Medicine, to enable the students to pass into the new amphitheater, wards, etc., so as to attend the bedside and amphitheater clinics. This new building will greatly increase the clinical facilities of the University College. The cost of the buildings and equipments, it is estimated, will be considerably over \$30,000.

Frank Benjamin Weak Minded.

Benjamin is the negro boy who attempted criminal assault on Miss Kain, a trained nurse in Hampton, Va. She, with Judge Lee, the Commonwealth's attorney, and others, signed the petition to Governor Tyler for commutation of the death sentence. Dr. Wm. F. Drewry, Superintendent of the Central Hospital (for Insane), Petersburg, Va., and L. S. Foster, Superintendent of the Eastern Hospital (for Insane), at Williamsburg, Va., acting under appointment by the Governor of Virginia, examined the prisoner, and adjudged him of weak mind, and not responsible for his actions. Governor Tyler thereupon commuted the death sentence to imprisonment for life.

Seaboard Medical Association of Virginia and North Carolina.

The next meeting will be at Weldon, N. C., December 13, 1900. The following are the officers-elect for the current term: Dr. Henry W. Lewis, Jackson, N. C., President; Drs. Fletcher Drummond, Parksley, Va., and Mayland Bolton, Rich Square, N. C., Vice Presidents; Dr. C. O'H. Laughinghouse, Greenville, N. C., Treasurer; Dr. Jno. Ro. Bagby, Newport News, Va., Secretary; Dr. R. L. Payne, Norfolk, Va., Chairman Executive Committee.

The following is a list of the committees:

Executive.—Drs. R. L. Payne, Norfolk, Va., Chairman; Kirkland Ruffin, Norfolk, Va.; A. T. Bass, Tarboro, N. C.

Auditing.—Drs. T. M. Riddick, Woodville, N. C., Chairman; Joseph T. Buxton, Newport News, Va.; Edwin E. Feilds, Norfolk, Va.

Publishing.—Drs. Junius F. Lynch, Norfolk, Va., Chairman; R. H. Stancell, Margaretsville, N. C.; J. M. Parrott, Kinston, N. C.

Credentials.—Drs. Albert Anderson, Wilson, N. C.; Thos. W. White, Belvidere, N. C.; Jno. E. Phillips, Suffolk, Va.

Arrangements.—Drs. A. R. Zollickoffer, Weldon, N. C., Chairman; I. E. Green, Weldon, N. C.; A. J. Ellis, Garysburg, N. C.; Mayor Joseph T. Gooch, Weldon, N. C.

Corrections—Typographical.

We regret to find the article by Dr. Stephen Harnsberger, of Catlett, Va., on "*Preventive Treatment of Puerperal Fever*," in our issue for August 10, 1900, marred by two or three typographical errors. In *first line of foot note*, second column, page 256, should read "Having lost my notes," etc. In *fifth line from bottom of first column of page 257*, instead of "No cause for," etc., read "No need for antiseptics." Last line of second paragraph of page 257, second column, for "prohibitory," read *prohibitory*.

Country Practice for Sale or Exchange.

A country practice in Tidewater Virginia, close to the Bay. This practice is compact, large, and has telephonic communications not only with its various parts, but with nearly all cities.

The practice pays about \$1,500 per year, 90 per cent. of which is cash. This is an unusual opportunity for a physician desiring to move to such a place. Full particulars and reasons for leaving on application. Address "*Chesapeake*," care of *Virginia Medical Semi-Monthly*, Richmond, Va.

Dr. Hunter McGuire.

In response to the numerous inquiries constantly coming in about his health, etc., during the past week, the heated weather has treated him badly. In fact, at one time during the past fortnight it was feared that he was decidedly worse. He is at his country home near the city with his family.

Quarantine Against Tampa, Fla.

The Mississippi State Board of Health, through its Executive Committee in session at Meridien, August 7th, declared a quarantine against the city of Tampa, Fla., on account of yellow fever in the latter city.

Medical Society of Virginia—Session 1900.

The *Preliminary Postal Announcement* of the *Thirty first annual session* of this Society, to be convened at *Charlottesville, Va.*, Tuesday, October 23d, 1900, has just been received. Whoever receives the postal, and is interested, is requested to give it prompt attention. Applications for fellowship are coming in nicely. A number of distinguished visitors will be present, with papers and as participants in discussions. Many of the Fellows have already announced that they will present papers. Full circular is to be issued one month in advance of session.

New Orleans Polyclinic.

Physicians will find the Polyclinic an excellent means for posting themselves upon modern progress in all branches of medicine and surgery. The specialties are fully taught, particularly laboratory work. Fourteenth annual session opens November 12, 1900. For further information, address Dr. Isadore Dyer, Secretary New Orleans Polyclinic, New Orleans, La.

The True Value of Gargling.

By gargling in the usual way only the upper anterior surface of the uvula and soft palate and base of the tongue are reached. The method of holding the nose and throwing the head well back when gargling enables the fluid to reach every surface of the pharynx.

The value of the two methods can readily be tested by painting the posterior wall of the pharynx with a strong solution of methylene blue. After gargling with water in the usual way, the latter will be perfectly clear and unstained; then let the patient again gargle by the method suggested, and the ejected fluid will be found stained.—*Charlotte Med. Journal*.

THE

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10 Cents a Copy.

Original Communications.

THE ANGIOTRIBE IN ABDOMINAL SURGERY.*

By HUGH M. TAYLOR, M. D., Richmond, Va.,

Professor of Practice of Surgery and Clinical Surgery, University College of Medicine, etc.

In the summer of 1899, it was my privilege to see the angiotribe used by Dr. Cleveland, of New York. This demonstration, and the interesting paper in which he impressed the advantages of the angiotribe, its *modus operandi*, its technique, and the very satisfactory results attending its use by himself and others, prompted me, as soon as possible, to obtain an angiotribe and to use it in selected cases.

A precaution, impressed by Dr. Cleveland, was borne out by my first experience in ordering an angiotribe. The first instrument I received was found sprung and imperfect, after having been used only once or twice. To stand the great strain upon it, fine workmanship in constructing the angiotribe is essential. We saw Dr. Cleveland break an instrument he was using, and this suggests the advisability of providing oneself with more than one angiotribe. The cost of the angiotribe—\$18—is an item in the first instance, but this should not be considered if, by its use, the safety of the patient is in the least conserved. Moreover, the angiotribe can probably be used indefinitely, and its original cost will not exceed, in the long run, the outlay for ligatures and forceps.

My experience with the angiotribe has been limited to twenty-five or thirty cases, all of which were suprapubic sections. I have in no instance used it when operating by the vaginal route. This is largely due to the fact that I have had but a limited experience in working through the vagina. The encourag-

ing reports from so many warrant the conclusion that the angiotribe is equally serviceable as a hemostatic means in intrapelvic work per vaginam.

A majority of my cases were very simple in character, about one-half were uncomplicated hysterectomies, while the other represented a variety of ovarian cystomas, morbid conditions of the tubes, etc. In only one instance were there post-operative symptoms which suggested the occurrence of hemorrhage. This case was a large ovarian cystoma, with extensive bowel adhesions, and the trauma was considerable; the post operative shock was quite profound and lasting. In one case there was for several days sufficient febrile reaction, etc., to make me fear sepsis. This was also a large cystoma, but was non-adherent, and nothing occurred during the operation to induce infection, unless there was some escape of the cyst contents into the peritoneal cavity. In connection with this case, I may say I felt no little satisfaction in knowing that there was no intraperitoneal ligature to add to the danger; at the same time, I must confess, in not a few instances, to some sense of insecurity as to the probability of hemorrhage for the first few hours after the operation. This fear of hemorrhage, however, after having used the angiotribe, is not greater than my fear of infection from the use of intraperitoneal suture or ligature. I have not used the angiotribe in many septic cases, but it is especially desirable to avoid the use of the ligature in existing or threatened septic conditions. In only one instance have I failed to secure complete hemostasis by means of the angiotribe. This occurred in resecting a section of badly infected and thickened omentum, which had wrapped up a necrotic appendix. This experience impresses the idea that the soft omental tissue will cut through, rather than condense, under powerful pressure.

My limited experience sustains fully the advantages claimed for the angiotribe. In selected cases, I think it a perfectly safe substitute for ligatures and compression forceps.

* Presented to the Section on Obstetrics and Diseases of Women, at the Fifty-First Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 6-8, 1900.

The ribbon-like line of compressed tissue left in the pelvis or abdomen looks very much better to me than the mass grasped by either forceps or ligature. By means of the angiotribe the tissues are compressed for only a few minutes; tissue necrosis is said not to occur; microscopic examinations demonstrate that the ribbon of compressed tissue is quickly revived.

The tissues grasped by the forceps are strangulated for from twelve to twenty four hours, while that in the loop of even the absorbable ligature is constricted for days. With the angiotribe there is no puckering and traction, as is the case not infrequently with the ligature applied *en masse*.

The precautions incident to the application of the angiotribe—at right angles to the blood vessels and for three minutes—are so simple that its use would seem especially indicated by those who, from lack of experience, have not mastered the art of applying ligatures to structures in the abdomen and pelvis.

I have been duly impressed with the quite commonly observed fact that post operative shock is markedly diminished in the cases in which the angiotribe was used, and this, I think, is equally true as to the intensity and duration of post operative pain. Convalescence seems, as a further sequence, to be established at an earlier date and to progress more rapidly.

The query very naturally arises, "Is there a need for this innovation?" (If it can be said, strictly speaking, to be an innovation; for a long time instruments designed to act upon the same precept as the angiotribe have been in use, notably clamps, snares, écraseurs, etc.; Tuffier's angiotribe is merely a more perfect instrument.) With the recent evolution of the absorbable aseptic ligature in an aseptic field, have we anything more to desire? Undoubtedly, our ability to provide an absorbable aseptic ligature in a sufficiently aseptic field has immensely widened the scope of operative intervention, but, unfortunately, in many instances, we cannot secure an aseptic field, and, not infrequently, in spite of our best efforts, even the absorbable ligature infects before it is absorbed. In my own experience, in more than one instance, I have been tormented beyond description by a dead silk ligature in the pelvis. One of the worst cases of wound infection I have ever met with occurred in connection with an Alexander operation in which I used Marcy's kangaroo tendon. Prior to this catastrophe, I had used this suture material in

perhaps a dozen or more Alexander operations with perfectly satisfactory results.

Not long since, I lost a patient on whom I did a simple appendectomy for recurring appendicitis. Virulent peritonitis from wound infection, presumably from St. John Leven's chromicized catgut, resulted, and yet I have uniformly, prior to this sad occurrence and since, used this suture material with more confidence than any with which I am familiar. I am conscious of the fact that almost countless avenues of wound infection, other than through the ligatures and suture, present themselves during an operation; it is probably as true that accidental infection of the suture and ligature material is possible in its manufacture; and there is greater possibility of its infection in its preparation for the operator. In short, until the evolution of the aseptic ligature is further advanced there will occasionally occur, even in an aseptic field, such disasters as I have instanced; while in a septic field there can be no question as to the great advantage of not having to use even the absorbable ligature and suture.

It is interesting to consider why the ligature was abandoned prior to its re introduction by Ambrose Paré, about 1600. Usually Ambrose Paré is credited with having introduced the ligature, but there is abundant evidence to show that he simply re-introduced it as a substitute for the hot iron, boiling pitch, etc. I say re-introduced because the ligature probably simply fell into disuse during the dark period of the Middle Ages. Antillus lived in the fourth century. He is credited with the "earliest recorded treatment of aneurysm.* The vessel, having been exposed, was tied on each side of the aneurysm, the sac incised and its contents turned out." Observing that contused and lacerated wounds do not bleed as freely as the incised wound, especially in the pre-aseptic era, it was not surprising that the effort should be made to secure hemostasis by compression or torsion.

Torsion was quite extensively practiced in the pre-aseptic era. "In some of the London hospitals—Guy's, I think—it is used almost exclusively instead of the ligature."† The late Dr. Murdock, of Pittsburg, only a few years ago, urged the use of torsion in lieu of the ligature, and reported a large number of cases in which it was successfully practiced, many of them major amputations. The wound surface to which the angiotribe is applied is of

* American Text-Book of Surgery, p 242.

† Cheever: Lectures on Surgery, p. 100.

the nature of a contused and lacerated wound, and Nature's method of arresting hemorrhage—*i. e.*, by contraction, retraction, and clotting—is imitated when the angiotribe is used, and no foreign substance—neither ligature or necrotic substance—is left in the wound to act as an irritant.

ENTERO-COLITIS.*

By WILLIAM E. FITCH, M. D., Savannah, Ga.

In presenting this paper to this intelligent and learned body of physicians, I do not for one moment presume that any new or more interesting phase will be presented than that which has already been more elegantly written and more eloquently said about this much talked of, much written about, and much dreaded disease.

In discussing this subject, we will speak of inflammation of the small and large intestines as a single disease, for the following reasons: First, the symptoms of colitis at this period of life do not ordinarily differ, in any marked degree, from those of enteritis. The tormina, tenesmus and abdominal tenderness which characterize colitis in childhood and adult life are ordinarily lacking or are not appreciable to the observer, and the muco-sanguineous evacuations are more often absent than present.

Etiology.—Intestinal catarrh of infancy is often produced by taking cold. Infants insufficiently protected by clothing and exposed to sudden changes of temperature, and to currents of air in apartments where they sleep, or heedlessly exposed outdoors by careless nurses, sometimes become affected with diarrhœa even of a fatal character. But the most common causes of infantile diarrhœa are, first, the use of food which is unsuitable for infantile digestion, and which, therefore, acts as an irritant.

It is the experience of every physician who keeps a record of fatal or even severe cases of summer complaint among infants, that very few of them are entirely breast-fed babies. Holt emphasizes this, when he says that of 1,943 fatal cases of which he has collected the records, only 3 per cent. were breast-fed exclusively. He refers the partial immunity, which, according to his statistics, infants under six months enjoy, to the fact that the great majority of such are breast-fed, and obtain a sterile and digestible food; with the commencement of

artificial feeding, gastro-intestinal disorders at once acquire prominence.

The diarrhœas of infancy take a comparatively unimportant rank among infantile diseases during the cooler months of the year; but with the onset of the warm weather, they suddenly acquire importance, owing to their general severity, their large mortality, and to the frequency with which they are encountered. If we enquire further into the causes which induce this liability to summer complaint, an investigation will reveal the fact that the majority thus attacked are under two years of age.

The symptoms first noted will usually be a slight elevation of temperature, fretfulness, and a diarrhœa which may be so mild as to attract little attention; the stools, while thinner than usual, vary in appearance, being yellow, brown or green. Infants on a milk diet usually pass green and acid stools containing particles of undigested casein; an infant fed on starches will pass putty-colored, putrid-smelling stools. The tongue, at the commencement of the attack, is covered with slight fur; later on it becomes moist, but is often dry; and in dangerous forms of this malady, accompanied by prostration, the buccal surface is red, the gums more or less swollen, and occasionally ulceration will be noticed; vomiting is common, and may commence simultaneously with the diarrhœa, especially when indigestible food has been allowed.

I have kept data for two years on the beginning of this symptom, and find that it usually begins about the fifth day. The fecal evacuations may remain nearly uniform throughout the disease, but in many patients they vary in consistency at different periods; the stools are sometimes yellow when passed, but become green on exposure to the air from chemical reaction due to the admixture of urine or to the agency of the microbes which produce the coloring matter.

With a view of differentiating, as far as possible, the various fermentative processes which the micro-organisms induce in the intestinal canal, I have directed my attention to the odor of the stools, and have been much impressed by the readiness with which, by the odor alone, at least two general classes of fermentations can be distinguished. In the great majority of cases, without the use of direct questions, mothers of even very moderate intelligence will describe the odor of the stools as either sour or putrid. And this classification corresponds to the two great classes of food stuffs. The known fermentations of the carbo-

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hydrate foods all lead to the development of acids and gases. Under no circumstances can carbohydrates yield products with a putrid odor. On the other hand, proteids yield either odorless or putrid products.

The intestinal tract of the infant differs from that of the adult in the superabundance of lymphoid tissue present in its make-up. This tissue is essentially absorptive in function. This function is of great importance to the healthy and rapidly growing infant, but becomes a great drawback when pathological processes develop absorbable poisons in the intestines.

The pulse is accelerated according to the severity of the attack; the heat of the surface is at first generally increased, though but slightly in ordinary cases; but when the vital powers begin to fail from a continuation of the diarrhœa, the warmth of the surface rapidly diminishes. In fatal cases, the face and extremities are pallid and cold, pulse frequent and feeble, skin dry, and urinary secretion diminishes; the imperfect action of the skin and kidneys is very noticeable.

With the foregoing views as to the causes and prominent symptoms of enterocolitis, the treatment should be directed on the following lines: (a) The child's strength must be sustained, and in all efforts to cure the disease, its general welfare must never be lost sight of, nor its frailty overlooked; (b) the intestinal contents must be evacuated; (c) the diet must be regulated; (d) special symptoms must be combatted; (e) we must select an intestinal antiseptic.

For the evacuation of the intestinal contents, no drugs or combination of medicines has given the satisfaction that calomel has. I usually order three grains of calomel rubbed up with sugar of milk, and made into three powders, one every hour, for a child two years old. For an infant one year old, I order three one-half grain powders, and it is usually desirable to follow the calomel with a full dose of castor oil. In some instances this dose will have to be repeated in order to secure a satisfactory emptying of the bowels.

With thorough evacuation of the bowels some improvement is usually manifest, but the persistence of dangerous nervous symptoms should lead to the suspicion of the retention of poisonous feces.

With the evacuation of the bowels, the bacterial cultures (in which the poisons producing the disease are being elaborated), are removed from contact with the absorptive tissues of the intestines. But the bowel has not been steril-

ized, nor can this ever be accomplished. Nevertheless, the bowel can be freed of the micro-organisms which have produced the poisons. The method for accomplishing this is clearly pointed out by the changes which occur in the intestinal flora of the newly-born at the establishment of the milk stools. The meconium is capable of supporting a great variety of micro-organisms, and while it is present, a diversified flora exists. But with its disappearance from the intestine the flora likewise disappears, because the food necessary for the support of these micro-organisms is no longer present, and they die of starvation. To rid the bowel of the pathogenetic micro-organisms of summer complaint, keep out of it the food on which they thrive. For me, this is the keynote to the dietetic management of these cases. Many practitioners withhold all food for twenty-four hours or longer. This practice will unquestionably accomplish the desired end, if carried out long enough. It is not, however, free from objections. It is difficult to impress parents with its importance, and more difficult to secure faithful adherence to it; and often it cannot be carried out long enough to accomplish the desired result. It would be preferable to discover the offending food, and withhold it, allowing at the same time foods which will not maintain the offending micro-organisms.

When the stools are putrid or possess an intensified fecal odor, they indicate the decomposition in them of proteid material. No form of food other than the albuminous can give rise to putrid products. In such cases it is clear that proteid food should be withheld. It is unquestionably true that proteid decompositions occur at times without the development of offensive odors, but with the development of poisons.

Milk is the proteid food usually allowed; when this is stopped, arrowroot or barley water is given by many practitioners, but I prefer a modification of Jacobi's mixture, which I will describe later on. With a diet of this type, the putridity of the stools disappears usually in from twenty-four to forty-eight hours, depending partially upon how clearly the bowels have been cleaned out. The change in odor of the stools is, of course, not in itself of importance, except as an index of the changes in the intestinal contents. It is usually, however, accompanied by improvement in the systemic symptoms. With the disappearance of the putridity of the stool, the odor becomes either normal or sour; the acid fermentations are maintained by

sugars and starches, and to some extent also by the fats. The acid fermentations are less dangerous to the child than the putrid fermentations, because in them no systemic poisons are produced. Until the last few years, attempts to disinfect the intestinal canal by medicines have been disappointing. Naphthalin will obscure the odor of the stools by its own odor, while salol and the salicylates are of but slight value. Last August I reported my experience (see *Georgia Jour. of Med. and Surg.*, Vol. V., No. 2), with a drug which approaches very near to an ideal disinfectant. It is a drug of great value. I refer to tannopine. As the name implies, it is a condensation product of tannin, 87 per cent., and hexamethylene-urtramin (urotropin), 13 per cent.; and has for its formula $(\text{CH}_2)_4 \text{N}_4 (\text{C}_{14} \text{H}_{10} \text{O}_2)_3$. It is a light brown, tasteless, slightly hygroscopic powder, nearly insoluble in water, weak acids, alcohol, and ether; soluble in weak alkalies, which should always be remembered when prescribing.

To understand the mode of action of tannopine, it will be well to bear in mind at the outset that it is not absorbed nor decomposed in the stomach, and only separates into its constituents, tannin and urotropin, under the influence of the alkaline intestinal contents. The tannic acid of the compound unites with the albuminous substances, forming albuminates; contraction of the connective tissue results, diminishing the reflex activity and sensibility of the muscular tissue. Urotropin, the second constituent of this division, which takes place in the alkaline intestinal contents, according to some investigators (Cohn and others), acts as a disinfectant, and has some reputation as a drug used to increase the secretion of urine.

Tannopine, being tasteless and odorless, is readily taken by children and even fastidious persons, and is free from any irritating effect upon the digestive organs; it is well tolerated. The drug has an antiseptic influence upon the intestinal canal, in cases of fermentative disorders. Being absolutely insoluble in water, it may be given dry on the tongue, or combined with chalk mixture and bismuth subnitrate.

The dose is 1 gm. (15 gr.) three or four times daily for adults; 0.2 to 0.5 gm. (3-8 gr.) administered every three or four hours, to children. It must be given freely, three to eight grains (according to age of child), suspended in simple syrup, combined with plain chalk mixture. It unquestionably, however, acts as an astringent, causing contraction of the connective tissue, and the locking up of poisonous feces

must be carefully guarded against. The principal lesions in entero-colitis being located in the colon, shows that this is the main seat of the absorption of the poisons produced. When this fact occurred to me, I concluded that lavage of the bowel with an emulsion of tannopine would prove a valuable factor in treating this class of diseases. Lavage not only removes fecal masses, but clears out the mucus, and cleans the lesions, thus promoting their healing. Tannopine, given by mouth and administered per rectum, exerts a doubly curative influence. In giving lavage, I usually add to a pint of sterilized water, tannopine 1 drachm, lime water one ounce, and inject solution very cautiously, and slowly; allow it to be retained as long as patient can hold it; this washing is continued until the fluid returns clear. The physiological action of tannopine on the lesions in the colon is at once apparent, and needs no further comment. When watery discharges continue after the irrigation, hypodermics of $\frac{1}{16}$ grain of morphine and $\frac{1}{32}$ grain of atropia can be given; stimulants are indicated in the severe cases, and whiskey is the best that can be administered.

After the urgent symptoms have subsided, the child should now be nourished. I recommend *Jacob's mixture* (five ounces of barley water, the white of one egg, one or two teaspoonfuls of brandy or whiskey, some sugar, and a pinch of salt). I usually add to mixture (as above) pulveris myristice, gr. xx, which acts as an anodyne and allays intestinal spasm, relieves sick stomach, and makes mixture more inviting by its aromatic qualities. Of this mixture I give a teaspoonful every five or ten minutes, and stop breast milk for at least twenty-four hours. In 65 per cent. of my cases only one irrigation of the colon was necessary; some received two, and a few, three irrigations. In all cases the tannopine in 3 to 8 gr. doses every four hours was kept up, as mentioned before, in simple syrup, suspended in plain chalk mixture.

The most desirable position for administering injection is the dorsal decubitus, with thighs flexed and pelvis elevated, and a pressure of not more than two or three feet from a fountain syringe.

The following cases have been treated during the past three years, and give a clinical demonstration of the uses and application of tannopine:

CASE VIII.—Baby boy, fourteen months old. When first came under my care was much emaciated, and had a slight diarrhoea, caused probably by improper food; found a slight eleva-

tion of temperature on examination; nothing else abnormal was detected. I ordered tannopine, gr. viii.; bis. sub. nit., gr. v., in a plain chalk mixture, suspended in simple syrup, every four hours, after having thoroughly evacuated the bowels. After being under treatment for a week, it was much improved, had gained in weight, and temperature had returned to normal, when a careless nurse allowed the babe to drink a quantity of cow's milk, some hours after which it began to have diarrhœa, characterized by frequent copious watery actions of lessened consistency, of a foul, putrid odor, greenish color. The discharge from its putrid odor was produced by carbohydrate fermentation. The infant during the next two days lost greatly in weight, became greatly emaciated, and looked as if it would die; temperature ran up to 104° F.; the skin and body extremities became pallid, and prostration was severe. The child had calomel, one-and-a-half grains, made into three powders, one administered every hour, which was followed by the usual dose of castor oil, which gave it a good cleaning out. The evacuations in the twenty-four hours varied from seven to twelve; at this period looking death in the face. It occurred to me that lavage of the colon, with a solution of tannopine in plain chalk mixture would be of benefit. I at once ordered a pint of sterilized water, to which I added a drachm of tannopine, and lime water one ounce. I injected this into rectum very slowly and very carefully. After getting almost half of it, I stopped proceedings, and allowed it to remain for possibly fifteen minutes, when it was evacuated, after which the balance was thrown high up into the rectum, and, with compress at anus, retained for forty minutes. All food (breast milk) was ordered discontinued, and Jacobi's mixture, with my modification substituted; tannopine in 4 gr. doses was ordered every four hours. It soon began to improve again, and convalescence was gradual, gaining in weight and strength; actions soon changed to a sour odor, instead of former putrid smell, and were less frequent. All symp.oms gradually became less severe when child was put back to breast. A few days later, diarrhœa abated entirely, and at the end of three weeks child was well and playful.

CASE IX.—Boy two years old. He was healthy at birth, and remained well during the early months of infancy; was breast fed until thirteen months old, when he was weaned and was fed on a number of starchy, artificial foods, none of which seemed to agree with his digestion, as he soon began to lose flesh, which

continued progressively. It was noticed that his bowels were acting frequently, odor sour, and stools greenish brown; his buttocks had a chafed appearance of an eruption; he vomited occasionally, and when he came under our observation it was noticed that he had abdominal pain, nausea, pallor and prostration; temperature, 104° F. I at once ordered calomel, gr. iij, rubbed up with sugar of milk, and made into three one-grain powders; directed one every hour until taken, to be followed with castor oil, which had the desired effect in about six hours; after which I irrigated the colon with tannopine solution, as in Case VIII, and ordered tannopine, gr. vj, with bism. subnit., gr. x, and tr. opii camph., m. xx, in plain chalk mixture, every three hours. Stopped artificial food, and gave Jacobi's mixture, with my modification, every hour, and had the pleasure of seeing a great improvement in thirty-six hours; medicines were continued, and modified cow's milk substituted for starchy foods. By *modified cow's milk*, I mean cow's milk modified by the addition of peptogenic milk powder, water and cream, which renders a humanized milk. After the first twenty-four or thirty-six hours the temperature became normal, and in ten days the child was almost entirely well, and gaining flesh and strength rapidly.

CASE X.—Girl, aged two years. Diagnosis, summer complaint. Had always been healthy until present illness. Mother first noticed child was having frequent actions in which was noticed particles of food, which was being passed undigested. Child was having eight or ten actions daily for seven days when I was first called. Much emaciation had taken place. Found baby with a temperature of 103½° F., pulse 120, urine scanty, and high-colored, tongue red and dry; region around anus showed that the discharges were acrid, having produced a rash which had the appearance of heat; the child's stomach was quite irritable, could only take a few teaspoonfuls of milk at a time; actions from bowels very frequent and attended with griping and of a sour odor; some swelling of the abdomen, with tympany; would lie quiet for hours unless bowels acted or disturbed to take medicine; pallor and prostration noticeable; skin harsh and dry; stomach very irritable; projectile vomiting. Ordered calomel and castor oil, as in Case IX. Full and free evacuations following, ordered tannopine, gr. viij, every three hours, administered in plain chalk mixture; stopped all food and gave Jacobi's mixture with powdered myristica added; and had the pleasure of seeing the child improve after the first thirty-six hours;

she gradually grew better from day to day under treatment, until at the end of two weeks, dismissed cured.

CASE XI.—Child, aged three years, and perfectly well; was suddenly attacked with abdominal pain, nausea, pallor and prostration. He vomited for two or three days at frequent intervals, and was found to have a temperature of 103° F. Within a few hours he began to have frequent fecal dejections, of a sour odor, lessened consistency, moderate amount, and a peculiar dark green color. This green is one of the more common colors met with in fermental diarrhœa. At first actions from bowels took place every hour. I at once gave this boy four grains of calomel. in $\frac{1}{2}$ gr. doses, every half hour until taken, followed with a dose of castor oil, and had all food stopped, and substituted papeonopt, administered in crushed ice, teaspoonful every hour. After bowels had acted, which I concluded was not quite sufficient, I repeated calomel, and was grateful on learning that several large watery greenish brown stools had been passed. The nausea was still troublesome, and I decided to rely on tannopine by irrigation method, which I at once ordered, as in Cases VIII and IX, and repeated until solution returned as it entered; then twice a day for three days, when child was much improved. Two or three days later, diarrhœa ceased entirely, child's appetite returned, nausea subsided, temperature returned to normal, and rapidly gained in weight and strength.

CASE XII.—Boy, aged eighteen months; bottle-fed baby. Mother had noticed an increase in the number of stools, contents thinner than natural, of a musty, putrid odor; irritability of stomach pronounced, loss of appetite, increased thirst, tongue moist and covered with a light fur, pulse accelerated, respiration increased in frequency; the temperature in rectum registered 104° F.; diagnosis, cholera-form diarrhœa. Ordered calomel in 1 gr. doses until three doses had been taken; ordered a dose—teaspoonful of castor oil to follow calomel, and wrote prescription for tannopine, gr. iij, combined with bismuth subnitrate in chalk mixture, teaspoonful every four hours. Continued this for five days, when baby was dismissed, recovery complete.

In conclusion, I would say that tannopine, owing to its freedom from odor and its perfect and prompt action, is particularly worthy of trial in the treatment of intestinal disorders, as it, unlike other astringent drugs, is not decomposed in the stomach or rendered inert through insoluble combinations in the upper

part of the intestinal canal. This objectionable feature with the class of drugs heretofore used as intestinal astringents has been completely eliminated in the preparation of tannopine, which fulfills all the requirements of a true intestinal astringent, and possesses the following advantages: (a.) It can be prescribed with efficiency both per mouth and per rectum, according to the following formulæ: To sterilized water 5j and aquacalcis 5j to be used with a long rectal tube, to wash and clean out the colon. Owing to its superabundance of lymphoid tissue, the colon is essentially absorptive in function, this function being necessary for the rapidly growing infant. When tannopine, thus administered in plain chalk mixture, splits up into its constituent compounds, is easily absorbed by the inflamed tissue ready to take it up. (b.) It is an efficient medication in all forms of enteritis, colitis, and inflammatory intestinal disorders. (c.) It is advisable to continue the use of the drug in small doses for a few days after the bowels appear to have regained their normal function. (d.) It is a completely innocuous powder, and can be administered without risk to the smallest infants, in doses of from three to eight grains, four times daily; and to older children and adults from seven to fifteen grains, several times daily. (e.) It acts by the tannic acid of the compound combining with albuminous substances, forming albuminates, which causes contraction of the surrounding connective tissue, diminishes reflex activity, and relieves sensibility of the muscular tissue. Urotropin $(\text{CH}_2)_6\text{N}_4$, the second constituent of this division which takes the place in the alkaline intestinal contents, acts as a disinfectant by inhibiting the septic organisms, and restoring the integrity of the intestinal mucous membrane, stopping short the process of inflammation.

RELATION OF VISUAL DEFECTS TO OCCUPATION*.

By WILLIAM B. MEANY, M. D., Louisville, Ky.

Between what is called normal or natural vision, and defects which are absolutely and manifestly disqualifying, there are many intermediate degrees, depending upon "short sight" and other malformations of the eye, which meet us at every turn. Those intermediate degrees have been stumbling blocks to a number of young men and women otherwise of

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promise, who have engaged in long continued study for a special object, and who then, at the last moment, have been rejected on account of some defect of vision which might as well have been discovered years before.

When defect of vision is occasioned by disease, actual or past, it is only to a limited extent remediable by glasses, but in a great majority of instances it is due to the faulty shape of the eye ball in the direction, either of so-called far-sight or that of "short sight." Those conditions are capable of being corrected by glasses, and, in a general way, the greater the defect of vision the more powerful will be the lens required to correct it.

We are aware of instances where medical schools graduate students whose defects of vision are such as to disqualify them from engaging in the practice of medicine, their visual defects receiving no attention, even in the schools where ophthalmology is taught—the professor of ophthalmology certifying to their fit qualifications to practice medicine and surgery by signing their diplomas. Instances of this sort are too common to be the exception, where students return to their homes, away from the services of an oculist, only to learn of their deficiencies in this respect.

No doubt this double neglect of the teacher of ophthalmology, as well as the student, is sometimes the cause of the wrong medicine, perhaps a poisonous dose, being administered. How can a specific ulcer be distinguished, the febrile exanthemata recognized, or bleeding vessels be readily caught up with the forceps and ligatured, or arteries and nerves avoided when the knife is used, if the physician is suffering from defective vision?

In this connection, it may be incidentally stated that it has been the practice of authorities with whom rested the acceptance or rejection of candidates for appointment to a service, to consider the defects of sight, unless existing in the extreme, as only relative disqualifications; that is to say, to treat them as counting for so much in a general examination.

On this principle, a given degree of defect of sight, which would have insured the rejection of an otherwise not well qualified candidate, has been allowed to pass in one, who was satisfactory in all other respects, and the evil of this plan has been that neither the candidate nor his parents, nor his medical advisers could do more than hazard a conjecture with regard to his ultimate chance of being accepted. Further, it not infrequently happens that persons who have been accepted for duties in a special work find themselves incapacitated, whether

owing to their defect of vision or to a progressive form of eye trouble, and compelled to seek employment elsewhere, and perhaps for work for which they are mentally and physically unfit.

What we need to have is a recognized standard and method of examination that will insure uniformity in testing visual acuity, giving the minimum visual requirements a person must possess to render him eligible for entrance into a specified service.

It is absolutely necessary to avoid taking into a special service persons who, by an effort of accommodation, are unable (without glasses) when young and in robust health to overcome certain degrees of hypermetropia, but who, as the muscular power to keep up this effort diminishes as middle age approaches, find their vision without the aid of glasses reduced below the required standard. A person who has at least two dioptres of hypermetropia, which he may overcome when young and in good health, would most likely give him trouble after an attack of sickness, and most certainly when the inevitable presbyopic conditions become manifest.

Frequent examination of the eyes should be made, and the vision carefully tested from time to time, especially of those persons whose occupations require absolutely normal or natural vision, to safeguard the lives of themselves and others.

In examining persons for entrance into the railway and trolley companies' service, there appears to be little or no uniformity in making these tests, each examiner making his tests in his own way, and frequently the lack of a single standard giving the minimum requirements for various departments of the service are often at variance with each other as regards uniformity of results.

We are pleased to record that a definite standard or regulations regarding defects of vision which disqualify candidates for appointment to or a continuation in various departments of the public (governmental) as well as the railway, trolley companies, and other private corporations, are being formulated, which, it appears, if carried out, will hold a fair balance between the requirements for such service and the necessities or weakness of those who desire to enter it. They recognize, in the first place, that the requirements in question are different in various occupations; and that all persons who are likely to be entrusted with the lives of the people, such as engineers, firemen, motormen, towermen, draw-tenders, and pilots, should possess normal acuteness of vision, color, perception,

and hearing; and a standard of 20-20, without glasses, in each eye tested separately, must obtain to render applicants for such positions eligible.

The use of glasses in the foregoing instances would be a hindrance rather than a help, for any untoward amount of moisture (fogs, rain, or mists,) in the atmosphere would condense upon the glasses, and thus render vision with them not only absolutely useless but positively detrimental.

Further, the practice of permitting persons possessing normal or standard vision of one eye only to occupy positions having control of the life and limb of the people should be inhibited by law. A cinder, a grain of sand, a speck of dust, or any foreign substance, lodging upon the sound eye of the person entrusted with the lives of the people, would be fraught with grave and serious consequences.

In the navy and maritime service, it may be presumed that normal vision without glasses would be insisted upon, as the glasses would become useless as soon as their surfaces are dimmed by the ocean spray. A person otherwise employed may be an excellent officer or employé, notwithstanding that his eyes require the assistance of glasses; it is essential, however, that eyes which have the required acuteness of vision, when corrected with glasses, shall be free from progressive forms of disease which are not uncommon in the "short sighted," and which tend toward an increase of the affection.

The British government provides for most departments of their Home and Indian Civil Service, that the candidate, when furnished with glasses not exceeding the specified degree, shall possess vision equal to one (normal) with one eye, and equal to two thirds with the other. This is perfectly simple and intelligible, and will enable any medical man, who possesses a case of testing lenses and the necessary type, to determine at once all but doubtful cases which may be near the margin one way or the other, and may require special skill or special methods of investigation. Squint, color blindness, ocular paralysis, or any serious disease of the fundus, render the candidate ineligible in the British Civil Service.

The prospective candidate for position would do well to have his vision tested, and see that he is able to meet the requirements, before undertaking a special course of study or seeking an appointment where certain defects of vision disqualify.

It is to be hoped that the general govern-

ment, as well as State and municipal authorities, will, at an early date, promulgate by law a code of regulations setting forth the minimum standard of requirements to render applicants eligible for positions in the various departments or branches of service. By the promulgation of these rules, a step will be taken in the direction which will be highly advantageous to all who are interested in the future members of the rising generation.

DISEASES OF THE STOMACH.*

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Every living organism possesses a stomach or its equivalent. From the micrococcus to man the one common pedestal upon which all meet is appetite, catered to by a more or less well arranged stomach. Neither brain nor spinal cord, heart or lungs are necessary to life; but a food receptacle is a requisite. Whether it be a mere absorbent surface, or an excavation in the cell wall of the organism, or an invagination by an inversion of the body itself, or the finely adjusted, very troublesome organ of man, it serves the same purpose—the channel through which nutrition is introduced into the animal economy; being the prime organ by right of inception, and of use, it is the one first and most prone to become deranged. Nearly all physical ailments have some relation to nutrition. Give any man a strong healthy stomach, perfect digestion, easy assimilation, with wealth or poverty, liberty or imprisonment, and happiness in some degree will be his; give him a stomach foul, heavy, repulsive in odor, refusing food, and unhappiness comes to him with malevolent thoughts toward his fellowmen.

A patient presents himself complaining of vague undefinable feeling of malaise without being able to exactly locate his trouble, yet knowing there is something wrong. He may have no appetite or he may eat too much; he may be able to do his ordinary work with only slight effort; yet we have here cause to suspect a nutritional trouble—the very vagueness of his complaint making us expect it. We then give an examination to verify our suspicion, ask as to appetite, taste, abnormal sensations, itching or burning of the skin, dizziness, if there is belching or regurgitation of the food,

* Read before the State Medical Association, April 19, 1900.

if there is ever nausea or vomiting, if the bowels are regular, too frequent or infrequent.

Then, if possible or convenient, we pass to *inspection*—if there is bulging or retraction of the stomach, if the abdominal wall seems to be girdled as in an effort to support it. This inspection is not complete until the teeth, the tongue, fauces, uvula and tonsils are seen; the nose must also have our attention.

It does not seem amiss here to refer to the *condition of the mouth and nose as having a direct bearing upon digestion*. A mouth deficient in secretion will be unable to handle the food properly. And if the salivary element is wanting, one powerful aid to digestion is needed. Should the teeth be defective in quality or deficient in number, the food will not reach the stomach in proper shape. Enlarged or painful tonsils or inflamed fauces will often prevent the patient taking a sufficiency of food to insure health. And an elongated uvula, especially if it trails the back of the tongue, will create nausea and disgust that kill the desire for food. Diseased nostrils will not only abolish the appetite, by their offensive secretion, in the person possessing them, but be a very sure damper upon the gastronomic enjoyment of those near. Nasal frequently precedes gastric catarrh.

After this inspection we pass to *palpation*; we go over stomach and intestinal track, noting the sensitive areas, tumefactions, the throb of the aorta; if the stomach extends beyond its normal limits; if the intestines, especially the colon, present gaseous peculiarities. Should we be unable to outline the stomach, it being desirable, we introduce half drachm or so of each soda bicarbonate and tartaric acid separately, dissolved in water, which gives us dilatation, when the stomach walls may be easily outlined; the same procedure may be used in the colon, care being taken in each case that we are not dealing with organic lesions for fear of rents being made.

Auscultation often aids us; we can hear fluid passing through the œsophagus and get the splashing sound of the stomach when partly filled with water; sometimes, but not often, the so called respiratory sound may be noted, which is produced by the stomach gliding against the abdominal walls. Sizzling sounds are frequently heard in the fermentative dyspepsias.

The interior of the stomach may be inspected directly by the *gastroscope*, which is an adaptation of the long used cystoscope; practically, this is without value. Transillumina-

tion is a little more to be recommended, as we have here only to let the patient swallow an electric light and note the translucency of the walls. Our most reliable aid in diagnosing the stomach is the test tube; and here our first step is the administration of a *test meal*. Let the patient eat freely of soup, meat, potatoes and bread and a cup of tea; in the first instance, the food should be allowed to remain in the stomach at least four hours before being withdrawn for examination; in the second, one hour is a sufficient length of time. Some authors prefer a pint of milk and a roll—the examination being delayed two hours after its ingestion. Every test meal should be administered after the patient has fasted at least seven hours. If it is possible to voluntarily expel the contents, it is desirable to do so; in that way we get less newly exuded juices, which are rapidly thrown out under the irritation of the stomach tube or of any emetic.

After we have obtained the contents, we note whether it is a well mixed chyme or whether there are still large food particles suspended in it; and in case test dinner, note whether we find particles of bread, potatoes or meat. Then we use the microscope, noting whether there are oil globules, and their condition; if there be meat, whether the muscle fibers have been attacked or whether the carcolemma is yet intact; if there are starchy particles, whether granules are entire or ruptured. We next take the reaction; if acid, we try for hydrochloric acid by the following test: Resorcin five, sugar three, and alcohol to one hundred; make a mixture and allow a drop of this to mix with a drop of stomach contents; on heating, this will develop a cherry red.

For *lactic acid*, we test with a 2 per cent. solution of carbolic acid in water having a drop of the sesquichloride of iron in it; to this test tube we add the filtrate, obtaining a canary yellow; this has the advantage of finding also the fatty acids as well as the inorganic—the first giving an ashy gray color, the second decolorizing the solution entirely. In this test for lactic acid, we are sometimes confused by the phosphates which may be first removed by treating with ether. Propeptone is found by a solution of sodium chloride which gives a white precipitate. The peptone may be made out by addition of sodium hydrate followed by a few drops of sulphate of copper solution, getting a purplish color; a free pepsin may be found by placing a thin disk of egg albumen in a test tube of stomach contents; it ought to be entirely dissolved in five hours. Rennet

may be noted by mixing with milk and keeping warm, getting curds. The starches are easily discovered by a drop of Lugol's solution.

The stomach tube, even for experimental purposes, should be used with caution where we have reason to suspect the presence of organic disease, especially of malignant type. This applies as well to the so-called stomach bucket as to the tube; even the introduction of the sponge rarely being dangerous in that it may bring on contractions that result seriously. No instrument should be introduced into a stomach until a reasonable time has elapsed since any vomiting of blood. The instruments for determining motility are without practical value, as we soon learn from experience whether a stomach be sufficiently active to make its contents pass on into the intestines.

Of all subjects that arise in the practice of medicine none gives the physician more uneasiness, more worry and frequent disappointments than diet. The Latin proverb, "So many men, so many minds," could be equally well said so many men so many stomachs; for, as every man's appetite is a law unto itself, so is every stomach governed by its own peculiarities. The mental impressions of the patient, the season of the year, and innumerable and uncontrollable factors must enter into our consideration if we wish to have the patient pleased with our handling. One patient comes to us unable to eat sweets; another declares that meat of every description is abhorrent; while the third regrets that he cannot touch vegetables without distress; fats are both repugnant and harmful to the fourth, and even milk, our sheet anchor, is refused by a considerable contingent. These facts, taken in connection with the iron-clad necessity of replacing as much nutrition as there is used up and wasted by the animal economy, force us to our utmost efforts catering to the whims of each stomach.

Our whole aim in *acute gastritis* is to feed the body while letting the stomach rest; we may accomplish this by giving predigested easily absorbed foods by mouth, or even at times enemata, or we can for a short time depend upon the reserve force to sustain the individual. This should be avoided wherever possible, as the tissue waste will have to be made up later.

About the blandest diet that can be depended upon for nutritive purposes would consist of variation of bouillon, meat extract and solutions, milk, raw eggs, egg water, crackers boiled brains, and fowls and meat gruels. No patient should be kept on a diet too bland, as such management would inevitably work in-

jury by getting the organ out of the habit of exercising its normal functions.

The most frequent disease of the stomach upon which the physician is called to exercise his care is *acute catarrh* or *simple gastritis*. Here we would only give the organ rest and conserve the physical energies, and recovery is quickly had. When catarrh has become chronic, lavage and spraying the stomach walls is our surest remedy. This condition is easily diagnosed. A patient comes complaining of weighty fullness, decidedly abnormal appetite, furred tongue, sweetish breath, irregular dreamful sleep; and we have sufficient indications for the use of the tube to verify our diagnosis of gastric catarrh, always barring, of course, cases in which we are led further to suspect an actual organic lesion other than ulcer.

Ulcer ranks next in importance and frequency. Here our diagnosis is equally easy; we get all the symptoms of gastric catarrh, and in addition local tenderness and possibly hæmatemesis; perhaps the majority of authors condemn the use of the tube for diagnostic purposes. In case of suspected ulcer, this objection is without foundation, as with a soft tube and care in introducing, there is no reason whatever for doing an injury, except it is done by the unusual contractions of the stomach. This can be avoided by the use of cocaine or morphine, here the gastric juice being so powerfully acid that the tube, with its local applications, is more demanded actually than in any other stomach trouble. It is so manifestly out of the question to treat an ulcer on the wall of the stomach by medication to its surface, which is so protected by thickened secretions that no reasonable amount of medicines ingested can touch or can benefit it. With this one single exception, tonics and hæmatics generally being indicated as aiding the reparative power of the system, the futility of medication here is further emphasized by the fact that the majority of ulcers are situated on the back and upper surfaces of the stomach while the medicine seeks the pendant portions. The importance of diagnosis and treatment of the ulcer by the general practitioner is seen when we say that one in five of adults at necropsy is shown to have suffered from it.

Epithelioma, while not so frequent an affection, yet one or several cases usually come into the life of every practitioner; the ability to diagnose and prognose is greatly to be desired. Without the aid of the microscope in the early stages it is practically impossible to distinguish between epithelioma and ulcer. Carcinoma ventriculi is shown by statistics to be increas-

ing more rapidly than any other fatal disease that affects humanity. It is essentially a disease of full-grown active manhood or womanhood, coming when the individual is worth most to himself, more to his family and to society. This is why its diagnosis is most important.

Hyperchlorhydria ranks first in importance and in frequency of the functional disturbances of the stomach; its diagnosis is most easy, but the prognosis as to the continuance of the trouble is very uncertain, though we are able always to assure the patient that it is not to be fatal.

Excessive secretions of all sorts frequently come to our attention.

The opposite condition of *achylia gastrica* is rarely met with, though when it does occur it is perhaps the most disheartening, most annoying and discouraging that can affect a patient. By this term we mean the normal secretions of the stomach are absent. It usually is produced by an actual atrophy of the gastric glands, which defect is insuperable, leaving us at the mercy of predigested or otherwise easily absorbed foods.

Of the gastric neuroses we need only give a mere mention of bulimia, which is the so called morbid appetite, the patient never being satisfied and always hungry. This is often due to foreign substances, either living parasites or some solid body swallowed. Our only resource is to find and remove the cause.

The motor neuroses do not properly come under the head of the disease of the stomach, but under the care of the neurologist.

The relations between the diseases of the stomach and those of the other organs of the body are very close; we have all been taught by many a sad experience to look with suspicion upon an indigestion that has arisen without any apparent indiscretion in diet, and perhaps accompanied by just the slightest hacking cough. The kidney makes its own impressions upon the digestion. Almost every heart lesion gives us a thickened heavy coating to the stomach.

On the other hand, the stomach is the gateway leading to innumerable disorders; it does this both by direct impressions and by lowering the body nutrition. I do not venture contradiction when I say that ninety cases of every hundred in epilepsy come reflexly in the beginning from the stomach. Those of us who have dealt with the defective of every class, with the lunatic, the epileptic, the imbecile, the idiot, and even the criminal, have found by experience that their emotions are swayed and their actions determined largely by the digestion.

ACUTE AFFECTION OF THE TYMPANIC CAVITY AND EUSTACHIAN TUBE.

By J. R. GARRETT, M. D., Norfolk, Va.

The so-called earache of children is of great importance for three reasons—first, on account of the pain usually incident to them; second, because of deafness, which may become permanent; and third, because of the liability of the inflammation reaching the brain. Earache is so common in some families that it is often treated with indifference, because of the prevalent opinion among the laity that it is one of the necessary ills of childhood. This is only a symptom, however, and is indicative of inflammation of the mucous membrane lining the middle ear. A child who has repeated attacks of earache should have not only every attention to alleviate the pain, but diligent search should be instituted to locate, and prompt measures taken to relieve the cause, and thus combat any tendency to deafness. It will be observed that every attack of pain results in a subnormal condition of hearing, which condition is often overlooked, because it is so frequently the case that only one ear is attacked. The pain varies in intensity, is usually worse at night, and often wholly subsides by day, leaving only a tenderness. When children, who are too young to tell the cause of the distress, cry and shriek, the ear should be among the first organs to be examined. It is often the case, after several days of intense agony and suffering, a discharge of pus from the meatus reveals the diagnosis. In most every case, the presence of pain comes as a warning of impending danger to the hearing, demanding measures for instant relief, which, at the same time, have furnished a safeguard against the impairment of this delicate organ. After the relief of pain, it becomes necessary to institute measures for the prevention and cure of deafness.

Much has been written on this subject, but too much cannot be said, since it has become known what can be accomplished by preventive medicine and surgery. Heredity, in this direction, which seems to be the stumbling-block of so many physicians, only means the existence of a local cause which may be successfully combated, and there is absolutely no excuse for a child to be allowed to acquire deafness because of the idea of an hereditary predisposition. Per contra, this condition should lead to the institution of more active measures for relief. The baleful influence of poor hearing upon the development of children is so disastrous as to call for our warmest

sympathy for its victims, and most earnest efforts for their rescue. The many evils resulting from this condition might be avoided or relieved by a wise prophylaxis or by proper treatment. The principal point of interest, because of its more serious results in acute affection of the middle ear, lies in the fact of their proneness to extension. Inflammation of the antrum and mastoid cells may occur, which, in the majority of cases, is the result of extension from the middle ear proper. This may be followed by caries and necrosis of these cavity walls, and the extension to the membranes of the brain is almost inevitable, causing a meningitis or abscess of the brain, with serious or fatal results. I recall one case of meningitis that came under my observation that I am confident was the result of an untreated inflammation of the middle ear. The child had repeated attacks of earache, often a purulent discharge from the meatus; his hearing became very much impaired; he became ill-natured and peevish in disposition; and while at one time an unusually bright boy, his intellect seemed to be stunted and incapable of development. This condition lasted four or five years, at the end of which time he developed a typical case of meningitis, from which he fortunately recovered after about twelve months; not, however, without one of the many sequelæ of this dreaded disease. I omitted to state that extension might take place directly through the tegmen tympani, where the attic of the tympanum is separated from the brain by a very thin layer of bone, perforated by foramina for vascular anastomosis. Thrombosis may result, and I have seen several cases of general pyemia ensue presumed by absorption of purulent products. These affections are not trivial, and we should look seriously upon every manifestation of ear trouble. The first point in the treatment, as in all other diseases, is to remove, as far as possible, the cause. In a great many cases preventive measures are of no avail, because the patient is not seen in the incipency of the disease; however, if there be a rise of temperature a saline cathartic should be given. Tincture of aconite may be given in small, frequent doses. I do not think it wise to give opiates, for they will only mask the symptoms. Inflation by Politzer's method often gives great relief to pain by equalizing the air pressure; however, if it increases the pain, or gives no relief, its use must be postponed. All forms of moist heat should be avoided, but dry heat is helpful. All varieties of vegetable oils and greases are harmful because they are often the

means of conveyance of all sorts of infectious germs, and often the result is harmful and disastrous. The most effectual means, however, are of a surgical nature, such as local blood-letting and paracentesis of the drum membrane. The application of leeches to the front of the tragus may abort the trouble in its incipency. One or two ounces of blood may be taken, and repeated later on, if it gives relief, but if the earlier stages of inflammation have passed before we have seen the case, paracentesis of the drum membrane must be made. The best instrument for this purpose is a sphere-shaped, double-edged, pointed knife, made especially for this purpose. After the usual routine of disinfection of the meatus, partial anæsthesia of the drum membrane may be produced by local application of cocaine; and if there be no indications for the point of selection for the incision, it should always be the posterior inferior segment, as there is less injury likely to be done to the structures within. If there is a purulent discharge after the incision, by keeping it perfectly clean and giving drainage the opening heals very rapidly. The incision gives almost instant relief. I find the Politzer bag very efficacious in promoting the discharge after the incision, and it is also very essential in the restoration of hearing. As I have already said, the most essential part of the treatment is the removal of the cause, which has not yet been mentioned. I think I am safe in saying that the majority of middle ear troubles originate from the naso-pharynx; and while numbers are caused from the exanthemata, which are of a systemic nature, the middle ear is attacked, secondarily, through the naso-pharynx. Adenoid vegetations are a common cause, and, I believe, an examination will reveal hypertrophic growths of this kind in all children who suffer with earache. Hypertrophied tonsils have similar deleterious effect on the ear, and both act by causing obstruction of the orifices of the Eustachian tubes and retention of the secretion, or by predisposing to naso-pharyngitis, which is carried by extension to the middle ear. Of the external causes, sea-bathing is a very common one. It seems that the surf, from its violence, is directly dangerous to the ear. Some authorities think that salt water is more dangerous than fresh water, but I do not think so; the difference seems to be due to the violence of the surf. The cause may also be of a specific nature; the history of which should be elicited, if possible, from every examination. That the causes, both immediate and remote, of this disease, are so numerous

and varied, shows the need of diligent research in every case, that we may avail ourselves of all indications from such sources both for present treatment and for prophylaxis.

Tazewell Building.

ANÆMIA, THE CAUSE OF INDIGESTION, AND INDIGESTION THE SUBSEQUENCE OF ANÆMIA—TREATMENT.

By WM. HOOKER VAIL, M. D., St. Louis, Mo.,

Visiting Surgeon to Mayfield Sanitarium, etc.

In anæmia and atonic states, there is a deficiency of red corpuscles, then of hemoglobin. The exact deficiency in the blood of its normal constituents in anæmia or any debilitated or convalescing person, can be readily estimated by counting the corpuscles. Each cubic millimetre of normal blood should contain about five million red corpuscles. In the average cases of anæmia, the diminution of red corpuscles is not three-fifths, although there are many cases in which the deficiency has measured as high as 40 or 50 per cent.

In health, the blood is able to obtain all the nutriment requisite for its sustenance from the food ingested. But in anæmic conditions, the digestive tract is often in such a polluted and septic condition that the food decomposes, and its nutritious elements are excreted without being taken into the general circulation by the lymphatics or absorbents. Hence, the paramount value of a tonic that possesses antiseptic qualities and checks fermentation by means of its antacid constituents, or one that stimulates stomachic secretions and promotes digestion by causing food to readily assimilate, and restores the functions of the nervous system.

There are two most essential things to be taken into consideration in the selection of a tonic in convalescence—debility, anæmia, or atonic individuals:

First. Attention to the ingredients in the preparation selected. They should consist of those long recognized by medical experts as the best aids to digestion and assimilation—namely, gentian, glycerine, taraxacum, sherry, phosphoric acid, and aromatics.

Second. Such a portion as is most easily tolerated by the most fastidious person and delicate stomach, already impaired by disease.

In the class of convalescents from fevers—as typhoid, malarial, scarlet, etc., nervousness, indigestion, malnutrition, catarrh, and gastric disease, neurasthenia, a tonic composed of these medicinal agents, enriches the blood, increases

the number of red corpuscles, and indirectly, through its action on the nervous system and digestive apparatus, improves the suffering individual at once. The effect of these tonics on neuralgic persons, suffering with pain, is very pronounced. Melancholia, debility, fever, hemorrhage, feeble infants suffering from malnutrition, are all greatly benefitted by a few days' usage of "Miller's Phosphorized Elixir Gentian." I always rely upon this preparation in the treatment of amenorrhœa, headaches, intractable cough and diarrhœa, because of its reliable efficacy and potency to do its work, and also its very pleasant and palatable taste—a very important feature in these cases.

An effective tonic should be composed of agents opposed to anæmia, and in the treatment of this disease the preparation just named, in my judgment, heads the list. Many authorities concur as to its utility in these conditions. In corroboration of this, the fact remains, and is noteworthy, that there are few remedies of effectiveness aside from combinations of gentian, sherry, phosphoric acid, taraxacum, glycerine, and aromatics. This statement is so viewed by all up-to-date physicians. A preparation composed of these ingredients is of potent value in women suffering from debilitated states, due to effects of child-bearing, as laceration of the cervix and perineal body, the attendant sequels, as hemorrhage, loss of support to the parts, and congestion of the envolving organs.

Inflammation and nervous reflexes, indigestion, and insomnia, pain, leucorrhœa, menorrhagia, and the symptoms belonging to the contagious viscera (rectal and bladder disease) or to the distant organs (digestive tract, nervous system) or the syndrome. I have only to repeat the words of patients, that nothing has offered them such benefit as a preparation of this character in these troubles, aside from the use of the knife and curette. Many women have been spared the pain, expense, and trouble attendant on surgical operations, by the timely and persistent employment of such a preparation.

In some cases, the nervous phenomena and digestive apparatus show improvement after the first few doses, and the tonic effect upon the entire body is almost instantaneous. The displacement of the anæmia with red corpuscles is apparent in all cases. This tonic is not one of the remedies recommended one day, and considered fallible the next, or forgotten in a short while. Even the most skeptical physician who doubts the value of proprietary productions and drugs, as the Christian scien-

tists, I notice, now and then, take a bottle of it for some debilitated states because of its remarkable restorative properties.

Impaired or imperfect digestion—dyspepsia—is often the original cause of anæmic conditions, and there has been an unusual demand for more knowledge regarding digestion and methods for its relief. Recent assertions from professional men high on the rounds prove this; and further, they believe that it is the foundation of nearly all the ills that flesh is heir to, and the belief is a plausible one; for, let the stomach become disordered, and the effect is noticed on the entire system. I venture to affirm that three fourths of the patients that visit a physician's office are victims of malassimilation, disordered digestion, and metabolism; consequently, the most of them are enervated, nervous, irritable. Where the trouble has been of long duration, they are pale and anæmic—not ill enough to take to the bed entirely, yet too utterly miserable to be up and around. The several forms of anæmia, whether mild or severe, do not require so much medical attention and drugs, for if a tonic like “phosphorized elixir gentian” were employed to assist in the stages of digestion, the root of the disorder would be attacked and speedily eradicated.

It is an error to suppose that food alone enters into the question, for if the stomach is not able to digest food, however nutritious, then the person must resort to some tonic that is efficient in promoting digestion in its natural way; then food partaken will perform its office correctly, having had an aid to assist it. “Miller's phosphorized elixir gentian” is a promoter of digestion, and, at the same time, relieves brain and body fatigue.

Reports of a few cases in which it was employed will serve to demonstrate its efficiency as a reconstructive tonic:

CASE I.—A young married woman, aged 28 years, was treated by an excellent physician for endometritis. During treatment, the husband contracted a severe case of gonorrhœa, in consequence of which the unfortunate wife passed through a severe stage of ovarian and perineal inflammation. When the stage was over, she was so weak that almost nothing could remain on her stomach. I prescribed this tonic preparation, which was well received. She continued its use, and in five weeks was in her normal health, with considerable increase in her usual weight.

CASE II.—A lady, aged 26 years. I was called to this case April 6th, and found a decided gastro-intestinal disturbance, obstinate

vomiting, gastric debility, marked irritability of the nervous system, melancholia, jaundice, constipation, etc. I evacuated the bowels with an enema, and gave the “phosphorized elixir gentian.” After two day's use of it, there was much improvement, and in two weeks she was in perfect health.

CASE III.—A child, aged 9 years, had a chill, was vomiting, complained of pain, the throat was much inflamed, tongue coated, and had the symptoms of scarlet fever. On the following day, it was evident that my diagnosis was correct, and the child passed through a very trying spell, having a relapse. When she did begin to convalesce, she could scarcely retain any food. After trying several tonics without improvement of the irritability of the stomach, I gave this phosphorized gentian elixir, and there was a marked improvement at once, which continued from this time on, until normal health was resumed. Before she was a puny, delicate child. After using this preparation about two months, she was plump and robust.

CASE IV.—*Diphtheria*.—A boy, aged 12 years. I used antitoxin from the start, and succeeded in aborting the disease quite well, but it was a severe case. When he began to convalesce, he was very weak and pale, and desired no food; what he ate was much against his will, and he would take but little. This state of affairs could not exist much longer, without a total breaking down, so I prescribed the phosphorized elixir gentian. On the second day, his appetite was a little improved, and he craved a little milk toast, which I allowed. The following day, there was increasing appetite, and so continued, until he had gained strength and flesh sufficiently to allow him to sit up in bed. This improvement kept up until he was entirely well. He is a strong, sturdy fellow at present.

CASE V.—A little girl, aged 5 years, contracted measles, and was treated by the mother with home remedies; but in the meantime she caught cold, the eruption was driven in, the child became very much worse, and I was called in haste at midnight, as she had a convulsion. I brought the child around in good shape. But when able to sit up, she wished nothing to eat. Milk she would not touch; oatmeal, likewise; in fact, she asked for nothing. I determined to give her something that would promote digestion, and immediately put her on Miller's phosphorized preparation. She improved after the third dose asking for a little fried chicken. I had serious trouble in getting her to take her other medicines, but this tonic, on

account of its palatability and pleasant aroma, was taken with no reluctance. In two weeks she was out in the yard playing under the trees.

CASE VI.—A gentleman, aged 32 years, had had a felon on the index finger of his left hand. The physician to whom he applied lanced and dressed it, treating it for about five days. When it was healing, the patient came to me complaining that he had no appetite, and wished me to treat him for it. He was beginning to feel faint and worn out from the pain of the felon, loss of sleep, and fasting. I told him to get a bottle of this phosphorized elixir gentian and take a dessertspoonful after meals in a little water. He reported at the end of the week that he was improving right along, and would continue the tonic for two weeks more if I thought it necessary.

CASE VII.—A girl, aged 17 years, while cleaning house, cut her finger on a piece of dirty tin. She paid no attention to it. The next day her finger was swollen and the entire arm was sore and swollen to the socket. So great was the pain that on the third day she could endure it no longer. The arm was hard as a bone, inflamed, throbbing and contained pus. I lanced it and applied a soothing preparation; dressed it for a week. She was thin, weak, nervous and irritable from pain, and would eat scarcely a bite. I ordered this restorative tonic for her, and she commenced to improve right off. At the end of ten days there was no further need of either myself or the tonic.

CASE VIII.—A chronic case of diarrhoea, in a woman aged 55 years, was completely cured in six weeks by the use of the phosphorized elixir gentian. Before I began its use the lady could eat very little—tea, toast, cracker, and rice being her chief diet, of which she was very tired. It stimulated the stomach secretions and checked the fermentation, which was the trouble, and these being stimulated and removed, the *déle noir* was subdued. She now eats everything, even boiled cabbage, without the slightest discomfort.

CASE IX.—A young man, aged 25 years, was treated for malarial fever, and when convalescent gained strength and flesh very slowly. Phosphorized elixir gentian, a dessertspoonful three times a day, benefited him remarkably. On the following day, he asked for a soft-boiled egg and toast, which he relished and retained. The next day, chicken soup was desired with a little cracker, and so it continued, until he was able to be up and around, but I ordered the tonic continued for a month.

CASE X.—A professor in one of our schools was so run down at the end of the scholastic year that he could neither eat nor sleep. In fact, insomnia had been an ailment of his for about five years. He suffered with indigestion also, and was thin, nervous, irritable and utterly miserable all the time. His complaint was a mixture of brain and body fatigue and indigestion. Miller's phosphorized elixir gentian relieved the former, promoted the latter, and started him in life with a new lease. He will always keep a bottle of it, he says, and take it from time to time as occasion requires.

THE BLOOD, AS AN INDEX OF THE BENEFICIAL ACTION BY IRON.

By TILGHMAN BRICE MARDEN, A. B., M. D.,
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Familiar to us all is the picture presented by the patient who has just been able to escape a fatal termination of some violent disease. The ruddy complexion, the rotundity of the face, of the limbs, and of the body, and other evidences of good health, have been replaced by the pallid hue of the skin, the sunken cheeks, loss of appetite, emaciated body and languor. It is true the disease has been conquered, but the physician's work is not yet finished. He has to respond to the mute appeal offered by the general appearance and condition of the patient and endeavor to repair the ravages caused by the disease by bringing the convalescent back to the healthy condition in which he was before being attacked by the dreaded accomplice of death.

It is then that the blood needs material by means of which it may enrich itself and convey to the various organs and tissues renewed vitality, thereby enabling them to perform their functions more vigorously and to contribute their aid toward the general welfare of the system. The primary object to be obtained is to increase the oxygen-carrying capacity of the blood, as by so doing the oxidation process goes on more vigorously in the organs.

The increased activity of the organs requiring an increased amount of nourishment, obtains it from the plasma of the blood. The plasma of the blood, being deprived of some of its constituents, seeks an additional supply from the alimentary canal. In the meanwhile, the gastric glands and the other glands, whose

secretions pass to the alimentary canal, having been stimulated to renewed activity, secrete larger amounts and better quality of digestive fluids, thus enabling digestion to take place, especially if the patient has been given easily digestible food.

The food being digested, absorption follows, and the blood is supplied with nutriment. As the oxygen-carrying capacity of the blood depends on the amount of hæmoglobin in the red blood corpuscles, and as the most important element in hæmoglobin is iron, we can readily understand the reason why the various blood tonics contain some preparation of iron.

Oftimes the physician discharges his patient with the parting advice "to get some preparation of iron and build up his blood and he will soon be all right." It seems to me that it is at this time that great care should be taken that a preparation of iron be procured which will build up the blood and system generally without producing any ill effects, if possible.

I would not advise the administering of elementary iron, and the tincture of the chloride, as I believe the former is acted upon by the hydrochloric acid of the gastric juices forming a chloride of iron and setting hydrogen free, which then combines with sulphur, if present, forming sulphuretted hydrogen, an unpleasant gas to be eructated, while the latter, besides acting deleteriously upon the teeth, evidently causes an astringent effect on the mucous membrane of the stomach, similar to its effects on the mucous membrane of the mouth.

To my mind it seems evident that in order that a preparation of iron should not have the aforesaid, as well as other obvious objections, it must be administered in an insoluble form, in which state it cannot act deleteriously on the teeth, nor have an astringent effect on the mucous membrane of the mouth or stomach; it should be acceptable to the palate, as palatability is a matter of consequence to the patient, especially so in the case of children; it should not constipate, as it seems to me that the headaches and other ill effects of toxic origin, due to constipation, counterbalance many of the good effects obtained from the iron proper; it should not be acted on chemically by the gastric juice; consequently, the eructation of foul smelling gases is avoided and the gastric juice is not hindered in performing its proper function in gastric digestion.

A preparation which fills the above conditions came to my attention during the past year. This preparation of German origin, known as "aromatin," resembles milk in ap-

pearance, and consists of the phosphate of iron, suspended in an aromatic menstruum, which, while being taken, has no injurious effect upon the teeth, and on reaching the stomach does not deprive the gastric juice of any of its constituents, as it is insoluble in hydrochloric acid of the strength it occurs in the gastric juice.

In order that the insoluble phosphate of iron may be dissolved and rendered absorbable, each dose is to be followed by a tablet, which, when put into water, effervesces and forms a pleasant draught. In composition, the tablet consists of sodium phosphate, sodium bicarbonate and tartaric acid.

When it is put into water the tartaric acids acts upon the sodium bi-carbonate, setting free carbonic acid gas, and forming sodium tartrate, which acts upon the intestine as a saline purgative, thereby counteracting any constipating tendency.

Then, if it is true that sodium phosphate has a beneficial effect on persons subject to the formation of gall stones, the presence of an excess of sodium phosphate should be an advantage instead of a disadvantage.

By the foregoing reasoning I came to the conclusion that aromatin, with its accompanying tablet, was a preparation prepared on scientific principles, and I determined to test its practical value. The results have exceeded my expectations, and in order to demonstrate the clinical results obtained, I take the privilege of reporting the following cases:

CASE 1.—H. M., female, age 2½ years, of a very weak constitution, with a tendency to rachitis, was attended by me through several diseases, yet she never became constitutionally strong nor became less pallid, although iron was given in several different forms. About three months ago, she was taken sick again, and the parents, thinking that perhaps another physician would do her more permanent good than I had done, called in a physician who was recommended to them very highly. After the child had been sick for about two weeks, the father came to me and asked that I take the case, stating that he was afraid his child would die if something beneficial were not done at once. On assuming charge of the case, I diagnosed it malaria, and on inquiry found that she was taking an iron tonic, and the parents were afraid to continue its administration, as they said that at each dose the "bowels became loose."

After treating the case for three days, the child was able to get up, and was apparently well, and a few days after I discontinued my visits. About one week later I was called in

again to see the same child. The mother informed me that as she wanted to build her daughter up, she had given her several doses of the aforementioned "tonic," and that the bowels had "become very loose."

The "tonic" was again stopped and aromatatin was given in doses of half teaspoonful and one-eighth of a tablet after each meal. The child began to improve, and in two weeks' time was so improved in health that it was commented upon by her relations and neighbors. At the present writing she has increased in weight, is less anæmic, is more lively than ever before, has a good appetite, and to me is given the credit of having saved her life.

CASE 2.—W. N., male, age 17 years, anæmic, undersized, and consumptive, has been under my care for more than a year, during which time he has been unable to properly perform his duties, has had a variable appetite, and was often languid. Believing that if his blood could be improved his general health would be better, I gave him iron, quinine, and strychnine, and afterwards the syrup of the iodide of iron, but could notice no improvement.

On October 23d, 1899, I examined his blood by means of the Thoma hæmacytometer and Gower's hæmoglobinometer, and estimated the amount of hæmoglobin present in his blood to be 35 per cent., and the number of red corpuscles 3,950,000 to the cubic millimeter.

He started to take aromatatin the next morning. His blood was examined at regular intervals, and the following results were obtained: At the end of the first week, the hæmoglobin was 50 per cent.; red corpuscles, 4,187,500; at the end of the second week, the hæmoglobin 53 per cent.; corpuscles, 4,250,000; at the end of the third week hæmoglobin, 64 per cent.; corpuscles, 4,165,000; at the end of the fourth week hæmoglobin, 70 per cent.; corpuscles, 4,612,000.

An examination of the figures would indicate that there had been a marked increase in the number of red corpuscles. Also it will be noticed that at the end of the third week there was a decrease in the number of corpuscles, which might have been due to an attack of proctitis, which he had in the third week. At present, he enjoys his meals, and is less pallid than he was at the beginning of the treatment. Although he is consumptive, and in all probability will continue so until the end of his days, he gets more enjoyment out of life than he did formerly.

CASE 3.—C. B., male, age 29, was anæmic, had very little desire for food, and lacked en-

ergy. On November 1st, 1899, he asked me if I could "build him up." I started him on aromatatin, and have kept him on it up to December 24th. After taking the first bottle, he informed me that his bowels had "become quite loose," so I advised him to take only one half a tablet at each dose, and if his bowels continued "loose," to stop taking the preparation for three or four days, and then resume it again. Shortly after starting to take aromatatin he began to improve, and has continued to improve up to the present time. His cheeks have become full, his lips a rosy red, his eyes are less sunken; his appetite has improved to such an extent that his boarding-house mistress has threatened to raise his board.

He informed me that he now weighs 140 pounds, an increase of 21 pounds since taking the medicine. As I know that aromatatin was the only preparation he was taking, I think it can be credited for the marked improvement.

CASE 4.—S. D., female, age 14½ years, chlorotic, non-menstruating, was nervous, took very little interest in her work, and ate very little. On October 29, 1899, an examination of her blood, one week after she had started to take aromatatin, showed the amount of hæmoglobin to be 66 per cent., the number of red corpuscles 3,230,000, and a marked increase in the proportion of leucocytes. One week later, the hæmoglobin was 74 per cent., and the red corpuscles 3,568,000; at the end of the next week, hæmoglobin 73 per cent., red corpuscles 3,650,000; at the end of the next week, hæmoglobin 80 per cent., red corpuscles 3,925,000. At present, she gives evidence of marked improvement in health, a pink color has displaced the pallid hue of her lips, and her cheeks at times become rosy. She enjoys her meals, goes about her home singing; does her work with more vim, and menstruates regularly. Her mother informed me that she never expected to see such a great change for the better brought about in her daughter.

CASE 5.—C. D., male, age 29, anæmic, but of a strong constitution, is subject to attacks of dyspepsia and rheumatism. His brother being a physician, he has had and has taken advantage of opportunities of trying various tonic preparations, but has never derived any permanent benefit from them. When, on October 31, 1899, he came to see me socially, he complained of his stomach "having gone back on him," and also of having rheumatism. He said he had been taking salicylate of soda, but that it had not done him any good.

I examined his blood, and found hæmoglobin to be present at 85 per cent., and the red

corpuscles to be 3,631,250 to the cubic millimeter. I advised him to try aromatin, which he did; one week after the blood examination showed 85 per cent. hæmoglobin, and red corpuscles 4,150,000; and at the end of the fourth week the hæmoglobin increased to 91 per cent. and the red corpuscles to 4,645,000.

Six weeks after starting to take aromatin he informed me that his rheumatism had left him entirely, which probably was brought about by the alkaline tablets acting in conjunction with the salicylate of sodium he had previously taken.

He has not had an attack of rheumatism since then to the present time. Although he has had an attack of dyspepsia lately, it was not very severe. At present he feels well, eats fairly well, and has a more healthy color.

CASE 6.—B. B., female, age 4 years, had a severe attack of pneumonia last winter, leaving her in a very anæmic condition. In the spring I gave her various tonics containing iron, but she continued pale, weak and languid. As a last resort, I advised that she be taken to the country in the summer and kept there as long as possible. She was taken to the country and stayed until the early part of September. When she returned she was very little better than when she went away. On October 11th, 1899, aromatin was given. The parents being disgusted with tonics, did not give it regularly at first, and after a short time did not give it at all. The child still did not improve much. The father remarking upon the great improvement caused in H. M. (see Case 1), asked why I could not give his child something to build her up as in that case. When I replied that I had given to his child the same tonic as was used in the case to which he referred, he seemed surprised, and admitted that he had not given the medicine regularly. He went home and started the child on aromatin, and gave it regularly. Soon afterwards the child showed a marked improvement, now is gradually gaining flesh, a healthy color, and passes her time in playing instead of whining about the house as she did previously.

CASE 7.—J. M., male, age 30, has been subject to attacks of asthma for several years, the attacks being the most severe I have ever witnessed.

After being successfully treated for gonorrhœa, followed by orchitis and abscess of the prostate gland, he was very much emaciated and anæmic and suffered several violent asthmatic attacks.

As soon as he was able to go out of the house he came to the office and informed me

that he had just been weighed and only weighed 125 pounds. I examined his blood and found hæmoglobin present at 60 per cent. and red corpuscles 3,748,350.

I gave him aromatin for his blood and potassium iodide for his asthmatic attacks. One week later an examination of the blood showed an increase in hæmoglobin to 70 per cent. and in corpuscles, 3,748,800; at the end of the second week hæmoglobin 72 per cent., corpuscles 4,438,000, and at the end of six weeks, hæmoglobin 80 per cent., red corpuscles 4,750,000. After the second week I discontinued the potassium iodide. He has not had an attack of asthma since the first blood examination, which may be due to the potassium iodide which was given, yet I believe that the excellent condition in which he is now is due to the alkali taken in the tablets having aided somewhat in protecting him. He informed me recently that he never felt better in his life than at present; that he weighs 135 pounds, and he has a good appetite.

CASE 8.—A. B., female, age 13, came to me on October 24th, 1899, and said that she was "all the time feeling bad;" that she had "dreadful pains" in the back and lower part of the abdomen. She was chlorotic, had very little desire for food, and did not care for the pleasures of this life.

An examination of her blood showed hæmoglobin present at 63 per cent., red corpuscles 3,056,250. She was put on aromatin, and one week later her blood showed hæmoglobin 65 per cent., red corpuscles 4,225,000; at the end of the second week hæmoglobin was 70 per cent., corpuscles 4,236,000. On December 12th, 1899, about six weeks after the first blood count, the hæmoglobin had increased to 78 per cent. and the red corpuscles to 4,350,000. At present her lips and cheeks have a good color, her appetite has improved, the pains have left her back and lower part of abdomen, and she menstruates regularly.

CASE 9.—Mrs. R., married, has two healthy children, and has had one miscarriage to my knowledge. After her second child was born she was attacked with mastitis, which resisted treatment and went on to suppuration. She was taken to the hospital and amputation of the breast was decided upon and done. She had a speedy recovery and returned home. She being very much debilitated and chlorotic, I examined her blood and gave her aromatin. The blood examination showed a percentage of hæmoglobin of 65 per cent., the number of red corpuscles 3,485,000 to the cubic millimeter.

At the end of the first week the hæmoglobin was 68 per cent. and the red corpuscles 3,537,500; at the end of the second week hæmoglobin was 75 per cent., corpuscles 3,850,000; and at the end of the sixth week hæmoglobin was 78 per cent., corpuscles 4,150,000.

She feels fairly well, has a good appetite, and is in good spirits except at times when she has menorrhagia and ovaritis.

She is still quite anæmic, and does not show such marked improvement as the former cases, which I think may be partly due to the attacks of ovaritis and the large amount of blood lost at her menstrual periods, which lately have been lasting from seven to ten days.

CASE 10.—Mrs. C. was attended by me for an attack of typhoid malaria in the latter part of September and first part of October, 1899. When the disease was subsiding she developed a severe attack of neuritis, principally located in her feet. Also, she had violent pains in the lumbar region. The urine, on examination, was found to contain a large amount of triple phosphates. She had no desire for food, and was very anæmic. On October 24th, 1899, I asked permission to examine her blood. She refused, stating that she was too nervous. Having stopped all medicines, I started her on aromatin. She has now taken five bottles, and informed me on January 1st, 1900, that she had a good appetite; that she was increasing in weight—the increase being so great that she was getting “too fat.” Now she has no pains in the lumbar region, and she believes that her kidneys are all right. Her feet give her no trouble, except an occasional slight pain in her left foot.

She said that she thought if she should take another bottle of medicine (meaning aromatin), that her left foot would cease to trouble her. In three other cases I have tried the preparation, and have obtained excellent results. In all three—two girls and one boy—marked improvement took place in two weeks after starting to take the preparation.

The only other cases in which I have tried the preparation were two girls, one being 8½ years old and the other 10½ years old. Each had diphtheria, and after the membrane had left their throats, they became very weak. Their uvulæ became paralyzed, thereby interfering with their speech and allowing food to regurgitate through their noses. They lost all desire for food, and would vomit all medicines soon after administration. As a last resort, I tried aromatin, but death claimed both. In these cases I believe the toxine poisoning was

too great for the system to withstand, and that nothing would have saved their lives.

From the foregoing cases I have drawn the following conclusions: That aromatin with the accompanying tablets, if taken according to directions, increases the amount of hæmoglobin and the number of red corpuscles of the blood; that the tendency to attacks of rheumatism and asthma is lessened; that it does not constipate; that in some cases diarrhœa may occur, which can be corrected by stopping the preparation for a short time, or by giving a smaller dose of the tablet; that it does not act deleteriously on the teeth; that it is readily taken by children; that it does not interfere with gastric digestion either by action of the mucous membrane or by using any of the constituents of the gastric juice; that it increases the appetite; that it causes an increase in the weight; that it lessens the tendency to gall stones; that indirectly it acts as a diuretic, and that by means of the phosphates present adds nutritive principles to the bones and nervous system.

2910 *Huntingdon Avenue.*

Analyses, Selections, etc.

Philippine Medical Matters—Diseases—More Surgeons Needed—Objections to Service—Care of Lepers—Board to Study Tropical Diseases.

The *New York Medical Journal*, September 8, contains a very interesting letter from the Philippine Islands, dated July 7, 1900.

Rumors in regard to the status of the medical department of the army in the Philippines have been more or less general, and in view of the fact that more physicians are needed here, it may be well for those who have under consideration the desirability of applying for such service to have a fair knowledge of some of the conditions which exist in these islands.

Technically, the army here is in the field; actually, the troops are stationed at posts in small towns or villages, quartered in the native buildings, and from time to time, as military exigencies demand, expeditions are sent out against the insurgents, or, to use the euphemistic term now in vogue, the robber bands, who make it impossible for a man alone to traverse any island in the group. Consequently, service here is actually very much like that at a frontier post in the old days when there were predatory bands of Indians, and part of the

garrison was in the field for several months in the year.

The service is like that, and yet unlike it, for at the frontier posts the troops were fairly well housed, they were supplied with barrack furniture, there were quarters for the officers, and as far as possible comfort prevailed. Here, because it is officially held to be field service, the troops frequently have to occupy bamboo and palm buildings that have not been and cannot be disinfected, they have no barrack cots, their chairs are the boxes that held commissary stores, and their mess-tables are pieces of board they may have chanced to pick up. The officers are huddled together in a fashion that admits of no privacy, as it is the rule to rent as few buildings as possible, and neither barracks nor quarters are being constructed.

The medical force here consists of army surgeons, surgeons in the volunteer staff, surgeons in volunteer regiments, and surgeons under contract (acting assistant surgeons). The latter are more numerous than all the others combined, and have come here under contract for one year.

Very recently the chief surgeon of the division in Manila stated that one hundred and twenty medical officers were required to supply the demand at various posts in the Philippines, but none were available for the purpose. If the report, made semi officially, is true, that the War Department purposes to throw all the onus of the existing situation on the few regular regiments out here, and the volunteer regiments will be returned to the United States in the autumn, such a move will take away seventy-five regimental surgeons, but will release a number of acting assistant surgeons who may be available for other duty.

But many of the acting assistant surgeons do not desire to renew their contracts. Only a short time ago there were over twenty requests from acting assistant surgeons to have their contracts annulled, as they had served the required time and wished to return to the United States. As there were no other surgeons available, the authorities were compelled to deny the request. This meant that if the contract surgeon left, he did so without authority, he was not furnished transportation to the United States or his home, and he lost his pay for the time spent in traveling to his home. Notwithstanding these facts, in one instance at least, the contract surgeon, when denied annulment of contract, went home by a merchant line. And in this matter the contract surgeon was not treated differently from the volunteer officers, a large number of whom

had sent their resignations to the adjutant-general of the division, for transmission to Washington, but, as the officers were needed, the resignations were placed on file in Manila, and the officers were thus compelled to remain in the service.

The reluctance of some of the contract surgeons to remain in the army is due to satiety in their search for new experience in these islands, to a recognition that there is no future for them in this service, and to their treatment by the military authorities. Many of the young physicians who came here were desirous of having the advantage of foreign travel and residence associated with professional work, and after some months of such life they felt that they had acquired all the advantages that were likely to arise, and they wished to return to their homes.

The want of the future for the acting assistant surgeon is very unfortunate. They are civilian employees; if one is killed by the insurgents, those dependent upon him will receive no pension; if he himself is permanently disabled in consequence of wounds or sickness, he can receive no pension. No matter how long he may serve, his only recompense is a hundred and fifty dollars a month, and his consciousness of duty properly performed. It is very unfortunate that the surgeon general's recommendation of the bill to commission these physicians as first lieutenants and captains of volunteers did not receive enough consideration to effect its enactment. It is not creditable to the medical profession that its members alone occupy this anomalous position in the army.

In reference to the treatment of the surgeons by the military authorities, it is directed that those on duty should be utilized "to the extent of their professional and physical ability." And this is done; there are posts where the surgeon has to visit the sick at as many as eight substations, traveling under an armed escort. And such travel is a severe tax on the physical ability under a tropical sun or during tropical rains. And when he returns to his quarters he has to go to a room which he occupies with some one else or to a room that may be used as a thoroughfare to the room of another officer, or to a room whose thin partitions afford him no privacy from the occupant of the adjacent apartment.

But this want of privacy in respect to quarters is general in these islands. Everywhere officers are crowded together, even those on staff positions, except in Manila, who should receive their commutation and select quarters

where they wish. This exists because it is cheaper to crowd the officers and cause them more or less discomfort, than to rent enough buildings to allow of allotment of legal quarters, or than to pay them their commutation for quarters. In this respect the contract surgeon is treated no worse than an army surgeon of thirty years' service, who is assigned a room in a house occupied by half a dozen other officers, and who has virtually no privacy.

This condition is not the fault of the medical department, but of the commanding general who orders it. Instead of the efforts that were omnipresent in Cuba and Puerto Rico to mitigate the unpleasant features of foreign service by providing as far as possible for the comfort and convenience of the officers and men, in the Philippines this phase of service life seems to have been deemed irrelevant, and the troops are required to endure avoidable discomforts.

This ill advised plan will be more expensive in the end, because if, in addition to the nervous wear and tear consequent upon the exhausting effects of residence in the tropics, there is the wear and tear caused by uncomfortable quarters and want of suitable facilities for the maintenance of mental and physical hygiene, there will be a heavy return of nervous diseases.

While the sick rate here is not heavy, its exact figures will never be known. As has been said, there are many posts which have no surgeon; in fact, to one post where there is a surgeon there are six where there is none. In the army, if a soldier is excused from duty he is either sick in hospital or in quarters; those who are sick enough to go to the hospital from a subpost become subjects of record, but the many at such posts who are sick in quarters do not come under the observation of the surgeon, and consequently are not recorded. So the statistics are likely to underrate the morbidity of service in these islands.

Dysentery and so called malarial fevers continue to cause large numbers of sick. There may be some question in regard to the malarial fevers, because in few places is any examination of the blood being made regularly in fever patients.

Small-pox occurs very infrequently among the troops, for they have been thoroughly vaccinated. But it is the bane of the population in the islands. As much as possible the people are vaccinated by the post surgeons or by privates of the hospital corps sent to the smaller towns to perform this duty. In this hot climate, vaccine virus deteriorates very quickly, and the difficulty of obtaining trans-

portation and the lack of commercial lines to many of the places where troops are stationed, make it impracticable to supply fresh virus to vaccinate the people. The medical department should have steam vessels under its jurisdiction to perform the important duty of distributing fresh virus as well as other supplies.

An attempt has been made to deal with the question of leprosy in the islands, and a board of officers has been ordered to select an island for the segregation of lepers, to prepare plans and estimates for suitable buildings thereon, to submit an estimate of salaries for the necessary officials and employees, and to fix the ration and other allowances for the support of such leper colony.

The board of officers appointed for the study and investigation of tropical diseases is said to have made but little progress in its work. The small number of surgeons available has necessitated the assignment of the surgeons on that board to other duties in addition to their investigations. This is unfortunate, because the officers constituting the board are qualified to do excellent work, and with authority to visit all hospitals and the different islands, adequate laboratory equipment, and their entire time available to make their investigations, they would present results that would be comparable with those that the lamented Woodward produced from the material of the Civil War.

Oil of Peppermint.

So far as we recall, no entire order of plants, with the exception of the umbellifere, is so well protected by nature against the attacks of insects, molds and bacteria. This protection is afforded by an obscure power which the plant possesses of elaborating chemic substances, mainly grouped under the general term camphors, and which pervade nearly all parts of the plant, but especially the leaves, green stalks and flowers. Excepting the mineral antiseptics which are poisons to all forms of protoplasm, antiseptic substances are also usually anaesthetic locally, perhaps because the nervous system, more than any other part of highly differentiated animals, retains the susceptibility of the original, undifferentiated protoplasm of the unicellular organism.

Of all the mints, doubtless most practitioners of medicine will agree with us that the most valuable is peppermint. The active properties of this plant reside in the essential oil, and of this the chief ingredient is menthol. As a matter of convenience it is often better to use

the oil of peppermint than the isolated and redissolved menthol.

Applied to mucous membranes, menthol has three, closely related, therapeutic effects. It is antiseptic, anæsthetic, after the preliminary period of burning and smarting has passed, and it relaxes arterioles so as to increase the blood supply of the part. This last action, though valuable in itself, often should be considered a contraindication to the drug when its other properties might be useful. Thus, while advocating the menthol spray for catarrhal states of the gastric mucosa, we should avoid it if there was fear of the existence of acute ulcer or of cancer, or if the gastritis were of acute form. For intestinal diseases the same indications and contraindications must be borne in mind as in the treatment of gastric lesions. For the respiratory passages menthol is available in a number of ways, its efficiency depending on the possibility of its application in appreciable amount and severity of the lesion. For a mild nasal catarrh, of subacute degree, the small amount of menthol which is volatilized from a plug of cotton saturated with oil of peppermint or from a tube filled with menthol crystal is not only efficient to relieve the disagreeable sensation of "stiffness," but actually curative. For the pharynx, larynx and trachea menthol is best administered from a heavy solution in petrolatum oil—even an impure mineral oil may be used if the purer form is not obtainable.

For such a disease as phthisis the neutralized solutions of menthol, with or without carbolic acid, iodine, etc., are best adapted to medicate the remoter parts of the respiratory tract. While we may well doubt whether it is possible to secure adequate medication of the ultimate air passages, we at least do no harm by the use of inhalations, and we may feel satisfied that we have done the best possible in the way of local treatment under the circumstances. In general, the more direct and local our medication can be made, the better have we fulfilled our duty to the patient.

For the skin menthol is a soothing application, applied in solid or liquid mineral oil, but the relative contraindication of an abraded surface must be remembered. For erysipelas we can vouch for the almost abortive action of menthol, a 5 per cent. solution in petrolatum oil causing a subsidence of the disease in four or five days. As to measles, scarlet fever, etc., we are less positive as to the antiseptic efficacy of the drug, though convinced of its value as an adjuvant of other treatment.

Menthol, camphor, chloralhydrate, salol, carbolic acid, and similar camphoraceous crystalline substances possess the property of liquefying when triturated together, and the more irritant ones of this group are, in some unknown way, rendered less corrosive, though they should always be used with caution, especially over large areas, and the formula should be written according to authority of experience. Menthol is nearly absolutely contraindicated in two localities, the urethra and the conjunctiva, on account of the extremely painful first stage of the action, due to the nature of the nerve terminals.

Without attempting a full description of the uses of menthol and oil of peppermint, we trust that this brief reference will arouse a closer study of their availability, and in particular we call attention to a series of formulæ from a foreign source (Schimmel & Co.'s Report):

Menthol vinegar.—Menthol 3 parts, vinegar 97 parts. To be used with water as a gargle.

Menthol toothache drops.—Menthol 8 parts, chloroform 8 parts, alcohol 95 per cent. 84 parts. Apply to the cavity of the tooth on a piece of cotton-wool.

Menthol cholera drops.—Menthol 6 parts, tincture of vinegar 8 parts, tincture of opium 10 parts, ethyl alcohol 76 parts. Ten to 15 drops every half hour.

Menthol ice.—Ten parts of spermaceti are melted with ten parts of paraffin oil, and 10 parts of menthol added. To be rubbed on the nose for catarrh.

Menthol oil.—Sixteen parts of menthol are dissolved on a water bath in 84 parts of olive oil.

Menthol wine.—Two parts of menthol are dissolved in 6 parts of French brandy, and 6 parts of glycerin in 85 parts of Tokay wine are added.

Mentholin.—Ten parts of menthol are dissolved in 78 parts of 95° alcohol, and 12 parts of strong ammonia liquor added. A smelling salt.

Menthol anticatarrhal.—Menthol 15 parts, boric acid powder 30 parts, ammonium chloride 55 parts. Mixed together.

Menthol chloral.—Equal parts of menthol and chloral hydrate are melted together at 30°; the resulting oily liquid is applied in cases of toothache and facial neuralgia.

Menthol ointment.—Paraffin oil 5 parts, lanolin 85 parts. To be melted together, and menthol 10 parts added. To be rubbed on the forehead for headache, hemicrania, etc.—*Amer. Therap.*, Aug., 1900.

Submucous Ligature for Rectal Hemorrhoids and Prolapses.

B. Merrill Ricketts, Ph. B., M. D., of Cincinnati, Ohio, read a paper on this subject before the American Proctologic Society during its session at Washington, D. C., May, 1900. He devised the operation, and has done it to the exclusion of all others for a period of eight years. The advantages claimed for Rickett's "submucous ligature" are:

1. Hemorrhage impossible.
2. No tissue sacrificed.
3. But little loss of time.
4. No infection.
5. No abscess.
6. No fissure.
7. No fistula.
8. Pain no greater than by other methods.
9. No stenosis.

Book Notices.

Text-Book of Practical Therapeutics. *With Especial Reference to the Application of Remedial Measures to Disease, and their Employment upon a Rational Basis.* By HOBART AMORY HARE, M. D., Bc. S., Professor of Therapeutics and Materia Medica, Jefferson Medical College of Philadelphia, etc. *Eighth Edition, Enlarged, Thoroughly Revised and Largely Rewritten. Illustrated with 37 Engravings and 3 Colored Plates.* Lea Brothers & Co., Philadelphia and New York. 1900. Cloth, 8vo. Pp. 798.

The fact that eight large editions have been demanded in ten years shows the demand for this book. It is truly a wonderfully valuable book for the general practitioner. The author has the proper conception of the wants of the doctor as well as the class room student. The book is divided into four parts. *Part I* refers to general therapeutical considerations. *Part II* describes drugs in their alphabetical order. *Part III* treats of remedial measures other than drugs, foods for the sick, etc. *Part IV* tells of the proper application of drugs to diseases. We regard this as a most valuable help to the practitioner. Beside tables of doses and of relative weights and measures in the metric as well as apothecary system, appended to the work are constantly helpful indexes of (1) drugs and remedial measures, and (2) diseases and their remedies. New remedies that have proven themselves useful in diseases during the past two years are described and their virtues defined. The present edition is, in short, without

criticism other than that which unreservedly commends it to the favorable consideration of doctors and students.

Atlas and Epitome of Gynecology. By Dr. OSCAR SCHLIEFFER, Privatdozent of Obstetrics and Gynecology in the University of Heidelberg. *Authorized Translation from the Second Revised and Enlarged German Edition.* Edited by RICHARD C. MORRIS, A. M., M. D., Surgeon-in-Charge Preston Retreat, Philadelphia, Pa. *With 807 Colored Illustrations on 90 Plates, and 62 Illustrations in the Text.* Philadelphia: W. B. Saunders & Co. 1900. Cloth. 12mo. Pp. 272 of text. \$3.50 net.

This series of "Saunders' Medical Hand Atlases" has proven so popular because of the illustrations which are made in colors so true to nature. Most of these illustrations are indeed so graphic and true to natural appearances that the gynecological clinician has to turn from the patient under treatment to the drawings to illustrate better than can be shown in a large clinic by the exposed patient. Dr. W. Hersey Thomas has carefully followed the original in making his translation. The author appears to be one of the conservatives in surgery, although Dr. Norris has inserted comments to point out the difference between the author's teaching and that which he thinks is more generally approved in America. Each of the drawings is faced by a description of the case illustrated, and long explanatory notes are made wherever necessary. The effort seems chiefly to be to help diagnoses by the eye.

Manual of Pathology, Including Bacteriology, the Technic of Post-Mortems, and Methods of Pathologic Research. By W. M. LATE COPLIN, M. D., Professor of Pathology and Bacteriology, Jefferson Medical College, Philadelphia; Pathologist to Jefferson Medical College Hospital, and to the Philadelphia (Blockley) Hospital; Bacteriologist to the Pennsylvania State Board of Health. *Third Edition, Revised and Enlarged. 530 Illustrations and 7 Colored Plates.* 8vo. 846 pages. P. Blakiston's Son & Co., Philadelphia, Pa. Cloth. \$3.50 net.

The second edition, issued late in 1897, was soon exhausted, and the work has been practically out of print since 1898. The author has availed himself of opportunities since then to thoroughly revise and rewrite such portions as seemed proper, and the result of his labors are now presented in the form of one of the best books in existence on the subjects of its title. A great value of the work is the amount of special technic that is given throughout its pages. Among the new material added are chapters on the thymus body, ductless glands,

muscles, bones and joints and the nervous system. The work will prove a valuable help in the laboratory and in clinical diagnosis by the aid of the microscope.

Clinical Examination of the Urine and Urinary Diagnosis By J. BERGEN OGDEN, M. D., Instructor in Chemistry, Harvard University Medical School, etc. *Illustrated.* Philadelphia: W. B. Saunders & Co. 1900. 8vo. Pp. 416. Cloth. \$3 net.

This is a new book, and is of very special value to the practitioner. It is a treatise which takes up in detail the subject of urinary diagnosis, and the application of information furnished by careful chemic and microscopic examination of the urine. Part I gives the chemic and microscopic methods in detail. Part II is devoted to the diagnosis and differential diagnosis of disturbances and diseases of the kidneys and urinary passages—whether they be local or general, medical or surgical; “a brief enumeration of the prominent clinical symptoms of each disease; and, finally, the peculiarities of the urine in certain general diseases of the body.” Such extracts from the preface to the work well describe the scope of the book, and point out its usefulness to the practitioner. For the purposes of the College student, the technique is told in such detail, and so simply, that it is an admirable text-book.

Atlas and Epitome of Diseases Caused by Accidents. By Dr. ED. GOLEBIEWSKI, of Berlin. *Authorized Translation from the German, with Editorial Notes and Additions* by PEARCE BAILEY, M. D., Consulting Neurologist to St. Luke's Hospital and the Orthopaedic Hospital, New York, etc. *40 Colored Plates and 141 Illustrations in Black.* Philadelphia: W. B. Saunders & Co. 1900. Cloth. 12mo. Pp. 549. \$4 net.

This is one of “Saunders' Medical Hand Atlases”—perhaps the most popular series of medical books ever issued. The book under notice is one of the most interesting and instructive of the series. Its title well defines the scope of the work. The illustrations show, for the most part—as far as pictures can show such things—the appearances, both just after the surgical dressing of the wounds and again the results some three or more months afterwards—when the surgeon has returned the case to the care of the physician. The work is of very special interest to neurologists, as also to surgeons; and it is also of material value to physicians. The rendering of the German into English has been well done. A good *Index* concludes the volume.

Editorial.

Medical Society of Virginia.

The Thirty-first Annual Session of this Society, to be held at Charlottesville, Va., October 23, 24, 25, and, possibly, 26, 1900, promises to be a great success. Titles of papers to be presented are coming in nicely in response to the preliminary announcement of the Secretary, issued in August. Fellows and invited guests proposing to present papers should not forget the law of the Society that requires that titles of papers to be presented should be in the hands of the Secretary (Dr. Landon B. Edwards, Richmond, Va.) on or before September 20th, in order that they may be assigned an hour for the presentation of the paper. No paper can be allowed more than twenty minutes for reading—however lengthy the manuscript to be published. Papers—the titles of which are not received in time to be named in the official announcement of the Executive Committee, to be issued in a day or so after the 20th of this month—have to be left over till all of the program of the circular has been completed. Hotel arrangements are being made in Charlottesville. Railroads generally have granted the usual convention rate of one and one-third full price for the return trip to Charlottesville on the certificate plan.

London Branch of W. B. Saunders & Co.

W. B. Saunders & Co. are about to establish a branch of their business in Great Britain. This London branch will be operated in immediate connection with the home establishment, and the same methods that have been so successful in building up the business in this country will be employed in the conduct of this new branch. For a number of years Saunders' books have been sold in England through the agency of a London publisher, and have met with remarkable favor.

Registration of Practitioners of the States.

We are not infrequently advised that Dr. so-and-so has begun practice in certain towns and neighborhoods, and queries come to us as to whether or not he or they have passed examination before the State Board of Medical Examiners, or (under the new law which went into effect in Virginia July 1st, 1900,) been granted permits by that Board to secure licenses. Oftentimes we examine our files in vain to find even mention of such an individual. Some commissioners of the revenue for cities, towns and counties are not careful enough in issuing licenses. Intimations of

complaints in this direction are certainly plain and frequent enough to lead one to see that errors of commission are being made by these officers of the law. They have no business to issue any license to any one who has not the "permit" of the Board of Examiners to apply for a license.

To be able to answer promptly inquiries in this matter, a State law should be enacted to require every practitioner in the State to register the facts connected with his case to be kept in duplicate or triplicate—one of the registration books to be kept by the Secretary of the State Medical Society; one by the Secretary of the State Board of Medical Examiners, and one by the Secretary of the Commonwealth. A small fee of 50 cents should be the total cost of such registration, and it would not be required but once—this fee simply to cover expenses connected with the registration. The party wishing to practice in the State might send his permit to secure license to the Secretary of the State Society for examination and verification. This register should be kept in triplicate by the Secretary of the Society—one to be alphabetically arranged as to names; another as to year when permit and license were granted; and the third by counties or localities of the party entering upon practice.

The continuous receipt of inquiries by the Secretary of the State Medical Society as to whether such and such a doctor is a legally qualified practitioner is so great that it becomes plainly evident that he should be required to keep this register. This register in his hands would enable him at once to arrest imposters on the one hand or to report commissioners of the revenue, on the other hand, to their respective Commonwealth attorneys.

Until some such law is enacted, impositions can be made on the license issuing official. And as long as the gate for impositions is left open, impositions will be made or derelictions in duty by city, town or county license issuing authorities will be found.

The Bubonic Plague.

As the result of too much intermeddling with the affairs of the "far East," it does not seem improbable that Europe, and, possibly, America, are to be visited by this scourge. All the text-books tell of its terrible slaughter—giving it the name of "the black death," etc. In a single day in Constantinople, it is said that during the almost pandemic of the sixth century, which seems to have begun in Egypt, 10,000 persons died from this disease. It has reached one of the Western ports of the United

States, although it seems to have been stamped out by the promptly acting and apparently efficient San Francisco medical officials. About 15 cases have recently been reported as being in Glasgow, and over 120 "suspects" are under watch. We may hope that it will be swept out by means like those adopted some time ago in Vienna, as also in San Francisco. The *bacillus pestis* seems to be chiefly introduced by infected rats, mice, mosquitoes, etc., coming from ports infected. One cannot keep his eye from the reports of its inroads in the daily papers. The United States Marine Hospital Service, as well as the health officers of seaports of entry, we are advised, are on their guard.

New Books in Press.

The International Journal of Surgery Co., Medical Publishers, 100 William street, New York, N. Y., announce as ready about September 25th, the two books: *Treatment of Fractures*, by W. L. Estes, A. M., M. D., Director and Physician and Surgeon-in-Chief, St. Luke's Hospital, South Bethlehem, Pa. It is replete with original drawings, photographs and skiagraphs. Cloth, about 250 pages, \$2.50. *Technique of Surgical Gynecology*, by Augustin H. Goelet, M. D., Professor of Gynecology, in New York School of Clinical Medicine, etc. The various subjects are individually discussed and graphically illustrated with a large number of drawings and sketches, especially prepared. About 300 pages, \$2.50. As all details are to be carefully elaborated, and made thoroughly practical, every general practitioner should possess a copy of each book.

Messrs. W. B. Saunders and Co. announce that they will have ready in a few days the following new books: *Modern Medicine*, by Drs. J. L. Salinger and F. J. Kalteyer, of Jefferson Medical College, Philadelphia Price, \$4.00 net; *Rhinology, Laryngology, and Otology, and Their Significance in General Medicine*, by Dr. E. P. Friedrich, of the University of Leipsig, and Dr. H. Holbrook Curtis, of New York. Price, \$2.50 net; *Text-Book of Histology*, by Drs. Bohm and Davidoff, of Munich, and Dr. G. Carl Huber, of Ann Arbor, Mich. Ready in October: *Essentials of Histology*, by Dr. Louis Leroy, of Vanderbilt University. Price, \$1 net; *Surgical Technic for Nurses*, by Emily A. M. Stoney, author of "Stoney's Nursing."

They also announce the following new editions: *Anders' Practice of Medicine*, 4th edition. Price, \$5.50 net; *McFarland's Bacteriology*, 3d edition, revised and enlarged. Price, \$3.25 net; *Hyde & Montgomery's Venereal Diseases*, new enlarged edition. Price, \$4 net; *Ameri-*

can Text Book of Physiology, 2d edition revised, in two volumes; Vol. 1 now ready. Price, \$5 net per volume; *Saunders' Pocket Formulary*, 6th edition, increased in size by over 200 formulæ. Price, \$2 net; *Garrigues' Diseases of Women*, 3d edition. Price, \$4.50 net; *DaCosta's Surgery*, 3d greatly enlarged edition. Price, \$5 net; *Stengel's Pathology*, 3d edition revised. Price, \$5 net.

The Fairfax County (Va.) Medical Society,

Organized May, 1884, shows a vitality which we wish all county medical societies would exhibit. Dr. R. M. Slaughter, Theological Seminary, Va., is President for the current year, with Drs. R. V. Palmer and R. D. Leith, Vice-Presidents. Drs. F. M. Brooks and G. B. Fadelley are Recording and Corresponding Secretaries, respectively. Dr. R. M. Hammond is Treasurer. The names of thirteen other practitioners are enrolled as members. It holds quarterly meetings, at places designated by the secretary, during the first Thursday of each February, May, August and November. To the constitution pamphlet, standard fees of the practitioners of Fairfax county are appended. These fees, for the most part, are remarkably small. Thus, a visit not over three miles from the doctor, \$1.50. Detention for each hour, *fifty cents!* But the doctors seem to be a fraternity, and have good papers at their meetings. Indeed, the well established ability of the members generally is a guarantee of good practical papers.

To Fill Vacancies in University College of Medicine Caused by Death of Dr. J. Travis Taylor.

At a called meeting of the Faculty of the University College of Medicine, to fill the vacancies occasioned by the death of Dr. J. Travis Taylor as Lecturer on Hygiene and Dermatology, Dr. Alex. G. Brown was elected Lecturer on Hygiene in conjunction with his other duties as Instructor of Practice of Medicine and as Assistant to the Professor of Clinical Medicine. Dermatology was assigned to the Chair of Venereal Diseases, of which Dr. Lewis Wheat is Professor.

New Orleans Polyclinic.

Physicians will find the Polyclinic an excellent means for posting themselves upon modern progress in all branches of medicine and surgery. The specialties are fully taught, particularly laboratory work. Fourteenth annual session opens November 12, 1900. For further information, address Dr. Isadore Dyer, Secretary New Orleans Polyclinic, New Orleans, La.

St. Luke's Hospital, Richmond, Va.

Owing to the continued illness of Dr. Hunter McGuire, his son, Dr. Stuart McGuire, has acquired his interest in St. Luke's Hospital, and will conduct it in the future as his private sanatorium. The hospital now occupies a new building, corner of Grace and Harrison Sts., of this city, and has a capacity of about fifty beds. It is modern and complete, and shows in its construction a familiarity with the needs and requirements of such an institution only gained by long experience in hospital management. St. Luke's Hospital closed, as usual, August 1st, but will open again for the reception of patients September 15th.

Southern Surgical and Gynecological Association.

The meeting of the Southern Surgical and Gynecological Association will be held in Atlanta, Ga., November 13th, 14th and 15th, 1900, under the presidency of Dr. A. M. Cartledge, of Louisville, Ky. Prospects are splendid for a successful session. Members of the medical profession are cordially invited to attend. Dr. W. E. B. Davis, of Birmingham, Ala., is secretary.

Obituary Record.

Dr. John Travis Taylor,

Lecturer on Hygiene and Dermatology, University College of Medicine, Richmond, Va., died August 31st, 1900. His father is Rev. Travis J. Taylor, of the Virginia Conference, Methodist Episcopal Church, South. He developed fulminant appendicitis on the night of August 26th, was promptly removed to the Retreat for the Sick, and operated on during the 27th by Drs. J. W. Henson and Stuart McGuire, assisted by Drs. Charles M. Edwards, A. L. Gray, and the Retreat staff. The appendix was found perforated by ulceration and severe general peritonitis had already set in. He lingered until the 31st.

Dr. Taylor was born in Bedford county, Va., July 7, 1874. He received his academic education from Suffolk Military Academy and from Randolph Macon College. He began the study of medicine in 1893 in the University College of Medicine, Richmond, Va., from which he graduated Doctor of Medicine in 1896. The same year he passed the Medical Examining Board of Virginia, and joined the Richmond Academy of Medicine, as also the

State Medical Society. He was Adjunct Professor of Histology and Pathology, and Director of Microscopical Laboratory University College of Medicine 1896-7; Demonstrator and Instructor of Histology, same College, 1897-8; was elected Lecturer on Dermatology and Hygiene 1898-1900, which position, as also that of Treasurer Richmond Academy of Medicine and Surgery, he held until death dissolved these relationships. In 1899-1900, he was President of the Alumni Association of the University College of Medicine. In no position of trust was he found wanting. His rapid strides in the profession—and ever without his own solicitation—show the esteem in which he was held by his brother doctors. He was a pure good man, and gave promise of becoming a leader in the profession of his State. He sought to do right and good to his fellows. As an Assistant in the editorial department of this journal, his services will long be remembered with appreciation.

The Adjunct Faculty and the Dispensary Staff of the University College of Medicine, at a called meeting August 31, after remarks by several members, unanimously adopted the following preamble and resolutions:

"In the untimely and unexpected death of our beloved associate, Dr. J. Travis Taylor, whose courteous bearing, genial disposition, and charming personality, won for him a warm and affectionate place in our hearts, and whose powers of mind and strength of character commanded the greatest respect and admiration from each of us, we, the Adjunct Faculty of the University College of Medicine, have sustained a loss that time cannot repair, and a grief that changes of this life can never assuage.

"Whereas it has pleased the All wise Creator to take from us one so beloved and honored, be it resolved—

"1st. That we convey to the family of our deceased friend, thus deeply bereaved, the heartfelt sympathy of his companions and associates in his daily duties, which he was ever prompt and ready to discharge to an eminently successful degree.

"2nd. That we here record our high appreciation of his talents as a student and practitioner of medicine, and in his death express the belief that the profession has lost a member whose career, so auspiciously begun, assured us of a man who would have reflected great honor upon his chosen calling.

"3rd. That we proclaim our admiration for him as a man, a Christian gentleman, who ever stood for the right and manliness.

"4th. That a copy of these resolutions be sent the family, published in the daily papers and professional journals."

Eight of the Adjunct Faculty were selected as pall bearers, and two as honorary pall bearers, as were also four of the Professors of the University College of Medicine.

On September 1, a meeting of the *Richmond Academy of Medicine and Surgery* was called at the usual place of sessions, Jefferson Hotel. The President, Dr. W. T. Oppenheimer, in the chair; Dr. Wm. H. Parker, acting Secretary. Appropriately feeling remarks were made by Drs. William S. Gordon, John N. Upshur, etc. The meeting was unusually largely attended. The Committee on Resolutions brought in the following report, which was unanimously adopted:

It is with deep regret that we have heard of the death of our confrere, Dr. J. Travis Taylor, who, by reason of his professional attainments and personal qualities, gave promise of a bright and useful career. To his friends, he had endeared himself by his manliness, his moral courage, and the purity of his life; to his patients, by the added skill, kindness and faithfulness of his administrations; while he had won the confidence and respect of all who knew him; therefore, be it

Resolved, That we bow in submission to Divine Providence; that we shall hold in memory the example of his life and the lessons of his death; that we bear testimony to the loss which our body and the profession have sustained in his death; that we extend our sincere sympathy to his family in their bereavement; that these resolutions be spread on the Minutes, sent to his family, and published in the press.

WM. S. GORDON, M. D.,
Chairman,
 J. W. HENSON, M. D.,
 STUART MCGUIRE, M. D.

The Faculty of the University College of Medicine, during its regular monthly meeting, September 4th, also appointed a committee (of which Dr. J. A. Hodges was chairman), to draft suitable resolutions expressive of their appreciation of the worth, and of their sense of loss in the untimely death of Dr. J. Travis Taylor. These resolutions, however, were not ready as we go to press.

After funeral services at Laurel Street Methodist church (of which Dr. Taylor was a member), conducted by his pastor and other ministers, the remains of this popular and noble young physician were laid to rest in Hollywood cemetery.

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Original Communications.

THE PHYSICIAN'S INFLUENCE *IN RE* VACATION IN SCHOOLS.*

By Helen C. Putnam, M. D., Providence, R. I.

Friends of free education are discussing, in current literature and social organizations, the insufficiency of hitherto existing school methods of training for citizenship. They recognize the possibility of a clearer government by a wiser people for a happier people. They recognize, too, that the training for self-government and happiness has been in an autocracy where the teacher's will and the printed word were law; where mental powers were cultivated through the minute exercise of tiny neuro-muscular mechanisms of eye and finger upon small black characters on white paper; where memorizing, recitation, and other feats accomplished with words and figures won the prizes.

Up to fifty years ago this system during the winter semester was effectually supplemented in Summer by the industries of country home life, the apprentice system of learning trades, and—this of equal importance—abundant opportunity, in woods and fields and village life, for free play, wholesome adventure and communion with nature. The majority of children thus received a comparatively symmetrical mental, moral, physical and social training, resulting in fairly well-balanced character and useful citizenship. Inventions following upon scientific discovery have greatly altered occupations and ways of living. Population is becoming chiefly municipal and wealth concentrated in the hands of the few. Problems not less difficult than those our forefathers dealt with are before the people. Public schools must readjust themselves to these altered conditions and new demands.

There are none better situated to understand the insufficiency of the adult's preparation for health and happiness than well-educated physicians, and, in this readjustment of school methods, the influence of medical specialists of liberal culture is to be hoped for. The appointment of school physicians as adjuncts to boards of health for the detection of contagious diseases and possibly evident physical defects interfering with school work is a step in the right direction; but a short step. Much more could be accomplished with the same amount of money if it were used for two or three large salaries, instead of ten to thirty small ones, to secure expert professional services from physicians who have been not only general practitioners, and skilful in pediatrics (as few of these numerous appointees are), but who, in addition, have qualified as school specialists by study of schoolhouses, ventilation, heating and furnishings; of physical training including play; of pedagogy and its problems in psychology including child study; capable of instructing teachers and occasionally, perhaps, the older children (the latter no common accomplishment) in certain fundamentals of hygiene, personal, household and municipal, only twelve per cent. having opportunity for such instruction beyond the grammar grade. This physician could give valuable aid, probably unobtainable from any other school officials, in mothers' or parents' clubs that bid fair to become a department of public education, as the practical solution of the difficulty long experienced in securing intelligent co-operation between home and school. Sweden is the country most often quoted when this subject is discussed, and in Sweden the success of school physicians is due to the fact that they are specialists somewhat as outlined. The twentieth century promises to be an era of experts, with better primary education at the other extreme.

The vacation school movement originated in the desire of citizens to provide other influences than those of the worst streets for children

* Read before the American Academy of Medicine, Atlantic City, June 2, 1900.

living on those streets during July and August, popular observation, school reports and statistics of juvenile arrests showing this interim in school occupation to be injurious mentally, morally and physically. Other phases of this work are "fresh air parties" and "country weeks," summer camps and farms; also "summer playgrounds" that have developed into vacation schools, as it became apparent that games have a strongly educative influence, and that the play spirit carried into certain forms of instruction increases the attractiveness of playgrounds.

Vacation schools (the playground continuing as a less highly organized and less expensive department of such schools) have within six years opened by private initiative in over twenty cities, in Philadelphia and New York being under municipal conduct—the final object of all effort elsewhere. They are for children under sixteen years of age, and continue six weeks in July and August with morning sessions only. The attendance is voluntary; therefore to be successful their methods must be popular. The best results do not follow training "across the grain" after artificial methods. It is more than suspected that children in general and the individual child, also, indicate lines of least resistance that educators should take advantage of as aids to fullest development. Play is the way of living of all young animals, their natural method of preparing for existence later. The majority of plays enjoyed by children require much hard work. Therefore the spirit of play (enjoyment) cunningly permeating vacation school curricula secures as regular attendance and faithful work as do truant laws, work, however, of a different character.

The design is to *supplement* public schools and to give these children certain essential advantages that parents of intelligence and means supply by their own preference through home environment. One chief present function of vacation schools, that time is demonstrating, is that of experiment stations, with a positive influence upon regular school methods and ideas. No books are used. The instruction is, briefly, according to the laboratory method.

To encourage muscular ability and accompanying executive qualities of mind (furnished by home environment one hundred years ago) manual training is prominent in the form of wood work, as carpentering, whittling, fretsawing, chip-carving; or of constructive work with cardboard or flexible bands of iron; or of household arts, as cooking, care of rooms and of the sick, sewing, mending, embroidery. The

use of a score of different tools, of varieties of wood and other materials, is fascinating to practically all children even when there exists a strong liking for books. Their natural creative instinct, the delight of seeing and owning the results of their labor, and enjoyment of occupations that permit free movement instead of exacting the quietness so irksome and unwholesome for them—all are utilized by the wise instructor for certain educational purposes. Manual dexterity is as great an advantage to professional men, with its accompanying mental qualities, as is book learning to the so-called "industrial classes." Such manual training will promote home thriftiness and decencies, both within and without the house, where the ability to drive a nail and take a stitch; and the mental executive bias thus nourished in education—instead of neglected—counts for much in making homes. Such training, combined with regular school work, recognized in the schools on an equality with the latter, must encourage the hand skill—our times are suffering the lack of—thus lessening the overcrowded ranks of inefficient teachers, clerks, etc., eventually giving us a higher grade of material achievement, a more comfortable living. Of prime importance is the consideration that there must result a higher class of citizen because of certain mental and moral qualities that manual work cultivates in children. They can only be enumerated here. They are intelligent observers, have practical judgment, executive ability and habit, accuracy, perseverance, and the ambition to produce honest and creditable results. We must recognize the great social need of such qualities as these, conspicuously in the poorer homes and by "wage earners."

To city children nature study is partial compensation for the great misfortune that their childhood cannot be passed in the freedom, beauty, and wholesome simplicity of country living. As the Summer season dictates, this is the chief feature of vacation schools. Indoors flowers and other phenomena of the vegetable kingdom are studied from samples in the children's hands; aquaria, window boxes, pet animals, and museum specimens encourage habits of interested observation and powers of description. A school garden out of doors gives the child supreme joy of troweling, planting, watering and watching development under his own fostering care. The visiting insects and other animal life, weeds, varying conditions of soil and temperature, under educated oversight, teach him the interdependence and harmony of natural laws. This is knowledge

at first hand, the most lasting kind. Acquaintance with vines, shrubs, and flowering plants for making home attractive, encourages them to develop the possibilities of their own backyards and little corners of earth. School gardens in Germany, Russia, France, and Switzerland are numerous, and they are increasing in America. Educators begin to recognize not only the immediate value of this garden work for both bodies and minds, but the political and social expediency of early interesting boys and girls in productive occupation. In countries where agriculture is the basis of much of their prosperity, free schools properly should cultivate intelligent interest in this direction, even in the cases of young children, with primary scientific instruction in more advanced grades, that our public schools may recruit the farm as well as office and shop, and that the people may have at least the rudiments of a culture that nature evidently intended, but of which accidents of a shortsighted civilization threaten to deprive in them.

Excursions take place every week—a very efficient drawing card utilized to its fullest pedagogic possibilities. These peripatetic schools or classes, with special instructors, visit city of local historic or scientific interest. The excursions most largely arranged for are into the country for nature study and sketching first, closing the event after lunch with free play and enjoyment. Although tens of thousands of children have been transported by boats and electric or steam cars, no accident to life or health has occurred. The numerous little groups into which the school is divided, each with a teacher, go to their several study grounds previously assigned, it may be a river path, woodland, a field hedge or hillside, for their class work. "Bird day" is prepared for during the preceding week by handling and studying mounted specimens of birds native to that locality, learning their song and habits, and why this excursion must be in late afternoon hours and to a place of running water, trees and underbrush. They taste the hunter's intensity of enjoyment in the stealthy approach and quiet waiting, and the child's irrepressible delight when the game is found. Sympathetic acquaintance with habits and beauties of living creatures, we trust, may eventually supplant the primitive slaying instinct of the race. In corresponding fashion they have "insect," "rock," "beach," and "flower" days, when the objects studied in the classroom are greeted in their habits with the delight of welcoming friends; or it may be a day to a well equipped model form.

To learn facts is not the only, nor perhaps the chief object of all this nature work. The child is inevitably forming tastes that will guide him in choice of recreations and occupations (at least in his leisure time). That successful eight-hour day agitation be a benefit, it concerns us all to encourage those extra free hours being given to objects not less wholesome than the former labor. Interest in country phenomena, love of its sounds and sights, simple ability to make a yard and house attractive, cultivated in the childish brain, must often influence home makers to choose suburban living in these days of cheap rapid transit and high city rent for cramped quarters. This movement more fully developed in schools, it is reasonable to believe, will materially help solve the tenement house problem for many thousands and encourage the tide of population to ebb countrywards.

Art and nature study are correlated in these Summer programs. Accuracy of observation is increased by a water-color sketch. Foliage and fruit, mounted birds and butterflies, human models, and finally landscapes, are given them to reproduce in colors. Without seeing it one can hardly believe how much a skillful teacher can accomplish with children from eight to fifteen years of age in brush, outline and composition work and design, training to see appreciatively. To cultivate memory, or imagination, and to strengthen their understanding of language, a word picture may be read them for reproduction, of perhaps a moonrise on the ocean or of a harvest field; or a story is given them to illustrate. Decoration is introduced to them by applying their flower sketches to designs for book covers, wall-papers, etc., or geometric figures may be used, with the final object of forming tastes. On excursions it means more than the present event to call attention to ripples, cloud shadows and varied craft upon the water, the outlines against the horizon, views on roadways and pictures made by groupings of trees and rocks, sunset glow and noonday haze. To many children these are the only opportunities of their lives to pass a country day in the companionship of an educated, refined and sympathetic friend. The novelty of the impressions renders them most vivid and lasting. We can only mention the fact that music also is utilized for its esthetic influences.

The advantages of outdoor gymnasias do not need demonstration to this audience. Imagine a widespread American elm, with leafy shadows, flitting over groups of children from hot city streets, who under the guidance of an

expert are keenly delighting in their achievements on bars, ladders and swings. This I saw in one of the very few schoolyards where the city fathers have preserved a beautiful tree. About the gymnastic games following the apparatus work I would say a word. It is almost appalling to think that the last stronghold of children—their play—is being invaded and utilized for pedagogic purposes. The truth is that play and playgrounds are being municipalized out of the world. With no opportunity but ill-smelling streets and prison yards, with policemen and ordinances coercing active play into chiefly dodging out of sight, and into even criminal mischief, from the repressed play hunger of growing boys and girls, it has come to pass that city children are forgetting how to play and losing the vigor of body and character given by play. The recognition of this is behind the playground movement and must not be forgotten as school boards take up vacation work. We believe thoughtful citizens should be jealous for preserving genuine play in vacation schools.

Gymnastic games, devised for play, for exercise, for mind, and for character, have been adapted to the city conditions of small space and large numbers. Briefly characterized they are competitive, to arouse interest and enjoyment; the competition is between groups, to encourage the spirit of co-operation as well; they require physical and mental force and are simple to execute. If too elaborate they will not be popular. The stimulation of laughter and fun, the muscular and circulatory invigoration accompanying these active outdoor games, the onlooker must contrast with a schoolroom gymnastic ten (or fewer) minutes, in narrow aisles and heavy atmosphere, with formal movements. There can be no doubting which furnishes the physical and mental refreshing—the ideal of school recesses and calisthenics. The same appropriation expended for game specialists, instead of gymnastics, would accomplish very much more for children *under the limitations of time and surroundings at present necessary in public schools*; besides furnishing children with plays to be used elsewhere, and fully as important, assisting character-building. Under wise control these games encourage regard for fair play and justice, powers of leadership and initiative, ideas of co-operation to win and of friendly competition, intensity of effort, agility of mind as well as of body, resourcefulness, generosity and courtesy.

Earnest students of the times have awakened to the question: How does free public education train for self-government? Its solution

was first undertaken in certain higher (private) institutions, Amherst College among the leaders, by establishing a student governing body. This, like college gymnastic years ago, was soon recognized as beginning too late to secure the best results. Primary and grammar grades are social and moral as well as intellectual seed times. In them the child, *fitting for membership in a self governing community, is trained to obey an autocrat*. The development of reasoning powers upon questions of personal and particularly of social conduct is wholly neglected. Yet in school government, under judicious supervision, is the great opportunity of school systems to cultivate those ethical forces by which the career of individuals and the success of present civilization must be ultimately determined. A few lower-grade and vacation schools are experimenting to harmonize conditions of school life with democratic government—decided upon the forefathers—and the results are encouraging. Children, proud of the responsibility of making and administering their own laws, responsive to the influences both of public opinion (in their classes) and from the principal's office, are growing into an understanding of and loyalty to social order, are developing powers of discrimination as to motives and persons, are acquiring an inclination towards upholding community interests—all of which, starting in a play experiment, cannot fail to influence for the better the mature man and woman. They are practising in a form of obedience higher than that developed by personal authority, cultivating the only spirit of obedience that should guide self-respecting members of a democracy—voluntary obedience to the right whether called for through the agency of relationship, of government, or of events.

This is *motif* and methods in the vacation movement, to care for less favored children during the Summer months, to help fill gaps in their training, and to connect certain broken currents between school and citizenship. Good teachers are needed manifestly, to hold voluntary attendance, to give the special instruction indicated, and to conduct such experimenting efficiently. Here is where I bespeak the influence of members of the medical profession. Forming, as such may, a wise standard, use influence, as citizens and government officials, towards encouraging and requiring school committee-men to develop that standard, at least until the day when school affairs, as well municipal, shall be no longer entrusted to politicians, but to men whose business is educa-

tion and administration, and whose position depends on capacity as in any other business.

The great problem is the selection and preparation of superintendents and teachers. Political policy has been to pay the lowest salaries to teachers of the younger grades—with the results anticipated. Unanimous experience declares that educational experts are needed in vacation schools, and that they are worth the money they cost. They need head teachers, skilled in the art of instruction in their special subjects, and in sympathy with the more scientific truths of psychology and child-study formulating by eminent students. They need superintendents of integrity and executive ability, awake to the better possibilities of education through their acquaintance with physiologic psychology and altruistic sociology.

127 Angell Street.

THE LATE DRS. L. A. SAYRE AND HUNTER MCGUIRE.

A Tribute to Their Memory.

By A. M. PHELPS, M. D., New York, N. Y.

At the close of the nineteenth century, there passed away two of the greatest, best known, and most eminent surgeons of the new world. I allude to Dr. Lewis A. Sayre, of New York, and Dr. Hunter McGuire, of Richmond, Va.

It is among the most pleasant recollections of my life that I had the opportunity to know both intimately, and more particularly Dr. Sayre, in whose service I spent a great deal of time some twenty years ago.

The lot of these men was cast in entirely different spheres, and under very different circumstances. Dr. Sayre, beyond any question of a doubt, was and will be considered the great father of orthopædic surgery to the western world. He gave more to practical and scientific facts to the medical profession in connection with orthopædic surgery, and more particularly in regard to joint disease, than any other man who ever lived.

Hunter McGuire, the great surgeon of the South, made his reputation under entirely other circumstances. His was made on the field of battle, following the army of Stonewall Jackson as its chief medical and surgical adviser, and on account of the great and original work which he did under those horribly trying circumstances that wrung the hearts both of

the North and of the South, he made himself eminent in the profession, and his name is dear to every Northern heart.

And strange though it may seem, Sayre in the North and McGuire in the South, both united to opposing factions during a time when no man knew the destiny of this world's last hope, the son of McGuire—now a distinguished professor in a Southern medical school—became a patient of Sayre for disease of the spine. And one of the first efforts of Sayre for the relief of this heretofore almost incurable disease, was made in his behalf. I allude to the application of a plaster-of-paris corset, in Pott's disease of the spine.

This naturally tied the two men together with a bond that is nearer and dearer than money or patriotism. My relations with these two men dates from this first scientific work. McGuire was a lovely man, he was kind, he was true, he was generous, impulsive, aggressive. He founded the University College of Medicine in Richmond in spite of opposition. He made a name in the profession which will live through all time. I know of no man to whom greater tribute of respect should be paid than Hunter McGuire. Our own beloved John Wyeth, of this city, will pardon me when I give to McGuire the first position among the surgeon chiefs of the Southern war. Were McGuire alive, he would place upon Wyeth's brow the crown of laurels. But we of the North who could know but little of the horrors of those few years of fratricidal war can hardly judge.

Sayre in 1839 almost lost his place in Bellevue and the City College, because he had advocated and performed the only rational treatment of abscesses of joints. And when he opened his first joint, Wood and others—his colleagues—criticised the work with no mild degree of severity. The cases of hip joint disease that lay for years and years in the different hospitals of New York, and particularly in Bellevue, were placed upon a splint which he devised, and were taken into the open air.

This, together with his invention of the plaster-of-paris corset, I consider one of the greatest innovations in surgery, and for these two inventions alone, if for no other, I think the profession should accept Sayre as the father of orthopædic surgery in America, and one of the greatest benefactors of his race.

The royal honors which were conferred upon him by Norway, by Spain, by other countries, and the honorary degrees awarded to him by the various scientific bodies of Europe and this country, are only fitting tokens of the apprecia-

tion of the profession for the work of a great man. His work has been the incentive for many men, it has relieved the sufferings of hundreds of thousands of children, it has been my mecca for thirty years, and I can only say that this world has produced but very few men the equal of Sayre and McGuire.

THE PHYSICIANS' HOME--WHY NEEDED AND WHY WORTHY.

The All-Absorbing Medical Thought of the Twentieth Century.

A Brief Synopsis of the Whole Matter.

By JNO. S. HARRIS, M. D., Minor Hill, Tenn.

In July issue of the *Virginia Medical Semi-Monthly* will be found my article on the subject of a physician's home or sanitarium, to be owned, operated, and controlled by the medical profession. In review, we desire to state for the benefit of those who failed to read the paper that the proposition was this: Raise by subscription enough money to erect a nice American Sanitarium or Physicians' Home, situate it at a point most suitable to meet the demands of such an institution, place it in charge of competent medical men—men of national reputation—and make the home self-sustaining by receiving patients other than members of the profession, or any member of their families, at regular sanitarium rates—any stockholder or any member of his family to be received free.

Since writing this article, I have received a number of replies, and the opinion generally expressed is to erect this home in the name of the medical fraternity, set it apart for treatment and as a home for the medical profession only, and not receive patients otherwise, as this would conflict with other regular entral institutions, which would be a menace to its cause. This, in my judgment, is much the better plan, for two reasons. First, the home would then be sole pride of every physician in the United States, separate from any other similar institution. Second, it would devote its whole time to the wants of the medical profession.

Now, as to the fund and how raised. This home fund is to be raised by subscription. In the United States there are, according to *Polk's Medical Directory*, 117,523 physicians. Say one-eighth of this number give five dollars each, this will make a sum equivalent to \$73,450, which will insure success; then run the insti-

tution by taxation, which tax or fee could not possibly exceed one dollar from each stockholder annually—perhaps not more than fifty cents. It has been suggested that at the erection of this home a life certificate be issued to each stockholder, giving him, or any member of his family, the rights and privileges of the institution free for life.

Now, to repeat the general consensus of opinion expressed to me by those interested, have the home for the medical profession only; run it by taxation; receive a stockholder or any member of his family free for treatment, time not limited. As a home for the infirm, poor worn-out doctors, their widows and orphans, upon satisfactory proof of their having faithfully served their profession, and that in the last, in this hour of immediate want, they are unable to serve their profession longer or support their families, money and health gone, they are to be received into this institution free, provided they are worthy, whether stockholders or not. This is a very commendable feature and will directly or indirectly strike every true physician in the United States. Of course, the restrictions should be such as not to allow any physician to enter as a home unless from actual need.

Now, what other similar matter or enterprise could come before the American medical fraternity of more magnitude, of more worth, honor and credit than this? The Vanderbilts have given large sums to public institutions that their names may live forever. With this thought in view, could we not as a unit make our names perpetual?

But one says, "There is no need of such an institution; that if a man practices his profession, he can make his support even unto the end." Is it true of every one, and does the average M. D. make more money than the laity for whom he works? The answer is in the negative. Then why do we have the Widows' and Orphans' Home, the school for the deaf and dumb, the Masonic Home, the State asylums, and why does the government offer one hundred thousand dollars for the erection of an asylum? Could not all these subjects be supported by their own labor? The logic holds true relative to physicians who are extremely poor business men. To enforce this idea more clearly, suppose a worthy doctor spends his profession (his effects) as he goes, and in the declining years of his life he mortgages his home for means to subsist on. He has a wife who has extremely poor health and one child, a daughter, the same. He passes away, leaving his poor wife and daughter in

extreme delicate health. At his death, the home sells. Shortly after sale of home, the wife succumbs. Now, what is to become of the daughter? This is a practical, common-sense idea of what the Physicians' Home is intended for.

Agitation fills the world. Some are agitated over Bryan and McKinley issues; some over the Philippines, the Transvaal, the Chinese questions, and some even agitated over the late peroration on Asiatic pills; but none could be more worthy than the agitation of this Physicians' Home, the noblest enterprise of mediæval times.

I would like for every physician who reads this article to write me his views on the subject, to assist me in the organization of this fund. It is no work of mine solely; every physician should co-operate, and let's get this fund raised. As to location, this is very important, and I have decided in my next communication to name a committee, composed of five competent medical men of different sections of the country, to select the point, name the State in which this home is to be situated.

OBSERVATIONS RESPECTING MALIGNANT DISEASE OF THE PELVIC ORGANS.*

By AUGUSTUS P. CLARKE, A. M., M. D., Cambridge, Mass.

Cancer may have its starting point in a lacrated cervix uteri. Its seat of development is usually in the epithelium. Its occurrence not infrequently takes place after the patient has become a multipara, and before she has become of advanced age. The exposure of the mucous membrane to continued or repeated irritation hastens its onset.

Cancer of the uterine corpus has had its origin from endometritis and from its allied conditions; the disease may be induced or intensified by inflammation of the utricular glands of the uterus and by the effects of external pressure. A sarcomatous condition may result from the same cause. Cancer of the broad ligament, as also that of the ureter, has been observed as the result of extension from the uterine cervix. The meatus urinarius has been noticed as an original seat of cancer. In such cases vesical and urethral disturbances have been known to antedate the appearance of the malignant change.

* Original Abstract of a paper read before the American Association of Obstetricians and Gynecologists, at its Thirteenth annual meeting, held at Louisville, Ky., September 18-20, 1900.

Cancer of the ovary or of other portions of the adnexa may occur as secondary to a primary point of invasion. The route of transmission is usually along the course of neighboring lymphatics or along the epithelial cells of the ducts of such open channels of communication. The fact that cancer cells may so readily invade the epithelium of newly formed growths containing endothelium shows the importance of taking measures for their early removal before degenerative changes have extensively occurred. The morbid development undoubtedly arises at times by abnormal proliferation of the epithelium from its basic point of origin to the deeper structures within. The majority of cases of cancer occurring in the bladder is secondary to involvement of the cervical portion of the uterus.

The cases which call for special consideration are those of the villous type. Curettement and the employment of the galvano-cautery afford the best means of relief. In those cases of rectal cancer in which the sphincter ani is not invaded excision of a portion of the rectum and the removal of the coccyx and the lower section of the sacrum can sometimes be advantageously had recourse to. The use of the Murphy intestinal button in such cases will be of service. The only effectual radical method of treatment worthy of that name is by excision. Partial removal of the uterus for its extensive invasion by malignant disease will not suffice. The fact that uterine or pelvic fibroids and fibromyomata may take on malignant transformation is coming more and more to be recognized. The necessity of keeping a close watch for changes that may be assumed becomes therefore obvious. Both the round and the spindle-shaped celled sarcomata may originate in benign fibroids. Total excision of such neoplasms in their earliest stages, when possible, will afford the most satisfactory result.

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THE DIAGNOSIS OF ECTOPIC PREGNANCY BEFORE RUPTURE, BASED ON ELEVEN CASES.*

By J. F. BALDWIN, A. M., M. D., Columbus, Ohio.

Surgeon to Grant Hospital; Fellow of the American Association of Obstetricians and Gynecologists, etc.

"No authentic description exists of an unruptured tube-pregnancy." (Lawson Tait, *Dis-cases of Women*, 1889, p. 461.)

"I defy anybody to have diagnosed such a case beforehand, for the woman had not even missed a period." (*Ibid*, p. 453.)

Our real working knowledge of the extra-uterine pregnancy dates back only about 25 years. Previous to that time deaths were reported from so-called accidental hemorrhage into the peritoneum, and also deaths from intra-peritoneal and extra-peritoneal hematocoele. Many cases had been reported of fetuses found in the abdominal cavity, and of lithopedions found many years after the pregnancy from which they dated their origin, but it was not until 25 years ago that from a careful study of these cases, and as the outgrowth of these late diagnoses, data were arrived at from which we derived accurate knowledge of the pathology of ectopic gestation.

While a few years ago the rank and file of the profession could not but regard as extraordinary the diagnostic acumen of the men who could make the diagnosis of tubal pregnancy on the occurrence of rupture, at the present time, with the increase of literature on this subject and our better knowledge of its symptomatology, intelligent physicians everywhere uniformly expect to make a correct diagnosis on such occurrence. The sharp, colicky pains, the syncope and the collapse, at once attract attention and point almost unerringly to the diagnosis. But a diagnosis deferred until rupture has occurred, necessarily results, in a large proportion of cases, in being but the mere preliminary to a fatal termination. The patient may be far removed from surgical assistance and death may occur long before such assistance can be obtained.

With our present knowledge on this subject I believe it is now possible, in a fairly large proportion of cases, to make a diagnosis of tubal pregnancy before the occurrence of rupture. This statement I know is in direct contradiction to statements made by Mr. Lawson Tait in his published writings of 1888 and '89; but the profession at large knows much more

of ectopic pregnancy now than it did ten years ago, when Mr. Tait reported that he had seen but one case of ectopic pregnancy before the period of rupture and in that did not make the diagnosis at the time of the examination, but found the ruptured cyst there days later at the operation, which had been made imperative on account of the supervention of alarming symptoms.

It is true that in many cases of tubal pregnancy no symptoms occur which lead the woman to suspect that anything is wrong, least of all to consult a physician, until the occurrence of alarming symptoms due to rupture and the resulting hemorrhage. Nevertheless, there are unquestionably very many cases in which symptoms do arise, and in which a physician is consulted and in which a presumptive working diagnosis is clearly possible.

There are no pathognomonic symptoms of tubal pregnancy, or any other form of ectopic pregnancy. Usually, however, we find the following points: The patient gives a history of several years of sterility (many exceptions); she has missed a menstrual period, perhaps two of them (numerous exceptions); she has noticed some unusual pains in the pelvis, which she will probably describe as boring, griping or colicky in character, these pains being situated usually in the region of an ovary; she has perhaps within a few days of the time of consulting her physician had a more or less irregular hemorrhage; perhaps has discharged pieces of membrane which she supposed indicated an abortion, and consults her physician with the idea that such is the case, owing to the hemorrhage and the pain and the suspicion of an existing pregnancy. Possibly, however, there has been no suspicion of a pregnancy, as the woman has accepted her sterility as incurable and has dismissed from her mind such a possibility.

On making an examination, if the conditions are at all favorable, the examiner will find upon one side or the other of the uterus or back of it, a fusiform, quite well-defined cystic tumor, of about the size of a pullet's egg or a little larger. This tumor will probably be quite tender on pressure, will be quite symmetrical in outline, and will usually be distinctly pulsating. When such a tumor is found in a woman in whom we have reasonable grounds to suspect a pregnancy; when the uterus at the same time is found somewhat enlarged and having the feel of pregnancy; but not enlarged as much as we would expect in a pregnancy of so long continuance as the history indicates, a presumptive diagnosis of tubal

*Read before the American Association of Obstetricians and Gynecologists, at Louisville, Ky., Sept. 19, 1900.

pregnancy is warranted, and the matter of an operation should be carefully and without delay considered.

There are a few conditions which give us the same kind of tumor as is found in these cases. The conditions, however, are seldom accompanied by the other symptoms which have been enumerated, and are in themselves such as to warrant if not demand operative intervention. An enlarged and adherent ovary in Douglas' cul-de-sac cannot, perhaps, be differentiated from a tubal pregnancy in the same location. An old pyosalpinx, a hydrosalpinx, a small cyst of the broad ligament, or an enlarged ovary in its normal location, might be mistaken for an unruptured tubal pregnancy. It is not likely, however, that any of these conditions would be accompanied by symptoms pointing to an ectopic pregnancy, and yet they may; but all these conditions are such as to justify operative interference. If the operator, suspecting a tubal pregnancy, finds a pus tube, as I have twice done, or a cystic ovary, he has certainly benefited his patient by their removal; while if he finds an unruptured tubal pregnancy he has, by a very safe operation, saved his patient from the gravest of dangers. In other words, he has performed an operation the mortality of which in experienced hands is almost *nil*; while the mortality of ruptured tubal pregnancy, while necessarily unknown, is certainly frightful.

In order to render the early diagnosis of ectopic pregnancy possible it is necessary for physicians to learn to suspect it and to examine with that suspicion in mind. The physician who, without making any examination, tells all middle aged women who come to him complaining of irregular hemorrhages that they are merely having the change of life, will not likely make an early diagnosis of cancer of the uterus, and he will probably tell patients who come to him with symptoms of ectopic pregnancy that they are merely threatened with a miscarriage. He will make no further investigation and will hence uniformly fail to make a diagnosis. The physician, however, who, having in mind the possibility of an ectopic pregnancy, thoroughly examines all patients whose history and symptoms point to this condition, will in a large proportion of cases make a correct diagnosis, and by prompt intervention will achieve a signal triumph for himself and his profession.

Menstruation—One menstrual period, perhaps two, has ordinarily but *not always* been missed, or the last menstruation was in some particular irregular. There has occurred, per-

haps, a dribbling of blood but not a normal flow. There may have been a discharge of clots or possibly a decidua membrane resembling the membrane passed in an early miscarriage. If such membrane can be obtained, microscopic examination showing the absence of chorionic villi would render a diagnosis positive; but these membranes have usually been destroyed.

Sterility.—Not too much stress should be placed upon the previous sterility of the patient. This should be taken into account in a summary of the symptoms, but it is not of much moment since in many cases there has been no such previous history.

Pain.—The pain of a tubal pregnancy is usually sharp and colicky in character and quite distinctly localized on one side, or it is of a dull boring, constant character; a steady severe ache. The pain in the one case is due to the internal stretching with slight giving way of the peritoneal investment of the tumor. In the other the pain is due to the constant tension of the tumor walls but without as yet any local yielding. The sharp, colicky pain is therefore very apt to succeed the other in point of time. The pain may be very severe, so severe as to result in some acceleration of the pulse during its continuance, but there is no elevation of temperature. Possibly the pain may be so severe as to result in fainting, but faintness is rather a symptom of at least partial rupture, with some hemorrhage.

A woman who consults her physician presenting these symptoms, or several of them, should be at once carefully examined with the idea in mind of a possible tubal pregnancy. If that examination reveals a tumor such as has been previously described, the presumptive diagnosis of tubal pregnancy should be made and an operation unhesitatingly advised. The remote possibility of a mistake in diagnosis should be explained to the patient or her friends, but there should be no hesitation in urging an immediate operation. A misstep, any sudden alarm even, may in a moment precipitate rupture, with all its unfortunate consequences.

At the Atlanta meeting of the American Medical Association (1896), in a discussion on this subject in the section of Diseases of Women, I reported five cases in which I had made the diagnosis and had operated on tubal pregnancy before rupture (Two of these cases occurred in the same patient at an interval of three months.) I believe I was the only one present who had ever made such diagnosis and had so operated. Since that time, however, a

number of such operations have been made, and I think there can be no doubt that the time has come when such cases will be reported with increasing frequency until the diagnosis in suitable cases becomes recognized as an essential duty of the well qualified practitioner.

The preliminary presumptive diagnosis must be made by the family physician. It will later be verified by the surgeon, but the early diagnosis of ectopic pregnancy, like the early diagnosis of cancer and appendicitis, must depend upon the education of the family physician.

The following six cases have occurred since the five which I reported in 1896:

CASE VI.—April 24th, 1898. Mrs. S., age 22; married 2 years; never pregnant; menstruation came on at the usual time merely as a dripping of blood. Has always enjoyed excellent health. Knows of no reason for not being pregnant. Has been having a feeling of weight and bearing down in the pelvis, with a constant aching sensation which she locates in the womb. Vaginal examination shows the uterus somewhat enlarged and pushed forward toward the pubes by a mass in Douglas' cul-de-sac. This is elastic, smooth in outline, somewhat tender, but without general pulsation. As there has been no history of any trouble prior to the last menstrual epoch, the probability of a tubal pregnancy seemed great, and an exploration through Douglas' cul-de-sac was advised. This was made two days later, and revealed a greatly distended tube without rupture, but with some free blood in the cul-de-sac, the hemorrhage having come from the open end of the tube. The specimen removed revealed a pregnancy estimated at about six weeks duration.

CASE VII.—December 3d, 1898. Miss McD., age 24; servant. Had one miscarriage at three months, two years ago. No other pregnancies. Has not been entirely well since the miscarriage. Denies having had any pelvic disease. No dyspareuna. Was unwell regularly and normally two and one half weeks ago. Complains of pain and bearing down in the pelvis and back. Pains, somewhat like labor-pains, came on just before the last menstruation and have continued every since. Has had no nausea. Has had no intercourse since menstruation. Vaginal examination shows a very tender mass back of the uterus, the size of pullet's egg. This mass is excessively tender. She is positive that this tenderness has existed but for a short time. Pulsation is distinct. The right ovary can be outlined; the left also but very indistinctly. The diagnosis seems to lie between a pus tube,

which her history negatives, and a tubal pregnancy. Operation through the vagina December 10th. The right tube was found in Douglas' cul-de-sac, being held there by light adhesions. It was removed without difficulty, and the entire specimen turned over to a pathologist for examination. He reported later that the specimen was that of a very early tubal pregnancy. Impregnation in this case probably took place just before her last menstruation. (Saw a moribund case, some years ago, in which fatal rupture of a tubal pregnancy had occurred in a prolific multipara three weeks after the cessation of a perfectly normal and regular menstruation, and without the slightest suspicion of a possible pregnancy in the mind of the patient.)

CASE VIII.—May 5th, 1899. Mrs. K., age 24; married 4 years; had a miscarriage during the first year of married life; no pregnancies since. Menstruated naturally, commencing on the 20th of March. Had always been very regular and expected to menstruate April 18th. The flow did not come on, however, until the 26th, continued about five days, then stopped one day, then recommenced, and has continued as a mere show up to the present time. During this time she has had more or less pain in the right side of the pelvis. This pain was described as "cramping" in character. Has never had the slightest irregularity in menstruation before. Examination shows the uterus retroverted and adherent. Back of it, and low down, is tender, cystic mass, the size of a small hen's egg. This is adherent. She is sure that this tenderness could not have been there but a very short time. Diagnosis of a tubal pregnancy was made, and an operation advised and made the next day, per vaginam. The tube above the sack was ligated with cat-gut and the sack easily removed. Examination of the specimen verified the diagnosis.

CASE IX.—August 22nd, 1899. Mrs. S., age 37; mother of five children, the youngest three years of age. Was unwell last from the 20th to the 25th of June. Has had no show since. Several times in the last few weeks has experienced cramping sensations in the abdomen, more marked on the left side. Four days ago was taken with severe pain in the lower abdomen and sent for Dr. Mayhugh, her physician. He found a tender mass on the left of the uterus, the exact character of which he did not understand but which led him to suspect ectopic pregnancy. Pain still continues, but is less severe. On examination I found a well defined mass to the left of the uterus, the uterus itself pushed over to the right. Could

not detect pulsation. From the character of the mass and the history, concur in the previous diagnosis of ectopic pregnancy, and advise immediate operation, which was made the next day. On opening the vault of the vagina, found some blood which had extruded from the open end of the Fallopian tube. The tube itself was distended to the point of bursting by the embryonic mass. In drawing the tube down into the vagina, to affect its removal, it was torn off near the horn of the uterus. The hemorrhage following the tearing was not very great, but it seemed best to secure its effectual control by opening the abdomen. This was done, and the operation completed without any difficulty. Examination of the tumor revealed placental tissue and a very minute embryo. (This patient became pregnant normally in October, and was safely delivered at full term.)

CASE X.—March 27th, 1900. Mrs. S., age 30; mother of four children, youngest two years of age. No miscarriages. No history of any pelvic disease. Should have menstruated ten days ago, but had merely a show at that time. It came on freely, however, a week later, and there is still some dribbling. No clots. Commenced having pain in pelvis a week ago, but had severe pain in the right side of the pelvis and epigastrium two weeks ago. Still has pain in the right side. This spot is "sore." Has never had any such disturbance as this before. On examination, find a tender, pulsating mass just back of the uterus, and to the right, continuous with the uterus; is very tender; pulsates indistinctly; about the size of a hen's egg. Diagnosis of tubal pregnancy seemed plain. Operation, made the next day, showed an ectopic pregnancy in the right tube, which was in Douglas' cul-de-sac and adherent. While breaking up the adhesions the sack ruptured and the embryo was lost in the moderate hemorrhage which followed. Microscopic examination confirmed the diagnosis.

CASE XI.—May 19th, 1900. Mrs. W., age 26; mother of one child, age three years. No miscarriages. Patient has always menstruated regularly and normally, the last time being March 1st. Some time after this menstruation she commenced having pains in the pelvis, especially on the right side. These have persisted until the present time, but have been much worse of late. She consulted her family physician, Dr. Dixon, some two weeks ago, and he at once suspected the possibility of an ectopic pregnancy. She declined an operation and passed from observation. Yesterday and last night she suffered with intense pain, and he was again called. On examination he found

a condition of affairs confirmatory of his previous suspicions. Her pulse is good, but she complains of feeling short of breath and of pains resembling those of angina pectoris. Patient is quite fleshy with thick abdominal walls, nevertheless an indistinct mass can be made out on the womb. This is quite tender, but without any distinct pulsation. There was no tenderness in this region previous to this sickness. Advise that patient be prepared for an operation, anesthetic be given, and if examination confirm the suspicion of ectopic pregnancy, an immediate operation be made. The patient was at once carried to the hospital and this procedure carried out. The examination under the anesthetic abundantly confirmed the previous suspicion. As the mass was higher up than usual in the pelvis, the operation was made by the supra-pubic route. Some blood had escaped from the fimbriated extremity of the tube, but the tube itself had not yet ruptured. Examination of the specimen verified the correctness of the diagnosis.

Correspondence.

Medical Meetings in Paris—13th International Medical Congress—Common Ignorance of America, except of New York—Grand Royal Banquet—14th International Medical Congress in London 1904—Language Then to be Decided—Clinics at Section Meeting—Private Tutors—Government Control of Hospitals, and Pay of Doctors—No Charlatany Allowed in Germany—Profession in Favor of Government in Germany—The Bill Passed—Virginia Legislature—Medical Colleges at Berlin—Orthmann's Clinic—Chloroform, etc—Removal of Cancer of the Vulva and Vagina—Cost of Polyclinic in Berlin—No American Need for Philippine Islands or Extension.

BERLIN, GERMANY, Sept., 1900.

Editor Virginia Medical Semi-Monthly.—If memory serves me correctly I promised you a short letter from this city, and as I have a few moments at my disposal, will proceed to give you a brief synopsis of my travels and experience from a medical standpoint.

I wrote you from Paris last month, giving a brief account of the proceedings of the two great Medical Congresses that I had the honor

of attending as delegate. The *Congress on Professional Medicines* adjourned on the 28th of July. The *Thirteenth International Medical Congress* adjourned on the 9th of August. I would simply add to my previous letter in reference to the proceedings of the Thirteenth International Congress, that the meeting was a success in every particular. The attendance was by far the largest in the history of the Congress. It was estimated that fully twelve thousand physicians were registered as members and delegates. I tried repeatedly to get a correct list of the members but failed. The various sections were well attended, and the papers and discussions were of the highest order. The United States was well represented, ranking fourth in number of attendance, which I think is worthy of special mention, considering the great distance traveled in order to attend. We had some good representatives at meeting, such as Keene, Phelps, McBerry, LaPlace, and a number of other lesser lights. New York, Chicago, Philadelphia, and Baltimore were well represented, and a large number of smaller cities had worthy representatives there. I was informed that our recently elected President of the American Medical Association, Dr. Chas. A. L. Reed, of Cincinnati, was at the meeting but I did not see him. I regretted very much that the Southern States had so few representatives at the meeting.

It seems that people of this country have the idea drilled into their minds that New York is the *Grand Capital* of America. The first question asked you by a Frenchman or German, after finding that you are an American, is, "Are you from New York?" When I would reply that I was a Virginian, they would immediately ask whether Virginia is near New York, and when I would tell them that New York was not near Virginia, and that Virginia was the Mother of all the other states, and the grandest state in the Union, they would look astonished, but afraid to dispute it. It always delights me to be able to say something that will cause a Frenchman or Dutchman to "*shrug his shoulders*." This is their mode of expressing their embarrassment.

On the last day of Congress the President of France tendered us a *grand royal banquet* at the *Palace de Royal*. This was a very "tony" affair, but for real solid enjoyment it was not comparable to the one I attended at Jefferson Hotel, given by the Medical Profession of Richmond to the Medical Society of Virginia. It was estimated that fully eleven thousand doctors attended this Royal banquet. President and Madame Emily Loubert were quite

cordial and happy in their efforts to entertain the world's national representatives of medicine. Turtle soup, frog legs, snails, and champagne were served in great style and abundance.

The next meeting (fourteenth) of the International Medical Congress will be held in the city of London, five years hence. This meeting in London will be far more interesting to Americans than the recent meeting in Paris, as the English language will be the adopted language for the proceedings and discussion of papers.

By the way, this fourteenth meeting in London, will be the proper time and occasion for all the American members to be on hand to work and vote for the adoption of the English language as the universal language for all the future meetings. The French are quite anxious to have theirs adopted as the universal language.

I felt much sympathy for my brother Americans who attended the discussions during the sessions of the meeting in Paris, for no doubt they, like myself, were not versed sufficiently in the French language to take in and understand all that was said and done. The English and American physicians, however, read their papers in their own language. It was quite amusing to see such men as our worthy Ex-President of the American Medical Association absent himself from the discussions on account of not being able to understand the French language. He was always on hand, however, when the bulletin board announced an American to read a paper.

We had some very fine clinics at the section meetings. Our great Dr. Phelps, of New York, performed his special operation for strangulated hernia, using his "fine wire packing" over the inguinal canal, etc., etc. Drs. LaPlace, of Philadelphia, and Frank, of Chicago, performed their special operations on the cadaver, the latter for removing the stomach in carcinoma, and the former for gun-shot wounds of the stomach or bowels, illustrating the use of his new forceps to be used instead of a Murphy button for attaching and ligating the parts. Dr. Ullman, of Vienna, also introduced his button, claiming superior merits over Murphy's. Dr. Phelps does not know a word of French, and it was quite interesting to see him in his inimitable way trying to explain his operation to those apparently dumb Frenchmen, for they knew no more English than he did French. But he succeeded in securing an interpreter, after telling his *predicament*, and then all went well.

I left Paris on the 12th of August, and after spending twelve days sightseeing in Switzerland mountains and Southern Germany, and three days on the Rhine, I landed here in the great city of Berlin. This is my third week here, and I will probably remain here for about three or six weeks longer. I succeeded in securing a fine course here on bacteriology and surgical pathology, and am putting in about seven hours close work each day. Dr. Piorowski has charge of the Bacteriological Institute here, and gives six-week courses all the year round. His laboratory is quite fine, and he is considered the best man on bacteriology and histology in Berlin. This institute was founded nine years ago, and he (Dr. P.) is the exclusive owner. He speaks the English language, also the French and other modern languages, and has the names of medical men on his register from all parts of the world. I am taking my surgical pathology course under Drs. Oestreich and Virchow, at the Pathological Institute. We have from five to ten post-mortem examinations every day, hence the opportunity for the study of gross pathology is very fine here. When I have a favorable opportunity, without conflicting with the above special courses, I attend Dr. Bergman's clinic by special courtesy card. Received an invitation by postal card this A. M. to be present tomorrow at 12 o'clock to witness a laparotomy. I find the physicians of Berlin very clever and courteous. The hospitals here are quite large and well equipped for good work. A new hospital has just been built that is said to accommodate twelve thousand patients at one time. I don't think I ever visited a city that could boast of half as many hospitals as Berlin; hence the superior advantages here for the study of advanced clinical medicine and bedside diagnosis. The city of Berlin has nearly two millions inhabitants, hence the large amount of material. Then, too, this is a great manufacturing centre, and is to all Germany what a hub is to a wagon wheel. When we consider that Germany is above the size of one of the larger States in America and yet has a population nearly as great as the United States, we can understand why Berlin, being the capital, too, is such a *wonderful city*. The German government has exclusive control of all the hospitals, and pays the attending physician's salaries in proportion to the skill and superior qualities possessed by each surgeon or medical practitioner. Then the government offers annual rewards of distinction and merit to the medical profession for the best treatise on certain subjects which acts as a great stimulant

to the profession here to keep abreast, if not *ahead*, of the times. The American physicians need just something of this kind to put them at the head of the world in their profession.

In this country a medical man has the sympathy of the courts and the aid of the government at his back, while in America—a sad calamity to our profession—it is just the reverse. Here the profession is protected, in a great measure, from charlatans and nostrums, while in *so-called*, up-to-date (?) America, *charlatanry* and *nostrums* are encouraged both by the press and the courts, and allowed *full sway* on every street corner and in every hamlet in the country. I have yet to see the first secret nostrum advertisement or a *long-haired, straight-backed*, out-and-out medical quack on the streets of Berlin. I have made some inquiry along this line, being so accustomed to seeing these hellish things in America, and I was agreeably surprised when told by one of the city officials in answer to my inquiry, that the German laws prohibited anything like a nostrum or quack advertisement in any public place, under a heavy penalty. This was indeed pleasant news to me, and I felt very much like shaking the Dutchman by the hand and inviting him to Virginia to help our solons of the Legislature frame a few good laws for the suppression of secret nostrums.

But just here permit me to relate a little instance that may interest some of our profession along the line. About two years ago I framed a little bill for the suppression of nostrums and quacks in Virginia and placed it in the hands of our worthy young Senator from Halifax county. A few weeks later the senator wrote me that he did his whole duty in trying to get this bill before the Legislature, but owing to the fact of there being a physician on the committee before whom this bill was presented he was unable to get this bill out of the hands of this "bought up" committee, and hence no action was taken. The energetic senator promised to make another effort later, but as yet, I fear, no action has been taken. Is it any wonder that our profession in certain parts of the United States remains, as it were, in the background when we have men in it that will stoop as low as did this political-nostrum quack? The great secret lies in the selection of suitable material for our medical colleges, both in the selection of suitable and well grounded men as professors and in the selection of the right kind of material for medical students. Take a young man who has been brought up in a drug store where patent medicines and other nostrums handed and vended over the public counter,

as is the case in many of the common drug stores, and send him to the medical college, and unless his professors grind into his mind, as it were, with *pestle* and *mortar* the principles of common sense and professional pride and ethics, in nine cases out of ten this class of young men turn out to be of the same type as our political quack above mentioned. It would be a fine thing if our American cities would follow the pattern of Berlin in reference to classifying drug stores. Here they are called apothecaries, and handle only medicines that are official, while another class handle the patent medicines, cologne, tooth brushes, etc., etc., but are not allowed to handle official medicines. This would elevate the profession of pharmacy in American cities, besides bring about that much desired material interest and friendliness on the part of the two professions. Well, I find that I have digressed somewhat from my subject.

It was my privilege last evening to attend a very interesting clinic at Elsasser Strasse Hospital. Dr. Orthmann performed a laparotomy operation, removing both ovaries in a lady who had been a great sufferer from cystic ovaries. Both ovaries were in a cystic condition, containing about half pint each of a very dark looking fluid. One of the cysts burst during the operation, but this did not in the east degree cause any embarrassment or confusion on the part of the operator. The contents of the abscess were quickly absorbed by sterilized gauze and the operation continued until both ovaries, including all the diseased parts, were entirely removed. No irrigation or solution of any kind were used after the operation was commenced. Sterilized gauze was the only agent used outside of the necessary instruments. The patient was thoroughly prepared, washed, scrubbed and thoroughly anesthetized before being brought into the operating room, and was picked up and carried in the arms of an assistant to the operating table. Chloroform is the anesthetic that is almost exclusively used in this hospital. But a special assistant is appointed to watch the condition of the pulse and give directions to the one entrusted with the anesthetic. Cat-gut is the main ligature used here in laparotomies, the silver wire being used only for the deep suturing. The after-dressing consisted only of iodoform carefully dusted over the incision, and sutures and a piece of sterilized gauze, followed by a broad piece of adhesive plaster that covered the entire field and dressing. Lysol and alcohol were the only solutions used in preparing the patient for

operation. I failed to ascertain the strength of the lysol solution used.

I also witnessed a fine operation by the same operator for cancer of the vulva and vagina in a lady 52 years old. The operator was very careful to remove all of the diseased or suspicious parts in the immediate neighborhood of the epithelium, but he was equally as careful not to remove the inguinal glands or clitoris, notwithstanding several small enlargements about the size of butter beans could be felt and observed in the inguinal region on the same side of the cancer. I was particularly interested along this line, as I had expressed my views before the Medical Society of Virginia in reference to removing the axillary glands in operating for cancer of the breast. I asked Dr. Orthmann after the operation was over, whether it was customary with the surgeons of Berlin to remove the adjacent glands in operating for cancer. He replied that when glands were very much swollen and showed signs of broken down glandular tissue they were removed, but when they were not swollen nor indicated any special development of the cancer, they were not treated, but let severely alone, and the axillary glands were no exception to this rule.

Before concluding this somewhat tedious and rambling communication, let me suggest to my medical friends who may be anticipating a trip to Berlin in the near future, that the cost of living and of taking a post-graduate course here is about the same as in New York.

Nearly all of the regular professors speak the English and other modern languages, but notwithstanding this fact, one can get along much better if he is able to speak a little German, more especially if he expects to do much traveling through the country. When we take into consideration the many outside advantages from a social and educational point of view, saying nothing of the pleasures that are to be derived from a sea voyage and a tour through this wonderful country, coming in contact with the different nationalities and observing their various and peculiar modes of living, etc., the extra expenditure above the mere cost of taking a post-graduate course in medicine is as good an investment as that paid for in taking a course in medicine. Then, too, a trip of this kind has the effect of expanding a man's mind and ideas, and enables him to take broader views of the realities of life. To be frank but not personal, I do not know of any class of men who could derive more real benefit from such a trip than medical men, more especially that class of our profession

who have arrived at the stage of perfection in their attainments, and can never be told anything new under the sun. No doubt but every city and county in the United States has a few Solons of this kind, and if, perchance, these lines should meet the gaze of any one of them, I hope he will pardon my suggesting to him the sentiments of Horace Greely when he said: "Travel! travel! young man; go West." I would merely suggest coming East instead of going West. When we consider the fact that the American nation is only about one hundred and twenty-five years old, while the city of Berlin itself is nearly seven hundred years old, America, as compared in age with other nations, is in her infancy and still wearing her *baby clothes*. It would be a breach of parental affection, as well as a bit of presumption, for a five-year-old lass or lad to suggest to his father or mother, uncle or aunt, how he or she should act or do certain things. This is about what young America is doing to-day, and it would be well if she could travel East occasionally and see what the Old World is doing along the various industrial lines of trade and commerce. All Germany is not as large as the State of New York, and yet she has land enough to accommodate her sixty millions of inhabitants, and to-day she is making more progress and headway in nearly all lines of business than any nation on the globe. She leads the world in sciences, and her universities stand higher and are better patronized than any in the whole world.

When we consider these facts in connection with the small amount of territory owned by the German Empire, does it not look a little silly on the part of the Government of the United States to be fighting and negotiating for more territory? that, too, away off in the Philippine Islands?

There is enough vacant land in Virginia to support one-third of the entire population of the United States. If this number of good citizens could move in Virginia it would make the old Mother State the grandest country in the world. All classes and professions would flourish just as they do in Germany to-day.

Now, Mr. Editor and patient reader, you must pardon me for consuming so much of your time, but the tale is only half told. Would like very much to give you a few sketches of my travels through that picturesque country, Switzerland, and my trip down the river Rhine, stopping off at the historical cities of Heidelberg, with her ancient old castle and modern universities; Mayence, where Gutenberg, the inventor of your print-

ing press, was born, and now sleeps near his fine monument in this ancient little city; Wurms, the ancient city made famous by the great Reformer, Martin Luther, the place where Luther proclaimed his doctrines of the Reformation to the world, and defied Charles the Fifth at the Diet held in Wurms in the year 1521. Charlemagne once resided in this ancient city, located on the left bank of the Rhine. These are but slight hints in comparison to a real visit to these wonderful places.

If I can spare the time from other pleasant duties, I may write you again from here or from London, as I shall spend some weeks in that city before sailing for America. I had hoped to get back in time to attend the next meeting of the Medical Society, but I find it impossible to do so. On my return to my new field in the magic city of Roanoke, I shall be happy to welcome at my home (No. 22 Seventh Avenue) any of my medical friends whenever they chance to be in that city.

Wishing you and your readers happiness and prosperity, I am, fraternally,

BITTLE C. KEISTER, M. D.

Analyses, Selections, etc.

Reflex Neurosis From Disturbed Pelvic Mechanism.

Byron Robinson, B. S., M. D., Chicago, Ill., publishes a profitable article on this subject in the *Western Medical Review*, September 15, 1900.

The genitals are not necessary or vital for individual existence or health. But this does not belittle the significance of potent nerve relations. The genitals of women have a pronouncedly high circulatory connection with the general system. Their lymphatics are rich and extensive, so that the blood and lymphatics readily transmit pathologic agencies to the general system, and occasionally the reverse. The genitals of women are like a central telephone station. They receive and transmit messages from and to every portion of the body, but, being so highly exposed to infection and trauma, are apt to send out more than they receive. This may be illustrated by the increase of flesh following pregnancy, the menopause, or extirpation of the genitals. The genitals influence highly the general bodily nourishment.

A concrete example may produce common grounds for argument. Take a subject accidentally injured. What follows? There is

pain, the cardiac and respiratory rhythm is disturbed, the surface capillaries become contracted, and the skin pale. The subject becomes weak, prostrated, and the kidneys secrete an excess of urates. This indicates an excess of waste in the cell activity. This example includes infection.

Now, take a woman who has pain in the pelvis, and palpable genital lesions. It is plain that she has passed through the stages of irritation, indigestion and malnutrition, and anæmia and neurosis. It might have required five years from the initial stage to the stage of neurosis. In this ill subject there is not only the pelvic pain which over-excites cell activity and waste causing prostration, but there exists also a constant potent factor of infection of a degree more or less severe. No bodily lesion is more apt to be followed by a chronically inflamed state than the genitals from the easily accessible exposed mucosa and serosa. The woman ill in the pelvis, from pelvic peritonitis, myometritis, organs permanently fixed by formed exudates or sclerosed walls, oviducts, rectum, and bladder compressed by traction or pressure, blood vessels, especially veins torn from their beds and straightened out, and nerves traumatized, will continue ill from the constant pelvic trauma and infection. If a slight temporary trauma prostrates a subject, how much more disastrously will continuous trauma and infection from the pelvis prostrate.

Disease in the genitals does not always produce proportionate influence on the nervous system. However, genital disease has a much more potent influence on the bodily welfare than a similar amount of disease elsewhere. The constant trauma from the pelvic lesions and the debilitating effect of the persistent infection are not the only factors in the continuous disease. The secretions of the tractus intestinalis are vitiated, the renal secretions become deficient, the uric acid increases in the circulation, and the whole peripheral nervous system is bathed in waste-laden blood. The vitality of the sympathetic nerves becomes lowered, the peristalsis of the tractus intestinalis is checked, constipation ensues, and nutrition becomes impaired. Constipation is followed by auto-intoxication. The visceral rhythm is disturbed, and the vicious circle begins to widen by lowering life's vitality. Pelvic diseases (the neurologists to the contrary notwithstanding) are among the most potent factors in the causation of neuroses—hysteria and neurasthenia. Reflexes from diseased genitals have set afoot mischief.

I have observed the effect of testicular castration on animals for years on a large dairy farm. The less mature in sexual development the animal is castrated the more checking is the effect on the general growth and vigor of the body, and the more does it check and diminish certain mental manifestations, as courage, activity, and boldness. The more mature the animal is in sexual development the less is the effect of castration on the nervous system and bodily power and psychic effect. It is not necessary to call attention to the vast difference between a steer of four castrated at a year old and a bull of four. So far as I have observed in many cases of ovariectomy the effect is the same as castration in animals. As a matter of fact, I know of no portion of the body, except the genitals, which, being extirpated in early life, will so effect the bodily growth, the nervous system, and the mind. Since castration affects growth, the nervous system, and the mind, manifestly it is but reasonable to suppose that the sexual organs distinctly influence the nervous system and the mind. It must be admitted that when the sexual organs cease to act (menopause), the nervous system becomes afflicted with neurosis and the mentality with psychosis.

As Huxley suggested, we may distinguish two successive changes in intellectual operations—viz., one in the physical basis of consciousness, which may be termed a neurosis, and the other in consciousness itself, which may be termed psychosis. Now, every gynecologist knows by observation that the sexual organs not only induce a neurosis, but a distinct psychosis. I have watched women with marked intellectual poise sit on a chair with the hand grasping it for dear life while flashes (heat center), flushes (circulatory center), and perspiration (sweat center), played a tense rôle. Thus was a neurosis acting through psychical basis of consciousness. In other cases one can observe nothing in the whole scene but a psychosis, a perverted mental action. In neurosis and psychosis a predisposition may exist which may be brought into active operation through the pelvic organs as an exciting cause. This is most reasonable when it is known that the genitals are the richest peripheral nerve district in the body, and the constant irritation of these organs so highly supplied with nerves will react on the large centers, begetting a neurosis and psychosis, unbalanced functions, and delusions.

The menopause is a period regarded widely among the laity, and less in the professional

mind, as a time of neurosis and mental unsoundness. Well balanced women suffer definitely at the menopause from neurosis, while women neurotically predisposed suffer not only neurosis but psychosis. The neurologist, unfamiliar with the rich genital nerve supply and the profound intimate connection of the genital and nervous systems, attempts to generalize by saying that the degeneration has begun and the vital powers are on the wane, and that her mind is directed upon itself, discovering its own weakness, all of which makes her nervous. This satisfies neither patient nor doctor, and still less the laity, whose views are those of the profession ten years previous.

There is nearly always a grain of truth in all forms of error. The widely prevalent belief among women that the menopause is a period subject to disease is not without foundation. Of course, this view is heightened by the fixed tradition of woman's weakness at the menopause in all civilized lands, and the increased facilities for distribution of knowledge. Fashion and tradition rule the mind supreme, like China, over which centuries have come and gone with scarcely a change. From the age of thirty five to fifty-five women are dominated with the view that disease is apt to attack them and should be referred to the change of life. It has been the habit of thought for ages that has made her worse at the menopause. Probability is the rule of life, and it is quite probable that when widely disseminated views exist, of disease at the menopause, there is truth in it. Mind rules matter, and no one knows it better than the physician. For example, observing physicians note a very intimate relation between the genitals and olfactory nerve. Such views prevail and are disseminated widely even among the laity. The sense of smell and sexual function have for ages been closely associated. How often do discreet physicians prescribe for psychotic and neurotic females the drug which has the most irritative effect on the olfactory nerve: valerian, asafetida, ammonia or camphor. Is the effect of the drug physical or mental?

If a local lesion keeps up neurotic disorders, direct or indirect, it should be treated medically or surgically. First, the genital disorders should be palpable, pathologically demonstrable, for a basis of discussion. However, I have no doubt that neurosis and psychosis exist of genital origin without palpable lesion. The idea of surgical intervention or extirpation must rest more on experience than abstract opinions. Besides, the extirpation of the

ovaries, the most significant part of the genitals, frequently leaves more neurosis behind than it removed, while the extirpation of the uterus and oviducts (the menstrual organs) simply checks the menstruation, but does not precipitate violent neurosis.

A so-called normal ovariectomy for neurosis produces very frequently a worse neurosis. Unfortunately, tradition, concealment, religion, popular delusions, and prejudices have so exaggerated and distorted the ideas of the genital organs that they have acquired a "bad eminence," to such a degree that quacks, charlatans, and patent medicine men make rich livings out of them. Lydia Pinkham, it is reported, died a multi-millionaire. Education alone can save the people from being the prey of quacks. It only shows that with all the errors in regard to the genitals and nervous system, there is a real, a profound and intimate connection between the genital and nervous system. In neurosis and psychosis, the pelvic disease may be a part and parcel—yes, the exciting cause of it.

That an intimate relation does exist between the mind, nerve and pathologic genitals is not sufficient. The nature of the establishment must be studied in individual cases in order to accomplish practical results. Neurasthenia is a fatigue disease brought about by many factors, especially the constant trauma of diseased genitals and persistent infection. The neurosis is brought about very often by over-activity of the neurons, and no organs furnish more frequent occasion than the genitals. Of course, operative intervention should only be applied after structural changes are demonstrated in the genitals. The rich nerve connection of uterus, oviducts and ovaries, on the one hand, and the viscera and cerebro spinal system on the other, indicate such an intimate relation that abundant influence passes from the genitals to the viscera and cerebro spinal system. Ample proof of the genital factor in the nervous system is furnished when palliation arises from removal of diseased portions of the genitals. Surgical operations on the genitals are followed by lesions of the nervous system and corporal changes oftener than by operations on other localities. This demonstrates the greater influence of the genitals over the nervous system than other viscera. Insanity following surgical operations on the genitals is of rare occurrence and transitory.

The ultimate relation of the genitals to the nervous system is very apparent at puberty, menstruation, menopause, and sexual excitement, and in the desire for children. The

essential factor in the whole range of reflexes, neurasthenia, hysteria and neurosis is to determine if there be a gynecologic lesion. Should there be no such lesion, no relation or influence of the genitals should be assumed in the neurosis. Neurasthenia is a fatigue disease, and can be brought about by other factors than pelvic disease. But a pelvic lesion may be able to fatigue the whole nervous system from continued, persistent trauma, day and night, disturbing visceral rhythm, rest and secretion.

The lacerations of the genitals due to labor are all a source of irritation, of trauma, of infection, and are often the starting place of reflexes which radiate to all other viscera, unbalancing rhythm, rest and secretion. It must not be forgotten that the lacerations of the perineum, or pelvic floor, may be concealed. The persistent, progressive irritation issuing from the pelvic lesions fatigues the nervous system, lowers the vitality of the neurons, vitiates secretions, prevents physiologic rest, and leads on to neuroses—hysteria and neurasthenia. Perineal repair not only ameliorates but often cures neurasthenia.

Many neurologists assert that the field of the gynecologist in the domain of nervous disease is comparatively restricted, that neurasthenia and hysteria may exist independently of any local pelvic disease, and that there is no relation between pelvic disease and hysteria and neurasthenia. This assertion is so extreme that it needs no contradiction.

The Diazo-Compounds and the Diazo-Reaction.

The Western Clinical Recorder, July-August No., 1900, contains some interesting "Notes" on the subject by J. H. Salisbury, A. M., M. D., Professor of Medicine in the Chicago Clinical School; Asst. Professor of Chemistry in Rush Medical College, Chicago, Ill.

Diazo is the name of a class of compounds some of which are of clinical interest, and the name has been given to a reaction occurring in the urine under certain circumstances that make it of the greatest interest to physicians. It is impossible to say when others of this large class of compounds may become of medical interest, and therefore we have chosen them for explanation and illustration.

When two atoms of nitrogen are united together they form a group which acts as a radical. The valence of this combination will vary according to the manner in which the two atoms are bound together. When the two atoms are united together so that there are left only two valences by which they can

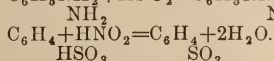
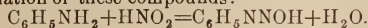
unite with other elements, we have the radical found in the azo- and diazo-compounds. We may illustrate this by supposing that the N atom is trivalent and that each atom is united to its fellow by two valences, leaving one valence free. Thus: —N=—N— . This grouping has a valence of two. If we satisfy one of these valences by an organic radical a diazo compound is formed. The grouping thus formed is a radical having a valence of one and acting as a basylous radical. It may unite with various acid radicals, forming salts. Thus C_6H_5 is the benzene radical; $\text{C}_6\text{H}_5\text{N}=\text{N—}$ is the radical of the benzene diazo-compounds. From this radical we have formed a hydrate, a chlorid or any salt of the compound. Practically a diazo-compound acts like ammonia, so that its salts can be formed by the action of acids as in the case of ammonia. $\text{C}_6\text{H}_5\text{N N O H}$ is diazo-benzene hydroxide; $\text{C}_6\text{H}_5\text{N N Cl}$ is diazo-benzene chlorid.

The diazo compounds formed from the radicals of the fatty series are so unstable as that they are practically unknown. The great majority of these compounds are formed from compounds of the benzene series. Many of these compounds are of medical interest, and we may be pardoned for describing the general method by which they are formed, as this is involved in the important test known as Ehrlich's diazo reaction. All diazo-compounds are formed from amines, and it may be useful to give first a definition and illustration of what 'is' meant to be an amino. Amine is merely a modified form of the word ammonia, and all the amines are derivatives of ammonia. They are formed from ammonia by substituting for part or all of the hydrogen some positive or basylous radical, usually an alcoholic or hydrocarbon radical. Thus by substituting methyl C H_3 for one atom of H in ammonia we have formed an amine known as methyl amine. NH_2CH_3 . By a similar substitution of two molecules of methyl for two atoms of H we dimethyl-amine $\text{NH}(\text{CH}_3)_2$, and by substituting three molecules of methyl for three atoms of H we have trimethyl amine $\text{N}(\text{CH}_3)_3$. If in the formula of an amine one atom of H in ammonia is replaced, we have a primary amine; if two are replaced the compound is a secondary amine; if three, it is known as a tertiary amine. We have here to deal with the primary amines. The diazo compounds are formed by the reaction of nitrous acid on the primary amines. Let us take for instance the primary amine known as phenyl amine or aniline. It is more properly known as amido-benzene. Its formula is $\text{C}_6\text{H}_5\text{ N H}_2$.

It is formed by substituting phenyl C_6H_5 for one atom of hydrogen in ammonia. It is, therefore, a primary monamine. When this is brought in contact with nitrous acid HNO_2 , diazo-benzene hydroxid and water are formed. Thus $C_6H_5NH_2 + HNO_2 = C_6H_5NNOH + H_2O$

If we use a compound of aniline as amidobenzene sulphonic acid known as sulphanilic acid, we have formed diazo benzene sulpho-nate, which is the reaction supposed to take place in Ehrlich's diazo-reaction.

The following equations illustrate the formation of these compounds:



The reaction shown above is typical of a large number of reactions by which diazo-compounds are formed, and is known as the diazo-reaction.

As applied to urine by Ehrlich a peculiar color is produced in certain cases, due to the presence of an unknown substance in the urine which reacts with the diazo-benzene sulpho-nate to give the peculiar color observed. The value of the reaction arises from the fact that the occurrence of the reaction is limited to a few cases of disease.

Ehrlich's diazo reaction is performed as follows. Two solutions are made:

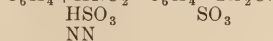
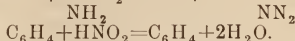
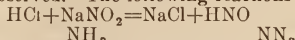
Solution No. 1: Sulphanilic acid, 2 gm.; hydrochloric acid, 50 c. c.; water sufficient to make 1000 c. c.

Solution No. 2: A 0.5 per cent. solution of sodium nitrite.

To use the solutions, one part of No. 2 is mixed with 50 parts of No. 1, and to this mixture is added an equal volume of the urine. The upper layer of the mixture is then saturated with ammonia. There will be in ordinary urine a darkening of the color, but if the reaction is positive as indicating the presence of the peculiar unknown substance referred to above, a distinct red zone will appear at the junction of the two liquids. Upon shaking, the whole liquid becomes red, and the red color extends into the foam. The latter phenomenon should be particularly noticed, as it is considered essential to a positive conclusion from the experiment. The shade of red observed in this reaction is described as carmine. The foam must be red or pink, not yellow. Ehrlich also described the production of a green precipitate on standing for twenty-four hours. This, however, is not essential.

It will be seen that in this experiment we have the proper conditions for the formation

of diazo-benzene sulphoric acid, which is doubtless formed and then further acted on by some other substance to produce the color observed. The following reactions occur:



Unfortunately the nature and origin of this substance is not known. The clinical significance of this reaction has been made the subject of considerable investigation. It has been claimed to be diagnostic of typhoid fever. If this is true, and investigation seems to sustain the claim, it is an important addition to our diagnostic resources. The Widal test requires the resources of a bacteriologic laboratory, while the diazo reaction can be performed in the physician's office. The results are quickly reached and the reaction appears earlier in the course of the disease than a positive reaction can be obtained by the Widal test. The limitations of the test are therefore very important.

The reaction occurs in the majority of cases of typhoid fever and many cases of tuberculosis. It is occasionally observed in measles, scarlet fever, smallpox, pneumonia. In typhoid fever the reaction is usually observed early in the disease, about the fifth day. It disappears in the later stages of the disease. Its absence in a case of typhoid generally marks a light case except in children. It seems to be given by some cases of malarial fever. It is not given in case of infection with the colon bacillus nor in appendicitis, so that it serves to distinguish typhoid fever from these affections. It occurs in about 30 per cent. of the cases of consumption, in the later stages of the disease, and its continuous presence for several days is ground for an unfavorable prognosis.

This, as Arneil remarks (*American Journal of Medical Sciences*), may be of great service to the practitioner in advising patients in regard to a change of climate. A case in which the reaction is found continuously for several days should be considered in the third stage of the disease, and will not be benefited by a change of climate. The reaction may also be useful in discriminating between miliary tubercular meningitis and typhoid fever. The reaction is obtained in typhoid about the fifth day and may persist not later than the twenty-second, while in the miliary tuberculosis it is not found earlier than the beginning of the

third week, and persists almost to the end. A doubtful case that presents the reaction early is probably typhoid, while a similar case, in which it is absent, is probably tuberculosis.

It is present in most cases of measles, but not in German measles, so that a case which presents it should be considered to be measles.

It is evident that this is a valuable test, and should be used more frequently by the practitioner. It must be remembered that the solution of sodium nitrate is liable to change and should not be relied on if it has been kept for a long time.

Fracture of Tenth Dorsal Vertebra, with Partial Rupture of Spinal Cord—Total Paraplegia—Recovery.

O. B. Overacre, while standing on a moving car, on the Southern Railway, near Danville, Va., was attacked by tramps. One seized him by the ankles and another by the arms, and together they threw him from the car. This was on November 23, 1899. He was found by the side of the track—with his back apparently broken, unconscious, and paralyzed from his waist down, and unable to move a muscle. The railway company had him removed to the Home for the Sick, where he was attended by the company's surgeon, Dr. W. C. Day, and other physicians of Danville. He was put up in a plaster cast, and swung in a hammock sling. He was watched and nursed with assiduous care, and January 21, 1900, it was found that he could slightly move one toe. He was then put on an air bed and thus remained until April 1, when he was removed to his home some miles away on the railroad, and the best of care and attention continued.

September 6, 1900, Mr. Overacre walked into the office of the *Danville Daily Bee* without the aid of crutches or cane, apparently as well and strong as any one—all of his muscles and functions in good working order, and the internal trouble and applications almost entirely relieved.

Dr. Day found that the seat of spinal column fracture was the tenth dorsal vertebra. The spinal cord itself was doubtlessly partly ruptured. Probably a clot of blood was formed between the bony walls of the canal and the spinal cord, the pressure of which—wedged, as it was, by the inward set of the spinal articulation—against the cord, produced the paralysis of the lower extremities (paraplegia). This was in part removed by the straightening of the spinal column, and in part by the absorption of the clot. For a long time after the accident the bladder complications were fearful.

Editorial.

Medical Society of Virginia—Announcement.

As we go to press, the Announcement of the Thirty first Annual Session of the Medical Society of Virginia, to be held at Charlottesville, Va., beginning Tuesday night at 8:00 o'clock—October 23, 24 and 25. Street cars pass the hall of meeting—"The Auditorium," East of Hotel Gleason. Street cars pass the Auditorium every fifteen minutes, until 11:00 P. M. Ample hotel accommodations in easy reach of the hall of meeting. The exhibitors will have their displays in the Auditorium building. Dr. J. Hamilton Browning is Chairman of the Committee of Arrangements. The papers announced for the session are unusually long and interesting. "*Papers, however full or lengthy for publication, shall be limited to twenty minutes in their reading. In their discussion, not more than five minutes will be allowed each speaker.*"

After the opening exercises, the *The Address to the Public and Profession* will be delivered by Dr. John N. Upsbur, Richmond, Va.—his subject being "The Mutual Relations of the Public and Profession." Then will come the *Address of the President*, Dr. Hugh T. Nelson, Charlottesville, Va. To this evening session, ladies and gentlemen are invited to be present.

On Wednesday morning, October 24th, the business of the Society really begins. After some reports of clinical cases, by any member who desires, the subject for general discussion will be taken up. *Malaria—Its Causes and Forms*, Dr. H. Stuart McLean, Leader. Then follow papers on—

Malarial Fever, with Special Reference to the Value of Blood Examination—Report of Cases. By Dr. Herbert Old, Norfolk, Va.

Causation of Malarial Fever, with Especial Reference to Eastern Virginia and North Carolina. By Dr. Charles H. Grandy, Norfolk, Va.

Salient Points in an Epidemic of Typhoid Fever, Based upon Fifty-five Cases. By Dr. Wm. J. Crittenden, Unionville, Va.

Some Further Observations on Typhoid Fever as Met with in Harrisonburg, Va. By Dr. J. H. Neff, Harrisonburg, Va.

The Importance of Hypnotics in the Treatment of Typhoid Fever. By Dr. A. H. Buckmaster, University of Virginia.

Dietetic and Dietary Reform. By Dr. G. W. Drake, Hollins, Va.

Some Remarks Upon the Intracranial Complications of Middle Ear Suppuration. By Dr. John P. Davidson, Richmond, Va.

Pharyngeal and Naso-Pharyngeal Growths. By Dr. William F. Mercer, Richmond, Va.

Spectacles—Their Use and Abuse. By Dr. J. A. White, Richmond, Va.

Bacteriology of the Stomach. By *Invited Guest*, Dr. J. H. Kellogg, Battle Creek, Mich.

Myocarditis. By *Invited Guest*, Dr. J. H. Musser, Philadelphia, Pa.

Present Tendency of Opinion Among Scientific Men in Respect to the Essential Nature of the Phenomena of Animal Life. By Dr. J. W. Mallet, University of Virginia.

La Grippe—Its Origin, Symptoms and Treatment. By Dr. Frederick Horner, Marshall, Va.

Remove the Special License Tax. By Dr. J. Beverly DeShazo, Ridgeway, Va.

What Can We Do to Enforce the New Medical Laws? By Dr. R. S. Martin, Stuart, Va.

State Board of Health—Its History, Work and Possibilities. By Dr. Paulus A. Irving, Richmond, Va.

Plea for the More Frequent Treatment of the Morphine Habit in General Practice. By Dr. Wm. B. Barham, Newsome, Va.

Treatment of Acute Lobar Pneumonia. By Dr. Ramon D. Garcin, Richmond, Va.

Puerperal Toxæmia—Its Treatment; Report of Cases. By Dr. J. Bolling Jones, Petersburg, Va.

Diagnosis and Treatment of Renal Calculi. By Dr. Stuart McGuire, Richmond, Va.

Injuries to Bladder and Ureter in Radical Surgery of Cancer of the Uterus. By Honorary Fellow, Dr. J. Wesley Bovee, Washington, D. C.

Progress We Have Made in Operations for Appendicitis. By Honorary Fellow, Dr. Joseph Price, Philadelphia, Pa.

Surgical Treatment of Carcinoma, with Report of Cured Cases. By *Invited Guest*, Dr. Joseph H. Branham, Baltimore, Md.

Improvement upon Sayers' Apparatus for Treatment of Fractures of the Clavicle. By Dr. J. W. Henson, Richmond, Va.

Treatment of Supra Condylloid Fracture of the Humerus—Illustrated by X-Ray Photography. By Dr. A. R. Shands, Washington, D. C.

Acute Cholecystitis—Early Differential Diagnosis and Treatment from a Study of Fourteen Cases. By *Invited Guest*, Dr. J. C. Bloodgood, Baltimore, Md.

Further Contribution to the Study of Pelvic Hæmatocele, and Its Relation to Tubal Pregnancy. By Honorary Fellow, Dr. George Tucker Harrison, New York, N. Y.

Treatment of Posterior Displacements of the Uterus. By Dr. Edward McGuire, Richmond, Va.

Modern Cæsarean Section. By *Invited Guest*, Dr. Edward Parker Davis, Philadelphia, Pa.

Relative Value of Laboratory and Bed-Side Diagnosis. By Dr. E. C. Levy, Richmond, Va.
Headache as a Cerebral Symptom. By Dr. J. Allison Hodges, Richmond, Va.

Third Pan-American Medical Cong.ess.

The following announcement for the coming meeting of the Pan-American Congress to be held in Havana, Cuba, Dec. 26, 27, 28 and 29, 1900, has been received from the Secretary, Dr. Dhoms V. Coronado, of Havana.

Executive Committee:—Drs. Juan Santos Fernandez, President; Gustavo Lopez, Vice President; Enrique Acosta, Treasurer. *Committee Members*:—Drs. Vincent B. Valdes, Jose I. Torralbas, Eduardo F. Pla, Tomas V. Coronado, Secretary.

The Secretary-General of the Executive Committee asks for professional co-operation in behalf of the third meeting of the Pan-American Congress.

He would be extremely pleased if you would favor him with your personal assistance, and also by interesting your Medical Societies, Universities and Medical Schools, as well as prominent colleagues who are teaching the medical sciences, so that they will take part in the Congress, and will send delegations, the members of which should forward their papers or titles according to the enclosed instructions.

The extraordinary impulse which experimentation and that multitude of auxiliary sciences whose progress amazes us has given to modern medicine affords the young American numerous advantages for study and investigations in the solution of many and varied problems that relate to the pathology and the pathogenesis of the numerous diseases.

"Our climate, our soil and the grade of civilization itself to which we have arrived produce appreciable modifications in the diseased conditions that develop in an atmosphere so distinct from that of Europe, and the diseases belonging to these altitudes, the study of which is being perfected each day, are sufficient motives to authorize the scientific investigations of our Congress. In these controversies the combined efforts do not represent the sum of the units that compose them, but represent the multiplication of them. The simultaneous work of all the investigations of the Americas presented and discussed at a given time surely must produce surprising results in reference to the utility and the practical application of the scientific productions of the men who cultivate the medical sciences on the American continent.

"Each Medical Congress enables us to make

progress in an effective way in the study of the laws of epidemiology, the preventive indications, the modifications that stamp the time, or the social surroundings in the medical topography of each territory, the quarantine, isolation, etc.—in a word, everything that relates to the progress of medical work up-to-date.

“I sincerely hope that our sister nation whose medical attainments are so famous, will co-operate in promoting the success of the Third Pan-American Congress by sending the largest possible representation, both in delegates and scientific productions.

“I beg that you will mention in your reply the persons who will take part, and will send your papers at your earliest possible convenience. Very truly yours,

(Signed.) Dr. Tomas V. Coronado, Secretario de la Commission Ejecutiva del Tercer Congreso Medico Pan-Americano, Prado 105, Habana, Cuba.

The folder postal cards to be sent to the various members of the Pan-American Congress are worded as follows:

“NOTICE.”—I have the honor to invite you to take part in the Third Pan-American Congress which will meet in Havana on the 26th, 27th, 28th and 29th of December, 1900.

I beg you to reply whether you desire to be present and how many persons will accompany you, the invitation being extended to ladies. The committee hopes to obtain considerable reduction in the travelling rates, and for this reason needs to know beforehand the number of prospective visitors, and their place of residence. Awaiting the earliest possibly reply, I am, yours respectfully,

T. V. CORONADO,

Sec'y of the Committee on Organization.

Form of Reply:—Sr. Secretario,

DR. T. V. CORONADO,
Prado 105, Havana, Cuba.

Name
Address.....
I will be present at the Congress
I will present a paper entitled.....
.....
I will send an abstract of the paper before Nov. 16th.

GENERAL REGULATIONS:—The members of the Congress will consist of any physicians of the Western Hemisphere, including the Antilles (West Indies) and Hawaii that comply with the special regulations of registration or lend their services to the Congress in the capacity of foreign members.

INTERNATIONAL EXECUTIVE COMMITTEE:—This committee will be nominated by the Committee on Organization, and will consist

of one member from each country represented in the Congress. The members of this committee will hold permanent tenure of office, except when one of them fails to be present at a meeting, in which case his office will be declared vacant, and the vacancy will be filled by an election held by the members registered from his country. In case that there is no representative whatever from that country the members of the International Committee present should determine the course that ought to be taken.

The following will be considered the constituent countries of the Pan-American Medical Congress: The Danish, French, Dutch and English Antilles (West Indies), Cuba, Puerto Rico, Argentine Republic, Bolivia, Brazil, Canada, Chili, Columbia, Costa Rico, San Domingo, Ecuador, United States, Guatemala, Hayti, Hawaii, Honduras, Mexico, Nicagagua, Paraguay, Peru, San Salvador, Uruguay and Venezuela.

The sections of the Congress will be the following:

1. Medicine.
2. General Surgery.
3. Military Medicine and Surgery.
4. Obstetrics.
5. Gynecology and Abdominal Surgery.
6. Therapeutics.
7. Anatomy.
8. Physiology.
9. Pediatrics.
10. Pathology.
11. Ophthalmology.
12. Laryngology and Rhinology.
13. Otology.
14. Dermatology.
15. General Hygiene and Demography.
16. Marine Hygiene and Quarantine.
17. Orthopedic Surgery.
18. Mental and Nervous Diseases.
19. Dental and Buccal Surgery.
20. Medical Jurisprudence.
21. Medical Pedagogy.
22. Railway Surgery.

LANGUAGES:—Article 9. The official languages of the Congress will be English, French, Spanish and Portuguese.

The Mississippi Medical Record

Is offering to its subscribers a Clarke & Roberts No. 80, \$100 surgical table for the best original essay on any medical or surgical subject. Contest closes April 1st, 1901. For particulars, write to the *Mississippi Medical Record*, Vicksburg, Miss.

The American Public Health Association,

Representing the United States of America, the Dominion of Canada, and the Republic of Mexico, will hold its twenty-eighth annual meeting at Indianapolis, Ind., October 22, 23, 24, 25, and 26, 1900. Dr. J. N. Harty is secretary of the local committee of arrangements, to whom inquiries concerning local matters may be addressed. Dr. Peter H. Bryce, Toronto, Ontario, is president of the association; Dr. Charles O. Probst, Columbus, Ohio, is secretary; Dr. Henry D. Holton, Brattleboro, Vermont, treasurer. A very full programme of papers and subjects for discussion have been arranged. All persons, of whatever profession or occupation, are cordially invited to be present. Concerts, entertainments, receptions, carriage drives, and trolley car rides have all been provided for the enjoyments of those who may attend the session.

Tri-State Medical Society of Alabama, Georgia and Tennessee.

The twelfth annual meeting of the Tri-State Medical Society will be held in Chattanooga Thursday, Friday, and Saturday, October 11, 12, and 13, 1900, during the re-union of the Army of the Cumberland and the Spanish-American War Veterans. A charge of one fare for the round trip will doubtless be given the latter from all parts of the country. The Southeastern Passenger Association has already given this rate, and the other associations will take up the matter shortly. A large attendance is expected, and an unusually good program is in prospect. All desiring to present papers should send title to the Secretary, Dr. Frank Trester Smith, Chattanooga, Tenn.

The Medical Society of the Missouri Valley

Held its annual meeting at Council Bluffs, September 20th. Three sessions were required to complete a most interesting program, and later, at the Grand Hotel, the members gathered around the festal board, where they recuperated from the labors of the day. The Society voted to contribute \$25 to the Rush Monument Fund, and a resolution was adopted providing for a banquet after each meeting. The following officers were elected: *President*, Dr. V. L. Treynor, Council Bluffs; *Vice-Presidents*, Drs. B. B. Davis, Omaha, and F. E. Sampson, Creston; *Treasurer*, Dr. T. B. Lacey, Council Bluffs; *Secretary*, Dr. Charles Wood Fassett, St. Joseph. *Next meeting* in March, 1901, at Omaha.

Examinations for Acting Assistant Surgeon, U. S. Marine Hospital Service.

The United States Civil Service Commission announces that on October 23, 24, 1900, an examination will be held in any city in the United States where it has a local board of examiners for the position of acting assisting surgeon in the Marine-Hospital Service.

The examination will consist of the subjects mentioned below, which will be weighted as follows:

Subjects.	Weights.
1. Letter writing.....	5
2. Anatomy and physiology.....	15
3. Surgery and surgical pathology.....	20
4. Chemistry, materia medica, and therapeutics.....	10
5. Bacteriology and hygiene.....	10
6. Theory and practice of medicine and general pathology.....	25
7. Obstetrics and gynecology.....	15
Total.....	100

The examination will be divided as follows: Two days of seven hours each.

Applicants for this examination must be competent physicians and surgeons, graduates of reputable medical colleges, and must furnish satisfactory certificates relative to their moral character and ability.

From the eligibles resulting from this examination it is expected that certification will be made to the position of acting assistant surgeon, United States Marine-Hospital Service at Juneau, Alaska, and similar vacancies as they shall occur.

This examination is open to all citizens of the United States who comply with the requirements and desire to enter the service. All such persons are invited to apply, and applicants will be examined, graded, and certified with entire impartiality and wholly without regard to any consideration save their ability as shown by the grade attained in the examination. It is the practice of the department, however, whenever practicable, to appoint a regularly practicing physician residing at the place where the vacancy exists.

Persons who desire to compete should at once apply to the United States Civil Service Commission, Washington, D. C., for application forms 304 and 375, which should be properly executed and promptly forwarded to the commission.

The Medical and Surgical Society of the District of Columbia

Begins work again October 4, 1900, and will hold its regular meetings until next summer. The papers of this Society, which have for several years enriched this journal, have attracted wide attention, for they are all good. We hope to furnish our readers with the edited papers during the coming season.

St. Luke's Hospital, Richmond, Va.,

Has opened, as usual, with a goodly number of patients. It will be under the sole management of Dr. Stuart McGuire, as the successor of his father, Dr. Hunter McGuire. Practically speaking, he has had medical and surgical charge of St. Luke's ever since the new building was completed a year ago. There is no private hospital in the South that is better equipped or more nearly up to date in modern hospital arrangements.

Cancer of the Uterus and its Treatment.

R. Stansbury Sutton, M. D., LL. D., has a paper prepared for one of the Societies of which he is a member, to be read this month. This paper consists of a compact review of the anatomy of the parts involved, the pathology, diagnosis and present method of treatment of cancer of the uterus. He expresses the opinion that treatment for existing cancer of the uterus had probably reached its complete evolution. In view of the ultimate results of this treatment, which he heartily endorses, because there is none other known to take its place, he asks the question, *cui bono?* He then discusses the question of prophylaxis, and shows that the average age of his patients operated upon was forty-three years and a fraction; and claims that if these patients had all been subjected to total vaginal extirpation, at the average of forty years, all of them would have escaped cancer of the uterus. According to his own statistics, but four per cent. of the cases would have died; whereas nearly one hundred per cent. of the cases did die, within a period of two or three years, after operations for cancer. He urges greater attention to the early repair of lacerations of the cervix and a more painstaking observation and consideration by physicians at large of that train of symptoms preceding and leading up to the development of cancer of the uterus. He unequivocally recommends radical surgical treatment in all such cases, and clearly announces that if we are to diminish the number of uterine cancer cases, and consequent mortality in the future, it must be done in forestalling the disease.

Obituary Record.

Hunter Holmes McGuire, M. D., LL. D.,

Died at his country home, near Richmond, Va., September 19th, 1900. While driving from his city residence and offices to his hospital (St. Luke's), March 19—just six months ago—he suffered a stroke of acute bulbar paralysis. By motions to his driver, he directed that he be driven back home, where his condition was recognized. Professional help was promptly rendered, and eminent consultations were held, but all to no effect other than to confirm the diagnosis. In a few weeks he was moved to his country home, near the city, where every attention that loving hearts and hands was given. After the first few weeks, he was able to take rides in his carriage, as weather permitted, and to walk about the house and premises. But he never regained the power of articulation. With the usual ups and downs of improvements and set-backs, he grew steadily more and more infirm. For a week or more preceding his death, he grew rapidly worse. His death came somewhat suddenly, but not unexpectedly, at 10 A. M.

During the entire period of his illness, we have received so many telegrams and letters of sympathy and inquiry about him, and the desire has been so often expressed by numbers of our subscribers to know something more of this great man, Hunter McGuire (as he always signed his name), that we indulge the inclination of our feelings to give more than an ordinary obituary notice.

Dr. McGuire was born in Winchester, Va., October 11th, 1835. His father was Dr. Hugh McGuire—a physician and surgeon of great renown throughout this and adjoining States. He graduated as doctor of medicine from the Winchester (Va.) Medical College (now extinct) in 1855, of which institution his father was one of the founders, and in which he was also the professor of surgery. In 1856 he matriculated at both the University of Pennsylvania and at Jefferson Medical College, Philadelphia, in order that he might receive a thoroughly practical training; but an attack of acute rheumatism compelled him to return to his home at Winchester. In the fall of 1857 he was elected professor of anatomy in the Winchester (Va.) Medical College. In the fall of 1858 he returned to the Jefferson Medical College. While there, in association with the late Drs. Lockett and W. H. Pancoast, he organized some "quiz-classes." He also availed himself of every opportunity to attend the surgical clinics of

the Jefferson Medical College, conducted by the great masters of American surgery of that day.

It was while there that the notorious "John Brown's Raid" in Harpers Ferry occurred. After the hanging of this tramp and murderer, his body was carried through Philadelphia to his Kansas home for burial. Bitter sectional feelings developed. Drs. McGuire and Lockett organized the Southern medical students then in Philadelphia—about three hundred in number—and arranged with the Medical College of Virginia, at Richmond, Va., to receive them without fees. Dr. McGuire had saved about \$2,000 from his "quiz-class fees," and out of this sum he paid the travelling expenses of all the students unable to pay their own. In December, 1859, the doctors started from Philadelphia with over three hundred medical students for Richmond. The students marched to the depot of their departure in a body. All were armed, for they had been led to fear violence, as threats had been openly made. No disturbance, however, occurred. This body of students was received in Richmond with great demonstrations. Governor Henry A. Wise made them a stirring speech, and the city of Richmond refunded the railroad fares of all the students. Drs. McGuire and Lockett finished their course with the students in Richmond, March, 1860.

During that year he went to New Orleans and established a quiz-class there in connection with the Medical Department of the University of Louisiana (now Tulane University). But early in 1861, when South Carolina seceded from the Union, foreseeing that war was inevitable, and when Virginia was considering the same step, he returned to his home in Winchester, Va., just as Virginia seceded. He volunteered as a private in Company F, Second Virginia Regiment, and on April 1, 1861, marched from Winchester to Harper's Ferry, then in Virginia, but later given up to form the State of West Virginia. Soon afterwards, however, he was commissioned as surgeon in the Virginia forces, just before the organization of the Confederate States Army. In May, 1861, he was made Medical Director of the Army of the Shenandoah, then under the command of General T. J. [Stonewall] Jackson. Later, when General Jackson organized the First Virginia Brigade, the future Stonewall Brigade, he requested that Dr. McGuire be assigned him as brigade surgeon. He then served as chief surgeon of General Jackson's command until the fall of that great soldier and intrepid leader. After the death of Gen-

eral Jackson, Surgeon McGuire was attached as surgeon to the Second Army Corps, under the command of Lieutenant-General Ewell, and later became Medical Director of the Army of the Northern Virginia, under Lieutenant-General Ewell. Later on he was made a Director of the Army of the Valley of Virginia, under Lieutenant-General Jubal A. Early, until the surrender of General R. E. Lee's forces at Appomattox.

To Surgeon Hunter McGuire belongs the credit of organizing the "Reserve Corps Hospitals of the Confederacy," and perfecting the "Ambulance Corps." When General "Stonewall" Jackson was wounded at Chancellorsville, Surgeon McGuire was relieved of other duty by order of General R. E. Lee, in order that he might give his entire time to the relief of General Jackson. To this trust, he devoted himself with unflinching fidelity until the inevitable death of the great chieftan. Such was the confidence in, and appreciation of the worth of Dr. McGuire by General Jackson that he presented his surgeon with a sword as a token of his regard.

In the battle of Winchester, May, 1863, eight Federal surgeons were captured by the Confederates. He secured an order from General Jackson for their immediate release, simply on their pledge to use their influence to secure the release of a similar number of Confederate surgeons. A few weeks later, it became the established custom between the Northern and Southern armies to release the medical officers as soon as captured by either army. As late as February, 1865, Dr. McGuire released the medical directors of Sheridan's army as soon as captured. In consequence of this, Dr. McGuire, when captured in the disaster to the Confederate troops at Winchester, was himself paroled promptly by General Sheridan's order, and in two weeks was released.

In the various reports of the generals commanding the forces with which Dr. McGuire was connected, at various times during the war between the States, his zeal and ability were frequently commended. He shrank from no responsibility assigned him. Whenever opportunity presented or occasion demanded, he was found one of the operating surgeons on the field of battle, or attending to the needs of the wounded in field hospitals, or elsewhere within his reach.

The death of Dr. Charles Bell Gibson left the chair of surgery in the Medical College of Virginia vacant, just after the close of the war. To fill this vacant professorship, Dr. McGuire was elected. He moved at once to Richmond,

and began his duties during the session of 1865-'66. He resigned his connection with this college in 1878, because of some disagreements, but in 1880, he was made Emeritus Professor of Surgery in that institution.

In 1893, there appearing a need for a three years' graded course medical college in this section of the South, he was placed at the head of a movement to found a new institution in this city—the results of which was the incorporation of the University College of Medicine, Richmond, Va. The doors of this medical university were opened in October, 1893, and proved to be a surprising success. In connection with this university, the Virginia Hospital was also founded. He was president of both institutions from their inception—resigning the presidency of the Virginia Hospital two years ago. In connection with the presidency of the University College of Medicine, he was Clinical Professor of Surgery—which position he resigned during the past summer, owing to his apparent irrecoverable affliction. He was always in favor of a high standard of education of medical, dental, and pharmaceutical students, which standard he sought to maintain throughout his active connection with the University College of Medicine.

Dr. McGuire was rich in professional honors which were heaped upon him. He was president of each of the local societies, organized in Richmond since the war. He was one of the founders of the Medical Society of Virginia, in 1870, and served for successive years as chairman of the executive committee, until elected its president, in 1880. The next year he was elected honorary fellow. In 1881, he began the annual offer of \$100 prize to any fellow of the society who would present the society with an essay of original merit or research, deemed worthy by a committee of the prize. In 1896, he, with Dr. Joseph Price, of Philadelphia, and Dr. H. M. Nash, of Norfolk, Va., offered prizes for "a medical history of Virginia," which resulted in awarding prizes, in 1897, amounting to \$1,000, to five fellows for worthy histories. He was vice-president of the Ninth International Medical Congress, and of the American Medical Association, 1881. In 1892, he was elected president of the American Medical Association, and presided at the session held in Milwaukee. He was also ex-president of the American Surgical Association, of the Southern Surgical and Gynecological Association, of the Association of Medical Officers of the Confederate Army and Navy, etc. He was honorary member of the medical societies of Virginia, West Virginia, North Carolina, Texas, etc.

In 1887, the University of North Carolina conferred upon Dr. McGuire the title of LL. D., and the Jefferson Medical College, of Philadelphia, honored him with the same title.

About 1883, he founded St. Luke's Hospital. In 1899, he moved this hospital to a new building erected for the purpose in the western part of the city, and equipped with all modern hospital improvements. "St. Luke's" proved an eminent success from its foundation years ago.

Dr. McGuire's contributions to medical literature have been mostly journal articles, and discussions at society meetings, etc. He is the author of the article on "Intestinal Obstruction," in *Peppers' System of Medicine*. He also contributed the article on "Gunshot Wounds," in *Holmes' System of Surgery*. Most of his journal articles have enriched the pages of this journal. Perhaps, those which have attracted most attention were "The Choice of Anæsthetics," "Nervous Disturbances following Urethral Stricture," "Gunshot Wounds of the Belly," "Formation of Artificial (Supra-Pubic) Urethra for Prostatic Obstruction," "Cases of Supra-Pubic Cystotomy and Results," etc.

The tributes which have been paid to the memory of this leader of men, and the most distinguished of able Southern medical men, have been numerous. We present one in this issue from the pen of Dr. A. M. Phelps, of New York. The Faculty of the University College of Medicine, which he founded, and which has grown to a magnificent success, the Richmond Academy of Medicine and Surgery, various associations of this city—male and female—of which he was a member, or of which he was related, all have promptly met to express their sorrow, and adopted resolutions telling of their respect, their love, and their grief.

At the meeting of the Richmond Academy of Medicine and Surgery, touching tributes were paid by a number of the members. Among the graceful speakers were Drs. George Ross, John N. Upshur, J. Allison Hodges, etc. Our space permits us to present only the glowing tribute of Dr. George Ross, who was one his most intimate friends, he said:—

"Death's messenger has been busy thinning the ranks of the medical profession of this city during the past twelve months. That fearless and self-sacrificing physician, erstwhile the dashing Christian soldier-artillerist, W. W. Parker; the modest, manly, honest, and always-to-be-counted-on John F. Jackson; the quiet, well-equipped and unobtrusive teacher-physician, Richmond Lewis; the knightly, gracious young physician, just budding into professional prominence, J. Travis Taylor, and that plumb-

line, Dr. Benjamin Harrison, have each obeyed the summons calling them up higher, and heard the welcome greeting: 'Well done, good and faithful servant.'

"Death loves a shining mark. To-day we are assembled to do honor to the memory of one of whom it may justly be written he was the most brilliant luminary in the medical constellation of the South.

"Hunter McGuire, the gifted surgeon, is dead! His name is part and parcel of American surgical history. It is the synonym for accuracy in surgical diagnosis and skill in surgical technique. Wherever the English language is spoken, and medical men gather for the discussion of surgical subjects, a quotation from his pen or tongue carries such conviction as few names could evoke. His personality was most charming, and, though singularly free from the grace of manner so coveted by many in social life, he won all hearts by his simplicity, his directness, his earnestness, his unostentatiousness. At various times of his life he was a professor in three medical colleges, and died serving one. I feel safe in asserting that his strong personality and wide reputation were the most potential factors in the upbuilding of the University College of Medicine to its present conspicuous position. No teacher more instructive or more pleasing ever lectured to a class, and no man ever more genuinely enjoyed the affection and confidence of his pupils. In the amphitheatre they hung on his words, and when later on they became busy workers in professional life it was from him that they sought counsel by correspondence, and into his hands committed their obscure and complex cases for treatment. His generosity was limited only by the opportunities for dispensing it. His hand was always ready to do service for the poor and needy, 'without money and without price,' and his purse-strings were never tightened when the privilege of giving was extended to him. No man could count more on stauncher friends, and no man more richly deserved their confidence. He was gifted with rare executive ability and an irresistible personal magnetism. Without these qualities he could never have commanded the following that made it possible for him to empty the medical schools of Philadelphia of southern students in 1860, and subsequently to grow, step by step, with 'Stonewall' Jackson; to be the ideal medical director and organizer of the surgical department of the great army corps of that chief of heroes in modern military history. He measured up to every responsibility laid upon him, from the morning of

life until the shadows of life's evening fell suddenly upon him. He began his career in this community after he had heard the requiem march sounding the death-knell of the Southern Confederacy on the field of Appomatox, and from the first day that he sought to serve this people until the day when he was driven speechless to his own door, stricken with paralysis in his buggy, save a needed summer vacation, there was no let-up in his work. He courted a generous rivalry, because it was a stimulus to the development of the genius of the possession of which he had an inner consciousness, but his character is untarnished by envy of his rivals' successes. His will was indomitable—his energy exhaustless. Excelsior! was his motto. Excelsior was the goal he attained to. Now he sleeps—fallen asleep in the shade beneath the trees of his quiet suburban home. Stilled for all time are his busy brain and tender heart and willing hands.

They've shrouded him—they'll bury him;
The dirge will cease its sounds;
The footsteps of the sorrowing
Turn sadly from the grounds.

They'll bury him—the soldiers' friend
In days of bitter strife,
When sons of North and South, arrayed,
Fought for their nations' life.

They'll bury him whose earnest face,
When Peace had spread her wings,
Was messenger that gladdened homes,
So Hope about him clings.

They'll bury him—a noble son
Of famed Virginia's soil;
Physician born of classic mien,
High-bred, in God-like toil.

They'll bury him whose broad'n'ing fame
Begirts the lands and seas;
Who filled in every audience hall
The foremost place with ease.

They'll bury him—yes, mortal part,
But still his spirit lives,
And to the scientific world
Glad inspiration gives."

Dr. Benjamin Harrison, Richmond, Va.,

Died at the home of his sister, Mrs. E. B. Bevan, near Millwood, Clarke county, Va., September 10, 1900. About four or five weeks previously, Dr. Harrison left Richmond on account of his general ill health, that he might recuperate at his sister's country home, but typhoid fever soon developed, and finally caused his death.

Dr. Harrison was born in Clarke county forty-one years ago. He was a son of the late Dr. Benjamin Harrison and Mattie Page Har-

risson. His boyhood days were passed in his native county.

In 1883, he graduated from the University of Virginia with high honors, and not long thereafter became resident physician at St. Luke's Home, in this city. Later on he settled here and began practice, confining himself in a measure to treatment of diseases of the eye and ear. He joined the Medical Society of Virginia in 1886. During the period 1893-6, he was Secretary of the Medical Examining Board of Virginia. Six or seven years ago he was appointed physician to the penitentiary by Governor O'Ferrall, and he was re-appointed by Governor Tyler, holding the position up to the time of his death.

Two years ago, Dr. Harrison was elected Professor of *Materia Medica* and Therapeutics at the University College of Medicine, Richmond, Va., and fulfilled the duties attached to the position with signal success.

Dr. Harrison never married. He is survived by a brother, Mr. Gwynne Harrison, and a sister, Mrs. Bevan, both of Clarke county. He was a relative of ex-President Benjamin Harrison.

Though of quiet, retiring disposition, Dr. Harrison was a man of marked ability, and stood high with the medical fraternity.

At a called meeting of the faculty of the University College of Medicine, resolutions of sympathy were passed. Dr. Hugh M. Taylor was appointed to attend the funeral as representing the faculty of the college.

The funeral of Dr. Harrison took place from the home of his sister, September 12, 1900, and the interment was made at the old chapel in Clarke county.

At a meeting of the Faculty of the University College of Medicine, after some memorial minutes, the following resolutions were unanimously adopted:

Whereas it has pleased Providence to remove our esteemed and accomplished colleague, Dr. Benjamin Harrison, Professor of *Materia Medica* and Therapeutics in the University College of Medicine, Richmond, Va.; therefore be it

Resolved 1st. That we, the Faculty of the University College of Medicine, desire here to record our sense of profound grief at his untimely death; that we feel that the place of a gentleman of so many accomplishments, and so deeply versed in the branch he taught acceptably for many years will be difficult to supply.

2nd. That we extend to his family our sincerest sympathies.

3rd. That copies of these resolutions be spread upon our records, and sent to the medical press of the city, and to the family of the deceased.

Jacob Michaux, M. D., J. Allison Hodges, M. D., M. D. Hoge, M. D., Committee.

Dr. J. Travis Taylor.

In our last issue we noticed the death of this able young physician, who had a brilliant future ahead of him. The following memorial page was ordered by the Faculty of the University College of Medicine, Richmond, Va.:

In just recognition of the faithful and efficient services of the late Dr. J. Travis Taylor, Lecturer on Hygiene and Skin Diseases in the University College of Medicine, whose sad and sudden death is felt to be a personal bereavement of each of his colleagues, the Faculty desire to place upon record upon the Faculty's minutes its testimonial to Dr. Taylor's sterling worth as a gentleman, and attainments as a physician.

In every duty assigned him, while connected with the University College of Medicine, he fully measured up to the responsibilities of his position, and the expectations of his colleagues and admirers.

The Faculty, also, herewith extends to the sorrowing and stricken family its most sincere and heartfelt sympathy in this hour of their bereavement.

Respectfully submitted: J. Allison Hodges, M. D., Landon B. Edwards, M. D., Hugh M. Taylor, M. D., Committee.

Koplik's Spots in the Diagnosis of Measles.

Dr. Jose L. Hirsh (*Phila. Med. Jour.*, August 25, 1900), after much investigation, concludes:

1. An eruption limited to the buccal and labial mucous membranes, and characterized by the presence of an irregular red spot, with a bluish-white centre, is always present in beginning measles.

2. These spots are present from twelve hours to five days before the cutaneous outbreak.

3. The number of these spots bears no relation to the severity of the attack.

4. These spots will be found in no other condition of health or disease.

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RICHMOND, VA., OCTOBER 12, 1900.

\$2.00 a Year.
10 Cents a Copy.**Original Communications.****THE CURABILITY OF INEBRIETY BY
MEDICAL TREATMENT.**By T. D. CROTHERS, M. D., Hartford, Conn.,
Superintendent Walnut Lodge Hospital, etc., etc.

The increasing numbers of inebriates in this country who are appealing to medical men for help is an unmistakable evidence of a new realm of practice. Every general practitioner recognizes this fact, and it is confirmed by the great variety of prescriptions for alcoholism seen in all the modern works on therapeutics. The question of the action and injurious effects on the body from alcohol is also a topic of an increasing number of papers in both journals and books. The question of medical treatment and cure of inebriety is asked and answered in many ways by scientists and charlatans until the subject has become one of the prominent themes of practical medicine in many medical circles.

The "gold cure" delusion, with its claims and pretensions, has practically disappeared, like a similar delusion of a century ago called "Perkinism," and his "tractors," which began with the claim of a great discovery by an unknown man. After a few years of boasted cures, it passed away and was heard of no more. Perkins claimed that by metallic tractors magnetic currents were generated, which drew out the disease, and from 90 to 95 per cent. of all cases were cured by these means. The "gold cure" promoters asserted that they had discovered a combination of drugs which was a specific for inebriety, and from 90 to 98 per cent. were cured by it. Both of these delusions attracted a great deal of attention at one time, and practically the "gold cure" has been helpful in creating new interest in the disease of inebriety and the possibility of cure by the use of remedies and other means.

How far the "gold cure" treatment has been followed by permanent results is unknown.

Several statistical studies have recently been made in answer to this question. The following is an example: In a study of one hundred inebriates, treated at "gold cure" asylums, made ten years after the treatment was given, it was found that 62 per cent. of all patients were dead. Of this number, forty-seven died from drink excess; of the remaining, six died in asylums developing insanity from drink, seven from pneumonia, and two from accident. Of the thirty-eight living, only five were known to be total abstainers. This compares very strikingly with the results of many studies of the great temperance revival movements. In these instances, hundreds of persons have signed the pledge and claimed to be converted and permanently cured. Eventually it has been found that after ten years not more than from 2 to 4 per cent. continued total abstainers. The various temperance revivals which have concentrated so much enthusiasm and hopefulness of cure finally all dwindle down to less than 5 per cent. of permanent restorations.

In the first asylum for the scientific study and treatment of inebriety at Binghamton, N. Y., in 1874, it was ascertained from a study of the history of eleven hundred cases, who had been treated ten years before, that over 60 per cent. remained cured, and were at that time abstainers. In other asylums, from similar studies and inquiries of patients made ten and fifteen years after treatment, from 35 to 50 per cent. remained restored and temperate. Studies of my work, and that of others, along similar lines in this country and in Europe, show conclusively that from 30 to 40 per cent. of all inebriates, who were under treatment from four to six months, have continued sober ten, fifteen or twenty years after. While these statistics are not final, they are very hopeful, and indicate that, from a further study and more perfect means of treatment, the curability of these cases may take equal rank with that of other diseases.

Inebriety is now recognized as a distinct neurosis, due to degeneration of the ancestors

in part and to physical and psychical injuries, and also to the corroding and destructive effects of alcohol.

There are certain defects in the growth and development which create peculiar susceptibility to the anæsthetic and paralyzing action of alcohol. Persons of this class have very marked symptoms of neurotic disease.

The continued or occasional excessive use of spirits to intoxication is not the disease, but is a symptom of some central irritation and exhaustion, also of poisoning and starvation. Many of these cases are self limited, and follow a certain course, dying away after a time.

This is seen in the history of many persons who permanently abstain both from apparent or obscure causes. Thus, one who has repeatedly signed the pledge and broken it will finally, under exactly similar circumstances, pledge himself to abstain and become a total abstainer ever after. Another person will claim to be converted and stop drinking over and over again, relapsing each time, then abstain permanently under the same conditions.

Other more striking cures are noted of persons who, after a long period of excessive use of spirits, stop at once, and never use spirits again. They never give any rational explanation or reason for this change, but state that they concluded to stop and did so. The same reasoning and conditions occurred repeatedly before, but always without permanent cessation of the drinking. This unexpected change and dying out of the drink symptom is ascribed to many very insignificant causes, and especially to the means and remedies used last. In reality, it is due to some physiological change in the brain and nervous system, by which the drink symptom becomes exhausted and dies out. Frequently organic disease appears after this change, and always invalidism of various degrees and intensity.

This self limitation of inebriety should always be recognized in the treatment. If the predisposing and exciting causes can be removed, this condition will be encouraged, and may take place at any time. The fact of disease is apparent from a clinical study of many cases. Thus, from a grouping of the conditions which enter into and act as exciting and predisposing causes, there appears a marked uniformity in the origin and progress of such cases. When the histories of many inebriates are compared, the same regularity and progressive movement is observed. It may be stated as a fact, to which there are few exceptions, that all cases of inebriety have a distinct origin and development, progress, decline and

termination. This is often so marked that distinct predictions can be made in the prognosis, and the case can be traced with nearly the same certainty as typhoid fever or tuberculosis.

In insanity, many definite pathologic conditions are traceable. In inebriety, a wider, more complex range of causes appear—the line of march is often seen in more general laws of dissolution. Its medical treatment must be based on some clear conceptions of the nature of inebriety and the conditions present in the person to be treated.

This requires a careful clinical study of the symptoms, tracing them back to causes and the varied conditions in the progress of the disease. From such a study, heredity will appear to be the most frequent early predisposing cause. One of the questions will be, What conditions of life have been most active in developing these inherited tendencies? How can these conditions be checked and prevented?

Another class of cases commonly noted are those due to physical causes, such as injuries and mental or psychical strains and drains.

In a third class, inebriety seems to be due to psychical causes, of which the mental contagion of individuals and of conditions and surroundings are most prominent. These causes are often combined and blended together, requiring very accurate study to discriminate the principal factors in each one. These are some of the causes and conditions which provoke the early use of alcohol, and give form and direction to the progress of the case.

The second part of the clinical study of inebriety is the pathological effect of alcohol. What injury has it caused? How far has it intensified all previous degenerations, and formed new pathological conditions and sources of dissolution? Also, what organs have apparently suffered most seriously from the drink impulse? And, most important of all, how far is the use of alcohol a symptom or an active cause? Having ascertained these facts, the medical treatment is the same as in other diseases—viz: the removal of the exciting and predisposing causes and restoration of the vigor of the body.

The first question is the sudden or rapid removal of alcohol. If the patient is alarmed, and intensely in earnest to abstain, he will consent to have the spirits removed at once. If he is uncertain, and has delusions of the power of alcohol to sustain life, the withdrawal will depend upon circumstances. The removal of all spirits at the beginning of the treatment

is always followed by the best results. The reaction which follows can usually be neutralized by nitrate of strychnia, one-twentieth of a grain every four hours, combined with some acid preparation. Sodium bromide, in 50 or 100 grain doses every three or four hours, will break up the insomnia and cause sleep the first two nights.

Strong solution of quassia, in ounce doses, given every hour, soon breaks up the craze. Solutions of cinchona bark will produce the same results if repeated frequently in large doses.

The withdrawal of spirits should always be followed by a calomel or a saline purge, and a prolonged hot air or hot water bath, followed by vigorous massage. Hot milk, hot beef tea, and, in some instances, hot coffee, are very effectual. If the patient persists in a gradual reduction of the amount of spirits used, strychnia, one twentieth of a grain, should be given every two hours. This will be followed soon by a distaste for spirits. The purge and hot bath should be given every day while the spirits are used. The form of spirits should be changed from the stronger forms of liquors to wines and beers. Some of the medicated wines are useful at this time, or spirits served up in hot milk. There is no danger of delirium from the sudden withdrawal of spirits, particularly where baths and purging are used freely. The two conditions to be treated at this time are poisoning and starvation. The system is saturated with ptomaines from alcohol, and suffers from defective digestion. The nutrition is also impaired and organic growth retarded. Saline or calomel purges, with baths, meet the first condition, and foods and tonics the second. Not infrequently the withdrawal of spirits reveals degrees of brain irritation and exhaustion that are practically manias, deliriums or states of dementia and melancholia.

Many of the chronic cases of inebriety reveal dementia when spirits are removed; others show well-marked paresis or tuberculosis.

Symptoms which were attributed to the action of alcohol are often found to be due to previous degenerations. In one case the stupid talk and conduct while using spirits burst into marked dementia when the drug was withdrawn.

In another case, the wild, extravagant conduct and boasting of the inebriate appears as paresis when free from spirits.

The removal of alcohol is often followed by tuberculosis, not suspected before, which has

been called "galloping" phthisis, because it goes on so rapidly to a fatal termination.

Rheumatism and neuritis are very frequently associated with the excessive or moderate use of spirits.

Diseases of digestion are common; also diseases of the kidneys. The latter are usually masked, and burst into great activity when alcohol is removed.

These and other organic diseases suddenly come into view, and whether they have existed, concealed by the action of alcohol, or have started up from the favoring conditions of degeneration caused by spirits, is not known. The therapeutic requirements must reach out to meet all these unsuspected disease states which may appear at any time.

The removal of spirits in all cases reveals conditions of both physical and psychical degeneration that call for a great variety of therapeutic measures.

The next question is to ascertain the special exciting causes and remove them, and also to prevent their recurrence.

In the periodic cases, the early favoring causes of the drink storm are often reflex irritations from disordered nutrition, exhaustion, and excessive drains or strains. Later, a certain tendency is formed for explosions of deranged nerve energy and impulses for alcoholic relief. This periodicity is often due to causes which may be seen and prevented by remedial measures. In certain cases, nutrient and sexual excesses are followed by a drink storm.

In other cases, constipation, over-work, neglect of hygienic care of the body, irregularities of food and sleep, emotional excitements or depressions, are followed by the same drink storm or alcoholic craze.

A vast range of psychical causes have been noted. Thus, a residence on the seashore or in high altitudes provokes this thirst for spirits, and removal to higher or lower planes is followed by a subsidence of it. Many persons never use spirits except in large cities or at specially exciting gatherings, or on holidays and festive occasions.

Here evidently some defect of the brain, either organic or functional, exists, which should be treated therapeutically. Many of these cases have been cured by change of surroundings as well as medicines.

While the ostensible object of medication is to stop the drink craze, this is as far from being curative as the suppression of pain by a dose of opium.

Conditions which cause the disordered nerve force to concentrate in cravings for the anes-

thesia of spirits are to be neutralized and prevented before a cure can be expected.

The use of narcotics and drugs to check the desire for spirits at the beginning is temporary and always uncertain. Opium, chloral, and cocaine, given freely at this time, often simply changes the drink craze to these drugs, which are ever after used in the place of the spirits.

The return of the drink impulse at regular or irregular intervals is in most cases preceded by premonitory symptoms, which, if known, enable the physician to use preventive remedies. In certain cases, calomel and saline cathartics, with prolonged baths, rest or exercise, according to the requirements of the cases, have been found preventive. Quassia solutions, given at this time, frequently break up the craze.

In a certain number of cases, patients are unconscious of the approach of the drink storm, and hence are more difficult to treat. But when they realize its coming and seek assistance, the task is easier. The general principle of treatment is sharp elimination through all the excretory organs and the use of mineral tonics, with changes of diet and living; also, a particular study of the exciting and predisposing causes and the use of active remedies for their removal. When the drink paroxysm has passed away, then radical constitutional remedies are to be used. The history of syphilis calls for mercury, arsenic, and potassium.

Defective nutrition requires a study of the diet best suited to strengthen and build up the tissues.

Entailments from other diseases, as malaria, rheumatism, and various affections, require appropriate remedies.

Tinctures of any sort are dangerous. The susceptibility to alcohol is so great that the smallest quantity is felt, though it may not always be recognized.

Where spirits are taken continuously, the system is depressed, all functional activity is lowered and palsy and starvation are present.

The removal of alcohol is only a small part of the treatment. The demand for alcohol is a symptom of this progressive degeneration. Giving remedies to produce disgust for the taste of spirits or to break up the craving for it, is not curative. Apomorphia, mixtures of atropia, hydrastin, and a great variety of allied remedies, are all dangerous. While apparently breaking up a symptom of the disease present, they often actually increase the degeneration by their irritant narcotic properties and depressing action on the organism. The

indiscriminate use of these and allied drugs in the various specifics for inebriety is dangerous empiricism. It is the same as giving opium or other narcotics in every instance of pain and suffering irrespective of all conditions and calling the subsidence of the pain a cure. Thus, the following case, a periodic after a "gold cure" treatment, developed into acute dementia, which ended fatally. In other cases, mania, pneumonia, rheumatism or nephritis develop from the chemical suppression of the drink impulse. In all probability, the narcotics used were active or contributing causes to the particular organic diseases which followed.

The masked character of inebriety makes it dangerous to use narcotics beyond a certain narrow limit. Cases which have been subjected to active drug treatment to suppress the desire for spirits, are feebler and more debilitated than others. Those who have taken the so-called specifics are marked examples, and whether they use spirits again or not are always enfeebled and more degenerate.

In all these cases there is so wide a range of causes and conditions that specific routine treatment is impracticable.

Strychnin has recently come into prominence. In some instances where the spirits are withdrawn, its action is pronounced as a stimulant. Given in one thirtieth-grain doses four times a day for a time, then discontinued or given in larger doses for a shorter time, the results are usually good.

In some cases certain susceptibilities to the action of strychnin are noticed, and where the drug is taken to prevent the drink attack, it frequently rouses it, seemingly precipitating the condition which it is supposed to prevent. This is often seen in the muscular tremor and nerve twitchings that evidently come from strychnin when used even in small doses. Strychnin should never be given alone, except immediately after the withdrawal of spirits. At other times, combined with cinchona or other vegetable tonic, it is an excellent tonic. Care should be taken to watch its effects on the motor nerves, and to be sure that the patient is not unusually sensitive to it.

Belladonna, atropia, cannabis indica, hyoscyamus, and drugs of this class have a limited value, and should be used with great caution in states of irritation following the withdrawal of spirits. They are best given in combination with other drugs for a brief time, and in particular cases.

The bromides are valuable in the same way, and in the same conditions, only in much larger doses than mentioned in the text-books.

From 50 to 100 grains for a single dose are required, always accompanied with baths, and never continued more than two or three days.

Coal tar preparations are of uncertain value as narcotics but may be used in certain cases with good results.

In treatment of cases, after the paroxysm is over, frequent changes of the form of the tonics are most valuable. Iron, phosphorus, arsenic, potassium, and bitter vegetable tonics should be alternated with free intervals for periods of months.

The various derangements of the system should be watched and treated with appropriate remedies, and every case should be constantly under medical care.

The facts of the case having been studied, the question of where the medical treatment can be applied to the best advantage must be determined from the case and its surroundings.

If at home, the physician must have full control, and his directions must be carried out implicitly. When the drink paroxysm appears, the course of treatment must be prompt and exact. In one case the patient goes to bed and is secluded from all sources of excitement; in another, he is sent away to the country, and among strangers; in a third case, a few days' residence in a hospital or asylum under the care of a physician is sufficient.

Hospital treatment, with its exact care, and physical and psychical remedies continued for a long time, gives the strongest promise of permanent restoration. Wisely adapted medical treatment, based on a careful study of each case, makes it possible for the family physician to treat these cases in the early stages with success.

In the early stages, the family physician should study the exciting and predisposing causes and treat them heroically, using chemical, hygienic, mental and moral remedies freely and persistently.

When chronic states are present, the same heroic, persistent treatment should be carried out. Often a fatal mistake is made in trusting the patient's judgment. While his co-operation should be sought, his opinion is always unsafe, and cannot be followed.

No single remedy is capable of meeting a wider range of conditions than the Turkish or hot air baths, with free massage.

Next to this are hot and cold shower baths, and hot packs, with free rubbing.

Bitter tonics and salines, with regulated diet, are next of importance.

Free elimination through the bowels, kidneys, and skin are always essential.

Beyond this, the good judgment of the phy-

sician should determine when to give narcotics, and when to abandon them, always remembering their danger, and very uncertain, temporary action. Also that the cessation of the drink craze is only temporary. If this is accomplished by drug and chemical restraint alone, the permanency is very doubtful.

The subsidence of the drink symptom, by the removal of the exciting causes and building up the system to greater vigor and health, is the only rational treatment. In this, the highest medical judgment possible and the greatest therapeutic skill are essential to success.

The medical judgment which will determine the exact condition in each case, and the possible range of remedies requires—not any one drug or combination of drugs, not so called moral remedies, not appeals to the will power—but a clear, broad, scientific application of every rational means and measures demanded.

A large number of these unfortunate cases are distinctly curable in the early stages, and later, when chronic conditions come on, the possibility of cure continues to a far greater degree than is commonly supposed.

It is the common observation of every one that a certain number of cases recover from the apparent application of the crudest empirical remedies and psychical agencies used in the most unskillful way. This fact furnishes the strongest possible reasons for believing that when inebriety shall be studied and treated as a disease more generally by the profession, a degree of curability will be attained far beyond any present expectation.

The present empirical stage of treatment should rouse a greater interest, and bring the medical treatment of inebriety into every-day practice. Then the family physician, and not the clergyman and the quack, should be called in to advise.

ALCOHOL AND HEREDITY*.

By A. T. CUZNER, M. D., Gilmore, Fla.

The hereditary effects of alcohol are most instructive to the practicing physician.

No one to day, I think, will gainsay Morel's statement that alcoholism has produced a demoralized and brutalized class of wretched beings, characterized by an early deprivation of instincts, and by indulgence in the most immoral and dangerous actions.

According to Legrain, among 814 children of alcoholic parentage, 322 were degenerates,

* Read by invitation before the American Medical Temperance Association, 1900.

and 174 had not sufficient vitality to live. Among the survivors are 14 per cent. of hysterics and 17 per cent. of epileptics.

The hereditary effects of inebriety are strikingly illustrated in the history of the Jukes' family, as related by Dugdale. The ancestors of this family, born between 1720 and 1740, lived to an old age, and left descendants who have been traced with varying completeness through five generations. The total number of the descendants is 1,200. While it contains a number of honest workers, it has in the main been a family of criminals, prostitutes, vagabonds and paupers, costing the public treasury about a million and a quarter dollars.

Another of these remarkable exhibits is the tribe of Ben Ishmeal, studied by McCulloch. He discovered and identified 1750 descendants of this man, living in Kentucky in 1790, who had been criminals and paupers, among whom 121 were prostitutes. In six generations 75 per cent. of the cases treated in the city hospital in Indianapolis were of this man's offspring.

Professor Pelman, of Boun University, discovered and identified 709 descendants of Frau Ada Jurke, a notorious drunkard, who was born in 1740 and died in 1800.

Of these, seven have been convicted of murder, seventy six of other crimes, 144 were professional beggars, sixty one lived on charity, and 181 were prostitutes. This family has cost the German Government for maintenance, cost of courts, almshouses and prisons, one and a quarter millions of dollars.

M. La Gendre (*Journal de Médecine de Chirurgie Pratiques*) presents to each of his hospital patients a written statement of the evils of alcohol, among which is the following:

"Among the children of alcoholic parents are recruited the idiots, the epileptics, the mentally and physically dwarfed."

But, gentlemen, it is not so much for the purpose of presenting to you the overwhelming testimony of others against even the moderate use of alcohol, and of its inherited ill effects on offspring, that I appear before you to day. This evidence is accessible to you all without my help; but my main object is to offer you the testimony obtained clinically during my professional life from 1865 up to date. This clinical evidence has caused me much reflection; has slightly modified my practice during the past few years, and may possibly be of use to you in your laudable efforts to overcome as far as you can the evils of heritage from alcoholic parents.

While we have much to hope from the philanthropic efforts of temperance people in

general, yet there is still greater hope, when we consider that our noble profession has undertaken to mitigate, if not wholly destroy, the evils of the drink habit.

Yet while we cannot expect to effect much towards curing the habit in those who are its confirmed victims, still we may venture to hope and even anticipate, in the coming generation, a large decrease in the number of victims to this vile practice.

Again expecting the results of the prophecy, "visiting the sins of the fathers unto the children even unto the third and fourth generations," we may by anticipative remedial measures modify or almost wholly neutralize its fulfillment.

There is an old axiom: "An ounce of prevention is worth a pound of cure." Early in our professional career we were impressed by the fact that the teaching of our colleges had very little to do with preventive medicine, but was mainly devoted to the consideration of the nature of disease and its cure when known.

One of the books that interested me in those early days, and one that should be in every physician's library, was the work of Charles Darwin, on "Animals and Plants under Domestication."

In this masterly collection of facts, it is plainly to be seen, that animals and plants can be modified by their environment, and circumstances under the control of man.

While this fact was not new to Darwin and many others, even to Jacob of old, when he wished to further his own interest while in charge of Laban's flock, even the Greeks acknowledged the principle by adorning their wives' bed chambers with beautiful pictures and statues of handsome children, in order that their vision in the mornings might be first greeted with the sight of delightful objects, expecting, like Jacob, to favorably affect their offspring; still the greatest credit should be given Darwin for his painstaking and masterly demonstration.

Every physician living in the country must have observed that the environment, mode of life, feeding and condition of the animals coming under his observation has much to do with the kind of offspring such animals will produce. All these facts, well known to stock-breeders, and the deductions and practice resulting from them, are used by these breeders for the purpose of improving their stock.

As a physician, I have often noticed in many families where one of the parents—a father—was addicted to the inordinate use of alcohol as a beverage that one or more of the younger

children were either deformed, sickly, or what is called a *degenerate*.

Upon close inquiry, we have found that such cases were generated during or just after a drunken debauch.

We have also observed that such degenerates, when married, beget sickly or degenerate children; we have also lived long enough to see several families die out completely in the third generation, victims to the effects of their ancestors' evil habits.

A few typical cases will serve to illustrate.

CASE I was that of a relation who had married a young man, a moderate drinker. The wife did not discover this at first, but soon learned it. The result, her first child was not strong, and at the age of 34 died of consumption. Her second died in early infancy; two other children grew up to womanhood, but were not very robust in health.

The last child—a boy—is what may be termed a degenerate; he is not, however, an idiot. My relation informed me that this last child was generated at the close of a debauch. Now, mark this! Both parents came of hardy, long-lived stock. Another fact! The first grandchild by her daughter is also a degenerate! Still another fact! This grandchild's grandfather on his father's side was also a habitual drinker, and the boy's father is much inclined the same way. Another fact! Both grand-parents on father's side were both healthy, and of good stock.

CASE II was that of a grandson of the founder of a celebrated New York daily; he was a degenerate. His father, while not an immoderate drinker, has been "a free liver" all his life; I learned, however, from his first wife that the boy was generated at a time when his father was greatly under the influence of liquor.

CASE III.—During the year 1875, I was consulted by a lady patient, who, with tears in her eyes, stated that her husband, being largely addicted to the drink habit, she was afraid her coming offspring would be a puny, sickly child like her last infant, and asked me if anything could be done to prevent it coming to a natural birth; that she did not wish to do wrong, but thought it far better to destroy it before birth than to permit it to grow up in misery and ill health, to afterwards die before it reached adult age. I tried to impress upon her mind that the taking of human life unjustifiably, whether extra-uterine or inter-uterine, in childhood or old age, was murder. She was a very intelligent lady, and retorted, "that the law taught differently." I replied, that human laws were but fallible, and were made by lawyers who did

not understand the principles of life. In continuation, I told her I would, with her co-operation, do what I could to counteract any evil tendency, the result of the bad habits of her husband.

By this time an idea began to take possession of my mind, that the possibilities of improving the future offspring of inebriates, while yet in utero, were great enough to warrant a trial; therefore, during the remainder of her term, I looked after her general health, supervising her habits of life as far as I could, giving her tonics and reconstitutives, and prescribing a liberal animal diet. At the end of her term, she had a normal confinement and delivery, and, in addition, a very much better developed and healthy child than her former ones. This child grew up to healthy manhood.

CASE IV was like cases already mentioned. The father was begotten during a time when his father was a heavy drinker, and, as I learned, was begotten during a debauch. The young man is easily recognized as a *degenerate*. He enjoys good health, but has not much stamina, and in intellect is below the average, while he cannot in justice be classed an idiot. He married a healthy country girl of good constitution, and of fair intelligence, but no education.

After one year of married life, she gave birth to a female child, under-sized and ill-developed. I did not attend her previous to or during her confinement. After the birth of this child, I was constantly called upon to treat it for some petty trouble or other, and at three years of age the child is a puny little thing, much below in size and vitality the average child of its age. The second child was like the first, but much more frail, and at two years of age cannot walk. Its lower limbs seem to lack power to support its body. It is not very sickly, but is certainly not very robust. This child also was attended to at birth by a midwife. About one year after its birth, the mother called on me for consultation. She said she had heard I was good in confinement cases, and that she would like to put herself under my care during the remainder of her term, and at the birth of the child.

I was much pleased at this, as it gave me an opportunity of again testing a theory I had formed; that during inter uterine life, the child's growth and development might be materially changed for good by treatment administered through its mother. I, therefore, as in the previous case, kept a constant supervision over her diet, mode of life, and hygienic surroundings.

As to drugs, my main reliance was on tonics and reconstructives, especially strychnine and phosphorus. At the end of an uneventful term, I delivered her normally of a male child weighing nine pounds. With her former children, she stated that her milk was insufficient for their wants, but with this child she had to relieve herself artificially, as the child was not able to utilize the supply.

CASE V was that of a young lady of about 25 years of age. She was an orphan; of slight build; not very strong or healthy. Her family history I did not learn. Her husband, about 30, was fatherless, and he was under sized, and presents the appearance of a future consumptive. As far as I could learn, his ancestors were given to the drink habit. The lady sent for me at the time of her first confinement. This was my first acquaintance with her. She had a more than usually easy time at her delivery. When I arrived, she was in the second stage of labor, and it continued normally until the child was born. I noticed that it was below the average size, and did not seem to have much vitality; it did not cry, as infants usually do, but uttered a low moaning cry of distress for about two hours, and then died. After investigation developed the fact that my patient had treated herself during her entire term according to the directions contained in a book called *Tokology*, by Alice B. Stockham, M. D. This book teaches that a female can be so dieted and physiologically treated, during her term, as to insure such a smallness of child, and such a condition of its tissues, and, in addition, obtain such a condition of the mother's tissues, as to insure such an easy labor as to scarcely be felt by her; further, that women have been known to have children born to them while they were asleep, and wake up to find themselves delivered without their knowledge of both child and membranes.

This lady, at the commencement of her second pregnancy, consulted me as to her condition and of her conduct during her term.

I advised her to drop tokology, and live a proper life, submitting as gracefully as she could to the primal curse, and give birth to a strong, healthy child. She partially followed my instructions and took the medicine I prescribed vicariously, or rather semi occasionally. At her second labor, which was normal, but not so easy as the first, she was delivered of a healthy male child, of about eight pounds in weight. I might continue the citation of similar cases indefinitely, showing the inherited ill-effects of inebriety, but it is unnecessary, as

you are all doubtless familiar with such like facts, and, as the main object of this paper is to show a partial remedy for, or, a way of neutralizing the evils inherited from inebriates, I shall recite but one more case, and that mainly to show—as does the preceding cases—what can be done during inter uterine life, to tone up the embryo and neutralize in it, much of its tendency towards *degeneracy*, or frailty of constitution.

CASE VI is that of my own daughter. Her family history, on her mother's side, is bad. Scrofula and consumption the prevailing diseases. My own family history very good. I come of a long lived stock on both father and mother's side, and at sixty-one years of age enjoy most excellent health.

My daughter married a young man of good moral character, and good habits, but having a frail constitution. His father died while he was a young child, of what cause I cannot learn. His mother died of consumption while he was still a small boy. He is of a frail build, and has a slight cough at night. He was obliged to leave Nebraska and come to Florida for his health some twelve years past. At the time of his marriage he resided with me in the country, but business soon after calling him to the city, he removed to Jacksonville. About one month before his first child was born, he moved back to the country, where my daughter gave birth to her first born, a girl. The infant, from birth, exhibited a delicacy of health, requiring the uttermost care and attention. The second child, a boy, born in the country, three years later. During her whole term with this last child my daughter was under my constant care and supervision. The second child was much more strong and healthy than his sister, and to-day, while both are healthy, he is much the more highly favored, physically speaking, than his sister.

Now, gentlemen, fellow workers in the noble cause of temperance, in what has been presented, you have merely a very long text for a very short sermon I wish to deliver at this time. As stated before, it is very little we can do as active workers in this cause, beyond being advisers and adjuncts to such noble workers as those who composed and issued that admirable pamphlet, "An Appeal to Truth." When we read such rejoicing as the following, the result, or one of them, of the efforts of such an able scientist as Prof. W. O. Atwater, the picture is presented to my mind of an "Angel of Light wearing the ivery of Satan in the service of Hell." Listen to the following from *The Wine and Spirit Gazette*:—

PROFESSOR ATWATER HIGHLY APPROVED.

"It is like the irony of fate to hear that an institution supported by the Methodist church, which has among its members the most rabid cranks on the subject of alcohol, must furnish the evidence dispelling the lies and misrepresentations that have formed the stock in-trade of the whole fanatical temperance brood. Will these false prophets now cease to rant about "alcohol as a poison;" will they revise their text-books on temperance physiology, and cease their false and misleading teaching in the public schools; will they be honest enough to admit that alcohol is a food and not a poison, that in any quantity, large or small, it is harmful, and not useful; will they admit that they have published lies which were directly opposed to the results of the latest and most reliable research, and to the opinion of the leading authorities the world over; will they accept as demonstrated fact the result of the experiments just made by Professor Atwater at a cost of a great deal of labor and money furnished by the Methodist church, which stands committed to total prohibition?"

"Professor Atwater deserves great credit for having established by scientific methods the accuracy and truth of the position upon which *The Wine and Spirit Gazette*, in common with all conservative liquor-trade advocates, has made its fight against fanaticism, intolerance and narrow-mindedness. Will the cold-water cranks and fanatics, in their mistaken effort to make men better, respect the one thing which no upright man need fear—the truth? We pause for an answer."

Again from *Modern Medical Science* :—

"Last June, Prof. W. O. Atwater, of Wesleyan University, Middletown, Connecticut, in a talk before a local club gave an account of his experiments as to the nutritive value of alcohol. It is said that, contrary to the usual custom of that club, a special New York reporter was present. Immediately afterwards, an account of these experiments and conclusions appeared in the newspapers of practically every State in the Union. This was uniformly accompanied with the charge that the pulpit, platform, Sunday school and public school are in error in teaching that alcohol is a poison and not a food. The attack seemed to be specially aimed at the public school text books on physiology. One paper even asserted that it was to prove a statement of these text-books erroneous that Prof. Atwater conducted his experiments.

Five months after this newspaper promulgation, the first official data of Prof. Atwater's

experiments appeared in Bulletin 69 issued by the United States Department of Agriculture."

These two quotations show plainly how great is our influence as teachers in the solution of the alcoholic problem, and how much greater it is with the general public than that of the clergy; this is largely due to our technical and scientific knowledge; therefore, with this responsibility resting upon us, we ought to rise equal to the occasion. The able scientific efforts of our friend, Dr. Crothers, at Walnut Lodge, are on a par with those of the army surgeon on the field of battle. While the carnage goes on, and widows and orphans are being made, and cripples being produced, he is doing his best to minimize the evil results of such carnage, pain suffering and death. Here the analogy stops; for, while the surgeon does not pretend to make any effort to prevent war, Dr. Crothers is doing all that he can to provide against the necessity of such institutions as he so ably conducts.

The average physician is doing less to mitigate the drink curse, than the army surgeon is doing to reduce the evils of war. This is not due to want of love towards his fellows, but to the want of preception of the way or the how.

Now, if in this paper I have been the means of calling the attention of my brethren to the consideration of measures of prevention, and afterwards of amelioration of the effects of the drink habit; first, of the prevention by some form of prohibition or restriction; and second, of mitigation of the evils resulting, both in the victim and his offspring, I shall consider my efforts well repaid, and my time well spent in this work.

THE CAUSE OF SOME CASES OF NEURASTHENIA, AND THEIR TREATMENT BY ELECTRICITY.*

By FRANCIS B. BISHOP, M. D., Washington, D. C.,

Member and Ex-President of the American Electro-Therapeutic Association; Member and Ex-President of the Medical and Surgical Society of the District of Columbia; Member of the Medical Society of the District of Columbia; Member of the French Society of Electro-Therapeutics, Paris, France, etc.

The conglomerate set of nervous symptoms known as *neurasthenia*, or nerve weakness, frequently seen in the individual predisposed by an unstable nervous system, may be caused by a variety of morbid conditions, reacting upon the nerve centres, thereby producing patho-

* Read before the American Electro-Therapeutic Association in New York City, Sept. 26th, 1900.

logical and often degenerate changes in the cells themselves. These changes, according to the centres involved, will give expression to the mental and physical symptoms known as neurasthenia and sometimes epilepsy, hysteria or perhaps severe neuralgia. Any slight physical derangement, such as severe nervous shock, a uterine disorder, a urethral stricture, or a sensitive prostate, is all that is necessary to fan the slumbering flame.

As has been frequently pointed out by writers upon this subject, neurasthenics are not the physically weak individuals, as a rule, but many of them seem strong and vigorous, and are usually men and women of the better class—society women and brain working men; and it is to this class of patients of sedentary habits that I wish particularly to refer to-day; while my investigations may have revealed nothing absolutely new, they have revealed some facts, and facts are always worth recording.

For the past three years, it has been my custom, in all cases of neurasthenia coming under my care, to have a quantitative analysis of the urine before beginning my treatment; and, in nearly every case, I have found the amount of certain solids markedly diminished—especially is this the case in the elimination of urea. The specific gravity is often within the normal limit. The amount of urine passed in twenty-four hours is often below the normal, while the earthy phosphates are always in excess. Thus we have, as a basis for our argument, diminution in the daily quantity of urea eliminated, and an excess of phosphates.

Physiologists have given us as a normal standard, with a mixed diet for the twenty-four hours' elimination, about the following: Total amount of urine, fifteen to sixteen hundred c.c. This should contain about sixty grammes of solids, of which about thirty-five grammes should be urea, while we have only three and a half grammes of phosphoric acid with which to form phosphates. Now, as urea, or its antecedents, when retained in the system, becomes a systemic poison, and often produces sudden death by overpowering the centres of respiration and of the heart, and sometimes produces violent convulsions, it is not unreasonable to conclude when a very small amount is retained each day (not enough perhaps to produce the overpowering influence referred to), that the nerve centres must show the toxic influence by slighter symptoms, such as we find in neurasthenia and other functional nervous disease.

The muscular tissue forms about forty-two per cent. of the body weight, and contains

seventy-five per cent. of water and twenty-one per cent. of proteids, or about one-half the proteid material and water contained in the whole body; thus the muscular tissue is the most abundant and the most important tissue of the body; as nitrogenous waste is more abundant in the muscles than the other tissues of the body, and the final result of this metabolism is urea. After the food has been assimilated, and is a part of the body, the theory is that the proteid substances break down to form urea, or, in other words, in the process of metabolism, anabolism, and the building up, and the katabolism or the breaking down, goes on perfectly in the healthy individual; and the antecedents of urea, formed by proteids by katabolism very largely in the muscular system, is carried to the glandular system, particularly to the liver, to be converted into urea. But in the individual of sedentary habits and with a good appetite, who uses his brain extensively and his muscles but little, the conditions are liable to be changed; assimilation and anabolism may go on fairly well, but katabolism is diminished, the formation of urea is lessened, and the excretion of urea is, of course, below the normal.

On the other hand, the excess of phosphates in the urine shows imperfect anabolism of the brain cells, an imperfect assimilation of the phosphorized substances in the food, or an excessive katabolism of the brain and nerve cells. We must here eliminate cases of structural change in the kidney, for these conditions may, and do, exist without any structural change of the kidneys whatever; the urea is simply not formed, and its antecedents remain in the system to produce vague and numerous nervous symptoms by toxemia.

An interesting physiological fact is that muscular exercise does not seem to increase the elimination of urea on the day the exercise is taken, but on the following day the increase is marked, showing that while muscular exercise is most valuable for its elimination, there are certain physical and chemical changes necessary before the elimination as urea; therefore, the object of our treatment should be to aid, as much as possible, these changes.

I will give briefly the history of two cases under my care, together with an analysis of the urine in each case:

A lady about forty years of age, and weighing 140 pounds, who had spent the better part of the last five years in a sanitarium, consulted me in consequence of a train of nervous symptoms which, she asserted, she was sure would kill her, or send her to an insane asy-

lum; her bowels were obstinately constipated; and when they were moved by medicine or enema, she experienced great pain, followed by extreme fatigue and nervousness, accompanied by excessive cardiac palpitation. She slept poorly, and would be awakened by palpitation of the heart; she could think only of herself, could not concentrate her mind sufficiently to read the lightest work of fiction; her pupils were widely dilated; reflexes all exaggerated; she had formerly taken great pleasure in music, but an attempt to play upon the piano made her very nervous. The presence of those she loved best seemed to irritate her most; slight exercise caused great fatigue; her appetite was good. An analysis of her urine revealed the following conditions: Total amount in twenty-four hours, 1350 c.c. Reaction sharply acid; specific gravity (corrected for 70 F.) 1020; solids in twenty-four hours, 63½ gms.; urea for twenty-four hours, 17 gms.; no albumen; no sugar; no bile; no inorganic sediments; no casts; earthy phosphates in great excess. Here we have the daily quantity of urine approaching closely to the normal for a woman—normal reaction, specific gravity within the normal limits, with an excess of solids, and only about half the daily amount of urea excreted, while the phosphates are in great excess. The weight and general appearance of this lady showed that anabolism was going on, while the amount of urea excreted gave evidence of the fact that the antecedents of urea were retained in the tissues. The phosphates being in excess, helped to run the daily amount of solids above the normal.

But the most interesting feature of the case is that, as the patient improved, her urea increased and phosphates diminished until they both reached about the normal, when she was discharged cured.

In these cases, pathologists tell us that they find a shrinkage of the cells of the brain cortex, and of the gray matter of the cord, and this seems reasonable, as there seems to be evidence of the fact that there is either a lack of assimilation, by the cells, of the phosphorized elements of the food, or perhaps of a decomposition of the phosphoric acid in the nucleus of the cells themselves; and these weakened centres receive and transmit false impressions, giving us the varied symptoms, both physical and mental, that we find in this peculiar nervous malady.

The next case is that of a gentleman weighing 230 pounds, who also thought that he was headed straight for the asylum; in fact, when

he was introduced to me, before I could speak, he threw both arms around my neck and broke into violent weeping. He begged me, in the name of God and for the sake of his family, to save him from the lunatic asylum. He would sit in the midst of his family for hours and have nothing to say and brood over his misfortune; he took no interest in his affairs whatever; and, although a politician, he could not read the daily papers; he slept poorly, but had a good appetite, but took very little exercise; smoked moderately, but drank no intoxicants; he complained bitterly of pain in the brow; the reflexes were all diminished, and the knee jerk was absent on one side, the left, and present, to a slight degree, on the right. This led me to suspect a lesion of the spinal cord, and I accordingly gave a guarded prognosis. To my delight, however, and to my great surprise, and contrary to my expectations, he rapidly improved, and in a few months was able to resume his work, and is, to day apparently well. A careful analysis of his urine showed that he was passing 1400 c.c. in the twenty-four hours of neutral reaction, with a specific gravity of 1025, and 78½ gms. of solids, and only 22 gms. of urea. No albumen, no sugar, no bile, no casts; urates normal, great excess of earthy and alkaline phosphates.

This case is similar to the case just reported, and as they are very nearly like the great number of cases of this kind, it will be well to consider the treatment based upon the hypothesis already outlined.

If, as has already been mentioned, metabolism takes place most extensively in the muscles of the body, and muscular exercise causes an immediate increased elimination of carbon dioxide, and an increased elimination of urea on the day following, it seems rational to conclude that muscular exercise should be an important factor in the treatment of these cases of neurasthenia. Besides, in muscular exercise in moderation we produce conditions favorable to brain rest, and only in long refreshing sleep can we expect to rest the tired brain cells and cause them to assimilate the material from the food necessary to their nutrition.

The question arises, What is the best method of administering the necessary exercise to these muscle cells to make them "hop around," as it were, and make their proper chemical changes, and thereby rid the system of poison? Massage, horseback riding, bicycle riding, walking, etc., are all good so far as they go, but they are all followed by fatigue, and these patients are already fatigued; they get up in the morning tired, and they go to bed tired.

In electricity, however, we have a means of exercising not only the muscles of the body, but also the liver, the spleen, the kidneys, the stomach, and the intestines, and do all this in such a quiet gentle way as to be rather restful to the patient, and leave him invigorated instead of fatigued.

It is my custom, in treating these cases, to begin by passing a very gentle galvanic current through the superior cervical ganglia, by placing a large pad over the solar plexus, or over the pit of the stomach, and by a bifurcated cord, two small electrodes, one under each ear. This current, which should not be strong enough to produce uncomfortable dizziness, is allowed to pass for five minutes. Thus we gently stimulate the cells of the cortex cerebri and of the spinal cord; and through the pneumogastric we influence the stomach and intestines and increase their secretions; and, as the cells in the brain and spinal cord are toned or gently stimulated, they are better prepared to transmit to the muscles and glands, when these are exercised or stimulated, that degree of healthy energy so necessary to enable them to function physiologically, and to produce those chemical changes so necessary to perfect nutrition.

This treatment is followed by general galvanization, and then by general faradization, as described years ago by Dr. Rockwell, of this city, an esteemed member of this Association. My method of applying general galvanization is to place a pad, at least twelve inches square, on the bed, table or operating chair, and allow my patient to lie on this pad, which is placed so as to cover the lumbar and lower dorsal spine; then, with an interrupting hand electrode, I go over every muscle of the body and produce gentle contractions; this acts directly upon the muscle protoplasm, and by chemical action of the current upon the muscular tissue, metabolism is aided. The same method is followed with the faradic current, and, as the contractions are produced by the action of this current upon the terminal nerve fibres, we must call into action also the motor and sensory cells of the cortex and of the spinal cord; and as we are told by physicians that before we can have a current flow from pole to pole, all conductors within a specified area must be charged by induction, it is reasonable to conclude that all conducting material of the body is charged at every make and break of the current, and that absolutely no tissue of the body escapes the energizing influence of the electric current.

The liver, the stomach and spleen are all

treated in their turn as they are reached, and when this is finished the patient is placed in my ozone cage and treated to the soothing spray for from ten to fifteen minutes; during this time he inhales deeply the ozone generated in the cage. In a very short time his sleep improves, his bowels become regular, and he takes normal exercise without fatigue; an analysis of the urine will show an increased elimination of urea and diminution of phosphates, and as improvement continues, these products of katabolism approach nearer and nearer the normal to complete recovery. If, after galvanic and faradic treatment, the patient experiences a sense of fatigue, he is allowed to remain in the static cage ten to fifteen minutes, and, upon coming out, he usually experiences a feeling of exhilaration which is followed in a short time by drowsiness and desire to sleep, and this sleep is usually very refreshing and followed by much relief from fatigue and nervousness.

The static cage I have found most beneficial in all cases requiring a soothing effect, and at the same time gentle general stimulation. A number of hard working lawyers and statesmen have taken treatment after the days of toil and struggle, and have invariably expressed themselves as materially relieved and rested, enabling them to attend more thoroughly to their business the following day.

Since I introduced this particular form of cage with the tinsel brushes to the profession, in a paper read before this Association, at Toronto, in 1895, I have treated beneficially by its aid many functional nervous troubles, and have had a great many letters of inquiry concerning its construction and general utility. Among others, I received a letter from Dr. Monell, of Brooklyn, requesting a general description, the cost of making, the class of cases treated therein, etc. This letter I now have in my possession, and may be seen and read by any one desiring. You can imagine my surprise when a cut of this cage appeared recently in Dr. Monell's book as the product of his own brain.

Many cases of neurasthenia have been treated in this cage alone and have been cured, but the class of cases now under discussion I have found more readily cured by the treatment already outlined, but even in these cases the static cage is invaluable.

Finally, in support of my argument, I quote the following text from Landris and Sterling's *Physiology*: "A motor nerve excites chemical destructive changes in a muscle, and is so far the katabolic nerve of that tissue; in the same

way the sympathetic to the heart, by causing more rapid contractions, is also a katabolic nerve while the vagus, as it arrests the heart's action, brings about constructive metabolism of the cardiac tissue, is an anabolic nerve.

1913 *I Street, N. W.*

GALL BLADDER SURGERY.*

By A. VANDER VEER, M. D., Albany, N. Y.,

Professor of Surgery, Albany Medical College, etc.

In the rapid advance made in abdominal surgery, hepatic and biliary complications have received particularly careful and successful attention. This part of our surgical work has developed wonderfully in the past few years.

The most important feature is early diagnosis by the general practitioner and the surgeon. No great reliance is now placed upon jaundice as a positive symptom.

Mrs. F., *æt.* 42; case diagnosed for several years as gastralgia, acute dyspepsia, acute intestinal indigestion, nervous spasms, renal colic, and many other conditions; no jaundice; no gall stones ever detected in stools. On exploratory incision, nearly 1,900 gall stones of various sizes were removed. Patient has since had occasional attacks, undoubtedly due to a stone lodged in the common duct.

Faith must be placed in diet, saline bath treatment, medicines, such as phosphate of soda, olive oil, succinate of iron, and other remedial agencies.

The theory that the absence of bile acids causes the cholesterin to precipitate is a field for future study. Great care should be exercised in watching the stools, for a single non-faceted stone with the stool is generally the end of that patient's sufferings.

Mr. A. was given a few large doses of olive oil before an operation was resorted to, and passed a single non-faceted gall stone, and has remained absolutely well ever since.

On the other hand, when a faceted stone is passed, and the patient yet suffers, we should earnestly advise an early operation.

The dangers of perforation and adhesions must be explained to the patient or friends, for these complications become embarrassing to us when an operation is finally done. A Mrs. W.—a clear case of stone or stones in the common duct—refused to listen to an operation. Under a medical line of treatment, she

continued to suffer. Two years after, at the end of a severe attack, she was willing to have an operation performed. At midnight before the operation, she had a terrific pain, passed into a condition of shock, and died the next morning from perforation of the common duct, the contents escaping into the peritoneal cavity.

When the case is evidently one of lodgment in the common duct, and even in cases of intermittent jaundice, medical treatment must be continued for but a short time. Cases in which cholæmia and ecchymotic spots appear somewhat rapidly will not admit of great delay regarding surgical intervention. Cases in which this broken up condition of the blood is presented will not tolerate an operation well.

Another danger we should explain fully to our patients is the liability of cancer resulting from this constant irritation.

I attended Mrs. L. at the age of 35, and for the following ten years, for gall stone colic. At times she seemed to pass calculi and improve. After twenty years she passed out from under my observation. At the age of 53, I was called to see her. Patient suffered greatly from biliary colic, was intensely jaundiced, some ecchymotic spots, was much emaciated, and anxious for an operation. This was performed three days later, and a number of gall stones found in the gall bladder and common duct, with many nodules of cancer on the under surface of the liver. A cholecystotomy was performed, the gall bladder fastened to the incision, and patient did nicely for thirty-six hours; then occurred the most terrific hemorrhage I have ever seen in all my liver surgery, from which she died three days later.

We should impress upon our patients that the continuous irritation of gall stones will result in cancer in a certain number of cases.

In an early operation, if the case prove one of primary cancer, and the growth is small, it can be successfully removed.

We may occasionally err in believing the case to be one of carcinoma of the liver, when exploration will reveal a gall stone or gall stones.

Mr. L., *æt.* 72, presented almost unmistakable symptoms of cancer of the pylorus or possibly of the duodenum. He did not develop dilatation of the stomach, and continued to live.

At the end of two years, death occurred from gradual exhaustion. I believed I had made an error regarding my first opinion of his case, and the autopsy revealed the gall bladder filled with large calculi, with many adhesions, but no malignant trouble. An ex-

*Original abstract of paper read at the meeting of the American Association of Obstetricians and Gynecologists, Louisville, Ky., September 19th, 1900.

ploratory incision is absolutely necessary in all cases of suspected gall stone trouble which do not yield to an earnest course of treatment.

An obscure diagnosis of obstruction of the bowels is sometimes finally cleared up by the patient's passing a large gall stone per rectum.

Mrs. B. recovered from an illness supposed to be typhoid fever. Her death occurred at an advanced age. I performed an autopsy, and discovered a fistulous tract existing between the gall bladder and upper portion of the ascending colon. These fistulous openings that permit the bile to escape into the large intestines do not seem to seriously interfere with the patient's condition as regards digestion, constipation, etc.

Gall stones often produce inflammation of the gall bladder by irritation, and this may result in suppuration and an abscess.

We must recognize hour glass contractions of the gall bladder as a factor in causing the lodgement and retention of one or more gall stones. In operating upon abscesses of the gall bladder, where a single faceted gall stone is found, we should search carefully for others.

In cases of retained gall stone or stones within a suppurating bladder, with complications, Mayo Robson has spoken favorably of an injection of the five per cent. solution of green soap.

In closing a mucous fistula a happy result follows dissecting out the sinus, making a fairly long tube of it; then by means of the small Murphy button connecting it either with the upper portion of the jejunum or the lower portion of the duodenum.

Regarding stenosis of the common or cystic ducts I can cite several cases that have healed without any further operative intervention after drainage, where we expected to find one or more gall stones but did not.

Patients should be warned against allowing too many attacks of biliary colic to pass by, owing to the dangers of attendant complications.

In cases of removal of stone from the common duct, where it is not desirable to prolong surgical intervention by direct incision, etc., it is possible to drain the large peritoneal pouch, so well described by Mayo Robson, by means of a long glass tube, but on the whole, the safer method is to make use of a lumbar drain.

In attacking various abscesses through the lumbar region we have not only found pus, as we expected, but have also found not one, but several large gall stones.

The case of Mrs. L., aged 45, who had many

attacks of gall stone colic, but entirely free from them for the past three years, was diagnosed as appendicitis by her physician and myself, after she had suffered severe pain in the right inguinal region, with other well marked symptoms. I planned my incision as if to reach the kidney, thinking we had to deal with an appendix extra peritoneal outside and behind the cæcum. By careful dissection a pocket of pus was opened up. Being unable to find any necrosed portion of the appendix I concluded it would be wise to wash out and introduce a drainage tube. The patient was relieved at once. Two weeks later in washing out the cavity a couple of gall stones were floated to the surface and saved. After this the patient made a complete recovery.

No doubt these gall stones had found their way out of the gall bladder in her last attack of three years previous, and must have become lodged in the peritoneal pouch, shut off from the abdominal peritoneal cavity, then suppuration occurred from irritation of the appendix, or some other cause, the abscess which we opened not being strictly in connection with the appendicitis believed to be present.

In attacking calculi in the hepatic ducts where it seems impossible to close the incision, we will find a very easy method of drainage by means of the lumbar stab. This method of procedure is also important in stenosis of the common duct, malignant or otherwise, and where there is a small, contracted gall bladder, that cannot be brought up into the incision, and upon which we cannot do a cholecystotomy or cholecystenterostomy, but drainage seems to be absolutely necessary, and can be accomplished in this manner.

I am quite confident that we succeed better in closing a persistent mucous or biliary fistula, following a cholecystotomy, by uniting the peritoneal surfaces of the gall bladder with the peritoneum and deep fascia of the incision.

A few more points: Starchy foods and sweets should be excluded in these cases, as witnessed by the frequent beneficial results in severe cases of gall stone trouble after an energetic course of treatment at Carlsbad.

Massage has always seemed to be an exceedingly dangerous line of treatment, particularly in connection with a full gall bladder or a gall stone lodged in the common duct. Aspiration of the gall bladder also should seldom, if ever, be countenanced.

Finally:—

1st. An early diagnosis of cases.

2d. In suppuration of the bladder, with adhesions, a most thorough examination should

be made from within by digital exploration and use of probe, for any possible deep-seated calculi.

3d. That in prolonged operations upon the common duct or hepatic ducts, where adhesions are present, and it is difficult to close the incision, after removal of the calculus, drainage through the peritoneal pouch, by means of the lumbar stab is advisable.

4th. When the patient is suffering seriously from cholemia, with marked ecchymotic spots over the body, intense itching, the blood examined, and found in a septic condition, an operation is not to be encouraged. It is too late in the vast majority of cases for the patient to recover.

5th. General practitioners, as well as the surgeon, should place more earnestly before the patient and friends the dangers of repeated attacks of gall stone irritation resulting in cancer of the ducts, stomach or liver.

THE GROWING NECESSITY FOR SANITARIA FOR THE TUBERCULAR*.

By WILLIAM PORTER, M. D., St. Louis, Mo.

The increasing distrust in the efficacy of climate as a cure for tuberculosis is largely due to its indiscriminate recommendation and ignorance of needed conditions for the special case. The Eldorado for all cases has not yet been found, and the misery and disappointment from failure in the search is beyond compute. The physician, before sending a patient from home and home comforts, should thoroughly study not only the climate selected but its adaptation to the case, and if unable to come to a conclusion, the patient should have the benefit of the doubt and be kept at home. A crying evil, against which the intelligent physicians at our best health resorts are protesting vigorously, is that so many patients are sent to them too far advanced to be in any way benefited.

The victim of tuberculosis is a menace to the public. Every expectoration has the possibility of harm, and already many of our best resorts are known to be infected. What wonder! Each tubercular case, we are told, may expectorate billions of bacilli daily which may retain their potency for months. In twenty cities in this country there were 25,000 deaths in one year. The average duration of these cases is over two years. In other words, 50,000 citi-

zens in twenty of our best cities are a living danger to this extent to all the others. It is estimated by competent authority that 10,000,000 of the people now living in the United States will die of tuberculosis.

A hopeful view of this subject is that, owing to the advance in the knowledge of the cause and manner of transmissibility of tuberculosis, there is already a decrease in the death rate. The deaths per 1,000 in twenty cities in 1888 was 33.03. Ten years later it was 20.21, a decrease of 38.8 per cent., or 4,547 lives saved to the State.

The advantages of the sanitarium are many. They are educational institutions that, by teaching and illustrating proper exercise, suitable diet, hygiene in its many applications, and by the encouragement given by careful and conscientious reports, prove to the public that tuberculosis is a curable disease. In them we have the best adaptation of special care to the individual as well as the protection of others from danger of transmission. The first sanitarium was founded by Brehmer, of Gorborsdorf, less than fifty years ago. Now similar institutions are found all over Europe and America. The whole world is acting on the hypothesis that tuberculosis may be stamped out. To do this, the best institutions are needed and the most advanced ideas and positive action required.

Other advantages are the mental rest and quiet that are often so much needed; a proper diet that will favor assimilation, the great antagonist of tubercular disease; open air treatment which can be so modified as to be devoid of danger; exercise suited in each case; hydrotherapeutics, so valuable in many instances of impaired functions and the special care that can be taken of the various complications, such as fever, laryngeal invasion, hemorrhage and excessive cough. It is here that the serum treatment, that carefully marks an advance, can be used to the best advantage.

What as to results? In four of the best known sanitarium in this country 67 per cent. have been benefited and 25 per cent. cured. What stronger argument can be used in an appeal to a government for aid, which does not hesitate to send armies and navies around the world to rescue a few citizens from a savage foe? Yet we have here a foe that destroys more than were ever slain in battle and more insidious than ever came in the guise of war. I believe that the day is coming when the tubercular patient will be cared for as efficiently as the patient with small-pox or yellow fever, and that day cannot come too soon.

* Extract from a paper read before the Mississippi Valley Medical Association during its Session at Asheville, N. C., October, 1900.

Analyses, Selections, etc.

Discovery of "Ureine"—the Principal Organic Constituent of Urine, and the True Cause of Uræmia.

The following is an abstract of a paper read by Dr. Wm. Ovid Moor, of New York, during the Thirteenth International Medical Congress, at Paris, August 2-9, 1900, as we find it in the *Medical Press and Circular*, September 26, 1900. The "discovery," if further observation proves it to be such, is a very important one to urinologists, chemists and practitioners of medicine, helping greatly in the explanation of those grave manifestations and symptoms of uræmia and its consequences. He says:

I recently discovered that human urine contains a liquid organic body, in a quantity superior to urea. This organic liquid is the most characteristic component part of urine. I propose to give it the name of "ureine." It is not surprising that the existence of a metabolism-product of such great importance should until the present have escaped our knowledge, for every urinary analysis has been made with the firmly-rooted idea that urine is a liquid composed of water and of inorganic solid ingredients.

In isolating this organic liquid, two principal rules should be kept in view: (1) High temperatures must be avoided. (2) Chemicals should be used as little as possible.

The urine to be examined for its liquid organic component *ureine*, should be put in a large, shallow, flat recipient and evaporated at a temperature of not over 50° C. As soon as we observe that there is no more vapor ascending from the recipient, we treat the remainder of the liquid with a strong solution of silver nitrate until no more precipitate is formed. We now cool off the liquid sufficiently to promote the separation of the saline and earthy phosphates, and then filter, washing out the filter once or twice with water, until the liquid comes out perfectly colorless. The filtrate is now put into a small cup, which should be rather deep, and heated to 65° C., in order to evaporate the remaining water. New aqueous vapor will be formed, but soon the formation of vapor will cease, though the evaporation may still continue invisibly.

To determine accurately whether or not the rest of the liquid contains a considerable percentage of water, the following delicate test is indispensable:—

A large mercury thermometer is placed in the liquid and rapidly withdrawn just at 65°

C.; we will probably see a puff of vapor ascending from the mercury bulb, which is an indication that the remainder of the urine still contains an undesirable quantity of water. This procedure is repeated at short intervals, and finally we shall arrive at a point when there is no more vapor ascending from the mercury bulb. We now measure the quantity of liquid which remained and add to it one-half of its volume of absolute alcohol together with powdered pure oxalic acid, 1 gm. for each 100 c.c. of urine used, and after having allowed the newly formed oxalate of urea— $(\text{CH}_4\text{N}_2)_2\text{C}_2\text{H}_2\text{OO}_4$ —to settle completely, we carefully add a concentrated alcoholic solution of oxalic acid) which is prepared by dissolving 3 gm. oxalic acid in 10 c.c. of hot absolute alcohol) until no further precipitate is formed. The alcoholic liquid thus obtained is filtered, the filter is washed out once or twice with absolute alcohol, and the whole is now exposed to a temperature of about 55° C. (but not over) for about one hour, or an hour-and-a-half, being stirred once in a while with a horn spoon or with a glass rod. To facilitate the separation of sulphates and of the other remaining solid ingredients from the liquid organic constituent of urine—ureine—we now reduce the rest of the liquid to a low temperature and filter the same, freely using cold absolute alcohol to facilitate filtration. There is finally nothing but ureine, together with coloring matters left in the recipient (besides the alcohol, of course). To separate the coloring matters from the ureine, the alcoholic solution containing both must be treated carefully with a saturated solution of nitrate of mercury— $\text{Hg}(\text{NO}_3)_2$ —until no further precipitate is formed, and neutralized with carbonate of sodium. (It is advisable then to add a sufficient amount of sodium carbonate, so as to render the liquid slightly alkaline.) Filter again and evaporate carefully, resorting to a temperature of not over 55° C. We have thus obtained *ureine*, the liquid organic component of urine, that mysterious chemical body which is the cause of the intense blue reaction resulting from urine and a solution of red prussiate of iron and perchloride of iron.

Ureine resembles in aspect olive oil, is of a pale yellow color, of a slightly bitter taste, gives to the touch the impression of a fatty substance, and produces on paper spots resembling fat spots, though not so marked as those produced by fat. Its specific gravity is about 1270; it is, therefore, much heavier than water and about as heavy as glycerine. It is freely miscible in all proportions with

water and alcohol, whether these latter are of a neutral, acid, or alkaline reaction; it is barely soluble in ether. Its own reaction is very slightly alkaline, almost neutral.

My preliminary investigations have led me to the conclusion that this organic metabolism-product of the human body belongs to the group of alcohols of the aromatic series; at a temperature of about 80° C. it begins to split into several bodies belonging to the class of aromatic oxy-acids, and if heated to about 150° C. it leaves behind pure carbon. This organic liquid has a characteristic odor; in fact, it is this constituent of urine which is the cause of its specific odor. Rubbed into the skin it soon produces a sensation of slight burning; there can be no doubt, therefore, that it is the principal cause of the irritating qualities of urine. One of the most remarkable characteristics of ureine is its ability to take up large quantities of oxygen with great facility. The quantity of 50 c.c. of the average human urine can deoxidise 1 gm. of potassium permanganate, and one sample of urine taken from a woman in the ninth month of pregnancy deoxidised with great rapidity over 4 gm. of permanganate to each 100 c.c. of urine; this urine was voided about five o'clock in the afternoon, was of an intense yellow color and of a specific gravity of 1030; it contained about 2½ per cent. (by volume) of ureine. It is important to remember that the power of urine to take up oxygen does not depend only on the quantity of ureine present, but to a greater extent on the quality of the ureine, on some intrinsic peculiar force inherent in this wonderful organic liquid; I have seen urine, containing less ureine than did other samples of urine, absorb more oxygen than did the latter samples which were richer in ureine, and especially strong was this power of absorption in the urine of a pregnant woman. Urine which has been subjected for some length of time to a temperature of 70°-80° C. loses in a great measure its capacity of taking up oxygen, and when exposed to 90° C. for about half an hour it loses 75 per cent. of its absorptive power. It does not take up at once all the oxygen which it is able to absorb, but does so with great avidity in the beginning, and gradually takes up less and less during equal periods of time; its capacity of absorbing oxygen is not wholly extinguished before a lapse of four or five weeks. Ureine is present in a quantity double that of urea; the greatest amount of ureine is contained in urine voided between 5 and 7 P. M.

It was to be expected *à priori* that the prin-

cipal organic constituent of urine should be the true cause of those complex toxic symptoms which have been designed by the collective name of uræmia, and which were quite frequently incidental to the puerperal state, after all the other organic and inorganic components of urine failed to account for these terrible toxic phenomena. A few experiments on rabbits have fully demonstrated the truth of this *à priori* conclusion. Several of these animals, each weighing over 1 kgm., have succumbed after three to eight hours from subcutaneous injections of 3½ to 4½ c.c. of ureine.

Ureine is, I believe, the principal cause of the ammoniacal fermentation of urine, as without its presence urea cannot be decomposed into ammonia and carbon dioxide. Neither Pasteur's micro-coccus ureæ, nor Leube's bacterium ureæ, nor any other micro organism is able to change urea; in fact, in many respects urea is just as indestructible as iron, silver, or any other element, for the strongest mineral acids do not decompose it, but simply combine with it. Only a temperature of above 130° C., perhaps 140° C., can split urea into ammonia and carbon dioxide. Ureine is, therefore, a ferment, which has a potential energy of at least 130° C. Without ureine all organic matter would become converted into urea, which would remain in nature without any use, and thus within a limited period of time all vegetation and animal as well as human life would cease.

Diagnosis of Organic Hemiplegia and of Hysterical Hemiplegia.

During the Thirteenth International Congress of Medicine, held at Paris, August 2-9, 1900, Prof. W. Roth, Moscow, Russia, read a paper on this subject. Dr. S. I. Schwab, of St. Louis, translated the synopsis for the *St. Louis Med. Review*, October 6, 1900, which we adopt.

The detailed anatomic study on one side, and the analysis of pathologic conditions and clinical symptoms on the other, permit us to distinguish two groups of hemiplegias—organic hemiplegia and hysterical hemiplegia—and to establish the basis for the differential diagnosis of these two forms.

Nevertheless, there are some hemiplegias, the nature of which is not as yet sufficiently clear; for example, the hemiplegia in migraine and in certain intoxications. Moreover, certain symptoms of organic hemiplegia may manifest certain changes in their intensity, even under psychical influences, without being, for that reason, of hysterical origin.

The facts furnished by anatomic examination are not of themselves sufficient to limit the domain of organic hemiplegia.

There are some hemiplegias which, from the clinical standpoint, are to be included in the organic hemiplegias, in spite of the absence of appreciable lesions at the autopsy. The majority of the etiologic factors of organic hemiplegia, acting with a less pronounced intensity, can produce in the brain a focal alteration, so-called functional, with a resulting hemiplegia. These functional hemiplegias have nothing in common with hysteria, and cannot be distinguished from organic hemiplegias. There may thus be some hemiplegias in which, *a priori*, it is impossible to determine whether the etiologic factor is hysteria, an anatomic lesion of the brain, or functional focal alteration.

In the great majority of cases, the group of symptoms alone, which are intimately associated with hemiplegia, and the manner of their evolution, characterized perfectly organic from hysterical hemiplegia.

(I will not dwell upon this last, because I am certain that this part of the question will be preferably elucidated in the report of Ferrer.)

Among the most characteristic symptoms of organic hemiplegia it is necessary to note:

(A) The group of symptoms constituting the syndrome of apoplexy which can be simulated by "hysterical apoplexy," except in unusual cases.

(B) Focal symptoms.

I. Aphasia in all its forms. It is not difficult to distinguish hysterical mutism.

II. Muscular hypotonicity and paralysis.

1. Conjugate deviation of the eyes. The amplitude of the movements of the eye towards the paralyzed side remains often diminished for a long time. At times this diminution only manifests itself in voluntary movements, while it does not appear in unconscious reflex movements, or even if the patient follows with the eyes an object which is moved in a lateral direction.

2. Facial paralysis. The superior facial is often involved. The facial paralysis may be systematic, and only show itself in mimic movements. In hysterical hemiplegia, facial paralysis is excessively rare. Ordinarily, a pseudo-paralysis is seen, a hypotonia associated with hypertonia, even characteristic little tremors of the muscles of the face of the opposite side.

3. The paretic deviation of the tongue and the typical dysarthria in proportion to the de-

gree of paralysis of this organ. In hysteria, the deviation of the tongue is found under various and conspicuous forms, well known (hemispasm, systematic paresis, deviation to the opposite side, etc.).

4. The relative intensity of the paralysis of the limbs and of the muscular group of an extremity is of a typical habit. The characteristic attitudes, the gait, the mowing gait in place of the hysterical gait of Todd.

5. Involuntary movements associated with the paralyzed extremities.

6. The evolution of the paralysis in cases without ictus presents ordinarily characteristic peculiarities.

7. The diminution of the paralytic symptoms takes place in a regular manner, whatever may be the maximum degree of the paralysis established, following the apoplexy. It soon undergoes a period of diminished intensity.

III. The contractures are characteristic in their form and evolution.

IV. The exaggeration of the tendon and osseous reflexes (trepidations of the knee, foot, and hand) goes hand in hand with the muscular hypertonicity. The reflex trepidation of the foot may be found sometimes in hysterical hemiplegia.

V. The superficial reflexes have only a limited value, with the exception of the toe phenomena of Babinsky. Nevertheless, the reflex of the extension of the big toe is exceptionally seen in hysteria. The absence of the abdominal and cremasteric reflex on the paralyzed side alone at the beginning of the hemiplegia should be taken into consideration.

VI. The hemianesthesia is less well marked than the paralysis; the degree of the anesthesia is not necessarily the same on the whole half of the body, but it has no sudden transition and segmentary (lines of amputation) and capricious distribution which is seen in hysteria. The diminution of the stereognostic sense is sometimes prominent.

VII. 1. Hemianopsia.

2. Absence of manifest alleviations in the other higher functions.

VIII. Psychological state.

IX. Circulatory and thermic symptoms.

X. Acute decubitus. In a hemiplegia produced by a lesion of the encycolic isthmus of the medulla or of the cord the focal symptoms are typical. Hysteria seeks sometimes to imitate these symptoms, but it does so in a very imperfect manner. *A priori*, one cannot admit that any symptom is pathognomonic. Nevertheless, the existence in a case of hemiplegia

of one alone of these, which are of the first importance, assures the diagnosis of organic hemiplegia, if it is not necessary to admit an association of hysteria with the organic affection.

The genesis, the true etiology of hemiplegia, is not always that which appears the most likely. The soil upon which the disease develops, the condition in which it appears, should, for this reason, only occupy a secondary place in the consideration of the subject.

Nevertheless, the profound and detailed study of these facts may have a great importance for the diagnosis, if the symptoms alone are not sufficient to establish it.

The arguments in favor of organic hemiplegia may be based upon the age, sex, nationality of the patient, his manner of life, his general condition, the state of his organs (heart, vessels, kidney, etc.).

It is necessary to remit the rôle of lead, typhoid and other infectious diseases, of pneumonia, pleurisy, diseases of the nervous system (multiple sclerosis, tumor), syphilis, diabetes, intoxications, etc. The ophthalmoscopic examination is important.

The circumstances of the appearance of a hemiplegia will often permit the exclusion of the possibility of auto-suggestive influence, of a provocative agent of hysteria (tranquil occupation, deep sleep). It would suggest rather a hemorrhage (muscular effort, warm or cold baths, defecation, coitus, etc.). Other factors of an equivocal nature (violent emotion, fall, etc.), have no decisive value in the application of doubtful cases.

The evolution of a hemiplegia (for example, passing circumscribed anemia of the brain in atheromatous individuals) may act as a moral shock and provoke hysterical symptoms (abasia, hemi-anesthesia). The organic disease may by this error be overlooked. As a general rule, it is necessary to investigate all cases presenting undoubted symptoms of hysteria to determine if it does not waste an organic lesion, which is the real cause of the hemiplegia.

Passing hemiplegias are very often wrongly taken for hysterical hemiplegias. Their cure can even result from some suggestive procedure, and nevertheless their paralyzes are often of organic nature, and a careful search discovers sometimes a multiple sclerosis, the beginning of a general paralysis, an interstitial nephritis, etc.

All the courses of a temporary hemiplegia are not known. On the other hand, in the organic hemiplegias in general it is not always

possible to discover the cause of the condition. This is the reason why it is not permissible to diagnose a hysterical hemiplegia by exclusion in a case of mild, passing, or one with symptoms not very characteristic. If there are no positive facts in favor of hysteria, one can take into consideration the seat of the hemiplegia on the left side, pains in some part of the motor apparatus of that side accompanied by a cutaneous anesthesia, which is exceptional in mild organic hemiplegia. It would be wise first in such a case to think of an organic hemiplegia.

Typhoid Fever in St. Louis.

Just as the Health Department of St. Louis, Mo., predicted, the low state of the water in the Mississippi river is, to say the least, coincident with an increase of typhoid fever in that city. Whether these two conditions occupy the relation of cause and effect, we cannot say, but it certainly adds some confirmation to the position taken by the Health Department in regard to the influence of the Chicago Drainage Canal upon the health of the citizens of St. Louis.

As it happens, the disease is rather mild, except in a few instances; but coming as it does exactly as the Department had preannounced, we must confess that the question of river pollution forces itself more strongly upon us.

Dr. Starkloff has notified all physicians of the city that the law requires that every case of typhoid be reported. In order that the diagnoses may be verified, the city bacteriologist will make blood examinations whenever requested. Thirty five stations have been established where physicians may obtain a typhoid fever outfit, so that specimens may be properly sent to the office.

Meanwhile, of course, the Health Commissioner is accumulating a vast field of material, which we hope to have him report in the near future.—*St. Louis Med. Rev.*, Oct. 6, 1900.

Typhoid Fever.

The season is at hand when there is likely to be some prevalence of this disease, and it will be present in many places.

The etiology or cause of typhoid is now well understood by all physicians, and many intelligent people outside of the profession are not ignorant of its nature. Such families are using the best filters they can obtain, while others make use of boiled water for drinking purposes. Water and milk are the chief conveyers of the typhoid poison.

It is suggested, and the suggestion should be carried into effect as speedily as possible, that all public and private schools should be provided with efficient filters. Children in the intermediate and high schools are at the most susceptible age of their lives for contracting the disease, and every possible effort should be made to lessen a liability to the malady.

The danger is greater in country than city districts, and there is usually more neglect of preventive measures. However, danger lurks in every spring and every well, so that there should be a sounding of an alarm bell in every direction, and physicians will do well to issue to their patrons little circulars directing attention to ways of prevention of typhoid fever. Such measures will be appreciated by any people, and will assure not only gratitude, but a fuller recognition of the value of medical service when needed. Such a manifestation of interest will pay in cash returns to the man who is a good shepherd over his flock.—*Cincinnati Lancet Clinic*, Sept. 22, 1900

Epidemic of Pink Eye.

An epidemic of pink eye is now fully developed in the East. New York city in particular is suffering, and practicing physicians have their hands full, as the public infirmaries are crowded. The attacks are sudden, usually coming on over night. The conjunctiva is highly congested, and there is a profuse secretion and discharge from the eyes. With these symptoms are pain and smarting. The disease is highly contagious, and spreads throughout whole families when they use the same towels or occupy the same apartments; in fact, the malady appears to be an infectious conjunctivitis. The disease is very amenable to treatment. Mild washes of bichloride of mercury, or camphor water containing small amounts of morphia, are useful. Among some of the formulæ mentioned for the malady the following may be noted as having proved of service:

R̄ Morphiæ sulphatis..... gr. ij.
 Aquæ distillatæ..... ʒ ij.
 et add

Sodii bichloratis..... gr. x.
 Aquæ rosæ..... ʒ j.

M. Et fiat collyrium. Signa: Drop in eye every four hours.

R̄ Morphiæ sulphatis..... gr. ij.
 Sodii bichloratis..... gr. x.
 Aquæ camphoræ..... ʒ ij.

M. Et fiat collyrium. Signa: Drop in eye every three or four hours.

R̄ Hydrochlorate morphine gr. j.
 Boracic acid gr. x.
 Distilled water ʒ vj.
 Rose water..... ʒ ij.

Mix Drop in eyes every four hours.

These few prescriptions are said to be in use at the eye dispensaries. The constant communication of travellers between East, West and South makes it more than possible that the pink eye will soon make its appearance in this section. It is said that the pink eye is much aggravated by electric light, and many sufferers are wearing colored glasses and eye shields in order to protect the eye from direct rays of overbrilliant white light.—T. C. M., *Cincinnati Lancet Clinic*, Sept. 22, 1900.

Value of Potassium Bicarbonate in Pract. ce.

Dr. Stephen Harnsberger, of Catlett, Va., in a paper read before the Section of Materia Medica, Pharmacy and Therapeutics, American Medical Association, 1900, said: Potassium bicarbonate will abort cold almost at once. The drug is well borne by both elderly and weak persons. Nor is it necessary for patients to keep in doors while taking it. In whatever stage of the cold it is administered it will demonstrate its good effects. In the treatment of influenza it has not its equal in any other drug or combination of drugs—mitigating the disagreeable symptoms and lessening the special proneness of the disease to complications. Under potassium bicarbonate and rest I have never had to wrestle with prolonged prostration and remote recoveries—not even in the weak and elderly. A recent influenza patient, who will be 100 years old the 26th of next September, though in the first stage of pneumonia when I saw her first, rapidly improved under the administration of potassium bicarbonate and is now well.—*Amer. Therap.*, Aug., 1900.

Curability of Suppurative Cerebrospinal Meningitis.

Archives of Pediatrics, Sept., 1900, quotes from *La Presse Medicale*, 1900, No. 39, that lumbar puncture has provided a means of accurate diagnosis of meningeal lesion, so that it is no longer possible to doubt the accuracy of the statement that cases of meningitis are curable. All the forms of simple meningitis may recover; and, while the serous and serofibrinous varieties usually end in cure, recovery from suppurative meningitis is by no means exceptional. Thus Netter is able to report seven cases of suppurative meningitis (seen since

May, 1899,) which recovered. The diplococcus meningitidis of Weichselbaum was cultivated from the fluid obtained by lumbar puncture in every case, the fluid being cloudy and having a sediment of pus. The puncture was repeated from one to ten times throughout the course of the disease, the fluid containing fever bacteria in the later punctures and sometimes remaining sterile. Improvement was marked within three to four days in some cases, in ten to fifteen in others; while in one case the disease lasted two months, and more than three months in another. Rigidity of the neck was the predominating symptom in all; ocular paralyzes were frequent and were cured perfectly. One child retained some trouble with her hearing, the final outcome of which cannot, as yet, be foretold. The good results are to be attributed above all else to the systematic use of warm baths (38° to 40° C.) given every three or four hours, day and night, and lasting twenty to thirty minutes. In order to sustain the strength, subcutaneous injections of the serum were given when the children took food badly. The treatment was used in eleven cases; seven recovered, and of the four who died one was brought into the hospital in a moribund condition.

Nitrite of Amyl as an Aid to Auscultation of the Lungs.

Dr. Albert Abrams (*Medical Fortnightly*, August 25th), in a paper on Diseases of the Lungs and Pleura, says that one must not forget that in some persons forced expiration causes a bronchospasm and develops sounds not unlike those of asthma. In such a contingency amyl nitrite inhalations are valuable. If the subject inhales the drug, we need not fear mistaking the sounds provoked by voluntary spasm of the bronchial tree. In some forms of bronchitis spasm may be an element in the dyspnoea, and conversely a catarrhal factor may complicate an attack of asthma. Nitrite of amyl by inhalation removes the dyspnoea, if occasioned by spasm, but does not influence it if dependent on bronchitis. To distinguish the râles caused by bronchitis from those of asthma, auscultate the chest after nitrite of amyl inhalation; the râles of the former persist, while those of the latter are dissipated. This drug, when inhaled, will bring out certain sounds which would otherwise remain unnoticed.

Iodide of potassium, he says, is another valuable drug in diagnosis. In suspected apical lung affections, where a modified respiration is present without râles, the latter may be pro-

duced artificially by the administration of the iodide. The same agent will also intensify the auscultatory phenomena of an old pleuritis by augmenting the pleural transudate.

Experimental and Clinical Study of the Chief Litholitics.

From a chemical and physiological study of various substances employed as diuretics or uric acid solvents, the following conclusions are arrived at by Dr. Henri Vindevogel (*Annales de la Société Royale des Sciences Médicales et Naturelles de Bruxelles*, 1900, Vol. 9, No. 1):

Urotropin in vitro is a poor solvent of uric acid. In acid solutions it breaks up into ammonia and formaldehyde, but not in neutral or alkaline media. Formaldehyde in alkaline (but not in neutral or acid) fluids is a good solvent of uric acid. Given internally, urotropin has feeble or doubtful diuretic action, no effect on general nutrition, does not diminish urinary acidity, and has only a negligible action on the elimination of uric acid.

Piperazin in distilled water has strong solvent power over uric acid, but this power is almost entirely abolished by the presence of sodium chloride. The latter salt does not, however, precipitate uric acid once dissolved in piperazin. Piperazin internally used (in three cases) had no diuretic action, no appreciable effect on general nutrition, and lowered the urinary acidity; in one case it strongly increased the elimination of uric acid; in the other two cases it had little or no such action.

Sodium and lithium salts in distilled water are good solvents of uric acid, but this power is abolished or the uric acid precipitated by the presence of sodium chloride.

Potassium salts (as the carbonate) are excellent solvents of uric acid, although sodium chloride, to a certain extent, diminishes this action. Sodium chloride does not precipitate uric acid from its solutions with potassium salts. Internally administered (in two cases), potassium acetate strongly increased the excretion of uric acid; it had scarcely any influence on diuresis, no effect on body nutrition, and no effect on the urinary acidity.

Ureidine, in one case, increased the elimination of uric acid, decreased the acidity of the urine, and slightly augmented diuresis.

For practical litholitic purposes, the author recommends the use of *potassium salts*.

Treatment of Chronic Synovial Effusions.

Four cases are reported by E. Luton (*Union Médicale du Nord Est*, Reims, July 15, 1900), of synovial effusions (extensor tendon sheath

of hand, phalangeal joint, knee joint, ganglion of wrist), treated by injection of tincture of iodine into the tissues immediately surrounding the wall of the distended synovial sac, but not into the sac itself. One or two injections were made in each case, the amount injected being from a few drops to half a Pravaz syringeful, according to the size of the lesion. In all the cases improvement and cure followed in the course of a few weeks or a few months after the treatment.

Treatment of the Diarrhœa of Tuberculous Patients by Abdominal Faradization.

E. Doumer and L. Raucou, publish (*Le Nord Médical*, Lille, July 1, 1900,) a good paper on this subject.

Following the methods of Ervant in the treatment of infantile diarrhœa, a considerable number of grave cases of tuberculous diarrhœa were treated by abdominal faradization, and in the majority of cases with success. The technique consisted in the passage of moistened chamois skin covered electrodes over the surface of the abdomen, especially along the course of the colon, with a faradic current of sufficient intensity to produce good contractions of the abdominal muscles. The applications are made two or three times daily, and last four or five minutes each time. Improvement usually took place immediately, with cure in four or five days.

Abdominal Hysterectomy in the Treatment of Cysts and Solid Tumors of the Ovary.

E. Quenu and L. Longuet, in a report of nine cases and a discussion of the advisability of removal of the uterus along with the appendages in diseases of the latter (*Revue de Chirurgie*, Paris, July, 1900), arrive at the following conclusions:

Total abdominal castration for neoplasms of the appendages is a proper and legitimate procedure, in that the ablation of the uterus does not add to the gravity of the operation.

Total castration offers great technical and operative advantages, in the greater facility of separating cysts from extensive pelvic adhesions, and of forming a pedicle, and in the possibility of satisfactory autoplasmic restoration of the pelvic floor. It affords greater security against post operative accidents, especially intestinal occlusion. In addition, in some cases hysterectomy insures the radicalism of the operation.

Total abdominal castration for neoplasm of the appendages is indicated (1) in ovarian cysts and tumors complicated with uterine,

perituterine and tubal inflammation; (2) in ovarian cysts and tumors complicated with neoplastic degenerations of the uterus, either independent of or secondary to the ovarian lesions; (3) in bilateral ovarian cysts and tumors where hemostasis or formation of a pedicle is rendered difficult by the size or friability of the pedicle, or its evolution in the broad ligament.

Hysterectomy is contraindicated in (1) unilateral cysts in young women; (2) when in bilateral lesions the uterus is healthy and the formation of pedicles is easy; (3) when satisfactory pediculization can be attained by a simpler procedure.

Cacodylate of Iron.

A. Gilbert and P. Lereboullet, referring (*Gazette Hebdomadaire de Médecine et de Chirurgie*, Paris, August 12, 1900), to the satisfactory use of sodium cacodylate in states of lowered nutrition, especially in pulmonary tuberculosis, these authors consider the advantages of the use of cacodylate of iron in cases where the medicinal action of iron is desirable in addition to that of cacodylic acid and arsenic. The preparation used by them was the basic ferric cacodylate, having the formula $(\text{CH}_3)_2\text{O}_2\text{Fe}_2 + (\text{Fe}_2\text{O}_3)_3$, and containing about 45 per cent. of ferric oxide and 32 per cent. of arsenic. The drug is readily soluble, and is somewhat toxic, causing death in a dose of 30 to 40 centigrams to the kilo of animal weight. It is preferably employed hypodermatically, in doses beginning with three and gradually increased to 6 or 10 centigrams daily in 3 per cent. solution. Thus used it does not cause local accidents, aside from possible indurated nodules. If hypodermic use is impossible, it can be administered by the mouth in doses gradually increasing to 15 or 25 centigrams daily, well diluted, after meals; thus used it is rather less active than when given hypodermatically, and generally produces no disagreeable consequences. It has a less alliaceous taste and odor than the sodium salt.

The salt should be useful in cases where it is desirable to augment the amount of hemoglobin as well as to increase the number of red blood corpuscles. In chlorosis, it should produce a real and relatively rapid improvement. It is also indicated in chloroanemic conditions, as in tuberculosis, cancer, pernicious anemia, leukemia, lymphadenoma, and in the anemia accompanying chronic nephritis. The drug, so far as observed, did not seem to cause any renal irritation; on the contrary, it was observed that in five cases albuminuria disappeared during its use.

Rhabdomyomata.

E. Genevet presents a study of neoplasms composed of striated muscular tissue, especially malignant forms. He distinguishes three types of these rare tumors.

1. Rhabdomyomata composed of striated muscle fibres of the adult and fully developed type. These are benign tumors.

2. Tumors in which the neoplastic elements are striated muscle cells of an early embryonic type, either large, round polygonal or fusiform cells not yet showing striation, or more developed fusiform cells exhibiting rudimentary or well marked striation. These tumors, of which four cases are described, are malignant, analogous in their embryonic type and clinical features to sarcomata and carcinomata.

3. Rhabdomyomata of a type histologically and clinically intermediate between the other two forms.

Pneumotomy with Costal Resection for Gunshot Wound of Lung.

M. Christovitch: A servant 26 years old was shot with a revolver in the chest at the level of the left third intercostal space. He was kept under observation, but as his condition grew worse and finally desperate, from dyspnoea, fever and prostration, he was operated on the sixth day. A large amount of pus and blood was found in the pleural cavity, and a portion of the lung was indurated. To reach this, portions of the fifth and sixth ribs were resected. An incision was made into the indurated lung, permitting the escape of a quantity of pus and blood and the removal of the bullet and three gangrenous pulmonary fragments. Hemorrhage was arrested by tampons. Ultimate cure resulted.

The author considers that while pulmonary surgery rarely gives chances for success in diffuse diseases like tuberculosis or bronchiectasis, it is capable of great usefulness in local lesions like abscess, gangrene, hydatid cysts and foreign bodies.

Case of Right Subclavian and Innominate Aneurism Cured by Brasdor's Method.

Le Dentu reports this case: (*Bulletin de l'Académie de Médecine*, Paris; Seance of July 21, 1900.) A coachman, 51 years old, suffering from an aneurism of the right subclavian and innominate arteries, was subjected by Lance-reaux to 22 gelatin injections, which slightly diminished the pain, but did not arrest the development of the tumor. Twenty-two months after the onset of the aneurism, and eight months after the commencement of the gelatin

treatment, operation was performed by Gerard Marchant. The aneurism was the size of a small hen's egg, and was seated along the entire length of the subclavian and the trunk of the innominate. Ligatures were applied to the axillary artery below the clavicle, and to the common carotid. Complete cure resulted.

Le Dentu gives a review of operations by Brasdor's method performed for innominate and aortic aneurisms, and concludes that this means of treatment is capable of ameliorating the condition of the patients, and even of effecting complete cure in a notable proportion of the cases. The application of the two ligatures at one seance, incontestably the superior operation, procures improvement or cure in at least a half of the cases.

Hemorrhages in Diseases of the Liver.

Ch. Dopfer, (*Gazette des Hôpitaux*, Paris, Aug. 4, 1900) remarks: The general opinion is that there is a hemorrhagic tendency in most hepatic diseases. Hemorrhages are habitual symptoms in cases of infectious icterus, especially in grave icterus, primary or secondary to persistent hepatic lesions, in which they attain the greatest degree, frequency and gravity. In these cases the hemorrhages may occur in the skin or mucous membranes, usually in purpuric form, but also as petechiae and ecchymoses. Epistaxis is very common; hematemesis and melaena, uterine hemorrhages, hematuria and hemoptyses, also occur. Hemorrhagic effusions also appear in the viscera, especially the liver. Cirrhotic cases are very subject to hemorrhages, both in atrophic and hypertrophic form. Biliary lithiasis, hepatic cancer, hydatid cysts, are also often accompanied by similar hemorrhages. The hemorrhages have no specific character. They may develop insidiously or suddenly, and occur at any time in the course of the disease. Sometimes they are the first symptoms of hepatic disease, appearing before the symptoms of the latter are fully declared; but most often they characterize the terminal period. They are usually accompanied by a febrile movement.

The lesions accompanying hemorrhages of hepatic origin have not all been determined definitely. The best studied are those of esophageal, gastric and intestinal hemorrhages. The mucous membrane of these tracts, cleansed of blood, very often does not present any perceptible alterations, except that by microscopical examination slight capillary congestion may be perceived. Sometimes congestion is evident to macroscopic examination; mucous erosions have been noted. In some cases the

hemorrhages arise from ulceration of varicose esophageal or gastric veins, especially in alcoholic cirrhosis.

In renal hematuria the kidneys are generally congested, the capsules of Bowman and the various portions of the uriniferous tubules are dilated and filled with blood, the renal epithelium undergoes degenerative changes.

Various theories have been presented to account for hepatogenous hemorrhages. The earliest theory attributed the hemorrhages to an alteration of the blood. Stasis of the portal circulation, theories of vascular alterations, congestion of the liver by nervous vaso dilator action, have been advanced as explanations, but while they may cover particular cases, they do not account for all the hemorrhages observed. Toxic factors, due especially to infectious conditions, causing diminished coagulability of the blood, and acting in the same manner as in purpura and generalized petechias, seem to explain many cases of hemorrhages. But no one of these theories satisfactorily explains all the hemorrhagic phenomena, so that different factors are operative in different cases.

As to prognosis, no general statements can be made; this will depend upon the frequency, abundance, and situation of the hemorrhage. Single hemorrhages may be so violent as to cause death, while mild hemorrhages, frequently repeated, may gradually weaken the patient and hasten the fatal termination. As to the seat of the trouble, the danger of a cerebral hemorrhage is evident.

Treatment can be conducted along two lines: Symptomatic, to check hemorrhages once started; and causal, directed at the hepatic condition that underlies the trouble.

The Supra-Clavicular Glands in the Diagnosis of Abdominal Carcinoma.

C. Turchetti (*Deutsch. Archiv. f. Klin.*, Leipzig, 1900. Bd. XLVII, 5 & 6 H. S., 575), from observations of cases at the clinic of Maragliano of Genoa, comes to the conclusion that the presence of supra clavicular glands on the left side occurring in the course of a carcinoma of an abdominal organ is not frequent, but may be taken into consideration in a suspected case; he finds that the swelling is not confined to cancer of stomach, but may occur with cancer of abdomen, of the liver, and perhaps of other abdominal organs (pancreas). It may take place at considerably varying periods before a fatal termination, and may be at a time when it can prove a valuable aid to the diagnosis. Metastases in the supra clavicular constitutes

a rather characteristic clinical picture. Quite often a slight swelling and increase in consistency of cervical and inguinal glands will be present in carcinoma, not depending upon metastases and having no diagnostic significance.

A Contribution to the Study of Poisoning.

Ceylharz and Donath (*Centralbl. f. innere Med.*, Leipzig, 1900. No. 13) made some very instructive experiments upon guinea pigs to test the toxicity of strychnine. Having ligated the posterior extremities of these animals just above the knee joint, an injection of strychnine was made below the ligature, of a strength found sufficient to kill a control animal in from two to five minutes. In twelve animals so treated, the injection remained harmless, if the ligature was not removed under one hour. When the ligature was removed immediately, or within a half hour after the injection, the animal succumbed.

The authors think that during life strychnine must become combined in some way with intercellular and muscular tissue, and with blood and lymph, and is thereby neutralized.

Influence of New Food Preparations Upon the Intensity of Intestinal Putrefaction.

C. Servia, (*Zeitschr. f. Diätet. u. Physikal. Therapie*, Leipzig, 1900. Bd. TV. Hft 3. s. 201.) Painstaking tests were made by C. Servia, in this regard, with plasmon, tropen, nutrose, somatose, etc. The casein preparations, he found, had no advantage over those of meat and plant albumen, so far as intestinal putrefaction was concerned. The pure casein preparations, as plasmon and nutrose, bring about no diminution of putrefaction. The difference which was observed between the various preparations was not so very great that one or the other could be emphasized in a favorable or unfavorable sense. Of all of them it is to be said that they do not essentially increase nor diminish the normally present putrefaction. Especially noticed that the ether sulphuric acid showed no decided change.

Particularly noteworthy, from a practical point of view, is the author's observation that the administration of albumen preparations had no unfavorable results in case of convalescence from scarlet fever, in which it was administered.

He observed further that 250 gr. of scraped meat, added to the daily food, did not influence the putrefaction greater than 50 grains of one of the albumen preparations in the same case.

Treatment of Retropharyngeal Abscess.

W. Schmidt (*Zeitschr. f. Chirurgie*. Bd. 55. 1 & 2H. S., 129) has given up entirely the method recommended by Chiene, of making an incision behind the sternocleido-mastoid, and instead makes it along the anterior border. He found the former method very unsatisfactory, the incisions were farther from the abscess, and in cases where the suppuration had not bulged forward much upon the neck, you must cut deeply in an oblique, anterior direction, and in the immediate vicinity of the large vessels. He incises, therefore, upon the inner side of the muscle; not, however, internal to the carotid, but to the outer side of jugular. The muscle being held back with the retractor, an incision here will bring you much more readily to the seat of the abscess, and at the same time afford a better opportunity of locating and so avoiding the large blood vessels.

Two Forcep Operations for Delivery of Twins.

Szarte, (*Re Ster Medezinisch Chirurgische Presse*, 1900, No. 30) reports the case of a woman, 30 years old. Had two previous confinements, both normal. After removing a child with forceps, in order to relieve a tedious labor in patient that was weak, in ten minutes a considerable hemorrhage took place. Another fœtus was found to be in the pelvis, in frontal position. The head was not very firmly wedged in place, and the blood escaped, coming from the first placenta, which had not been entirely separated. The forceps had to be used at once, for the second time. The case is noteworthy for the fact that the uterus could not sufficiently contract and retract, wherefore the head could not leave at all its oblique position. The use of the forceps here obviated all danger. The second application was indicated by the hemorrhage. Striking was the fact that the uterus contracted immediately after delivery, as generally, after the birth of twins, atonic bleeding takes place. It was a head presentation in each case.

How Do We Cure?

Bachman says (*Monatschr. f. prakt. Wasserheilk.* Munchen, 1900. No. 7. s., 145): The purpose of the article is chiefly to combat certain statements of V. Ziemsser, in his article entitled General Treatment of Infectious Disease, Penzoldt's and Stintzing's recent "*Handbuch der Therapie innerer Krankheiten*."

According to Bachman, micro-organisms either settle upon degenerated tissue, from there invade the living tissue and set free their toxins, or that they directly form poisons from the

products of degeneration (auto-intoxication). These products of regressive metamorphosis are especially derivatives of the blood (Nekrocysten).

Important in understanding the nature of infectious diseases is the biological principle that organisms only spread, where they find their proper food. As healthy body tissue cannot furnish a soil for microbes, there only remains to consider the used up, cast off, cell material still remaining in the tissue.

All measures, which are able to free the body, by natural ways of such product, must be looked upon as universal therapeutical agents—as baths, mineral waters, hydrotherapy, massage, all cathartics, diaphoretics, diuretics, expectorants, etc.

The basis of most diseases consists in products of decomposition, among which the derivatives of red-blood corpuscles (described by Mosso under the name of nekrocytes) play the chief rôle. Pus, mucus, exudate, etc., are of this origin. The business of hygiene, as also of therapy, consists especially in the overcoming of these products of regressive metamorphosis (evacuation). In this way decomposition will be prevented, which results in the formation of toxins, and in second place, removes the food upon which the micro-organism flourishes.

Present Position of Our Knowledge of the Significance of Alcohol as Food and Medicine.

J. Marcuse, (*Die Neilkunde*, Wien, 1900, Hft. 10 s. 589) says: The question to be decided in regard to alcohol, to determine what the value as a food is, whether it economized ball fat. After a thorough review of what is known in this particular, the author thinks it is well proved that alcohol has no effect in reserving fat, that it brings about a slight loss of albumen. In regard to its therapeutical application, he concludes that it certainly exercises a tonic influence, that it excites a transitory excitation of heart and respiration, and that it can have a certain narcotic and sulphuric influence. It has not to be given as an anti-febrile agent.

Further Investigations on the Question of Coagulation of Milk.

Gunther and Thierfeldur (*Hygienische Rundschau*, Berlin, August 15, 1900,) continue their investigation on the subject of spontaneous milk coagulation, begun in 1894: The present studies were suggested by recent statements of Kezai. He found that spontaneously coagulated milk showed, in most cases, pure

lactic acid, and only very seldom a mixture of inactive and pure lactic acid. Making tests at different temperatures, he came to the conclusion that the fermentation temperature exercised a decided influence over the nature of lactic acid formed. Our authors, on the strength of experiments past as well as present, assert that the nature of lactic acid formed in spontaneous coagulation, varies with time and place, without one being able to-day to give a satisfactory explanation of this phenomenon. The temperature at which the coagulation takes place has no constant influence.

Disease of the Larynx, Occurring in Diabetes.

Leichtersterln (*Munch. Med. Wehnschr.*, 1900, Nos. 16 & 17) In cases of persistent dryness of the nares and fauces and larynx, associated with a tendency of the voice to become easily tired, and with a subjective sensation of dryness in the larynx upon speaking, where at the same time there is little or no objective change to account for the symptoms, it should awake, according to the author, always a suspicion of diabetes in the patient. Sometimes, though seldom, there will be acute, sharply circumscribed inflammation in the larynx, terminating in abscess formation, analogous with diabetic furuncles of the skin. The author has seen two such, out of 412 cases of diabetes. The disease may also occur as a circumscribed acute œdema, appearing at different parts of the larynx, and likewise terminating in abscess. There is no fever, and the perichondrium is not attacked.

Treatment of Chronic Kidney Affections.

Greedel (*Deutsch. Med. Zeitung*, No. 27, 1900) gives the results of his observations, in this article, as to the action of the Nauheims baths on cases of chronic nephritis, especially with reference to existing circulatory disturbances. He finds the baths contraindicated in cases of chronic parenchymatous nephritis, and these cases of secondary interstitial nephritis, with increase of albumen or bloody urine: (2), cases of cirrhotic kidney, in which the circulatory disturbances are already advanced, dilated heart, pronounced dyspnoea, and digestive troubles; (3), cases of cirrhotic kidneys, associated with a high degree of arterial sclerosis; and finally, all cases having the least tendency to apoplexy, or œdema of the lungs or Cheyne-Stokes breathing.

Outside of such cases, he maintains that the baths have a very favorable influence upon the

heart, improving the circulation and the subjective symptoms. The stimulating section of the CO₂ causes a dilatation of the peripheral blood vessels, the diminution of blood pressure lightens the work of the heart, and thereby greatly contributes to their capacity for work. The diuresis observed, the author thinks, comes rather from this improved heart action than from direct action upon the kidneys.

Gonorrhœal Endocarditis.

M. Loeb (*Deutsches Archiv. fur Klin. Med.*, Bd. LXV. Hft. 3 u. 4) reports the case of a man, aged 41, afflicted with gonorrhœa, which was complicated first by rheumatism, and later by endocarditis, of which he died after fourteen days' illness. The aortic valves were thickened and perforated in places. Cœcci were found in the vegetations which appeared, and stained like gonococci. Cultures were not made.

The conclusions which Loeb draws from the seventy-one cases reported are as follows: That endocarditis after gonorrhœa occurs either as an independent complication or as a result of rheumatic disease; that it is usually caused by the gonococcus, seldom by streptococci or other septic organisms; that it occurs either as a verrucose or ulcerated form; in the former case the mitral, in the latter the aortic valves are the ones affected; that it occurs more frequently in valves already diseased than in normal ones, and that females are more frequently affected than males.

Book Notices.

Treatise on Mental Diseases. By HENRY J. BERKLEY, M. D., Clinical Professor of Psychiatry, Johns Hopkins University; Chief Visiting Physician to the City Insane Asylum, Baltimore. *With Frontispiece, Lithographic Plates, and Illustrations in the Text.* New York; D. Appleton & Co. 1900. Cloth. 8vo. Pp. 601.

This *Treatise*, designed for the use of practitioners and students of medicine, is based on the lecture course at Johns Hopkins University, 1899. It is a most excellent, practical work, describing diseases plainly and illustrating anatomical specimens neatly. Part I, about 50 pages, is given to the anatomy and histology of the central nervous system. Part II, about 45 pages, relates to general pathology. Part III, nearly 500 pages, describes and illustrates the clinical forms of mental disease—including practically all forms of insanity apt to be

met with, and grouping the forms into five distinct classes or *groups*: 1. Insanities without ascertainable alteration of the brain substance—illustrated by melancholias and manias. 2. Insanities consecutive to organic lesions of the cerebral substance—illustrated by progressive paralysis of the insane, syphilitic and senile insanities, organic dementia. *Sub-groups* are given of intoxication insanities, insanities following bacterial and toxalbumic poisoning, and following autogenic poisoning. 3. Insanities of the psychical degenerate, with a *sub-group* of psychoses accompanying or following constitutional neuroses, such as epileptic, neurasthenic, hysterical insanities, etc. 4. States of arrested psychical development—such as idiocy, cretinism, imbecility. *And group 5*, which relates to the psychoses of childhood. To group 4 an addendum is made, giving cranial measurements and the stigmata of degeneration. To group 5, there are addenda relating to the influence of tropical climates upon neurotic individuals, and psychoses peculiar to tropical climates. We cannot close this notice without especially noting—in connection with the great value of the book itself to the profession—the excellent style of publication—fine paper, clear, readable type, first-rate proof reading, and attractive binding.

Treatise on Diseases of the Nose and Throat.—

By ERNEST L. SHURLY, M. D., Vice-President and Professor of Laryngology and Clinical Medicine, Detroit College of Medicine, etc. *Illustrated.* New York. D. Appleton & Co. 1900. Cloth. 8vo. Pp. 744.

This is a good book for general practitioners. It is written from the standpoint of experience or observation. It is thoroughly systematic in its arrangement. The writings of the best authorities have been freely consulted and quoted whenever necessary. The student can easily follow the sound teachings of the author, who makes his points clear and distinct. The illustrations are in general well selected, illustrating operations, instruments, general appearances of parts diseased, and pathological conditions under the microscope, etc. Seven or eight pages of formulæ for various conditions of the throat and nose are appended. While the preface states that the volume has been prepared for "the general practitioner and medical student rather than for the specialist in laryngology," the specialist will not fail to recognize in the book many excellent suggestions and will gladly adopt some of the practical advices given in the work. A good *Index* concludes the book.

Flashes of Wit and Humor or a Brief Study of the Best Things of the Brightest Minds. By ROBERT WATERS, Author of "Intellectual Pursuits," etc. New York: Edgar S. Werner Publishing and Supply Company (Incorporated). 1900. Cloth. 12mo. Pp. 186. \$1.

Why should not doctors enjoy "flashes of wit and humor." They have to deal enough with the anxieties and sorrows of life to need diversion and to be entitled to the enjoyment of relaxation in the way of refined wit and humor. This book, which may be read in an evening or two, contains some of the "best things of the brightest minds" of the world, which may be repeated in the sick room to lighten the gloom and sadness that so often shadows it, and give good cheer to the patient and attendants. There is a chapter in the book about doctors—Boerhaave, Abernethy, etc.—from which practical lessons may be learned. But the whole book—from preface to end—is so good—containing the best repartees, the most amusing and humorous utterances, that it is just the thing to afford relief and refreshment to mind and body. The volume is neatly issued, the witticisms and humorous parts are chaste, and cannot offend the most delicately sensitive. A very extended index concludes the book—enabling quick reference to the name or subject used in the text.

Essentials of Medical and Clinical Chemistry.

With Laboratory Exercises. By SAMUEL E. WOODY, A. M., M. D. *Fourth Edition, Revised and Enlarged. Illustrated.* Philadelphia: B. Blakiston's Son & Co., 1900. Cloth, 12mo. Pp. 243. \$1.50.

This book, originally designed as class room notes, has improved with each edition, until now it has become a valuable text-book for medical students and practitioners. In fact, it is the very book on chemistry most needed by the medical man, as it deals almost wholly with those elements of inorganic and organic chemistry with which the doctor has most to deal, without cumbering the pages with many elements of no special value to him. An entire section (or Part III) is devoted to clinical chemistry—treating especially of the urine, milk, saliva and gastric juice. Whether teacher or student, physician or surgeon, this book commends itself. It has gained for itself a place among medical text books attained by no other brief manual on chemistry. The Table of Contents shows its thorough classification and clear arrangement. An excellent *Index* is appended.

Brain in Relation to Mind. By J. SANDERSON CHRISTISON, M. D., Author of "Crime and Criminals," etc. *Second Edition.* Chicago: The Meng Co., 1900. Small 8vo. Pp. 142. Cloth \$1.50.

This book, designed for both doctors and laymen, is an interesting collection of facts in the attempt to locate the mind centre. There is yet not sufficient evidence collected to undertake such location. Two very instructive chapters are on "Brain Form in Relation to Mind," and "Brain Size in Relation to Mind." Especially interesting are the details of cases given in order to shape a "theory of mind localization." Authentic instances are given of grave traumatic lesions—such as the passing of foreign bodies through the brain, without causing the loss of mind. Dr. Nicholas Senn thinks this "a most important contribution," and that it "deserves a place in every library." *A Supplement* to Chapter IV refers to five "Cases of Brain Tumor with Mental Integrity," reported by Dr. Byron Bramwell, in *Brain*, 1899. A sort of *glossary* is also appended, giving definitions of a few words as helps to the lay reader.

Editorial.

Medical Society of Virginia—Railroad and Hotel Rates.

Due to an oversight of the printer of the program of the Thirty-first Annual Session of the Medical Society of Virginia, the railroad and hotel rates are omitted.

All of the railroads of the associated railroads of Virginia give a one and one-third fare for the round trip to and from Charlottesville on the certificate plan. Ask the Railroad depot agent for the certificate when the ticket to Charlottesville, Va., is bought, stating that full fare is paid for the ticket to that place, or to junctional points going. This certificate has to be signed by the Secretary during the session in Charlottesville, and also by the railroad agent there, before the return special rate ticket can be purchased. The Norfolk and Western Railway sells round trip convention rate ticket only from starting place. *Hotel rates*, \$1.50 and up per day.

The prospects of a good meeting of this Society in Charlottesville, October 23-25, becomes brighter each day. Although the Committee on Program was a day or two late in issuing their circular, and included titles of all papers then received, a number of parties have since sent in titles of papers they wish presented. Under the rule of the Society, all

such papers have to be relegated to the last session—or until those on the published program have been read or disposed of. The number of applicants for Fellowship is already large, but the death rate has been unusually large for one year.

Much of the delay in publishing the *Transactions* of last year was due to the fact that many authors asked for their papers to give them a redressing, and also to copy them for promised contributions to journals. There can be no possible objection to authors giving their articles to as many journals as will publish them, but they should have copies made in advance of the session, and not call for the originals in the hands of the Secretary.

Arrangements are being made for stenographic reports of discussions, etc., during the session; and, in every respect, we have assurances that the session in Charlottesville will be a most interesting and profitable one. As the meeting is to be so near to the University of Virginia, it may be predicted that the attendance will be very large.

Picturesque Galveston.

At the time of the storm, September 8, 1900, which destroyed so much of property in Galveston, Texas, and killed and injured several thousands of people, the editor of the *Galveston Tribune*, Mr. Clance Ousley, had in press a very handsome book, entitled "Picturesque Galveston." It contains over 100 pages, filled with views of this, one of the most beautiful cities of the world. It was to have been issued the last week in September by the business men of Galveston as a souvenir advertisement of the city. Possibly one half of the edition is saved. The profits of this publication are now to be given to the "Galveston Relief Committee," W. A. McVitie, chairman. Under the auspices of the *Galveston Relief Committee*, the book will be sold to the general public at \$2 a volume. Address all orders and make payments by money orders, checks, etc., to the *Galveston Tribune*, Galveston, Texas. Each subscription to this book is practically a contribution to the Galveston Relief Fund.

New Orleans Polyclinic.

Physicians will find the Polyclinic an excellent means for posting themselves upon modern progress in all branches of medicine and surgery. The specialties are fully taught, particularly laboratory work. Fourteenth annual session opens November 12, 1900. For further information, address Dr. Isadore Dyer, Secretary New Orleans Polyclinic, New Orleans, La.

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MUTUAL RELATIONSHIP OF THE PROFESSION AND THE PUBLIC.*

By JOHN N. UPSHUR, M. D., Richmond, Va.,

Emeritus Professor of Practice of Medicine, etc., Medical College of Virginia; Ex-President Richmond Academy of Medicine, etc.

Mr. President, Fellows of the Medical Society of Virginia, Ladies and Gentlemen.—Again we find ourselves assembled in annual session; and in this closing year of the nineteenth century, what place more fitting for our deliberations than under the shadow of the great University with its many schools of learning; not the least of which is its Medical Department. Renowned as it is, throughout this land, for the thorough and scientific training of its students, it is most dear to many of us because here has been awakened our first interest, and begotten the inspiration for that calling which has been our life work. A generation has passed away since my own student days, but it seems only yesterday. As I think of the past, it seems as though a living panorama passed before me, and thrown upon the canvas is the picture of many events and the striking personality of many men, then in the prime of life, who moved and acted, the teacher and the student. Some have passed over the river, and some are still fighting life's battles in the cause of suffering humanity.

As the panorama moves, prominent among its notable figures I see the noble form of the polished and scholarly Cabell, possessing a fund of knowledge—ripe, practical, inexhaustible—with the ability to lure the student in its pursuit, till labor was forgotten. One could almost fancy that he gleaned fruits and flowers in some celestial garden, so attractive was he as a teacher, and yet, withal, the humble Chris-

tian and physician, clean of hands and pure in heart.

Again the canvas moves, and illumined in the picture stands the figure of John Staige Davis, the brilliant anatomist, whose wonderful descriptive powers enabled him to clothe the dry bones with the tissues of a living, breathing personality. I verily believe no greater teacher ever lived. The student's friend, ever interested in his welfare, never losing this interest in the men he taught while life lasted, always proud of their achievements. Himself modest, retiring, earnest in his life-work, he illustrated while he lived, in its truest sense, the noblest work of God.

And still I see in this company another, and as I gaze and ponder, the benignant face of Dr. Maupin is recognized—as he guided the student in the pursuit of some chemical or pharmaceutical subject, dry though they might be, yet made attractive by his own personality and the childlike simplicity of his character.

And still another comes upon the scene, venerable with years and bent in form, yet still performing, with interest and energy, the active duties of the teacher, an example to us all of thorough consecration to life's work. Who can tell of the good influence wrought by Dr. Howard by means of the sound principles instilled into his students, as the foundation upon which they have subsequently reared the superstructure of an ever advancing pathology and more rational and useful therapy.

And in this group I see also the form of another man, no less in earnest than the others, though not of so high a degree. Yet the students remember J. Edgar Chancellor with affectionate regard and gratitude, as with dextrous hand and keen-edged knife he laid bare before them the wonderful mysteries of internal organs, of muscle, and artery, and nerve, and demonstrated by practical inspection their relationship and function. The true man, earnest physician and teacher, with the

* Annual Address to the Public and Profession, delivered during the Thirty-First Annual Session of the Medical Society of Virginia at Charlottesville, Va., October 23, 1900.

honors of the profession upon him, he now rests from his labors.

And once more, as the picture recedes, I recognize a group of students, my own classmates—Channing, Page, Moncure, Dabney, and a host of others. But time would fail me to call the roll of all those worthy names of men who have been an ornament to the medical profession and that humanity whose servants they were. Verily, they do rest from their labors, and their works do follow them.

And these eternal hills, which stand about us here, decked in the gorgeous foliage of autumn, whose peaks pointing to heaven, ever typify the firm foundations upon which the grand old University rests—hymning over an ode descriptive of her past glory, her present greatness, and pointing to the increasing position and influence which awaits her in the future. Undaunted by the calamities and trials which have overtaken her in the past, she has arisen from her ashes, greater and more glorious than ever before, with her face toward the morning, radiant in the beams of the rising sun. In her hands a snow white banner, on its folds, emblazoned in living light, *Excelsior*, she pursues her course, ever onward and upward, fulfilling her mission to be a blessing to the souls of men.

As I stand here to night, I feel that I have need to crave your kind indulgence as I discharge the task which you have assigned me, assuring you of my great appreciation of the honor, even while I feel how far I must fall short in the discharge of the duty, or in attaining to the standard which, in justice to you, I have set for myself. I would speak to you upon such a theme as may be, not only interesting, but instructive, not only to us medical men, but also to my other hearers, because I reflect that I have before me, not only the profession, but the public. And realizing this fact, it seems to me that there can be no better theme than, "*The Mutual Relationship of the Profession and the Public*," comprising, as it does, also, as an integral part, the relationship of the members of the profession to each other.

Perhaps you ask me, Why discourse upon a theme so commonplace as the *relation of the members of the profession to each other*, and exclaim surely all medical men are keenly alive to the true spirit of the golden rule, and intuitively follow its precepts and illustrate them in their daily lives. O, that it could be said that this is so! It is because I know how frail and human we all are, how prone to err, that I feel that it is well to-night that *we*, members of the profession, should seriously set ourselves to the

work of self-examination and introspection, that we may indeed know ourselves as we are; and, as the result of this knowledge, erect for ourselves a standard that we may strive after, and thus in the effort illustrate to the public *what we ought to be*. It is a sad fact—but fact nevertheless—that in this present age of hurry and rush, fierce professional competition, the endeavor to gratify ambition, or grasp tenaciously the almighty dollar, the human side too often gets the ascendancy, and petty professional jealousies, backbitings, and contentions, loose adherence to the code of ethics, find expression in doubtful act, or unprofessional and unchristian conduct towards a brother, striving to supplant him in the good grace of a patient, the trickster's own skill is magnified and the other brother's minimized. Nor is the act always a tangible one that can be denounced. A significant shrug of the shoulders, an assumed exclamation of surprise, or facial expression, is often enough to shake the confidence of the patient and undermine that man in his esteem, who has been loyal, self-sacrificing and devoted in his service, and who, himself, is above any mean trickery or chicanery for the increase of professional patronage and emolument.

My brethren, I plead that we may have a high ideal of our profession, and a high standard of character for the man who aspires to its dignity, its rewards, or is to face its temptations, sorrows, and disappointments. No man need so much to be pure of hand and heart—possessed of an honor beyond suspicion or reproach; of a courage so sublime that absolutely no condition or circumstance can arise when, guided by a tender and enlightened conscience, they shall know the right and dare to stand firm and immovable in its defence, against every argument, plea of expediency or sophistry; of a sympathy so deep and tender that it shall bind men and women to them by bands stronger than hooks of steel; of a life so consecrated to the Master—that an influence is to be felt that shall inspire a firm confidence and trust that will make others feel that they have been lifted to a higher plane, and possessed of that charity which covers a multitude of sins, and points to the star of hope irradiating the future of a truer and better life. No men are made the recipients of so many confidences as we are; none are so familiar with the inner life of others, or discern so frequently the "skeleton within the closet;" and we should most keenly appreciate the sacredness of this professional confidence. A brother doctor's reputation should be guarded as sacredly as

our own; his good name should be to us always above reproach—his honor kept by every brother unscathed. Differences should be honorable and frank, ever cultivating the spirit of concession when no principle is involved. In fine, our relations to each other, under all circumstances, should be such as to gain from the public whom we serve the encomium, "See how these brethren dwell in peace and unity, and love one another."

The medical profession has had, still has, and will continue to have, many heroes—heroes of whom the world knows naught—men of sublime and unflinching courage, who labored on, prayed on, suffered and died at the post of duty and for humanity's sake, of whom the world knew not and was not worthy. Not the devoted few, who stood in the pass at Thermopylæ, the surging squadron which charged at Balaklava, of Pickett's men who stormed the blazing crest at Gettysburg, the heroes of San Juan and Santiago, shine brighter than the unselfish and devoted doctor, battling with the dread epidemic, a thousand falling beside him, death abroad on every hand, no martial music or shouts of comrades to cheer him on to victory, only the still small voice approving, and if the final summons comes, he wraps his mantle about him and lies down as if to pleasant dreams. A writer has well said, "I dare not place any gift, however beautiful, or any service, however brilliant, above the talent or the skill, which can relieve a single mortal pang, and the self devotion which lays it at the feet of the humblest fellow creature."

"Oh, the rare sweet sense of living, when one's heart leaps to his labor,
And the very joy of doing, is life's richest, noblest
dower."

Let the poor—yea, poor in spirit, crave the purple of his neighbor.
Give me first the strength for serving, and the golden,
present hour."

Of the relations of the profession to the public, we cannot have too high an appreciation. The responsibility which rests upon us as true physicians and good citizens is great, at times almost overwhelming. The doctor fails in his duty as a physician and good citizen if he does not use every effort to aid the authorities to prevent, or stamp out, infectious and epidemic disease. Even though those in power fail to listen to his warnings or be guided by his advice, yet, it is our duty to persist with such earnestness as shall carry conviction, and command the money to use effective means to accomplish so praiseworthy an end.

But our duty to the public lies chiefly in *our relations to the family and the individual.* The

family physician should never lose sight of anything that conduces to the health or welfare of those who place confidence in him. We are the repositories of many secrets, and our advice sought and given often when it could come from no other, the relationship to our patients is of the closest nature, and the important services we render bind us together in bonds of affection and esteem which are severed only by death itself.

But in no particular is it more emphatically our duty to the public than by advice and admonition to guide and direct parents in the physical and mental training of the young. To see to it that *dress* is sanitary, comfortable, and appropriate, that it shall in no respect interfere with the performance of the healthy functions of the body or conduce to deformity, that the physical shall not suffer at the expense of the mental development. A sound mind in a sound body is of all things to be desired, that the girls and boys shall grow into sturdy and robust womanhood and manhood. Especially do I plead for the care of the girls from an educational point. They are to be the mothers of the next generation, and if it is to be strong and healthy in every sense, the women who bear them must be as physically perfect as we can make them. Unfortunately, if the present system of education for girls is carried out, the physical suffers. The amount of work and overwork of the highly educated girl of to-day at the expense of healthful out-of-door exercise and recreation and sufficient time for repose, find their legitimate result in a condition of invalidism; and the girl leaves school unfit for all the duties of life, for which God created her, and it falls to our lot to try to remedy what we might have prevented.

It is scarcely necessary to dwell on our *duty of prompt response and unselfish and faithful attention* when our services are required, subordinating everything to the welfare of the patient. This is an axiom, known of all.

Nor is this all; the public is liable to be misled by quackery in all of its phases, and the honorable and conscientious doctor should ever be ready to enlighten his patrons in this respect, showing the absurdity of the claims set up, and courageously standing for the truth and *denouncing fraud whenever it comes to his knowledge.* Few are so wise as Mark Twain, who said, "That no doubt quack medicine was good for everything for which it is recommended, but that *he* never took it, because he was afraid that while hunting for what was the matter, it might physic him for something he did not have and kill him." But it is also

our duty to the public to *oppose* and *condemn* that other thing so nearly allied to the quackery of which I have been speaking. A thing more dangerous, because more subtle, and because many physicians are the deluded subjects who tacitly admit their own ignorance and lack of skill, by the systematic prescribing of *proprietary medicines*. We owe much to modern pharmacy, but when it oversteps its limits, and presents us with proprietary preparations with the instructions as to the indications for their exhibition and a positive assurance of their certainty to effect a cure, they trench very closely on quackery; and when the doctor administers them he is not only acknowledging his own ignorance of *materia medica* and inability to write a suitable prescription as indicated by the symptoms, but fails two-fold in his duty to his patient, by entailing a greater expense than necessary and by exhibiting remedies not so efficient and about whose composition he is in the main ignorant. I verily believe there is no greater menace to the profession than the increasing use of proprietary remedies; they border too closely on quackery to be consistent either with our dignity or honor.

Nor is the *duty of the public to the profession* the least important side of this subject; certainly it is the side most misunderstood and least appreciated. I am sure the public fall far shorter in the discharge of their obligations to the profession than the profession does to the public. The benefits accruing to the public, directly and indirectly, from the active and unwearied beneficence of the profession are so numerous and important that physicians are entitled to the utmost consideration and respect from the community. No man gives so much and so freely in charity as the doctor—gives it in the way hardest to give and does it unselfishly, lovingly, and with the single aim of benefit to the individual and the community. Is there anything else of the necessities of life the poor do not have to pay for—food, clothing, rent, and even medicine, unless it is given by the doctor. It is high time that their services should be appreciated at the proper value. The State has no right to take the expert opinion of the doctor in courts of law, or commissions of lunacy, for *nothing*, or a *fee so begrudgingly* that it amounts to the same thing. It is but just to expect the public to discriminate between the true and the false, to attach the true value to what is scientific, and condemn as it deserves every assumption of ignorance and empiricism.

In the organization of its medical depart-

ment for the comfort and welfare of its sick and wounded, governments are either ignorant or negligent. If the officials rose to the requirements of the case, sparing neither men nor money in the equipment of the medical department, we would never hear of such conditions as characterized the medical conduct of the Spanish war, or of the inefficiency of the English in caring for their sick and wounded in South Africa in the Boer war. It is the imperative duty of all nations in this age of advanced sanitary science to give to the medical department of the army, navy, and marine, such abundant means and facilities as shall enable the medical officers to prevent all infectious disease, and to treat all wounds upon the most advanced lines of asepsis. This would be strictly in the line of humanity and a broad philanthropy, not to say of the strictest economy of men and money in the end.

There can be no more responsible position than that of the family physician, intimately associated as he is with the joys and sorrows which come to mankind, enlivening as he often does a confidence and affection which ends only with life itself. But unfortunately too many have too light a regard for the dignity and responsibility of the doctor, estimating his service at the *least price they can pay for it*, and often evading the payment of anything at all—the runners after isms and pathies, the people who malign and misrepresent the doctor, and impugn to him motives and acts inconsistent with the conduct of a gentleman and Christian, ready to offer him a bribe to commit crime, or would drag him down into the mire and filth of sin, to accomplish their own ends in hiding something of which they are ashamed, and for which they receive the lashing of an outraged conscience.

There are those also who consider gratuitous service their right and who rarely give any evidence of their gratitude or appreciation, quick to resent some fancied wrong even to the point where the doctor's life may be forfeit, and these go unwhipped of justice because of a mawkish sentimentality in the public or an arrant cowardice in the jury that tries them, and who fail to measure up to the requirements of their sworn obligations. The public fails in discharging its obligation to the profession, if it does not afford every facility for the broadening and advance of medical education, the establishment and support of hospitals, where suffering humanity may avail of the services of the profession, so freely and lovingly given for humanity's sake.

From individuals is due a just appreciation,

a consideration of the comfort and welfare of the doctor, commensurate with the unselfish devotion with which he spends and is spent in ministering to suffering humanity. To guard jealously the good name and reputation of the profession, as they would guard their own, to stand shoulder to shoulder with the doctor in the defence of truth and science, as opposed to charlatany and quackery—to strive with us to make the world better because good men and true have lived in it.

In conclusion, I would bid you God-speed in the work before you, and may it redound to the relief of suffering and the good of humanity.

Beside the unveiled mysteries
Of life and death go stand,
With guarded lips and reverend eyes
And pure of heart and hand.

The Great Physician liveth yet,
Thy guide and stay to be,
The Healer of Gennesaret
Shall walk thy rounds with thee.

RENAL CALCULI, WITH REPORT OF CASES.*

By STUART MCGUIRE, M. D., Richmond, Va.

Professor Principles of Surgery, University College of Medicine; Surgeon in Charge St. Luke's Hospital; Visiting Surgeon Virginia Hospital, Richmond, Va.

Stones in the kidney are formed by the precipitation of the salts of the urine, and may be composed of urates, oxalates, or phosphates. They vary in number from one to one thousand, and in size from a few grains to several ounces. They are usually formed in the pelvis of the kidney, but occasionally develop in the substance of the organ. They are irregular in shape from restricted motion and absence of attrition, and are frequently moulded to represent casts of the cavity in which they are contained.

Renal lithiasis is supposed by most writers to be due to an hereditary or acquired diathesis, from the frequency with which stones are found in different members of the same family, and from the predisposition which lithemia, oxaluria and phosphaturia seem to give to the disease. The most recent investigators, however, are inclined to the view that they are due to bacterial infection.

A stone may exist in the kidney without producing symptoms, and then is termed an unsuspected calculus. It may at one time give trouble, and later become fixed or imbedded

and cease to annoy the patient, and then is termed a quiescent calculus. It may, by its constant and abortive efforts to escape, cause frequent and atrocious pain, and then is termed a migratory calculus.

A renal calculus may cause no local irritation or constitutional symptoms. It may change its position so as partially to obstruct the outflow of urine, and thus cause gradual dilatation of the kidney or hydronephrosis. It may suddenly and completely block the ureter, resulting in atrophy of the kidney, and, if the other organ has previously been destroyed, cause retention of urine or anuria. It may, by constant mechanical irritation, lessen the resisting power of the kidney, and result in suppuration from infection, either through the blood stream, or by continuity or contiguity of tissue. If the pelvis of the kidney is involved, it is termed pyelitis; if the parenchyma, it is termed pyelonephritis; if the adjacent tissue, it is termed perinephritis. If the kidney is converted into a pus sac, it is called pyonephrosis.

With the foregoing introduction, we take up the diagnosis and treatment of renal calculi, a subject of great importance owing to the frequency of the disease, the horrible suffering it causes, and the importance of its early recognition in order that appropriate measures may be applied before irremediable complications follow.

I shall endeavor to show that when a stone is known to exist in the kidney an operation should be done for its removal, not as a last resort to save life, but as an early effort to save the organ. For an early nephrolithotomy—or incision of a healthy kidney for the removal of a stone—entails little risk, gives permanent cure, and it is not attended by mutilation; while a late nephrectomy—or removal of a hopelessly diseased kidney from destructive changes due to suppuration or distension—is followed by high mortality, frequently persistent and annoying fistulæ and the sacrifice of an important organ.

The diagnosis of renal calculi is sometimes extremely difficult to make, as there may be absence of several of the so called cardinal symptoms; or the symptoms may be referred to another organ; or the symptoms of another disease attributed to a stone. Often a calculus has caused the death of a patient, and been found in the post-mortem without its presence being previously diagnosed, and often a kidney has been opened for suspected stone without one being found to confirm the diagnosis.

* Paper read at the Annual Session of the Medical Society of Virginia, held at Charlottesville, Va., Oct. 23-25, 1900.

The symptoms caused by a stone in the kidney are due rather to obstruction than to the actual presence of a foreign body, and hence depend more on its position than on its size or shape. They are pain; the passage of fragments of calculi, the presence of blood crystals, blood and pus in the urine; frequent and urgent urination; and irregularity in the quantity of urine passed, varying from complete anuria to marked polyuria.

Pain accompanying renal lithiasis may be due to fresh deposit of salts on the calculus, or to pressure on the kidney from the passage of gas in the colon, or to the engagement of the stone in the ureter and its effort to escape. The pain may be one of two types, either a more or less constant dull ache or feeling of weight and tension in the lumbar region of the affected side, which is markedly increased by exercise; or an acute but intermittent paroxysm of pain, radiating in the direction of the bladder, which is typically seen in the condition known as kidney colic. Tenderness, or pain due to pressure, is also usually observed. It may be elicited by palpation over the kidney and ureter. Attention has been called to a peculiar stabbing pain which is sometimes produced by percussion.

The passage of fragments of calculi is a symptom usually wanting, but when present, is of great diagnostic importance. The frequent and persistent existence of certain crystals in the urine also gives indication of the presence and character of the stone.

Hematuria is usually slight, paroxysmal and transitory. It is due to the mechanical action of the rough stone on the delicate structure of the kidney. It is usually microscopical in quantity, but is markedly increased by riding, driving, dancing or renal palpation. It always diminishes or disappears under complete rest.

Pyuria, or pus in the urine, is merely indicative of infection of some part of the urinary tract. There is no way to tell from the appearance of the corpuscles the origin of the epithelial cells that formed them unless they come from the actual secreting cells of the kidney itself. Pus in sharply acid urine indicates a renal origin.

Frequent and urgent urination, often seen with renal calculi, is reflex from irritation of the kidney or ureter. It has been noted that while it may be troublesome in the day it is usually relieved at night.

Irregularity in the quantity of urine passed is due either to reflex influences or to purely mechanical causes. Physiological stimulation or inhibition will increase or diminish the amount

of urine passed, and obstruction of the ureter by a calculus, especially if intermittently effected, will have the same effect.

The value of the Roentgen Ray in determining the presence or absence of stones in the kidney is now being widely discussed. Some experimenters claim that a skiagraph gives definite, positive or negative evidence. Others state that it is unreliable as it sometimes fails to show calculi that are known to exist, and sometimes apparently shows the presence of calculi when they are afterwards proved to be absent. The difficulties to be overcome are the thickness of the trunk, and the lack of marked difference in the opacity between the soft tissues and certain varieties of calculi. The picture obtained are rarely clear, and there is a personal equation in the way they are construed. The day will undoubtedly come when the X Ray will be used in cases of suspected renal calculi with the same mathematical precision it is now employed in injuries of bone and the location of bullets, but for the present, except in rare cases, the work can only be done satisfactorily by a very few experts.

As has been stated, in many cases of kidney stone it is impossible to make a positive diagnosis despite a careful study of the history of the patient, a prolonged and painstaking observation of the symptoms, a rigid and exhaustive chemical and microscopical examination of the urine, and repeated skiagraphs of the trunk. An exploratory operation is justifiable, however, if inflammation of the kidney or its pelvis develops, if the patient suffers from frequently repeated attacks of kidney colic, or if the pain is severe and intolerable. Under these circumstances intervention is safe and precautionary; delay is dangerous and risky. It is true a stone may not be present, but some other pathological condition will be found which equally demands correction. Henry Morris, of England, reports having operated on forty-four patients for renal calculi without finding a stone. He objects to the term "negative exploration" being applied to these cases, and forcibly says: "It is not a 'negative' result to find and excise commencing foci of tuberculous disease; to fix a misplaced or freely shifting kidney; to open and scrape away half a dozen small abscesses or suppurating cysts; to excise a solid renal or perineal tumor or tense cyst; to discover and give exit to blood extravasated beneath the fibrous capsule, or pent up within the cavity of the kidney; to liberate a kidney hampered by tough adhesions due to perinephritis pro-

voked by sprain or other injury or disease; or to detect and divide an ureteral structure or obstructing valve. Yet these are some of the conditions which have been met with in the search for stone in the kidney and which in many instances have been most successfully cured."

The nature of the operation necessary for the relief of renal calculi depends on the pathological changes which have ensued in the kidney. If the stone has not caused infection with suppuration, or produced obstruction with dilatation, then nephrolithotomy, or simply opening the kidney, removing the stone, with suture of the renal incision and closure of the lumbar wound, is all that is necessary. If the stone has caused suppuration and there is pyelitis or pyelonephritis, or if the stone has caused obstruction of the ureter and there is hydronephrosis or pyonephrosis, then either nephrotomy or nephrectomy must be done. Nephrotomy consists in opening the kidney, removing the stone and then draining the renal cavity through the incision of the flank. Nephrectomy consists in the complete removal of the kidney. It may be done by either the lumbar or abdominal route, the choice being determined largely by the size of the tumor.

In place of giving a "text book" description of these operations, I will briefly report four cases I have recently had—three at St. Luke's Hospital and one at the Virginia Hospital—as they beautifully illustrate the subject:

CASE I.—*Nephrolithotomy for calculus complicated by infection or obstruction*—Mrs. L., aged 32, for the past two years had suffered with a constant ache in the right lumbar region, and on three or four occasions had had acute attacks of pain simulating nephritic colic. Clinical symptoms pointed to a calculus in the kidney, and the urine, which was strongly acid, showed a small amount of albumen, a large quantity of pus, and the constant presence of renal debris. There was no blood. Two separate attempts were made to get a skiagraph of the kidney, both times with unsatisfactory results. Despite the uncertainty of the diagnosis, the patient consented to an operation. An incision was made parallel with and an inch below the last rib, beginning three inches from the spinous processes of the vertebra and extending forward and outward some five inches. The kidney was readily reached, loosened from its fatty attachments and delivered through the wound. Palpation and an exploratory puncture with a needle located a stone in one of the calices. This was removed through an opening made in the convex

border. Examination of the ureter was negative. Bleeding was slight and easily controlled by deep and superficial sutures. The kidney was returned to its proper position and anchored by several silk sutures and the wound closed with gauze drainage at its most dependent point. Recovery was uneventful, the only untoward symptom developed being pain due to passage of blood clots from the pelvis of the kidney to the bladder. A recent examination of the urine shows that the pus has disappeared and the patient is well. The



CASE I.—Stone removed. Actual size.

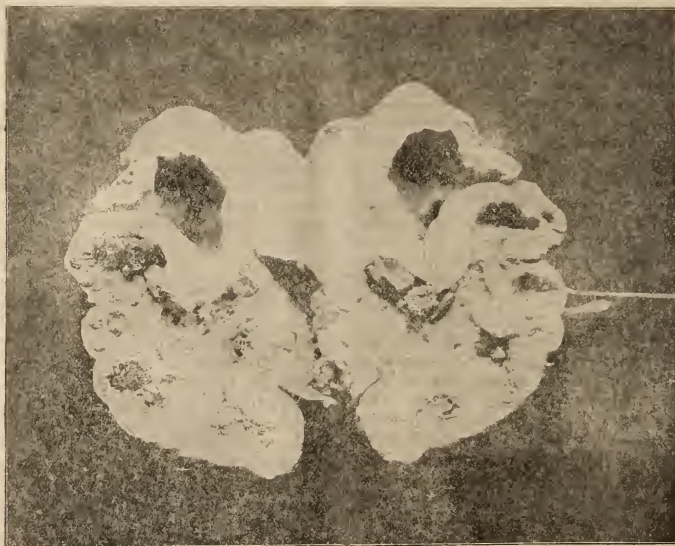
stone, in size, shape and appearance, resembled an Indian arrowhead, and was composed of an uric acid nucleus around which had been deposited oxalic salts.

CASE II.—*Nephrotomy for calculus followed by infection and suppurative perinephritis*. Mr. B., aged 28, came of a rheumatic family, and had suffered in past years from several attacks of kidney colic. He gradually lost strength and flesh, and finally took his bed with symptoms too indefinite to admit of a certain diagnosis. He was treated by his family physician for malaria and enlargement of the spleen, and when first seen in consultation was reduced almost to a skeleton by suffering and sepsis. His abdomen was greatly distended, and a fluctuating mass could plainly be felt pointing in the left lumbar region. The diagnosis of a perinephritic abscess, probably secondary to suppuration of the kidney from a calculus, was made, and despite the unfavorable condition of the patient an immediate operation advised. He was moved to the hospital the next day, and the abscess opened by the usual lumbar incision. About two quarts of stink-

ing pus escaped, and the exploring finger, introduced into the cavity through the wound, could detect nothing but space. The patient was too near dead to permit of thorough examination, drainage was inserted, and he was hurried to bed. The wound drained unmeasured and incredible quantities of pus; wild delirium set in, and for days his recovery was deemed hopeless. Finally, he began to rally, and the first evidence of consciousness was complaint with his bladder. An old and tight stricture of the deep urethra prevented the introduction of a sound, but tenesmus was so frequent and violent that from the history of the case it was apparent the calculus had entered the bladder. A supra-pubic cystotomy was done, and a stone about the size of a cherry seed found and removed. Recovery afterwards, though slow, was uneventful. The lumbar and supra-pubic wounds healed without a fistula, and the patient ultimately gained over forty pounds in weight. Though now apparently in good general health, at times he still suffers with paroxysmal pain in his back, followed by profuse pyuria, and it is recognized that he has pyonephrosis with occasional relief by drainage through the

ureter into the bladder. A second operation is indicated to complete his cure.

CASE III.—*Lumbar nephrectomy for calculi, followed by infection and destructive pyelonephritis.* Mrs P., aged 39, suffered some ten years ago with repeated attacks of kidney colic. Two years ago an abscess formed in the region of the right kidney, pointed in the flank, and was opened by her local physician. Both urine and pus drained freely at first but later only pus escaped. At the time of her admission to St. Luke's Hospital there were two fistulæ, one over the kidney, and the other over the dorsal ilii. The patient was greatly emaciated from constant suppuration, and suffered so greatly that morphia had to be given regularly, and in large doses. Repeated and careful examinations of the urine failed to detect any abnormality in either its quantity or quality. It was believed that the kidney had been practically destroyed, and had ceased to perform its function, and it was, therefore, determined to remove it. An incision was made first parallel to the outer border of the erector spinæ muscle, beginning just below the twelfth rib and extending to the crest of the ilium, and then turned sharply out for several inches in



CASE III.—Pyelo-nephritic kidney filled with calculi.

the direction of the umbilicus. The triangular flap thus made was dissected back, exposing a large dense cicatricial mass, which completely invested the kidney like the thick hull of a cocoon. So firmly adherent was it to the kidney and surrounding tissues, that it was found impossible to peel the kidney from its bed, or to separate the mass from the surrounding tissues. With a sharp scalpel the mass was dissected out until the vessels which formed its pedicle were reached. These were ligated and divided, all hemorrhage was stopped, and the wound lightly packed with gauze, the ends being brought out at the angles of the wound for drainage. The incision was closed with interrupted sutures of silk-worm gut, and the margins approximated with a continuous suture of silk. Drainage from the large infected area at first was very profuse, but gradually grew less, and finally stopped, leaving a clean neat scar. The improvement in the patient's general condition was rapid and marked. Morphia was soon discontinued and weight increased over ten pounds in the six weeks stay in the hospital. The kidney, on sections, was found to be filled with stones, and completely infiltrated with pus. Its functions had evidently long since ceased. The stones were all of the phosphatic variety, and blocked the pelvic and ramified

like branches of the coral into the calices of the kidney.

CASE IV.—*Abdominal nephrectomy for calculus producing ureteral obstruction and hydro-nephrosis.*—Mrs. W., aged 23, had a history of attacks of severe pain in the abdomen eight years ago, which was followed by the slow formation of a lump, which had gradually increased in size, until now it produced considerable deformity. Urinary examination was absolutely negative. Physical examination showed a movable fluctuating tumor in the lower left part of the abdomen. It was about the size of a child's head and was thought to be either an ovarian cyst or a distended kidney. An accurate diagnosis being impossible, an exploratory operation was advised. An abdominal incision was made in the left linea semilunaris over the most prominent part of the swelling and tumor at once presented itself. It was found to be covered by the posterior layer of the peritoneum and was known to be the kidney. The peritoneal covering was divided and the tumor rapidly freed from its bed, brought through the wound and laid upon the skin of the abdomen. The ureter was ligated, disinfected and returned to the cavity. The small pedicle which remained was tied in sections and cut off, and the abdominal incision then closed. The patient made an excellent recovery, and



CASE IV.—Hydro-nephrotic kidney unopened.



CASE IV.—Hydro-nephrotic kidney opened.

is now in perfect health. The tumor was a beautiful illustration of hydronephrosis, due to occlusion of the ureter by an impacted calculus. The stone was only slightly larger than a garden pea and was lodged in the lumen of the ureter half an inch below the point of its emergence from the pelvis to the kidney.

513 E. Grace Street.

REMARKS UPON THE PATHOLOGY AND SYMPTOMATOLOGY OF INTRA-CRANIAL CONDITIONS COMPLICATING SUPPURATION OF THE MIDDLE EAR.*

By JOHN P. DAVIDSON, M. D., Richmond, Va.,

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The extension of purulent infection from the tympanic cavity to the intra-cranial contents constitutes a pathologic process which physicians in nearly all branches of medicine are likely to encounter. Most cases of suppurative inflammation of the brain and its membranes are secondary to a similar inflammation in

some portion of the temporal bone, which, in turn, has had its origin in the tympanic cavity. Hence a study of the methods of spreading of such a diseased condition, and of the effects produced by it, is exceedingly interesting and important.

Perhaps the most frequent intra-cranial lesion met with is a *localized inflammation of the dura*, this membrane, in many instances, forming the inner boundary of an abscess located between the external surface and the inner table of the skull. The next most frequent complication is *thrombosis of the lateral sinus*, which is usually located just posterior to the tympanic cavity, where the lateral sinus passes over the inner surface of the mastoid portion of the temporal bone and becomes the sigmoid sinus, occupying the sigmoid groove. A third condition, which presents itself still less frequently, is that of *abscess of the brain*, and its location is in nearly all cases found to be in the temporo-sphenoidal lobe of the brain—a region lying immediately over the cavity of the middle ear—or in the cerebellum, which is in opposition to the inner surface of the mastoid portion of the temporal bone, the dura being at this point separated from the mastoid cells by a very thin plate. Indeed, it is said that the inner table may be wanting in the

* Read during the session of the Medical Society of Virginia, Charlottesville, Va., Oct. 23-25, 1900.

sigmoid groove in some cases. Any two or all of these conditions may occur in the same case and be complicated still further by a general inflammation of all of the membranes of the brain.

In considering the primary source of infection arising from the tympanic cavity, and its method of extension to the intra-cranial structures, it is necessary that we recall that the location of the middle ear cavity is at a point deep in the petrous portion of the temporal bone, entirely overlapped by brain substance above and separated from the overlying brain merely by the thin plate of bone which forms the roof of the middle chamber. It should be further noted that an opening at this point establishing a communication between the middle ear and the interior of the skull would be anterior to the upper border of the petrous portion of the temporal bone, and, therefore, pathologic products passing through such an opening would be brought in contact with the structures lying in the middle cranial fossæ. Furthermore, the tympanum communicates posteriorly with the mastoid antrum and cells by a canal which is lined with mucous membrane continuous with that covering the walls of the tympanic cavity itself. In fact, it may be stated that a mucous lining extends continuously from the mouth of the Eustachian tube in the pharynx to the most distant cell located in the tip of the mastoid bone.

The pathologic process in the temporal bone which gives rise to the above mentioned forms of intra-cranial disease varies greatly both in character and extent, but in nearly all cases some degree of discharge from the external auditory canal is present, or a history of its having previously existed may be obtained. It is possible, however, for infection of the middle ear to have its origin from the throat, passing through the Eustachian tube, and for intra cranial complications to result therefrom without rupture of the drum membrane having occurred, but such cases are exceedingly rare. The amount of pus formed may be so small as to become inspissated before reaching the external meatus, and it may or may not be odorous. Yet, even under these conditions, extensive necrosis of bone may be present, and the very scantiness of the discharge may be an indication that it is burrowing in some other direction. As a rule, however, these complications result from a long standing suppuration in the tympanic cavity, accompanied by an opening in the drum membrane.

The masses of debris which sometimes form in the middle ear and the adjacent cavities,

composed of epithelial scales and inspissated pus, resist the action of antiseptic solutions and remain as more or less permanent foci of infection. The long continued suppurative inflammation in the middle ear produces destruction of the mucous membrane, and after penetrating the structure of the lining membrane, the bony walls of the cavity are attacked, resulting in necrosis and more or less absorption.

Extension to the mucous membrane lining, the mastoid antrum and cells, causes a destruction and loss of function and the formation of granulation tissue in this region. A profuse growth of granulation tissue within these small cavities causes an obstruction to the drainage of pus from them, and thereby furthers the progress of the destructive process. When the bony walls surrounding these have become partially destroyed, and the process of absorption has taken place, the partitions between the cells may entirely disappear, converting the mastoid antrum and cells into one cavity filled with pathologic debris. Notwithstanding the enlargement of the cavity produced by the absorption of the cancellous partitions and walls, to some extent the opening leading toward the middle ear may still be blocked by the profuse growth of granulation tissue. On the other hand, cases present an osteoplastic condition when certain cell districts become obliterated and a sclerosis takes place—giving rise to aggravating neurologic symptoms. The cavities may be encroached upon—in such cases being rendered smaller than normal. Again, we see cases presenting both of these features—*i. e.*, sclerosis progressing at one place and destruction at another. Under such circumstances, the firm resistance offered by the hardened walls will drive the pus with greater force in the direction at which softening is progressing.

The most frequent site of caries of bone is the mastoid cells, and in some cases extends to the sigmoid groove. And the next most frequent point is the roof of the tympanum and antrum. Caries of bone occurs less frequently in children, owing to the cranial sutures being ununited, which permits the escape of pus through them. The mastoid cells are not formed in the child; consequently the pus formation takes place in the tympanum and antrum. In these locations, pressure produced by the pus causes it to be forced out between the squamous plate covering the antrum and tympanum and the mastoid portion of the bone. When disease of the ear does produce intracranial inflammation in a child, the

method of spreading is usually by the blood vessels, and the brain membranes are more likely to be involved. Moreover, such a process usually follows an acute inflammation of the middle ear which does not allow sufficient time for caries and necrosis to occur.

That portion of the bone containing the structures of the internal ear is less likely to be involved in the diseased process than any portion of the temporal bone, due perhaps to its being of a denser structure, consequently the effect produced upon the function of hearing is of no value in diagnosis. After the diseased process has extended through the inner table of the skull, and reached the dura, the growth of granulation tissue begins over the external surface of this membrane, which is in apposition to the necrosed area. This mass of granulation not only offers obstruction to the further inroads of the pathologic process, but also assists in the absorption of diseased bone. The profuse growth of this mass of tissue not infrequently projects into the cavity produced by previous absorption. In fact, many instances have occurred where this mass has extended to the middle ear, and even to the external auditory canal, and been regarded as aural polypi. Snaring these masses, which are constantly bathed in pus, may give rise to, or rather aggravate, a grave intracranial complication by infection entering the cut-ends of the vessels.

The dura is usually thickened, besides being covered by granulated tissue. If bone softening has taken place in the region of the sigmoid groove, and the granulations covering the sinus have not been sufficient to protect its wall, the process of infection invades this vessel. When the inner coat is reached the endothelial layer peels off, causing coagulation of the blood to take place with the formation of the thrombus. This process is facilitated by the retardation of the blood current, owing to the sinuous course of the vessel in this region. What more ideal surrounding can be imagined for the further development of pus germs?

Under circumstances less favorable, and existing in those possessing greater resisting power, it is possible for a thickening of the wall to occur with the formation of a partial thrombus, which, after remaining an indefinite time, may become either organized, absorbed, or both. The continuation of this inflammation through the inner side of the sinus wall may extend into the brain substance and give rise to abscess formation. The extension to deeper portions of the brain can occur by either emboli, or thrombi, extending back-

wards through the veins which empty into the sinus at its diseased point.

When pathologic material is carried to the brain along a nerve, a disease of the membranes is a result, as a rule. This is explained by the sheaths of the nerves being continuous with the dura.

Symptoms—The first symptom which suggests itself in connection with any of the intracranial infectious arising from the middle ear, is almost without exception a discharge of pus from the external auditory canal. When the existence of an otorrhœa cannot be established, a history of its having previously existed is of service. Often a purulent discharge is present which has lasted for years, and probably dates from one of the acute exanthemata in childhood. The discharge may be very scant, and may or may not be odorous. Odor of the discharge is not necessarily a significant point, since extensive necrosis of bone may occur in connection with an almost odorless otorrhœa. The quantity of pus flowing from the external ear is suggestive when its amount is greater than can be found in a cavity as small as the tympanum. It is again significant when a sudden cessation of the discharge after a previous copious flow. It is even more significant when an increase of pain occurs with the cessation of the pus flow. These facts frequently indicate extension of the purulent process to neighboring structures.

The character and location of the pain vary with the nature of the complication and may be localized back of the ear, radiate over the side of the head, or manifest itself as a general headache. Moreover, pain may be constant or intermittent. Thrombosis of the sinus is usually accompanied by tenderness upon pressure over the mastoid region. This symptom, however, is also indicative of uncomplicated mastoiditis, but a tenderness extending further back than the mastoid structure is suspicious, and is a valuable aid in diagnosis when it is found in conjunction with the other symptoms characteristic of involvement of the sinus. Brain abscess is more frequently accompanied by a dull headache, either localized or general, which may be attended by a sharp, shooting pain through the head at times.

Vomiting is a symptom of much value, and it presents the features which are characteristic of this symptom found in other intracranial affections, *i. e.*, it is unaccompanied by nausea, comes on without warning, bears no relation to taking food, and is projectile in character.

Rigors are found to be a most constant and early symptom, particularly in sinus

disease, and, therefore, most valuable, They vary in intensity from a slight chilly sensation to violent shivering, which may be regarded by those present as convulsions. They are, furthermore, variable in duration, and if they repeatedly occur they must be regarded as evidence of systemic infection, which is soon made more manifest by the development of pyemic abscesses. Rigors are much more frequent in sinus inflammation than in abscess. When they recur in abscess they may be due to the development of additional foci.

The temperature in localized meningitis and abscess of the brain is usually slightly above normal but, strange though it may seem, it is even more pathognomonic of abscess of the brain when it is slightly subnormal. I know of no rational explanation of a subnormal temperature when there is a collection of pus in the brain substance. Inflammation of the sinus is attended by an intermittent fever. Usually the temperature rises rapidly to 104° or 106° within several hours, and a sudden lowering of the temperature may take place in a still shorter period of time, and unless the temperature is recorded frequently this marked fluctuation may be passed without detection.

The pulse in meningitis and thrombosis of the sinus is quick and soft, its rate being in proportion to the temperature. In abscess of the brain the pulse and respiration are both slowed by pressure. This is proved by the increase of the pulse rate after the pressure is relieved by the evacuation of the abscess. A slow pulse and respiration may be the first symptom to suggest abscess of the brain in cases which simulate middle ear suppuration when uncomplicated. After the initial stage of brain abscess has passed, and the patient grows dull and listless, and the expression becomes blank and is without animation, the condition may be taken for opium poisoning. The slow pulse and respiration with contracted pupils in some cases, together with a slight subnormal temperature, combined with a tendency to let pass unheeded remarks, made to them, and to lapse into a restless sleep are such symptoms as may render it impossible to make a diagnosis until opium poisoning has had time to wear off. It is possible to have a high temperature with a slow pulse in intracranial affections where, for instance, general meningitis occurs with abscess, and when we can add to these symptoms purulent discharge from the ear, the condition is most suggestive.

In acute meningitis the pulse is quick, small, and compressible, just as it is in throm-

bosis of the sinus, but the temperature remains constantly high.

Respiration is likely to be slow and regular if an abscess of the brain is located in the temporo-sphenoidal lobe. If, however, such an abscess is located in the cerebellum, it is more likely to give rise to the Cheyne Stokes character of respiration, owing to its proximity to the respiratory center. It may be added here that nausea is more intense when this region is involved. When the membranes, too, are diseased in the region of the cerebellum, retraction of the head with some spinal irritation is likely to ensue.

When convulsions occur, the abscess is more likely to be located in the temporo sphenoidal lobe and pressure produced by it reaches the motor tracts, producing, therefore, convulsions of the opposite side of the body. When the convulsions are localized they are of value in determining the site of the lesion. If pus escapes into the ventricles of the brain, tetanoid contractions are likely to occur. Convulsions rarely ever occur in uncomplicated disease of the sinus. In cases of thrombosis of the sinus the mind remains clear; in fact, it may manifest an unusual acuteness, which may continue almost until a fatal issue ensues. Constipation is rather a characteristic of meningitis and brain abscess, and diarrhoea more frequently occurs in sinus inflammations.

Urine is often retained, except when incontinence results from overdistension of the bladder. A small amount of albumen in the urine is of common occurrence.

Optic neuritis frequently occurs as a complication of intra cranial disease, but is not usually a very early symptom. It is more frequent when the membranes are involved, which is true also of other cranial nerves. The inflammation of the optic nerve may last for months, but is not as apt to be followed by atrophy as when it occurs as a complication of one of the chronic organic nervous diseases. Spasm or paralysis of the eye muscles is even more frequent than optic neuritis, since the nerves supplying them traverse the base of the brain for a longer distance, and are also more exposed. And, besides, they are more delicate trunks. When a thrombus extends through the superficial petrosal sinus from the lateral to the cavernous, the third, fourth and sixth nerves are likely to be involved, and œdema of the orbital tissue and lids also occurs, owing to the obstruction to the return circulation from the orbit.

The condition of the pupils is variable, but

nearly always a valuable symptom. They may be stationary, unequal, contracted or dilated. In meningitis they are usually contracted and fixed in the early part of the disease; dilated and fixed later. In the early stage of abscess they are contracted, and, as the abscess grows larger and produces pressure, the pupils become dilated. One may react and the other be fixed. Thrombosis of the sinus rarely affects the pupil unless the cavernous sinus is involved, when it is usually dilated.

I have never gained any information from the percussion note mentioned by some authors

The striking similarity between the symptoms of the later stages of sinus inflammation, after systemic infection has developed, to pneumonia in some cases, and to typhoid fever in others, is worthy of consideration, but it would require more time than is allowed for the reading of a paper on this occasion.

217 E. Grace St.

PAPILLOMA OF THE VOCAL CORDS— REPORT OF FIVE CASES.*

By W. L. BULLARD, M. D., Columbus, Ga.

It is said by experienced laryngologists that papillomatous growths are more frequently found in the larynx than any other laryngeal neoplasm. Schnitzler¹ says this is especially so in children. Schrotter places its proportion at 18 per cent, while Moure² agrees with Elsberg, Fauval, Bruns and others, in saying that it occurs in about 50 per cent. MacKenzie heads the list, and puts it as high as 67 per cent.

As a preliminary to the clinical report of my five cases, I will quote from the *Arch. of Laryngology*, 1883, vol. iv, page 244, five cases reported by Dr. H. A. Johnson³. In his first case the child died from suffocation at the end of ten weeks. In his second, a child, sixteen months old, suffering with hoarseness and dyspnoea, from birth, expelled a papillomatous growth in a paroxysm of whooping cough, resulting apparently in a complete cure. In his third case, tracheotomy was done at the end of three years, and thyrotomy at the end of four years, the child finally dying of pneumonia. In his fourth case, a papillomatous growth in a child necessitated tracheotomy, and death resulted the following day. The fifth case was very similar, the child also dying the day following tracheotomy, the larynx being found to be filled with papillomatous growths.

Mention of the above cases is only to show what a different result can now be had since the introduction of the anesthetic properties of cocain.

CASE I.—My first case, white child, five years old, was brought to me nine years ago. Father of child said that the boy could not sleep with any satisfaction, either to itself or parents. His breathing, when awake, was stertorous, and during sleep extremely so, and frequently he would cease to breathe, at which times the patient has to be aroused, so as to catch his breath. The boy could not speak above a whisper. A laryngoscopic examination revealed a multiple papilloma of the ventricular band, completely filling the vestibule of the larynx. I advised surgical interference. Father had no objection to this, but could not remain in town just then; so asked for medical treatment until his return, which would be three weeks. At that time, as well as now, I knew of no specific for cases of this kind, yet, doctor like, I prescribed *tuja occident. fld. ext.* and syrup of iodide of iron.

On the father's return, as expected, I could see no beneficial change, so after cocainizing the throat and larynx with a 20 per cent. solution of cocain muriate, I readily removed with snare the entire mass. The voice was instantly restored, though somewhat hoarse, but, in a few weeks, the patient seemed to be perfectly well, and, so far, has had no recurrence of the growth.

CASE II.—Mr. C. D., age 48, consulted me three years ago. Could not speak above a whisper. Was extremely nervous and considerably emaciated. He was under the impression that he had consumption, and had been treated for this most dreaded disease. At the time of consultation he was taking cod-liver oil. With the laryngoscope, the real trouble was revealed. On the middle third of the right vocal cord was a small papilloma, the size of a pea. My friend, Dr. (and poet) Raley Halstead Bell, of St. Louis, was on a visit to me, and I showed him the case, and with his kind help I cocainized the throat and larynx, and readily snared off the growth. The relief was instantaneous and most wonderful. Articulation was immediately restored, which seemed to both frighten and delight the patient. He had not spoken aloud in so long a time that his voice appeared to astonish him. After disabusing the mind of my patient of all fear from having tuberculosis, I prescribed, as a stomachic, tincture of *nux vomica*. He returned home, very much elated, and has, until now, had no return of the trouble. His

* Read before the session of the Tri-State Medical Association of Georgia, Alabama and Tennessee, October, 1900.

age caused me to have some anxiety concerning the malignancy and a recurrence of the neoplasm, but I am glad to say that such was groundless.

CASES III and IV.—Mrs. W. P., white, age 35, consulted me fourteen months ago. She was aphonic, could not speak above a whisper, and had considerable cough. The breathing was not impeded, yet she looked very debilitated and worried. Had been told that she had bronchitis with a tendency to consumption. (I don't know by whom this wisdom was unfolded, whether by a follower of Esculapius or one of Job's comforters.) This patient also had follicular granulated lids, and appeared to be catarrhally predisposed. An examination with the laryngoscope revealed a raspberry-looking growth—a papilloma—on the upper-third of the left vocal cord. Removal of the growth was without much difficulty performed endo laryngeally after thorough cocainization of the pharynx and larynx. The voice was instantly restored, to the great satisfaction of the patient. She continued to improve, and in a few weeks had regained her normal condition.

This she retained up to a few months back, when she again presented herself, with a cough and inability to articulate above a rasping whisper. On examination with the laryngoscope, a small papilloma the size of a pea was readily seen attached to the anterior portion of the right vocal cord, preventing close approximation of the cords. The pharynx and the larynx were cocainized with a 20 per cent. solution of cocain muriate, and with the snare the neoplasm was readily removed by the aid of the laryngoscope intra-laryngeally. As before, the voice was instantly restored, and in a few days the patient went on a visit to the mountains in North Carolina, and on her return home seemed to have regained her former health, and at the present time has no evidence of any return of the growth.

CASE V.—A negro child, male, four years old, had been troubled for several months prior to coming to me, which was three months ago. I found the child with labored breathing—aphonic, could not speak above a whisper. Breathing could be heard all over the room. Sleep was greatly interfered with on account of labored inspiration. Child was frightened; hence I had some trouble in making a laryngoscopic examination, though this was successfully done, and showed up the trouble, which was a multiple papilloma of the left cord or ventricle, filling the supra glottic laryngeal cavity. After thoroughly cocainizing the

throat and larynx, and quieting the child as much as possible, I, with the assistance of the child's father, easily extirpated with the snare the entire neoplasm. In this case there was some undue hemorrhage, which caused me to imagine that I had attacked an angioma instead of a papillomatous growth. The blood-flow soon ceased, and a macroscopical examination of the pathological specimen convinced me that it was a papilloma. The voice was instantly restored, but somewhat hoarse and rough. In a week's time, the voice had assumed its normal resonance, and the child's mother and father, collectively, were happy over the successful removal of the "tumor" and restoration of the child's voice.

I could add to this report a number of other cases which might be of interest, but the above perhaps are sufficient to convey the motive for which this paper is presented. In closing it, I beg to announce that whenever I undertake to do a capital or an extremely delicate endo laryngeal operation, I have no hesitancy in extending my most sincere gratitude to the memory of Signor Garcia—a teacher of Music in London—for the introduction of the laryngoscope, and to Turck, of Vienna, and Ozermak, of Pesth, for its introduction to the profession; and last, but far from least, to Carl Keller, formerly of Vienna, now of New York city, for giving to the world one of the grandest endowments ever offered by man—the anesthetic uses of cocain.

¹ Klinischer Atlas der Laryngologie.

² Leçons sur les maladies du Larynx.

³ Bosworth, Diseases of the Nose and Throat.

SUB-ARACHNOID INJECTION OF COCAINE MURIATE FOR SURGICAL ANÆSTHESIA IN OPERATIONS BELOW THE DIAPHRAGM.

Illustrated by a Successful Case of Erase-ment of Hip-Joint.*

By HUGH M. TAYLOR, M. D., Richmond, Va.

Professor of Practice of Surgery, and of Clinical Surgery, University College of Medicine, Richmond; Surgeon to Virginia Hospital, etc.

Reported by W. JEFFRIES CHEWNING, M. D., House Surgeon to the Virginia Hospital, Richmond, Va.

Gentlemen.—We are fortunate in being able to present for your study a group of cases illustrating different phases of bone necrosis; and

*Clinical Lecture delivered in the Amphitheatre of the Virginia Hospital to the Class of the University College of Medicine, Richmond, October 16, 1900.

in connection with the first case upon which I will operate, I shall introduce you to an innovation in surgery which is at this time attracting a widespread surgical interest. I allude to the *Injection of Cocaine into the Sub-Arachnoid Space as a Substitute for General Anæsthesia in all Operations below the Diaphragm.*

As a rule, it is not well to do experimental work before a large audience; but, as a matter of fact, this is only experimental work in our hands. By other surgeons this innovation has been practiced so often that I think we can safely claim that it has not passed beyond the experimental stage.

In 1884 and 1885, Dr. J. Leonard Corning, of New York, called attention to the fact that cocaine injected into the sub arachnoid space induced analgesia of the lower extremities. As is the case with so many innovations, the profession was not prepared to accept the conclusions of Dr. Corning. It is true, from time to time, other pathfinders in this field have added by their work to the experience of Dr. Corning. It remained, however, for Dr. Tuffler, of Paris, to arouse professional interest in this work fully fifteen years after it was announced by Dr. Corning, whose death occurred not long since.

The history of medicine and surgery is full of similar facts. You recall the fact that appendicitis, almost as we now know it, was written of in 1839 by Dr. Grisolle; but it was not until ten or twelve years ago that the profession grasped in all of its significance, the full import of Dr. Grisolle's studies. We are also reminded that when McDowell did his first ovariectomy, he was denounced by surgeons at home and abroad; and it is cited that a mob collected outside of the house in which he was operating and declared their intention of killing him if the woman he was operating upon did not survive.

In a paper read by Dr. Tuffler before the International Medical Congress in August, 1900, 130 operations were reported, in which analgesia was secured by the injection of cocaine into the sub-arachnoid spinal space.

By reporting 130 operations by demonstrations in his clinic, and by the minute details as to the technique of injecting the cocaine, Dr. Tuffler has succeeded in focusing surgical interest in this new and interesting field. In this country, within the past few days, we have seen interesting reports from Dr. J. B. Murphy, of Chicago, who reports 18 cases, and from Dr. J. Reddle Goffe, of New York, who reports two cases, both hysterectomies. The list of operations reported by Tuffler embrace a majority of the operations called for in the very wide

field of work upon any and all organs and tissues from the diaphragm to the toes. Notably among them, we find included pylorectomy, gall-tract surgery, nephrectomy, cystostomy, hysterectomy, supra and vaginal hernias, strangulated and for radical cure, amputations, etc.

Not the least valuable part of Dr. Tuffler's paper is his minute directions for injecting the cocaine into the spinal canal, and by these very clear directions he has brought this treatment within the scope of any one who carefully follows them.

The patient upon whom I am going to try this treatment is a young girl of very decidedly neurotic temperament. She has suppurative in her hip joint, probably tubercular in character. Dr. Tuffler expresses the conviction that very nervous patients and little children are not the best subjects for this treatment, but the ages of his patients operated upon vary from 12 years to 63.

The doubting Thomases as to this treatment—and we have doubting Thomases in all classes in every age—will, upon first blush, apprehend trauma to the cord entailing hemorrhage into the chord or arachnoid space and ascending myelitis.

A septic infection seems impossible if the careful aseptic technique of Dr. Tuffler is adhered to. He impresses the importance of thorough sterilization of the solution of cocaine and of only using a recently prepared solution. A two per cent. solution of cocaine should be heated to 80° C., in a water bath for fifteen minutes. It should then be cooled to 38 degrees C., and kept at that temperature for three hours. Again, it should be carried to 80 degrees C. for fifteen minutes, and this should be repeated five or six times. It is not necessary to wait three hours between the several sterilizations. This treatment does not lessen the efficacy of the cocaine, and renders it perfectly sterile. Of course, the point at which the needle puncture is to be made must be thoroughly sterilized and a Pravaz syringe, with an asbestos piston, all of which can be boiled, must be used. The needle, long and slender, should, of course, be unquestionably sterile.

Fifteen minims of a two per cent. solution of cocaine is the dose used by Tuffler. This is about one-third of a grain of cocaine (Dr. Goffe says from $\frac{1}{17}$ to $\frac{1}{2}$ of grain may be used).

The site at which the puncture is made is between the fourth and fifth lumbar vertebral arches. Recalling the fact that the cord ends and the corda equina begins at the first lumbar, you will note that the needle enters the sub-

arachnoid space a safe distance below the cord. To the uninitiated, it would appear to be no easy task to hit the subarachnoid space with a needle passed from without in through the thick overlying structures of the back. If the instructions of Dr. Tuffler are observed, a failure must be the exception. A line drawn from the highest point of the iliac crest to one side of the corresponding point on the opposite iliac crest will pass through the spinous process of the fourth lumbar vertebra; having located the tip of the spinous process of the fourth lumbar vertebra, place the index finger of the left hand upon it, now make the patient bend well forward so as to arch the lumbar spine; by doing this, the inter-space between the fourth and fifth lumbar spines is increased to $1\frac{1}{2}$ centimeters. With the needle in the right hand make the puncture below the line passing across from the iliac crests and one centimeter to the right of the vertebral column.

How are we to know when the sub arachnoid space is entered? By an absence of resistance to the needle and by the escape of the limp spinal fluid, not until this fluid does escape have we any guarantee that the needle is in the arachnoid space, and under no circumstances should the cocaine be introduced until this assurance is had. While this injection is being made the patient should sit upon the edge of the table, or better, upon a stool or chair, so that the feet can rest upon the floor. As soon as we see the spinal fluid dropping from the needle, the syringe containing the cocaine should be attached and slowly injected. One minute should be occupied in emptying the syringe. Seal the needle puncture, place the patient upon the operating table in any position you may wish, and wait for ten minutes, at the end of which time analgesia should be complete—not approximate, but complete. The sense of touch is retained, but not the sense of pain. The premonitory symptoms experienced are tingling and numbness, beginning in the feet and extending gradually upwards, and finally in ten minutes inducing sufficiently complete analgesia for any operation below the diaphragm.

Observing all of the details so clearly given by Dr. Tuffler, I have located the spine of the fourth lumbar vertebra. I now pass the needle in; I feel the absence of resistance, and you see the limp spinal fluid in quick drops escaping through the needle. I am equally surprised at having no trouble in introducing the needle in this case. You will notice that this patient has a slight lateral curvature of her spine—a sequence of the hip-joint trouble;

and because of an ankylosis of her hip she could not bend the lumbar spine to make the spinous processes very prominent or to increase to the fullest extent the intra spinous space.

Having injected the cocaine and waited for ten minutes, I will now open the hip joint, do an emasement, fill the cavity with pure carbolic acid for one minute, and then wash out the carbolic acid with pure alcohol and introduce a large glass drainage tube, treating this disorganized joint after the plan which has been so successful in the hands of Dr. Phelps, of New York.

You will note that the patient has been hysterical before anything which could give her pain has been done. Such an effect, incident to bringing unblindfolded a young, feeble and neurotic girl into the presence of two hundred or more spectators to be operated upon, is not at all surprising. Our patient continues to be hysterical, but evinces no pain, as we expose the joint by a free incision and gouge out and curette away all carious bone tissue.

Our patient has vomited during the operation; this is one of the most commonly observed accompaniments of spinal anaesthesia. Tuffler noted it fifty times in sixty three operations.

As we finish the operation and the patient is wheeled out, she is laughing, and says she wants her dinner.

If I was addressing an audience of experienced surgeons and should ask the question, How much of the strain incident to all operations is due to the anxiety as to the general anaesthetic? I am quite sure a large number would say it was *not* insignificant. I have seen one young wife and mother die while taking chloroform to have as simple a thing as a lacerated cervix repaired, and I have seen so many come so near dying as to make me exceeding anxious. With general anaesthesia, there, is in every case an immediate or remote danger, and in a large number of cases met with neither chloroform or ether can be given without great risk. In old people with damaged arteries, heart and lungs and kidneys, we recognize there is danger in the use of a general anaesthetic. In many cases among the young and old in which shock, existing or prospective, is prominent, it is a matter of no small moment to have at hand a means of securing analgesia other than the shock inducing general anaesthesia. I have shown you that analgesia thus secured is real, not relative.

Are there dangers of a serious character attendant upon the injection of from $\frac{1}{2}$ to $\frac{1}{2}$

of a grain of cocaine? If such dangers exist they have not been manifested in any of many cases reported. There is usually anxiety, nausea and vomiting experienced, probably as much so as with general anæsthesia. Headache, usually slight but occasionally severe, is frequently experienced, but passes away during the first twenty-four hours after the operation.

Note by the House Surgeon, Dr. Chewning.—The patient, on being taken to her room, was in good spirits, suffering no pain, with good pulse. In about one hour a severe headache began, with weak pulse and pupils slightly dilated, respirations were superficial and irregular. Strychnine $\frac{1}{8}$ gr. was administered hypodermically with improvement of pulse. The headache continued and lasted for some three or four hours. Towards morning of the day succeeding the operation the patient became comfortable, and has been doing well since.

NOTE BY THE AUTHOR.—Since the above lecture was reported, we have noticed in the October 20, 1900, issue of the *Journal of the American Medical Association*, an article in which the fact is impressed that some patients are very susceptible to cocaine, and caution is urged as to its injection into the sub-arachnoid space.

ACUTE HEMORRHAGIC ENCEPHALITIS.*

By CHAS. DEWEY CENTER, M. D., Quincy, Ill.

The following is the report of a case of acute hemorrhagic encephalitis, following what was, in all probability, a case of grippe or influenza, and afforded many difficult points in the making of a diagnosis, partly because of the infrequency of the disease and partly because of the many complicating symptoms:

The patient, a German, age 36 years, was taken with what his fellow-workmen called "a fit," and fell unconscious. The first examination showed contracted pupils, some difficulty in breathing, some tendency to cyanosis, sub-normal temperature, and a pulse of 80, which was full and irregular. There was numbness of the left hand, with diminished muscular force. The left leg was similarly affected. The patient had considerable difficulty in speaking, partly because of tongue sluggishness, partly from mental incapacity.

His more remote history, gleaned from his family, was that for two weeks he had been suffering from what they considered "grippe."

* Original abstract of a paper read at the Illinois State Medical Society, May, 1900.

During this time he had complained of intense pain over an area equivalent to the upper and anterior parts of Rolandic tract. This pain, for the sixty hours previous to his falling unconscious, had been so great that he had had no sleep whatever. Patient is six feet tall, and weighs over 210 pounds. Has never had syphilis, but uses considerable beer.

Twelve hours after the first examination by the writer, his condition had improved in some ways. The muscular energy was better under control. He had, however, from time to time, attacks of twitching of the muscles at the left angle of the mouth. Preceding these monospasms, there was an increased feeling of temporary numbness in the left hand.

The prescribed medication was the acetate and citrate of potassium—for he was passing but little urine, and it was loaded with albumin—broken doses of calomel hourly, and as the facial spasms increased in duration and violence, full doses of the bromids.

The second day he seemed better; all bad symptoms had abated, at least partially, and the indications were good.

The third day he was worse again. The facial spasms grew more violent, and several of them involved both sides of the face. There was a gradual increase until the left arm, left leg, and then the entire body partook in the convulsion. From 3 P. M. to 9 P. M., he had between thirty and forty convulsions—so severe that he had to be held in bed. He was comatose between convulsions.

With a working diagnosis of intracranial pressure, he was put on the kitchen table, and the skull opened over the middle and upper part of the right Rolandic tract. The dura was found tense and bulging, with turgid blood vessels. On incising it, considerable bloody serum escaped. The pia was so tense and protruding, that by the uncertain light of a hand lamp, it was first thought to be a cyst wall. Considerable bloody serum, together with small particles of the gray matter, ran out when this was incised. The cortex was disintegrated, so that when touched lightly with a gauze sponge, small particles would adhere to the mesh. As far as exploration could be made, there was an appearance of multiple minute hemorrhages. The brain was aspirated in three different directions, with negative results. The patient had five severe convulsions while on the table—a period of a little less than an hour.

The wound was closed with small gauze drain in each angle—one of them passing to the brain substance. Convulsions continued

until 1:30 A. M., two and one-half hours after the close of the operation. Patient became conscious at 5 A. M.

I will say here, no anæsthetic was used.

For thirty hours there was a copious discharge of serum. At the end of forty hours, there was the same head pain and a few slight twitchings of the muscles at the left angle of mouth. I then dressed the wound. No serum was escaping through the drains, and the skin was bulging. On pulling out the gauze which entered the dura, a stream of clear serum shot up like the spurting of a severed artery. An amount estimated at three ounces escaped. From this time on he made an uneventful recovery.

As said before, the chief point of interest in this case was the difficulty in making a diagnosis. There presented for consideration epilepsy, cerebral hemorrhage, cerebral thrombosis, uræmia, non suppurative encephalitis, and cerebral œdema.

Looking backward, many of these complications in symptoms can be reconciled. He had precisely that condition of the brain which we ordinarily designate "contusion." The dictum of Courtney is, "Cerebral œdema is the inevitable sequence in time of that complex of pathologic symptoms which we designate contusion." Carrying out this same idea, and proved also by the operation, the statement of Traube is of interest: "An acute œdema of the brain produces uræmic symptoms." There is no doubt in my mind that this pathologic condition, known as contusion, may be developed within the cranium, and that without any violence being exerted on the outside of the cranium. In a mild case, it would be the "curable encephalitis" of Strumpell, called by others "cerebritis," and in a severe case, would be the "acute hemorrhagic encephalitis" of Church—one and the same disease, differing in intensity.

Church, in his work on *Nervous Diseases*, says: "Except in traumatic cases, hemorrhage into the substance of the brain is a secondary or terminal effect of degenerative or inflammatory disease of the cerebral blood vessels—almost invariably of the arteries." Speaking of *hemorrhagic encephalitis*, he says: "Anatomically, the disease is marked by multiple, non-suppurative, inflammatory foci, showing congestion and either punctate or massive hemorrhages, leucocytal infiltration, and localized destruction of brain tissue. Most of these cases follow influenza."

I think it was Putnam who has reported some seven similar cases—some found in his

own practice and the others reported to him. A practitioner in Texas, whose name I do not recall, has also reported two or three similar

Analyses, Selections, etc.

Asthma—Its Nature and Treatment.

Dr. B. Alexander Bate, Louisville, Ky. (in a paper entitled "Asthma," read before the Mississippi Valley Medical Association, at Asheville, N. C., October 9, 10, 11), said that asthma is a disorder of nutrition, dependent upon the arthritic diathesis. Loomis, Trousseau, Salter, and others, however, have considered it a diathetic neurosis. Haig attributes asthma to the effect of uric acid upon the circulation in the thorax. Modern opinion seems to regard asthma as a neurosis of the pulmonary plexus due to arthritis.

In bronchial asthma, uric acid in the blood so alters nutrition as to cause a neurosis of the branches of the pulmonary plexus, thus producing hyperæsthesia and engorgement of the bronchial mucosa, spasmodic contraction of the muscular fibres, and the various manifestations of katabolism.

Asthma frequently alternates with such diseases of the arthritic diathesis as neuralgia, migraine, angina, and gout. Clearing the blood of uric acid has relieved asthma, only to be followed by gout as the uric acid was precipitated into the tissues.

Asthma may be said to belong to the class of uric acid diseases, due to the effect of high arterial tension, in contradistinction to those produced by precipitation of urates into the tissues.

The points which emphasize the uric acid opinion are the occurrence of asthma most frequently in adults. Males are affected more frequently than females, and the disease is transmitted along the male line. Heredity can be traced in fifty per cent. of cases. Arthritis in some form, perhaps, has occurred in every instance.

Attacks come on most frequently when the blood is loaded with uric acid, during the alkaline tides.

The cause of asthma may be divided into two classes. First. The systemic or essential cause—the arthritic diathesis. Second. The local or exciting cause of the attack.

The first of these is perhaps present in every case. Loomis says: "Unquestionably the primary cause of asthma is some constitutional idiosyncrasy."

Cases are recorded in which mediastinal tumors pressing upon the pneumogastric nerve continuously first cause asthmatic paroxysms during the alkaline tide. Pressure explains the neurosis, and the time of the paroxysm manifests the uric acid factor.

The *second class* of cases can act only when the first exists.

Among the exciting causes may be mentioned irritating inhalations, certain reflex disturbances, emotional excitement, and conditions in general that increase the alkalinity of the blood, besides chronic inflammations of the respiratory tract and organic disease of the heart.

The asthmatic syndrome is a classical portrayal of uricacidemia. The prodromal buoyance gives place to corresponding languor and depression of spirits. Sleeplessness, pruritus, and headache are marked. The urine at first is increased and free of uric acid; later, it becomes scanty, and is loaded with urates.

The paroxysm comes on during the small hours of the morning, after meals, or from three to six in the afternoon; that is, during the alkaline tides, or when the meal has raised the alkalinity of the blood.

The capillaries are obstructed, the veins distended, the surface temperature below normal, and the extremities cold, blue, and shrunken.

The pulse is small and thready. All the symptoms of high arterial tension are manifest.

Emphysema and dilatation of the right heart usually are found in those having suffered for years.

Modern treatment has been able to cut short the attack in most instances, and often to prevent its return.

Prophylactic treatment embraces proper hygiene and diet. All means of increasing oxidation and a diet free of the alloxur group. Prophylaxis should be begun in the children of lithæmic individuals.

The *therapeutic measures* embrace the care of the attack and treatment during the interval.

After removal of the exciting cause, the treatment of the attack consists in the use of such remedies as overcome arterial tension by freeing the blood of uric acid.

The treatment of the interval consists of the use of such drugs as eliminate uric acid from the system, and the adherence to such a diet as permanently keeps down arterial tension.

The rational treatment, based upon the theory of uricacidemia as the chief factor in the production of asthma, has been most satisfactory in the hands of the observer.

Middle Ear Disease in its Relationship to the Cranial Cavity.

Dr. Otto J. Stein, Professor of the Nose and Throat, Post Graduate Medical School and Hospital, Chicago, Ill., read a paper on this subject before the Tri-State Medical Society, Chattanooga, Tenn., October 12, 1900. The importance of recognizing the possibility of intracranial complications in every case of middle ear disease is essential. The point of entrance of the disease may be either by way of a blood, or lymph or nerve channel, or via a suture or dehiscence, or by necrosis of the bone.

The symptoms of phlebitis and sinus thrombosis vary greatly with the particular sinus or sinuses involved. Characteristic symptoms mark the involvement of particular sinuses.

The differential diagnosis between meningitis and brain abscess, and phlebitis and sinus thrombosis, is illustrated by the report of several cases and by means of the stereopticon.

Mercuriol: A New Remedy in Urethritis.

Dr. Ramon Guiteras, Professor of Genito-Urinary Surgery in the Post Graduate Medical College of New York, Lecturer on Genito-Urinary Surgery in the University of the City of New York, has a paper on this subject, which we have abstracted from *The Lancet*, London, England, September 22, 1900.

The author states that he has thoroughly tried mercuriol in his clinic, and from his experience has drawn certain conclusions which he presents in this paper. After describing the chemical nature of mercuriol he states that he found the weaker solutions had little effect, and the stronger solutions were at first irritating. He finally concluded that the average strength best borne by the patient is ten grains to the ounce, or approximately two per cent. After having reached this conclusion, he had the histories of 100 cases recorded, in 33 of which an examination for the gonococcus was made, revealing its presence in 30 cases. In the remaining 67 cases a clinical diagnosis was depended upon, since the writer considers the experienced eye competent to recognize the disease. In one extremely interesting case no gonococcus could be found in the urethral discharge, although gonococci were present in that of some venereal ulcers on the glands.

In these cases a two per cent. solution of mercuriol was ordered, which the patients were directed to inject three times a day, after micturition; the injection to be held within the urethra for five minutes at each operation. The clinical reports of the cases show that fre-

quently in two days after beginning the use of mercuriol, gonococci could no longer be found in the discharge.

The author discusses at some length the value of the term "practically cured," and sums up his argument by saying that to draw conclusions of value we should consider only cases that have been under treatment for three or more weeks, omitting those making but a few visits. On this basis he eliminates all but 65 cases from his report, and tabulates these as follows:

Ten cases were cured in four weeks, or 15 per cent; fifteen cases were cured in six weeks, or 23 per cent.; twenty cases were practically cured, as there was no discharge, though there were some shreds in the urine at the end of from four to eight weeks, 30 per cent.

One of the most valuable observations that the writer has made is the fact that *only two cases suffered from complications*, one having developed gonorrhoeal rheumatism and the other epididymitis. He states that this fact in itself would tend to argue much in favor of the use of mercuriol, for where is there any other solution or mixture which does not show a greater percentage of complications? When we consider that many writers claim that epididymitis occurs in 20 per cent. of all cases of urethritis, the rate of 1 per cent. reported in this series of cases argues much in favor of mercuriol as a harmless, yet efficient injection.

Another interesting feature is that in only one of the 100 cases was there any marked posterior urethritis. Therefore, it would seem that *mercuriol quickly destroys the gonococcus, lessens the severity of the inflammation, and tends to prevent the development of complications*. From a comparative study of the different methods of treating gonorrhœa the author concludes that treatment with mercuriol is an advance beyond the older methods with balsamics and astringent injections.

Treatment of Peri-Rectal Abscesses.

Dr. John L. Jelks, Memphis, Tenn., read a paper on this subject before the Tri State Medical Society of Alabama, Georgia and Tennessee during its Twelfth Annual meeting, held at Chattanooga, Tenn., October 11, 12, and 13, 1900.

Peri-rectal abscesses, when properly treated, are not so serious as when formerly the practice was to poultice, and await pointing.

Rectal abscesses need not result in fistulæ, except those that are the result of malignant diseases—namely, tuberculosis, cancer and syphilis. In fact, not then to the abscess *per se*,

but to the degenerated tissues involved, where the pus infection is a concomitant and complicating condition; and then, in tuberculous and syphilitic cases, we can restore the parts to health by early and timely treatment.

The fault to be found in a simple incision and drainage of these abscesses is that their walls are not gotten rid of, hence there is practically no barrier to general infection or infection of other and deeper structures—so generously supplied in this locality—and these remain to continue an irrigation, and lead to suppuration. In many of these cases the abscess walls become calloused, and all efforts to establish granulation are futile. As soon as able to elicit fluctuation (and I dislike poulticing to accomplish this end), I open freely, and hastily irrigate through an irrigating curette, attached to a fountain syringe, until the irrigating fluid comes away free of debris; then, with a sharp irrigating curette, fearlessly and surely remove all the abscess wall, thereby converting the cavity into a surgical wound pure and simple.

I use formalin solution in irrigating these cavities, and pack them with gauze, iodoformized, except in cases possessing an idiosyncrasy.

After thus treating these cases, I expect no further suppuration, and though others advise use of such agents as bi chloride of mercury, carbolic acid, and hydrogen dioxide in irrigating these cavities, they have proven defective and objectionable to the author.

Since using formalin solution when irrigating these cavities suppuration is seldom noticed. Superficial abscesses are dealt with in the same manner, or may be frozen and excised when small, as when otherwise treated they are liable to infect deeper structures. In these superficial abscesses local anæsthesia will suffice for thorough curettage. Very painful wounds should be dressed with borated gauze, saturated in antibrule of fifty per cent. solution. I have not found in rectal surgery the objection to the use of formalin referred to by rhynologists and laryngologists.

Thorough dilatation of the sphincters is essential in the treatment of all cases.

Therapeutic Value of Salt Water Injection in Acute Diseases.

N. Senhartz (*Deutsch. Archiv. f. Klin. Med.*, Bd. 64, s. 189). The infusions employed were for children 100 to 200 c.c., and for adults 500 to 1,000 c.c. at a sitting. They were injected subcutaneously, and the temperature of the water was 40 degrees and the height of fall $\frac{1}{2}$ to $1\frac{1}{2}$ m.

The cases in which they were indicated were (1) bad circulatory disturbances, occurring in the course of acute infectious diseases (typhoid, pneumonia, cholera infantum, dysentery); (2), cases in which not only the giving of food is temporarily forbidden by the nature of the disease, but also where toxic agents are generated in the system, which must be overcome. To this class belong acute abscess formations in the neighborhood of the stomach and appendix, subphrenic and perityphlitic suppurations; also general peritonitis and cases of ileus. In all these cases the salt water infusions are highly recommended by the author upon the ground of a wide experience.

He observed that in cases of heart weakness, with defective filling of the blood vessels, a decided restorative effect was obtained from the infusions, with at times a considerable increase in the amount of urine. They proved valuable also in relieving the dreadful thirst in cases of peritonitis, where all food by way of mouth was rejected.

Evil effects were but seldom observed. In one case an abscess resulted; in another slight oedema of the glottis. They were never alarming in any case.

Colds and Effects of the Weather.

Bachman (*Deutsche Mediz-Zeitung*, 1900, No. LIX, S. 689,) advances a new theory in regard to the influence of weather upon the system. The glands have an important function other than that usually attributed to them. They are the way by which much of the effete matter of the body, especially mucus, is discharged. They belong functionally to the circulatory system, and are the cleansers of the lymph and blood. Diseases generally arise because the glands of the body have been affected by certain abnormal irritants (of which the weather is to be counted) and cannot discharge the products of metabolism in the usual way. We have then a status morbidus, the forerunner of metabolism disease. The effete matter of the system naturally becomes the food of microorganisms, which, however, are not satisfied therewith, but by their toxine attack also the living tissue. Colds are explained as follows: On account of disordered gland activity, regressive products, especially cast-off blood corpuscles, are accumulated in certain organs and parts of the body. The system, thus handicapped, is much more easily influenced by weather changes. The order of events is as follows: Evacuation disturbances, retention, status morbidus, metabolism, disease, infection.

The Influence of the Section of the Kidney in Acute and Chronic Diseases of the Kidney Parenchyma.

J. Israel (*Mittheilungen aus den Grenzgebieten der Medicin und Chirurgie*, B. I. v. Hft. 3,) reports an interesting case of cure through section of the kidney, of an anuria of several days' duration, a result of a subacute inflammation of the left kidney, eight months after the extirpation of the right kidney for tuberculosis. The case was one in which the entire kidney was sowed with miliary abscesses as a result of an infection from the bladder. The anuria was due to the increased tension due to the acute inflammation. Israel then reports fourteen cases of nephritic trouble on which he operated, and which were characterized clinically by (1) paroxysmal attacks of pain, which could not be differentiated from kidney colic or tuberculosis; (2), by the one sidedness of the symptoms. In some cases one sidedness of the symptoms indicated disease on one side. In others, notwithstanding one-sided paroxysms, disease on both sides was found. Israel has come to the following conclusions as a result of his experience: He has determined the existence of one sided nephritis, which gives rise to paroxysmal attacks of pain simulating renal colic; also of double nephritis with one-sided attacks of pain. Some severe cases of nephritis were observed with entire absence of albumen and casts; others again in which, notwithstanding the presence of hyaline, granular and epithelial casts, no albumen was found. Profuse hemorrhages in nephritis are occasionally met with, associated at times, but not constantly, with colic. The colic and the hemorrhage are due to the congestion of the kidneys. A large number of cases, called nephralgia, anginauratic hemorrhage of the kidneys are due to real organic changes in the viscera. Israel believes that section of the kidney has a favorable influence in many cases of nephritis, and that anuria, as a result of acute ascending nephritis, may be cured. The kidney wound should not be sutured.

Ichthioform and Its Employment in Medical Therapy.

R Pollacco says (*Bell. Clin. Scien. della Peramb. di' Milane*, 1900, No. 6; p. 129): The studies in the chemical and bactericidal properties of this drug, especially those made by Rabow and Galli-Valero, are reviewed at length. The author then proceeds to give an account of his own investigations, which are purely clinical. He finds that ichthioform is the most energetic

and at the same time the most harmless of intestinal antiseptics which modern therapy places at our disposal. It exercises no injurious effect either upon the heart, the liver, or kidneys, even in most liberal doses. Pollacco thinks that ichthioform has a specific action in diarrhœa of tubercular patients, and is superior to any other antiseptic known in typhoid, and in infections due to the bacterium coli. It cures all kinds of diarrhœa, and where opportunity presents itself, the author would recommend its use in the dysenteric form. Ichthioform combines the strongly analgesic, astringent and antiseptic property of ichthyol, with the energetic antiseptic action of formic aldehyde.

Some Cases of Aortic Aneurism Cured by Injections of Gelatine.

Rossini states (*Bulletins delle Cliniche*, Milane, 1900, No. 7), that the unsuccessful cases which have been reported are reviewed by the author, and attributed generally to bad technique, especially septic infection, and to failure to enjoin the repose and other hygienic principles required. Rossini reports four cases in which good results followed, both as to subjective and objective symptoms. He uses a solution of either 1 per cent. each of gelatine and chl-ride of soda, or 2 per cent. of each to 100 c.c. of distilled or sterilized water. The solution should be carefully sterilized and renewed, at least every two or three days, other wise you run the risk of causing a fever (37-40) preceded by rigors and terminating in profuse sweats—lasting, maybe, six or seven days. With a sterile solution, you do not have the least general reaction or other disturbance on the part of the patient. Injections should be given daily of from 10 to 20 c.c.

The number will depend upon the disappearance, or, at least, notable diminution in the aneurysmal symptoms. The gelatine is absorbed, and acts by favoring the coagulation of the blood. The efficacy of the gelatine will be increased by combining with it administration of iodine preparation and a special diet. Enforced rest is necessary during the treatment and for some days afterwards, in order to give time for the coagula formed in the aneurysmal sac to become firm and adhere closely to the sides.

Cyclic Albuminuria.

P. Heim (*Ovesi Neditap*, Budapest, No. 27) says this disease of children just reaching puberty or younger, sometimes called Pavy's

disease, is distinguished by albumen appearing in the urine during the day, while at night and in the morning the urine is free from it. The cause of this albuminuria in cycles of twenty-four hours is that children in normal circumstances pass the night in bed while they run about during the day; that is, take a horizontal position at night, but in the daytime assume the vertical. If these patients spend the day in bed and rise at night, the albuminuria changes its time of appearance. Heim observed three cases of this disease in girls of 12 and 13 years; he does not agree with Heubner and Tewes in thinking this malady a functional disease of the kidneys, but believe that there is a connection between it and hysteria or neurasthenia, and considers the proximate cause a disturbance of circulation in the kidneys. The prognosis is favorable. The treatment is the abstinence from bodily and mental overexertion.

Hemorrhages of the Suprarenal Capsules.

C. Gargano remarks that (*Riv. Crit. di Clin. Med.*, Firenze, 1900, No. 31), that this is one of the most obscure subjects in pathology, in spite of the important studies directed thereto of late, especially by Arnaud, who has collected about eight cases. They are divided into the following groups according to symptomatology:

1. Signs of peritonitis or internal hemorrhage, when the capsule is lacerated and allows its hemorrhagic contents to escape into the peritoneal cavity, or into the cellular sub-peritoneal. The most common of these symptoms are: Sharp abdominal pains, vomiting, meteorism, collapse, coldness of the extremities, smallness of pulse, hypothermia, and rapid death in a few days, and, at times, in a few hours.

2. Symptoms of capsular insufficiency are less clear and more difficult to estimate. These signs are: Characteristic anæmia, muscular asthenia, prostration, emaciation, vomiting, diarrhœa, sharp pains in the abdomen, hypothermia, collapse, syncope.

3. Rapid death accompanied or preceded by intense nerve symptoms, sharp pains, convulsions, contractions, delirium or lethal coma, but never paralysis.

Treatment of Rupture of the Uterus

Georg von Zweyberg (*Same Journal*, p 819 and lxxxvi), says: At the invitation of Prof. Henricius, the author has reported all the cases of rupture of the uterus treated in the

Obstetrical Clinic at Helsingfors since its foundation, 1833-1900.

After a detailed report on the different opinions on the most rational treatment of a menacing rupture, or one already in existence, the author notes 26 cases of that affection in the 24,839 cases of parturition in the Clinic at Helsingfors.

Of these 26 cases, the parturition was accomplished spontaneously in 7 cases; the delivery was by forceps; in 13 cases by pedal version and extraction of the fœtus (seven times with summit presentation, six times with transverse presentation; in 3 of these cases the head, following, was perforated); in 6 cases embryotomy was performed (with 2 of the last, after application of the forceps without result).

In all the 26 cases, the infants were still-born, and only two of the mothers survived (7.6 per cent.). In one of these, there was presentation of summit, contracted pelvis, pedal version, extraction; grave parametritis and peritonitis during childbed. In the other, presentation of summit, version, amputation of the matrix.

In 22 cases, the treatment was conservative; in 4 operation was performed. As to the period of 1890, only 8 cases were noted. In 4 cases, the treatment was limited to that generally employed in peritonitis; in 2 cases, ergot, opium and ice were used. After 1890, 3 cases were treated by drainage; in 4 cases, there was only time to use stimulants; in 1 case, the treatment was directed against peritonitis, and in 4 cases laparotomy was performed; in 2 cases, sub vaginal extirpation of the uterus; two times, sutures of the ruptures.

The deaths of the 21 who underwent treatment were caused: 8 times by septicemia with peritonitis, $1\frac{1}{2}$ to 8 days after parturition; 6 times $\frac{1}{2}$ to 22 hours after parturition with signs of peritonitis; once probably by septicemia with a pelvis abscess 20 days after parturition; 3 times by profuse extravasation of blood some hours after parturition (1- $1\frac{1}{2}$ -3-6); once immediately after parturition (moribund at entrance); 2 times 2-3 days after parturition; cause not noted.

In the cases operated, death was caused by septicemia.

The great mortality depends probably mostly on infection during the parturition.

Treatment of Parenchymatous Nephritis by Methylene Blue.

Neistab (I. T.) (*Yezhenedelnik, St. Petersburg, 1900, vii, 553-560*) applied methylene blue in

four children of scarlatinoid nephritis, and all recovered. In two cases it was combined with diuretics, in a third case with euchinin, because of malaria being present; in the fourth case with fluid extract of Canada Stative Armeria.

The action of methylene blue the author explains in two ways. Either it enters in chemical combination with the cellular elements of the kidneys and re-establishes in the tissue of the kidneys the ability to resist the pathogenic micro organisms, or it enters in combination with the toxins formed by the micro organisms, rendering them neutral, and indirectly paralyzing their pathogenic action on the kidney tissues.

Disembodied Practitioners.

In the State of Massachusetts a medical practice act, rigid in other respects, exempts from its provisions clairvoyants, mental healers, magnetic healers and those that practice the curing of diseases by the use of hypnotism. In other words, the greater the humbug the greater is the privilege, while the pretense to accurate knowledge must be rigorously investigated. It would seem that the lawmakers reasoned that since a little knowledge was a dangerous thing, absolute ignorance must be safe, a fallacy the more readily adopted since it is a natural tendency of human imbecility to love to be humbugged, as that eminent student of human nature, P. T. Barnum, expressed it. Like the silversmiths of Ephesus, the Massachusetts legislators may also have had self-interest in mind, for does not the great goddess of "Christian Science" reside among them, at least part of the time? In a recent lawsuit it was held that bills for medical treatment by spirits could be legally collected by the individuals through whom these disembodied practitioners acted. No question appears to have been asked as to the qualifications of these ghosts, though the plaintiff only claimed to act as their instrument. Whether such temporary inspiration can properly be accepted under the law, as it appears to have been in this case, may be open to question; at any rate, there is a chance for an interesting legal quibble. If a man is not really himself, or claims not to be, when under such influence, has he the right to practice in the name of another, whether that other be living or dead? Leaving such matters aside, however, it seems a pity that the laws in the region that popularly passes as the centre of culture of this continent should be restrictive only on those that have some pretense to qualifications and should offer such premiums in ignorance and superstition.—*Jour. A. M. A., October 20, 1900.*

Arterio-Sclerosis—Its Clinical Type—Its Symptoms—Its Course, and Its Treatment.

J. W. Runeberg (*Same Journal*, p. 793, and lxxiv), notes the difficulty of giving an exact description of arterio sclerosis, considering the very different affection of diverse organs. Thus, generally authors have failed to classify cases connected with this malady. Without such a classification, it is not possible to make an exact study of the question.

The principal organ in which the pathological effect of arterio sclerosis is felt is the heart. The cardiac symptoms of arterio-sclerosis are not always uniform; on the contrary, they have considerable difference in signification. Above all, it is necessary to differentiate two entirely different pathological states; one dependent on the disorganizations of the heart, caused by a more general arterio sclerosis of the arterial system; the other, of the coronary arteries. In the first condition, we have hypertrophy of the heart; in the second, Couenes neoplasms, myomalacic or myocardiac, both with diverse symptoms. These two forms may be found in the same person with mixed symptoms.

There is another arterio-sclerotic affection of the heart, which affects the orifice of the aorta and the semi-lunar valves.

The arterio sclerotic symptoms of the other organs of the body depend, either on defective nutrition, caused by degenerated arteries of the same organ, or on troubles of the circulation, caused by hypertrophy of the heart. The condition of diseased vessels may cause ruptures of vessels with extravasation of blood, especially in the brain.

The author groups the diseases caused by arterio-sclerosis in three great classes:

1. Syphilitic sclerosis, attacking principally the great and medium arteries, characterized by intense local symptoms without general troubles of the circulation.

2. The sclerosis of the type granular atrophy (arterio-capillary fibrosis), a general affection principally of the small arteries, characterized by insignificant local symptoms and general disturbances, important for the circulation.

3. The sclerosis of old age, a general affection, especially of the large and medium arteries, characterized by mixed symptoms of the diverse organs and by general trouble of the circulation.

It is not rare to find combinations of these three classes.

The prognosis of arterio-sclerosis is generally bad; but if syphilitic arterio sclerosis is properly treated in time, the process may cease.

The treatment of the other forms should rather be prophylactic. Among the pharmaceutical remedies, only iodide of potassium shows any effect.

The Vitality of Some Pathogenic Micro-Organisms in the Juices of the Organs of Healthy Animals.

A. Ciaccio states (*Rassegna Internat. d. Med. Mod.*, Catania, 1900, Nos. 18 and 19), that the following results were obtained by his experiments:

1. Extracts of organs kept at 37° C. are not opposed to the development of various micro-organisms.

2. The juices of the brain, of the liver, of the heart, of the spleen, of the lungs, and of the muscles of the rabbit and the sheep, independent of the temperature, possess anti-microbial properties.

3. The muscular tissue constantly shows, more than the other organs, a manifest bactericidal virtue. This is shown by the good resulting from the feeding of raw flesh in some diseases.

4. It seems that certain of the pathogenic germs are more resistant to adverse influences than others.

5. The method of the extraction of organic juices gives greater or less bactericidal power. The addition of the blood serum of the dog to certain extracts increases it. The addition of salt has the same effect.

The Dietetic Treatment of Patients Subjected to Gastrotomy.

Max Buch, (*Finska Lakasesallskapets Handlingar*, Helsingfors, 1900, xlii, p. lxxii), remarks that the nutrition and strength of patients who have undergone gastrotomy for atresia of the esophagus do not amend, in spite of the adequate nourishment which is introduced into the stomach. The experiments of Professor Pavlov, of St. Petersburg, on the mechanism of the secretory glands being taken as a basis, the author explains the cause.

The secretory nerves are the pneumogastric and the sympathetic. The juice of the pneumogastric is produced by the appetite—by the enjoyment of eating. The juice of the sympathetic is produced by the reflex of the food on the mucous membrane of the stomach. The juice of the pneumogastric is secreted at 4-7 minutes after the beginning of the repast;

the juice of the sympathetic half hour after. By introducing the food directly into the stomach without being chewed, the secretion of the pneumogastric is wanting, and the digestion is incomplete. The pancreatic secretion, which is richer in proportion as the gastric juice is more abundant, is also diminished, and, finally, there is no digestion by the saliva.

This is why it is necessary to make the patients chew their food and enjoy themselves at table. At the same time, we should avoid everything which can produce disgust, because that sensation irritates the fibres of the pneumogastric which retain the secretion.

Among fluids, broth and water have almost no influence on the psychic secretion, and milk has very little, but their influence is very great on the secretion reflex. This is why we would not introduce these substances directly into the stomach. On the contrary, it is very necessary to have the solid food masticated, especially the amylaceous, because the psychic juice is more effective with these last than the reflex juice.

The Origin and Significance of Basophilic Granules and Polychromatophylic Degeneration in Red Blood-Corpuscles.

G. Yavner (*Belnitsch Gaz. Betkina, St. Petersburg.*, 1900, xi, 1409-1419) had a case of progressive pernicious anæmia consequent on worms, continuing after worms were driven out. February 10-22 there were 577,500 red-blood corpuscles per cc., with 11 per cent. hæmoglobin, 1,020 sp. gr. of blood; patient was semi comatose, with all phenomena of catarrhal pneumonia which lately supervened. For five days patient was at a low ebb, after that he begins to improve, and three days later, *i. e.*, February 13-25, he walks and eats with appetite. The catarrhal pneumonia appeared as a stimulus to the bone marrow; red blood corpuscles are now 1-1½ million, with 26 per cent. hæmoglobin. March 7-12th it is 2,870,000 r. bl. c. per 1 cc., and 65 per cent. hæmoglobin. February 10 there were only normocytes and megalocytes. February 13, blood preparation stained with ocsin and methylene blue; there are proportionally much fewer megalocytes, many nucleated red blood corpuscles; normoblasts predominate; some megablasts; occasionally the nuclei of the red cells were in various forms of destruction; occasionally large basophilic granules could be seen in the red cells; occasionally these granules were yet united, forming a reticulated nucleus as it were; in other red cells these

granules, were much smaller, and either clustered together or scattered, but were like the larger ones. One-third of all red cells, whether normoblasts or megaloblasts, normocytes or megalocytes, and likewise some of those with basophilic granulations, presented a distinct polychromatophylic degeneration. The author concludes:

A. The small and large basophilic granulations, and also the polychromatophylic degeneration, appear in young red cells, and are therefore phenomena of regeneration, not of degeneration.

B. The basophilic granulation of the red cells is conditioned by caryorexis; polychromatophylic degeneration by caryolysis.

C. Presence in the blood of red blood corpuscles with basophilic granulation and polychromatophylic degeneration may have a diagnostic and prognostic value, and indicate certain treatment—their absence indicating the use of arsenic, iron, phosphorus, etc.; their presence contraindicating these.

D. The presence of megaloblasts in the blood is not an indispensable necessity for diagnosing progressive pernicious anæmia as Ehrlich requires.

Book Notices.

Manual of Clinical Diagnosis by Means of Microscopic and Chemical Methods. By CHARLES E. SIMON, M. D., late Assistant Resident Physician Johns Hopkins Hospital, Baltimore, etc. *Third Edition, Thoroughly Revised. Illustrated with 136 Engravings and 18 Plates in Colors.* Lea Brothers & Co.: Philadelphia and New York. 1900. Cloth. 8vo. Pp. 558.

The fact that the first edition, issued 1896, and the second, issued late in 1897, had both been exhausted in 1899—creating a demand for a third edition in 1900—shows conclusively the popularity of this work. This third edition contains so many revisions, additions, etc., as to require the dropping much from the former editions of such matter as could be possibly omitted from a book of this kind. Every day it is becoming more and more essential for the practitioner to be versed in the methods of accurate diagnosis. This book tells all about chemical and microscopic methods to pursue in arriving at a proper diagnosis. Bacteriological diagnostic methods are also taught in detail—so far as information has been obtained. While the book does not deal so generally with diseases from a clinical

standpoint as does Musser, it deals minutely with chemical, microscopical and bacteriologic examinations of the blood, the secretions of the mouth, the gastric juice, etc., the feces, the nasal secretion, sputum, the urine, transudates and exudates, cystic contents, cerebro-spinal fluid, the semen, vaginal discharge, mammary gland secretion, etc. An excellent index helps hurried reference to subjects.

Fractures By CARL BECK, M. D., Visiting Surgeon to St. Mark's Hospital and to the New York German Polyclinic; formerly Professor of Surgery New York School of Clinical Medicine, etc. *With an Appendix on the Practical Use of the Röntgen Rays. 178 Illustrations.* Philadelphia: W. B. Saunders & Co. 1900. Large 8vo. Pp. 385. Cloth. \$3.50 net.

In all cases of doubt as to the character of a fracture, the diagnosis can be made clear by the use of the Röntgen rays. And it seems a part of the intention of the author to specially advocate its use. Obscure injuries of the deeper parts or bones or deformities, such as of the pelvis, are so clearly delineated as to suggest the mechanical means for their relief. Plaster of Paris dressings are advocated in all cases where they can be well applied after the reposition of the fracture. Some new suggestions are made as to the application of splints for the clavicle, etc. Every page is filled with practical, useful detail. This, in short, is an excellent book, entitled to a place in every doctor's office. The reading is also enticing, and one finishes the book before he expects. The author states his points in a manner that enables them to be easily remembered. The publishers' part has been well done, and the skiagrams all nicely represent the conditions as found under the use of the Röntgen rays.

Editorial.

Medical Society of Virginia.

The Thirty-first Annual Session is in progress as we go to press. It has been marked by large attendance, a number of good papers, and a goodly addition to the membership. Dr. J. R. Gildersleeve, Tazewell, Va., has been elected President for the incoming year. Dr. Landon B. Edwards, Richmond, Va., was re-elected Recording Secretary, and Dr. R. T. Styll, Newport News, Va., Treasurer. The next place of meeting of the Society will be

Lynchburg, Va., during the fall of 1901. In this issue we present the Address to the Public and Profession, by Dr. J. N. Upshur, Richmond, Va., who was also chosen Chairman of the Executive Committee to fill the vacancy occasioned by the death of Dr. Hunter McGuire. Those who read papers who took their manuscripts from the Secretary's desk in order to make corrections, additions, etc., are notified that they must promptly return them to the Recording Secretary in order that there shall be no delay in publishing the *Transactions*. Further notes of the meeting will be made in our next issue.

The Southern Surgical and Gynecological Association

Will hold its Thirteenth Annual meeting in Atlanta, Ga., on November 13, 14 and 15, 1900. Members of the medical profession are cordially invited to attend. In the preliminary programme forty papers are announced. Dr. A. M. Cartledge, Louisville, Ky., is President; Dr. W. E. B. Davis, Birmingham, Ala., is Secretary.

Examination for Assistant in Serum Therapeutics, Biochemic Division, Bureau of Animal Industry, Department of Agriculture.

The United States Civil Service Commission announces that on November 20, 1900, an examination will be held for the position of assistant in serum therapeutics, Biochemic Division, Bureau of Animal Industry, Department of Agriculture.

The examination will consist of the subjects mentioned below, which will be weighted as follows:

Subjects.	Weights.
1. Letter writing (first grade).....	10
2. Elementary general chemistry.....	20
3. Serum therapeutics.....	60
4. Training and experience in laboratory work	10
Total	100

Age limit twenty years or over.

From the eligibles resulting from this examination it is expected that certification will be made to the position of assistant in serum therapeutics, Biochemic Division, Bureau Animal Industry, Department of Agriculture, at a salary of \$720 per annum, and to other similar vacancies as they shall occur.

This examination is open to all citizens of the United States who comply with the requirements and desire to enter the service. All such persons are invited to apply, and applicants will be examined, graded, and certified with entire impartiality and wholly without regard to any consideration save their ability as shown by the grade attained in the examination.

Persons who desire to compete should at once apply to the United States Civil Service Commission, Washington, D. C., for applications forms 304 and 275, which should be properly forwarded to the Commission.

October 12, 1900.

Examinations for Superintendent and Head Nurse, Training School for Nurses, Freedmen's Hospital, Washington, D. C.

The United States Civil Service Commission announces that on November 20-21, 1900, an examination will be held in any city in the United States where it has a local board of examiners for the position of superintendent and trained nurse, Training School for Nurses, Freedmen's Hospital.

The examination will consist of the subjects mentioned below, which will be weighted as follows:

<i>Subjects.</i>	<i>Weights.</i>
1. Essay (not less than 300 words).....	12.5
2. Anatomy and physiology.....	12.5
3. Hygiene of hospital wards and sick room	10.
4. Routine requirements of hospital ward and sick room.....	10.
5. General nursing.....	10.
6. Surgical nursing.....	12.5
7. Obstetrical and gynecological nursing	12.5
8. Experience	20.
Total.	100

Applicants must be graduates of respectable training schools for nurses, and must have had at least three years' experience in hospital nursing.

The examination will be divided as follows: First day, 7 hours, first four subjects.

Second day, 7 hours, remaining subjects.

Age limit 20 years or over, but the Department desires that preference in certification be given to unmarried females between 25 and 50 years of age.

From the eligibles resulting from this examination it is expected that certification will be made to the position of superintendent and head nurse, Training School for Nurses, Freed-

men's Hospital, Washington, D. C., at a salary of \$900 per annum, and to other similar vacancies as they shall occur.

This examination is open to all citizens of the United States who comply with the requirements and desire to enter the service. All such persons are invited to apply, and applicants will be examined, graded, and certified with entire impartiality and wholly without regard to any consideration save their ability as shown by the grade attained in the examination.

Persons who desire to compete should at once apply to the United States Civil Service Commission, Washington, D. C., for application forms 301 and 375, which should be properly executed and promptly filed with the Commission.

October 15, 1900.

The Mississippi Valley Medical Association

Will hold its next meeting at Put-in-Bay, Ohio, September 10, 11 and 12, 1901. The officers-elect for the current year are: *President*, Dr. A. H. Coddier, Kansas City, Mo.; *Vice-Presidents*, Drs. C. F. McGahan, Aitken, S. C., and Charles L. Minor, Asheville, N. C.; *Secretary*, Dr. Henry E. Tuley, Louisville, Ky.; *Treasurer*, Dr. Dudley S. Reynolds, Louisville, Ky.; *Chairman of Committee of Arrangements*, Dr. J. C. Culbertson, Cincinnati, Ohio.

Obituary Record.

Dr. Benjamin Harrison—Resolutions of Pi Mu Fraternity.

Whereas i. has pleased Almighty God, in His inscrutable wisdom, to lay His hand upon our beloved brother, Dr. Benjamin Harrison; now, therefore, we, the Beta Chapter of the Pi Mu Fraternity, in meeting assembled, do

Resolve 1st, That in the death of our brother the Fraternity sustains a great loss, and that, while we the individual members bow to the Supreme will, yet we bow in sorrow.

2nd. That he was a teacher beloved and respected by us as possessing unusual gifts, with a calmness and fairness in conducting his professional chair rarely vouchsafed to any one.

3rd. That we spread a copy of these resolutions upon our minutes, and send others to his family and to the medical press of this city.

Respectfully submitted: L. C. Covington, A. W. De Bell, S. N. Michaux, C. B. Crute, Committee.

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COMPARATIVE VALUE OF LABORATORY AND BED-SIDE DIAGNOSES.*

By E. C. LEVY, M. D., Richmond, Va.

To those of you who have attended the last three meetings of this Society the object in view in presenting this paper for your consideration may be very briefly explained. At each of these three meetings papers dealing with questions connected with the medical laboratory have been read before and considered by this body. The character of the discussions has shown the need for the presentation of a paper along the lines which will now be considered. These discussions have been of three kinds. Some of our members have entered into the true scientific spirit of the papers, and their remarks have enriched our *Transactions* by adding much to the value of the papers themselves, and have, it is but just to acknowledge, broadened the views of those who have read them.

The two remaining classes, however, have gone to extremes—the one extravagant in its over confident enthusiasm, though not to the same degree as the other has been unrelenting in its condemnation. Each of these two classes has done injustice to the laboratory worker—the one in a spirit most friendly and grateful, the other with motives not unkindly but misguided. To show that the true position lies at neither of these extremes, but nearer the first than the second, is the object of this paper.

Let us investigate the causes which lie at the bottom of such differences in opinion in the profession and make them possible. Much to the credit of laboratory methods may it be said that the prime cause of such antagonism is lack of intimate acquaintance with this work through actual experience. The laboratory worker himself, if he has but half way read the lessons daily presented to him, will

never be an extremist. He who over-enthusiastically pleads the cause will be found to lack that calm, broad judgment which only long experience and close observation can bring. Seldom is he a laboratory man, but ordinarily a practitioner who turns such work over to another, and in the selection of that other has been so fortunate that he gives to the mere methods of the laboratory all credit for the splendid results obtained and does not see that the diagnoses which have been made for him have included the additional factor of an able, conscientious worker, who at times has been in position from his immediate findings to give an exact, unequivocal opinion, but at others has used these findings only as data which it has been necessary to weigh carefully—the one against the other and the resulting balance against the clinical report—before arriving at a conclusion. Concerning the class which has so unqualifiedly condemned the value of laboratory diagnosis, it may be briefly said that, so far as I am aware, this class is represented by men unfamiliar with the subject from a practical standpoint.

Let us now consider the underlying conditions which are, for the most part, responsible for the poor results at times reached by the laboratory. First among these is the matter of personal skill. Many physicians who graduated before laboratory training constituted an essential part of the medical student's education, seem to think that all that is necessary in the way of equipment is the purchase of a microscope, a few test-tubes and reagents, and possibly a book or two. The essential point—the equipment of one's self as well as one's table—is by them overlooked. With such insufficient preparation, they at once launch forth in the most reckless, haphazard fashion, and, lacking even rudimentary skill, with physical and mental eye, as well as judgment, all untrained, they feel it a sacred duty to form positive opinions in every case. Needless to say, it is but little more than a lucky hit when such diagnoses chance to be of value; for (to introduce a comparison from the clinical

* Read before the Medical Society of Virginia during the Thirty-first Annual Session, held at Charlottesville, Va., October 23-25, 1900.

cal side of our subject) one would as little expect it as one would look for accuracy from a man who had just purchased a stethoscope, but who had never before attempted its use, whose knowledge of physical examination was limited to what he had read in books or been told at lectures, and who, moreover, admitting that he might be able to distinguish between a sibilant and a sonorous râle, would be utterly at a loss in weighing the nice points in a case where the classic combination of signs was wanting.

By way of illustrating the pitfalls always ready for the unwary in this direction, I may cite a few instances which have actually fallen under my personal observation. The most striking of these, both on account of the issue involved and from the fact that at least three men fell into the same unaccountable and egregious error, was in the case of a patient who once consulted me for what he had been told was chronic malaria. He had been ill for several years, during which time he had been growing steadily worse. His appearance, his history, and the physical signs so strongly suggested leukemia, that I was not at all surprised, upon looking at a drop of his blood under the microscope, to find one white cell to about seven red, rendering unnecessary any closer investigation, which was fortunate, as I was in the mountains at the time and had no access to instruments or materials for greater accuracy of diagnosis. This patient informed me that every one of the many physicians whom he had consulted had agreed in the diagnosis of chronic malaria—at least three of them after examining his blood! Yet in this case, the most casual glance at a drop of blood, simply placed on a slide and covered, without special technic and with a microscope of only medium power, should have made the diagnosis clear.

Among other errors commonly made by the novice, may be mentioned the following: Urates are put down for albumin in Heller's test; shreds of lint, or scratches on slide or cover-slip, are called urinary tube-casts; crenated red blood cells, or even the pale centres of normal red cells, especially if somewhat deficient in hemoglobin, are considered unmistakable representatives of the malaria parasite; certain peculiar refracting lines—whose nature I have never been able accurately to determine, but which appear red with one focus, going through the other colors of the spectrum as the focus is changed—are sufficient evidence to doom some poor wretch to tuberculosis; and on one occasion I have seen

musca volitantes, in the eye of a practitioner who had been using the microscope for urinary work for many years, mistaken for a clumping of typhoid bacilli in Widal's reaction, although the hanging drop was at the time completely out of focus!

Between the observer thus wholly unqualified, on the one hand, and the true expert on the other, we find all grades of skill represented. Here, as in other specialties, there is much lack of discrimination as to individual ability, yet here many practitioners are ready to condemn broadly because they have seen poor results achieved by men of moderate attainments, while they would be most unwilling to condemn surgery on account of an experience with a single bungling surgeon, or ophthalmology from the unfortunate outcome of a few cases treated by an inexpert oculist.

Connected with the personality of the laboratorian (a word which I take the liberty of coining, since there seems to be no suitable one at hand ready-made), there is another qualification besides that of skill. This second and most essential factor is honesty. Among the many valuable lessons of the laboratory stands, and always must stand, the acquirement of the true scientific method—that method which takes nothing for granted and reaches no conclusion save from premises from which such conclusion is the logical deduction. No step in the process may be omitted without vitiating the result. But in the natural course of routine work, cases will arise in which some link in the chain will be missing. To supply such a link is at times quite a temptation, especially where its nature can be apparently somewhat closely surmised, but to do so, without having it clearly understood that the result arrived at includes the introduction of such a provisional factor, is unjust to one's self, to this character of work in general, and to him who has called in the aid of one from whom he expects facts and not ingenious theories masked as facts.

Many men before and since the time of Pilate have puzzled over his question, "What is truth?" And many have come to learn that, simple as it may seem in the abstract to decide between the true and the false, the highest form of truth is not that naively spoken by fools and children, but is that which can be arrived at only through liberal experience with error. Not until the laboratorian has reached this point is he to be trusted. Not until he is in position to state, and is willing to state, the exact value of any investigation he has been called upon to make—positive

most often, doubtful on occasions, and at times a frank admission that his efforts have thrown no light whatsoever on the case in hand—not until then is he such a one as will place the laboratory in its true position with the practitioner, and only then can he win for himself either that sense of satisfaction which follows honest work or command the real confidence of those by whom he is consulted.

Another factor which is responsible for many failures on the part of the laboratory is carelessness in the collection, preservation or transmission of material to be examined. Sputum is sent in dirty containers (worst of all, vaseline bottles which have been but imperfectly cleansed), and the very simple rules as to its collection, so as to avoid undue contamination from the mouth and to insure getting the real pulmonary and not bronchial or laryngeal secretion, are disregarded; tumors are wrapped in a cloth saturated with bichlorid solution, or placed, *en masse*, in alcohol; urine is sent in too small amounts, no attention is paid to the time of day at which it is collected, and no note made of the amount daily excreted; specimens which it is desired to have examined bacteriologically are received at the laboratory after such handling as makes any reliable examination of them out of the question; dried drops of blood are sent for counts of red or white cells—an obvious impossibility—and so the list might be continued. On one occasion, I received for bacteriologic examination a fragment of supposed diphtheritic membrane which the doctor had carefully placed in a vial of glycerine. Nothing at all could be done with it. Glycerine being non-drying, no microscopic examination of smear preparations could be made, and, being a decided germicide, no growth took place in cultures made from the membrane. In these and similar instances the material which comes to the laboratory is more or less worthless for examination, and, no matter how skilful and well equipped the man, he will necessarily be forced in many instances to say that he cannot make a diagnosis.

Another important error on the part of the practitioner is the failure to send or give a history of the case. Often, indeed, this is as unnecessary as it is in the diagnosis of a compound fracture, while, on the other hand, it may be of vital importance. The history of a given case is seldom neglected by the clinician, and it is surely not asking too much that the same advantage be given to the laboratorian, though he may only occasionally have to rely upon such extraneous assistance.

We now come to a most important disadvantage under which the laboratorian is often forced to work—the restrictions placed upon him by the practitioner by whom he is consulted. The practitioner assumes that a given test is needed to clear up the obscurity of a case, and asks for just that test, while, as a matter of fact, in many such instances the laboratory worker could inform him beforehand that nothing was to be expected from the test in that particular case. Yet the material has been sent, or the family has been informed that Dr. ——— will call to make such or such an examination, and, for the protection of the family physician in these instances, Dr. ——— must gravely go through the examination though fully aware of its futility. On a certain occasion I was asked to call at a house and make a culture from the throat of a child, with some obscure disease, with the object of deciding if diphtheria were present. Examination of the throat failed to show the slightest sign of that disease. But the patient's condition strongly suggested typhoid fever, and had the doctor accompanied me to the house, or had I felt at liberty, in his absence, to depart from the line he had requested me to follow, I should have made Widal and Ehrlich tests rather than have sought for the presence of the Klebs-Löffler bacillus. As it was, I made the test, the findings were negative, and the laboratory got the credit of having rendered no service, while I believe a most satisfactory result might have been arrived at had I been unrestricted as to what should be done.

Working under the most favorable conditions—skilful, properly equipped, unrestricted as to his work, collecting his own material or having it properly collected for him—how do the results of the laboratory worker in the matter of diagnosis compare with those of the clinician? First, we must recognize the fact that in a certain class of cases only direct examination of the patient is of value in establishing a diagnosis. This class, which is a large one, is represented by such diseases as rheumatism, ordinary intestinal troubles, many surgical affections, the exanthemata, etc. In another large class of cases the laboratory, and the laboratory alone, can furnish an accurate diagnosis. This division includes diabetes mellitus, renal affections, blood diseases, certain neoplasms, etc. In still a third class a combination of clinical and laboratory methods will often be required. This class may be broadly described as those cases in which the clinician finds symptoms suggestive but not definitely diagnostic of a given condition.

Thus defined, this class will include, for example, tuberculosis in its incipient stage, diphtheria, gonorrhoea, malaria, typhoid fever, pus formation, and, going a point further, many cases in which the clinician, utterly unable to solve the complicated puzzle of conflicting signs and symptoms, calls upon the laboratory for aid.

The clinician holds as undisputed sway in the first of the three classes above mentioned as he should be willing to concede to his laboratory friend in the second. These first and second classes being strictly the fields of their respective representatives, let us briefly consider the results achieved by each. We must here eliminate the question of personal skill, considering only the expert in each class. Doing so, we find matters about equal, and if it be claimed that in this most advantageous field there are occasional errors made by the laboratory, it may be replied that they are far less frequent than those made at the bed-side.

Certainly I have never seen so forcible a demonstration of weakness on the part of laboratory methods as I saw in clinical diagnosis while on the resident staff of Mount Sinai Hospital some years ago. In one of the wards there was a patient whose case was never accurately diagnosed, but whose unmistakably serious condition was effectually proved by his eventually dying. While in the hospital most careful physical examinations were made each day, both by the attending physicians and resident staff, among whom was one of the cleverest and most thorough diagnosticians with whom it has ever been my good fortune to be associated. A slight displacement of the heart to the left was noted and some insignificant pulmonary signs. What was our astonishment, therefore, upon holding a necropsy, to find that the man had no right lung at all, it being replaced by a sarcomatous mass which entirely filled the right side of the chest and encroached upon the left. Yet during life the existence of this extensive lesion had never even suggested itself to any one of half a dozen careful examiners. Nor can the rarity of this condition be urged as an explanation, since a fairly large number of cases of sarcoma of the lung were seen at this hospital, and there were two others, in which the diagnosis had been easily made, on hand at that very time. It is only to be said that in this special case the physical signs commonly associated with this condition were wanting, and the fault must be attributed not to the observers but to the fallibility of recognized bed-side methods.

The clinician and the laboratory worker alike will usually make positive diagnosis in the first and second classes of cases respectively, but may often be forced to make only provisional ones. What then happens? The clinician is in position to watch his case day by day, meanwhile treating it tentatively and allaying the anxiety of the patient's friends as best he may. On the other hand—and I here refer to private practice, and not to hospitals, where greater opportunities are given—the laboratory man is ordinarily called in but once, possibly never sees the patient, or sees him only to make the examination required of him by the attendant physician, and should this single examination fail to reveal the true condition the matter is closed so far as he is concerned, except in the later question of collecting an uncertain fee. With all these drawbacks, it is the exception when the laboratory fails to furnish valuable and conclusive information in proper cases.

In the third class of cases, that in which a combination of both clinical and laboratory methods is required, their relative value in any given case may vary within wide limits. In one instance the clinician may have his diagnosis almost, but not absolutely, established, and the laboratory findings do little more than confirm an opinion already formed. Again, the case may be so obscure that the practitioner finds signs merely suggestive of conditions between which he is utterly unable to decide. In either case the laboratory will, in cases where its methods are at all applicable, usually come nobly to the relief.

And here, again, must be noted a strong point in favor of the methods of the laboratory. Usually in this class of work the observer is not called upon as a consultant in other specialties, and so is deprived of most valuable adjuncts in arriving at a diagnosis. The physician, or the usual consultant, does not have to rely solely upon the results of physical examination—which a fair comparison of methods would demand as an offset to mere laboratory findings—but he has the patient himself before him, and he is able to note a number of points which are of value in most cases, and to bring to bear upon the diagnosis that intuition which comes of long tuition and which, almost at sight in many cases, will make a diagnosis which will be maintained and proved correct even should the physical examination fail to reveal the expected signs. From all this valuable extraneous assistance the laboratory worker in private practice is

completely cut off. His results are the outcome strictly of his methods and of his skill in making deductions from his findings.

In the present paper the endeavor has been made to point out the most frequent and avoidable causes of failure on the part of the laboratory to clear up diagnoses in referred cases. As success or failure in this work lies so often in the hands of the general practitioner or the specialist along other lines, who should realize the fact that he may obtain most valuable aid from the laboratory, the following conclusions, as a brief resumé of the chief points in the paper, will not be out of place:

1. Practitioners should possess sufficient knowledge of laboratory methods to apply them for themselves in simple cases, but

2. Here, as in all specialties, the general practitioner should promptly recognize the cases which are beyond his own skill and refer them to an expert.

3. The practitioner may simply send material for examination where the nature of the required investigation is clear and where the character of the material permits, but he should at least know and follow the proper method for its collection and preservation, or, not knowing it, should take no step without informing himself on this point.

4. A brief history, containing only salient points, together with the apparent clinical diagnosis, should, if possible, accompany all specimens.

5. The laboratorian should be called in as a regular consultant in those cases in which the diagnosis is very obscure, and should be given full scope to make examinations in whatever direction he may deem best.

The laboratory is recognized by nearly all recent graduates in medicine, and by most of the older members of our profession, as a necessary adjunct to their bed-side methods of diagnosis. It is unfortunate, and somewhat difficult to understand, why antagonism between the two methods should be assumed in the minds of some. The true attitude of the profession should be to regard the methods as mutually indispensable. The laboratory would be of little use without bed-side observation; for only thus is brought out the line along which the laboratory investigation should be conducted, while the helplessness of clinical methods, in many cases, when used alone, can be no more convincingly shown than by directing attention to the very fact that the laboratory is so often called upon for assistance. Let the practitioner realize, as some fail to do, that

laboratory work is as much a specialty as any connected with the medical profession; and let him also realize, as still others fail to do, that neither the laboratory worker nor his brother specialists place themselves upon a plane above that of the competent general practitioner, but, filled with honest admiration for him, they have taken up cognate branches, in which they are in position to furnish him, when occasion arises, with indispensable assistance in the furthering of his noble work—the relief of suffering humanity.

THE FUNCTIONS OF MEDICAL SOCIETIES IN GENERAL, And of the Medical Society of Virginia in Particular.*

By HUGH T. NELSON, M. D., Charlottesville, Va.

President of the Medical Society of Virginia.

*Gentlemen of the Medical Society of Virginia—
Ladies and Gentlemen:*

There lies upon my office table, in this little city, a paper-backed volume of some four hundred pages, upon the binding of which one may read the following inscription: "*Transactions of the Medical Society of Virginia, Thirtieth Annual Session, Richmond, Va., 1899.*"

In a bound volume upon the shelves of the library in my office, whose title page reads: "*The Stethoscope and Virginia Medical Gazette, Richmond, Va., 1851—January 1st, Volume I, No. 1,*" on page 215 one reads: "We give in the present number an abstract from the very interesting debate in the *Medical Society of Virginia* at its November meeting."

In the February number of the same journal, we find on page 113, "*An act incorporating the Medical Society of Virginia.*" Concluding:

"The above is a true copy of an act passed by the Legislature of Virginia, the 2nd of January, 1824.

"(Signed) Wm. MUNFORD, Clk. H. of D."

Between the caption, "An act entitled an act," etc., and the signature of Mr. Munford is recorded the legal birth of the *Medical Society of Virginia*, and the names of the illustrious men who stood sponsors at its baptism. No matter that this organization was born and christened in the city of Richmond; the fact is that it had members all over the State, and all local medical societies were looked upon as subsidiary organizations.

*President's Address, delivered October 23, 1900, during the Thirty-first Annual Session of the Medical Society of Virginia, held at Charlottesville, Va.

Thus it is evident that the Society over which I have the honor to preside to night is over three-quarters of a century old, and has had as my predecessors in office men whose fame has been echoed from the shores of either continent.

Well may I pause, then, in an attempt at a "President's Address," in consideration of the fact that for seventy years addresses have been delivered bearing such title. Fain would I shrink from the task, but that such action would be tantamount to desertion of one's colors in the hour of battle—one of the chiefest difficulties which confronts your speaker in the selection of a theme that shall prove interesting and instructive, to say nothing of the handling of such material as may be selected.

I shall, however, very briefly, and in my own poor way, present for your consideration this morning: *The Functions of Medical Societies in General, and of the Medical Society of Virginia in Particular.*

The theme may be a quaint one; has probably been gone over many times in the last three decades; still there may be some points which will bear a revivifying; others which may be now for the first time brought to light. Thus the subject had best be subdivided somehow as follows:

1st. The functions which medical societies have already performed.

2nd. The questions with which such organizations are wrestling to day.

3rd. The problems which appear demanding solution in the near future.

The American Medical Association, a very powerful organization, published the first volume of its Transactions in the year 1849. This volume, and its successor, published the following year, were made the subject of adverse criticism in the British medical journals of the day—one of them devoting eleven pages to the fault finding process.

In the preamble and resolutions under which the Medical Society of Virginia was organized it is definitely stated that the chief object in the banding together of its members was the advancement of medical science by a full and free interchange of views and discussion of the problems of physical and psychical life.

When, a quarter of a century later, the American Medical Association sprang into existence—born in full and vigorous manhood, armed for work—it announced that its chiefest function was the advancement of the profession along the same lines that the Virginia Society had already mapped out.

No wonder that our transatlantic progenitors

made harsh print when reviewing the work of their American progeny. Animated by love for the profession, love for the human race, and stirred to a full appreciation of the conditions under which they lived by the different medical societies of the country in their discussions of the vital questions of the day, the offspring was fast outstripping the parent. Ephraim McDowell had already opened the abdomen—cystic degeneration of the ovary was no longer a menace to life. Crawford W. Long had robbed operative surgery of its terrors, and in less than a decade from the time of the organization of the American Medical Association, Marion Sims was operating for vesico vaginal fistula on one of the nobility of an European capital.

The motive for the origination of medical societies, then, is plain. The chief function of all is, to day, as it was in their incipency—the advancement of science, and the establishment of a higher standard of attainment as a prerequisite for the privilege of membership in the profession and in the societies themselves.

Medical Examining Boards sprang into existence under the influence of the work done by the Medical Societies, and many here to-night remember the violent antagonism which greeted the results of the earlier sessions of Virginia's Board. Legislative interference was more than once invoked, and at one time it almost seemed as if our Examining Board was to be a thing of the past.

This body, ever careful of the interests, not only of the profession, but also of the people of this Commonwealth, made a courageous effort in defence of the Board, and now feels that the Medical Examining Board of Virginia in the seventeenth year of its existence is a regular part of the machinery of the State's government; but this body must still be careful of the interests of the profession, and not give too much rope to the Board, or, like the young bovine in the fable, it will hang itself.

The question of the interchange of certificates with other State Boards is, or should be, an open one, and opens up a dangerous ground—one unsafe to stand on. This Board of ours will not accept the certificates of our Colleges; all right. Keep the licensing power separate from the teaching body. But if our own Colleges are incompetent to license, why should the Board of any other State have the privilege of so doing?

Another point that I would emphasize under this division of my subject is the vast improvement made in the medical graduates of to-day over those of a quarter of a century ago

as regards their capacity for grappling with, and their ability for dealing with, medical questions so likely to demand their attention. When I received my M. D., I was vain of the attainment, and fancied myself able to cope with any sort of medical problem. Six months in the saddle, however, taught that I knew nothing, and absolutely forced me out of my profession for two long years.

To day, the graduate of our first class medical schools—if he has availed himself of the opportunities at his disposal—is as competent to deal with the problems of life from medical and surgical standpoints as are you and I. Medical societies have accomplished their object in one respect: have performed their functions in the past.

What if the position of the physicians who go out over all the broad land is such that the great medical centres receive less patronage from the country than heretofore? What if the coffers of the great specialists are not quite so full as they were twenty years ago? More suffering is relieved; the generation has a longer life, and all the result of the honest performance of the chief and first function of our medical societies. The questions with which the Medical Society of Virginia and other similar organizations are grappling to-day are numerous and varied.

State boards of health—creatures of medical societies in the several States—are doing good work, but all are much hindered in their onward course by lack of sufficient legislation. Money is needed for the work of our Board of Health, and our legislative procedure is still insufficient in attempting to supply the necessary funds. County health boards, appointed as part of the machinery of the State Board, are inefficient, for the reason that in many instances the appointees are political creatures rather than medical; and under the existing law, one must apply to the local county and city authorities to protect the populace against the importation and spread of contagious and infectious diseases.

Fortunately, this county of Albemarle, where liberty had its birth, the tocsin of true Democracy sounded by three presidents and numberless statesmen, gives a board of supervisors ever truly careful of the health of its citizens. To illustrate: A case of variola was imported into this county from a western county of the State during the past spring. A statement made to the Chairman of our Board of Supervisors was all that was necessary, and plenary powers were given to your speaker to prevent the spread of the malady. *There was not another*

case. I am sorry that I cannot commend the authorities of my own city for proper action as regards care for vaccination and some other hygienic measures.

A committee of this Society should be appointed to co operate with our State Board of Health to secure more adequate legislation upon this subject. In an address of this kind no advice can possibly be given as to what action should be taken and when the time for action comes. All we can say is, the time has arrived already, especially when we call to mind the nature of the foreign acquisition in the territorial domain of this government and the increased facilities for the introduction of almost unknown diseases, such as leprosy and plague, to say but little of cholera and yellow fever.

Another of the problems demanding the immediate attention of this body is that so ably introduced by Dr. J. M. Whitfield at its last session, an account of which is to be found on page 315 of the *Transactions* for 1899. I refer to an article headed "*Food Adulteration and Needed Legislation Therefor*" The Chemist of the State Department of Agriculture is with us at our present session, and I will at some time take occasion to present him to you.

All the world is aware that in our canned fruits and meats chemical substances are almost always introduced. The Spanish-American War, and cases in the practice of almost every physician in the country, have demonstrated that often serious illness, sometimes deaths, have followed after a meal of one or the other.

It should be determined, then, whether the material used as food was poisonous before the canning process, and was insufficiently asepticized by the use of chemicals; or whether the deleterious effects observed were due to excess of the preservative agents employed. For my part, I have never joined in the crusade against the men who sent butchered cattle to hot climates in refrigerating apparatus, having first soaked it with solutions of boracic acid or other comparatively innocuous antiseptic.

Here, again, a committee of this Society should be appointed, which, after due investigation, should report—

1st. What antiseptics should be allowed to be incorporated with our canned or refrigerated goods and baking powders.

2d. In what proportion should such antiseptics be employed.

3d. To petition our law-enacting body to appropriate a sum necessary to make all investigations and reports thereon the on the subject.

"A Pure Food Law" has already been enacted, but no funds have been appropriated for its enforcement by either General or State governments. Hence, unless further action be taken, the law had as well be expunged from the statute books and murrained cattle and rotten fruits be sold openly in our markets.

I am making use of no metaphorical statements. Well do I remember that several years ago, when I had made preparations to attend a meeting of this body at Alleghany Springs, I was delayed a whole day by serious illness following the ingestion of canned beef by all the members of a family in the clientele of another physician who had already hied himself to that delightful resort.

These matters were ably referred to by my friend and predecessor in office—Dr. Michaux—in his address before the last session of this Society. I can do little more than emphasize what he has already written. But following the lead in his efforts at securing a purer Pharmacopœia, I would state, first of all, that the longer I practice medicine the fewer drugs I employ for the stuffing of my patients.

Let this Society rise in its majesty and refuse to employ the thousand and one decoctions and compounds thrust upon us by as many manufacturing companies—within the State of Virginia or outside of it. If I were disposed to be profane, I would say, "damn the *Notional Formulary*." Substitution is more possible by our local apothecaries in following the formulæ of this little volume than it is in similar preparations made by the leading drug firms of the country.

When salesmen come to me to tell me of the special advantages of the nauseous, disgusting and useless fluid extracts of the green drugs thrust under our noses, I am weary even before they open their grips. Every one tells of the superiority of his special compound, and my observation is—as a rule—that the better it is the more useless is its exhibition. Don't understand me in wishing to retard the advancement of medical sciences by depreciatory articles of real value. Many of these have been added to the dispensatory; but I am satisfied that its 1,900 pages might be reduced one-half with decided benefit to humanity.

Every manufacturing house sends out its *antiseptic solution*, each better than the other, all costing about one dollar a pint—none as good or safer than a 1-4000 solution of mercuric chloride, which can be prepared for about *ten cents per gallon*. Listerine, thymoline, borolyptol, and a dozen other such prepa-

rations all the same—are sapping the pockets of our physicians and their patients.

This body should now require of the druggists, with whom its members deal, to prepare prescriptions emanating from their own intelligence, adapted to their own individual cases, and not trust to the compounds foisted upon them by the manufacturing, money making chemic druggists of the country.

When another such local anesthetic as cocaine comes up we would prescribe it after due investigation by competent investigators; but for the *Gleditschen*, boasted of by Dr. Wm. A. Hammond before this Society at its session in the city of Richmond in the year 1875, we had best say nothing.

These are not empty platitudes, as my friend Dr. Gray Latham, of Lynchburg, would express it. They are truths, and the sooner the Medical Society of Virginia is led to a knowledge of their existence, and takes corresponding action, the better, not only for the Society, but for the profession at large.

The problems which are present with medical organizations to-day are, in the main, those which shall demand their attention in the future. The President of the American Medical Association in some remarks before the New York State Medical Association, on October 17th, of the current month, in discussing the platform of that Association, says: "The first two (planks) that are enumerated—the advancement of our human sciences, and the maintenance of honor and character in our ranks—are themselves sufficient to commend this organization to the good favor of every practitioner * * * *"

Dr. Reed is right. I cannot agree with him, though, in the idea that every practitioner in any and all societies should belong to the American Medical Association. This great body should be a representative one, a *House of Representatives* made up from the several state, county and city societies, by suitable delegation. So constituted, the authority of the body would have much more influence in National affairs, and would, I believe, accomplish more readily and satisfactorily objects at which it might aim. A quotation at the top of the title page of *The American Gynecological and Obstetrical Journal* is to the point: "The institution of a National Board of Health endowed by Congress, with authority and effective prohibitory, in legal affiliation with all State Boards of Health, whose presiding officer shall be nominated by the medical profession

through its representative societies, shall be a member of the President's Cabinet, and shall also be Surgeon General of the Army and Navy of these United States."

Nor does it seem to me that the action of the *Journal of the American Medical Association* is altogether in good taste from an ethical standpoint. I read from their circular letter:

"Owing to the action of the Association in refusing to accept or publish advertisements of secret proprietary or unethical medical preparations, there has been quite a reduction in the *Journal's* income from the advertising source; but this elimination of unethical preparations from our advertising pages is much appreciated by the profession, as is indicated by our constantly increasing membership and subscription list"

Yet the official organ of this great body is sheathed in by forty odd pages of advertising matter, in which one may read of *Cactina Pellets*, *Peacock's Bromides*, *Celcrina* and others.

But if I do not stop you will all vote me a member of the house of Ishmael, so

Finally, there is one function of the Medical Society of Virginia which it must perform in the near future. When, a few years ago this body convened here we had the sad task of chronicling the untimely death of America's great anatomist—William Beverly Towles. Now, this organization is in mourning on account of its bereavement by removal from our midst of Virginia's great surgeon—Hunter McGuire. It is not I who can do anything to enhance the high esteem in which you all hold the remembrance of this great physician and surgeon, this warm friend—particularly of young men—this noble Christian gentleman. No! The Medical Society of Virginia must see that he still speak in living bronze close beside his great commander, whom he has crossed the river to join, and with whom he is now resting "under the shade of the trees."

New Orleans Polyclinic.

Physicians will find the Polyclinic an excellent means for posting themselves upon modern progress in all branches of medicine and surgery. The specialties are fully taught, particularly laboratory work. Fourteenth annual session opens November 12, 1900. For further information, address Dr. Isadore Dyer, Secretary New Orleans Polyclinic, New Orleans, La.

REPORT OF A CASE OF CARCINOMA OF THE STOMACH.

By A. L. GRAY, M. D., Richmond, Va.,

Instructor in Anatomy, University College of Medicine.

— — — — —, white; male; *æt.* 41; married. Candy manufacturer. Specific history: Disease contracted eleven years ago, for which he underwent a two years' course of treatment. Had been a hard drinker. Came to me on the 14th day of July of this year. Had been treated by various physicians without permanent relief. Upon questioning him, I diagnosed subacute gastritis resulting from fermentation. As he showed no improvement after two weeks' treatment, he was advised to stop work and go to the country for a rest. While away, he wrote me of an obstinate diarrhoea which was weakening him greatly, and I suggested his drinking water as a probable cause, for he was on a strict diet and had usually a tendency to constipation. This was found to be the case, and, upon change of his drinking supply, his diarrhoea promptly subsided; and afterwards, when he needed a cathartic, he had only to drink a glass or two of former water.

He returned to the city after a two weeks' stay, and was much weaker, and upon the whole worse than when he left. I then carefully palpated his abdomen, and could feel a pulsating tumor in the epigastrium. Auscultation with a stethoscope elicited a bruit only when deep pressure was made, and the bruit seemed to extend across the epigastrium rather than vertically along the line of the aorta, and was confined to the enlargement. However, considering his history, I thought the presence of an aneurism not improbable, and the gastric symptoms resulting from paresis, due to pressure on the posterior walls of the stomach. Having been informed that he would frequently induce vomiting by irritation of the fauces when he felt discomfort without any evil consequences, I determined that the careful introduction of the stomach tube would not be hurtful, and decided to examine the stomach contents. After the test breakfast of Ewald and Boas (35–70 grms. wheat bread and 300–400 cc. of water), the tube was inserted, and the resorcin test failed to show a trace of hydrochloric acid. Lactic acid was found by the ferri sesquichloride test. A microscopic examination revealed the presence of large numbers of Boas Oppler bacilli, which are rarely found except in cancer of the stomach, and are quite constant in this disease.

With these results from the chemic and microscopic examinations, together with his intractable dyspepsia, some cachexia, and the presence of the symptoms mentioned by Trostler of enlargement of the left supra clavicular glands, and especially one between the heads of origin of the sterno cleido mastoid, gastric cancer was diagnosed, and a surgical consultation advised. This was readily assented to, and accordingly Dr. Hugh M Taylor was called, who after careful physical examination advised an exploratory operation at once. Patient's family did not agree to this at first, but after trying further medical treatment by one or two other physicians (I having told him I could give him no permanent relief), he returned to us, having decided upon the operation we had advised a month before. The tumor had by this time greatly increased in size, and could be plainly seen bulging the epigastrium. On Thursday, September 9th, he presented himself at the Retreat for the Sick. Dr. Taylor made a curved incision over the tumor, and found that the mass, which was plainly carcinomatous, involved nearly the entire greater curvature extending well towards the pylorus. Considering the extent of involvement and the lymphatic enlargement present, as well as the fact that there was no pyloric constriction, gastrectomy was thought to be inadvisable and gastro enterostomy unnecessary. The incision was therefore closed, and the patient made an uneventful recovery from the exploratory operation, and was removed to his home October 10th.

The points of interest in this case are, first, the patient's youth; secondly, the small degree of constitutional disturbance, there having been at no time hæmatemesis, distressing nausea, nor severe pain. Neither gastrectasia nor gastroptosis was present to any marked degree. The patient's appetite has been fairly good throughout both prior and subsequent to the exploratory operation. Thirdly, it demonstrates the value of examining the stomach contents in these obscure cases for the purpose of determining whether there be cancer; and if present, whether the involvement is in the stomach, pancreas, omentum, or liver, each of which was diagnosed by different physicians as the seat of disease in this case. Fourthly, the vital importance of an early diagnosis and operation before it is too late.

This is one of the many cases that go to show that when we have obstinate gastric trouble, particularly of the fermentative type with even slight pain in the epigastric region, progressive emaciation and probably beginning

cachexia, we should examine as soon as possible the contents of the stomach after one of the test meals, and if we find an absence of hydrochloric acid, a presence of lactic acid, and these long, thread like bacilli, whether a tumor be detected or not, there is ground for strong suspicion of cancer, and we should advise an exploratory operation at once, which can do practically no harm to the patient, and, if removal of the diseased tissue be practicable, may be the means of saving him.

NOTE BY AUTHOR.—Patient died October 29th, having been up and about his house for ten days previous.

901 East Clay Street.

INTRAVENOUS TRANSFUSION WITH NORMAL SALT SOLUTION.

By I. S. STONE, M. D., Washington, D. C.

Professor Clinical Gynecology, University of Georgetown; Surgeon to Columbia Hospital for Women, etc.

Three centuries or more have passed since transfusion was first practiced, and the twentieth century is upon us ere we fully realize the value of such an important resource in the treatment of hemorrhage, shock, sepsis, and toxæmia. Since the dawn of aseptic surgery, the writer believes that no more important or valuable discovery has been made in surgical therapeutics than the various uses of the so called normal salt solution. By means of the hypodermic injection of this fluid in appropriate cases, or the direct intravenous transfusion in certain other cases, we may, and in fact occasionally do, see a return to life from apparent death. It has been our privilege to resuscitate patients in this manner who were otherwise beyond relief or restoration. The ability one possesses to restore a patient to consciousness, to produce a regular rhythmic pulse and restoration, and a dissipation of the pallor of death from the face of a patient who has suffered from severe hemorrhage, is truly remarkable. Such results can be obtained in a few minutes by resorting to intravenous saline transfusion, producing a transformation seldom equalled and never surpassed in either medical or surgical therapeutics. The first transfusion was of blood; and while we scarcely know where or by whom it was first successfully practiced, it is certain that Pope Gregory VII* determined to try to renew his youth by

* Bernard Pitts, *St. Thomas' Hosp. Rep.*, 1891, XXI.

a transfusion of the blood of boys. It is said, however, that the Pope and the boys all died.

In Ovid (Spencer, *Therap. Gaz.*, 1838, p. 166), we also find reference to this practice, which obtained a great notoriety. Cöke proposed transfusion as early as 1636, but it is not stated as an accomplished fact.

In 1665, Dr. Lower, of Oxford University, practiced transfusion on dogs with some degree of success. In 1667, a French mathematician, aided by a surgeon (name not given), used the blood of a calf in transfusing a madman, with at least temporary benefit. Dr. Lower also successfully transfused a Dr. Arthur Coga before the Royal Society of London. Dr. Coga was a very eccentric individual, and was not the least benefitted after two transfusions.

Several attempts were made about this time to cure lunacy and mania by transfusing the victim with the blood of some mild tempered animal, such as the sheep. These experiments were so frequently made that a reaction set in against the practice of transfusion, and a law was enacted in France preventing transfusion save when done under the auspices of the Faculty of Paris.

Purman and Kaufmann claimed to have cured a case of leprosy in 1665 by repeated injections of lamb's blood. They assumed that the characteristic corpuscles of the animals used remained unchanged for a long time.

We find that Laycock,* in 1817, and Blundell † in 1825, were among the first to suggest "like" or "similar" blood in transfusion. It is known that water was suggested and tried as a substitute for blood, but with indifferent results; and it was not until about the year 1886 that an artificial serum was tried by Dr. Cottrell, of Edinburg, a suggestion of Dr. Hicks. A mixture of salt solution and blood was used successfully. Successful transfusion of defibrinated blood was made by Nussbaum in 1862. A girl who was exhausted after an operation for excision of her knee was resuscitated after an injection of a pound of blood given by several witnesses of the operation.

In 1876, Dr. Roussel, of Geneva, invented an instrument for direct transfusion without defibrination.

In 1879, McEwen reported a case of what he called antiseptic transfusion. A large 3 ounce hypodermic syringe was used, and blood was directly introduced into the cephalic vein of a dying patient with prompt and satisfactory results.

Mr. Washington Hayward published a report of a successful transfusion with this mixture in the *Lancet* for April 16, 1887. Besides the use of salt solution in laboratory experiments upon animals, we find that Sir Spencer Wells was among the first to suggest direct transfusion of salt solution in cholera patients during the epidemic of 1848. He made the suggestion to Mr. Charles Jennings, † who conducted the experiments and made a full report.

We find that Bouchard had made the same experiments upon cholera patients in 1854. In 1888, MM. Dastre and Loye published their researches showing the innocuousness of saline transfusion upon animals, such as dogs, rabbits and guinea pigs. They also injected various toxic substances, such as cholera poison, and afterwards transfused, often succeeding in saving animals after the administration of lethal doses of poison. These experiments clearly pointed the way to a trial of transfusion in various conditions due to sepsis, such as erysipelas, typhoid fever, tetanus and rabies. The name "hemocatharsis" has been applied to this method of blood washing or dilution. It appears that saline transfusion was successfully used in antepartum hemorrhage by Jennings in 1882; his patient rallying sufficiently to complete her labor and finally recovered. He also reported a successful result after severe postpartum hemorrhage.

It remained for Dr. William Hunter, in a lecture before the Royal College of Surgeons in 1889, to point out the uselessness of blood transfusion, and to demonstrate the efficacy of salt solution in its place. In an important contribution to this subject in the *Lancet* (1891, Vol. II, p. 626), Dr. Woolridge shows that animals still have enough corpuscles in their vessels, after apparent death from venesection, to sustain life if properly diluted, and by this means kept in circulation.

It is believed that the hemoglobin is the medium of supply of oxygen to the corpuscles, and that the latter directly supply the oxygen to the organs and tissues of the body. It is, therefore, essential that the corpuscles be kept in circulation, and the benefit of either form of transfusion is due to this fact as much as to the physical presence of the fluid. The experiments made with distilled water proved failures for the most part. Those in which milk or ordinary drinking water (a dilute solution of certain salts) was used were more successful, while an artificial serum composed of carbonate of sodium, phosphate of

* *Vide* Marfels and Moleschatt.

† Quoted by Hamilton, *Text-Book of Physiology*, Vol. I, p. 474.

‡ *Vide Brit. Med. Jour.*, 1885.

sodium, or calcium, with sodium chloride, was perfectly satisfactory.

It has been shown that animals having been transfused with salt solution recover promptly and are in better condition than after blood transfusion. Dogs which have been bled until apparently dead have been repeatedly resuscitated, and have had the circulation restored after all heart action had ceased. This is an important matter, for however useful we may find subcutaneous transfusion, some heart action is absolutely necessary, or else the fluid will not be absorbed. Cobb's experiments (*N. Y. Med. Jour.*, 1889, Vol. LXIX, p. 123), are conclusive with reference to the effect of transfusion.

A male dog, weight $37\frac{3}{4}$ pounds, hæmoglobin 95 per cent., red corpuscles 4,500,000, was bled until heart action ceased; 900 c.c. of blood was withdrawn, 1,200 c.c. salt solution transfused at temperature 57 C. In five minutes the dog regained his feet and drank water, but would not eat during the day. Twenty one hours afterward, weight 37 pounds, hæmoglobin 32 per cent., reds 1,300,000; was hungry and ate heartily. In six days the red corpuscles had increased to 2,800,000; in thirteen days the hæmoglobin had reached 45 per cent., the reds 2,400,000, and the dog weighed 43 pounds. There was marked leucocytosis, and the red corpuscles appeared rather small and pale.

Another interesting experiment consisted in transfusing with salt solution while the blood was allowed to escape from the opposite side. After 500 c.c. of blood escaped, its color grew to a bright cherry red, showing the effect of the salt solution. This blood finally failed to coagulate and settled to the bottom of the vessel containing the fluid, appearing to separate itself from the greater part of the solution; 4400 c.c. of blood or bloody fluid were withdrawn, and 3700 c.c. saline solution were injected. The dog moved about in a few minutes and recovered. It was shown that, when the blood escaped from the opposite side, with but little if any color, the animals invariably died. Oxygen appeared to be of service in reviving the dogs after these experiments. Attention is also called to the slight danger due to the introduction of small quantities of air into the veins. It is the invariable experience of almost all experimenters that air in small quantities is admitted into the veins during these experiments, and for obvious reasons; but it is emphatically declared of very little consequence, as the admission of small quantities of air is unattended by any untoward symptoms. Salt solution used in

these experiments invariably caused increased urinary secretion, as it does when used subcutaneously. It need not be mentioned here, before this audience, ever ready to favor experiments on dogs or other of the lower animals for purposes of this kind, how important have been the results attained as a result of such experimentation. The more satisfactory, too, are these experiments when, as all know, the same brilliant results follow transfusion in human subjects. It would extend this paper beyond its proper length to attempt a review of the many papers now within your reach showing the value of transfusion in the treatment of the toxæmias.

Indications—Those having used the subcutaneous method of transfusion need no further suggestions regarding the many indications for the intravenous method. There can be no reasonable necessity for intravenous transfusion when we are reasonably sure that the patient has enough heart action to insure the absorption of the fluid from the cellular tissue. But we should never allow the use of the latter method to satisfy us that the patient may be saved until we actually see marked improvement. With the subcutaneous method we have sometimes to wait for a long time without perceptible improvement, while with the intravenous method we rarely have to wait many minutes before we can be absolutely certain of a change for the better. Therefore, we should use a definite, speedy, and almost entirely safe method when there is reason to fear that the slower transfusion would not answer. Of course the most important indication for saline transfusion is and must always be in the treatment of exhaustion from hemorrhage. Besides this, we have every reason to believe that shock comes next in importance. It is still a moot question as to the nature of shock. We know reasonably well that shock appears to cause the greater part of the blood to seek a hiding place within the large abdominal veins. Perhaps we say this because we know it is not elsewhere, or at least is not in the superficial vessels. It may be due to vaso-motor paralysis, or to both these conditions; possibly the latter causing the former. But this fact is self-evident, and moreover abundantly demonstrated, that the heart is unable to force this blood into general use, and the administration of hot salt solution (temperature 120°) often proves efficacious, and perhaps is the most efficient of remedies in this condition. Next in importance, after hemorrhage and shock, we would call attention to the use of transfusion in toxæmia. Many authors have reported substantially good

results in diabetic and uræmic coma, besides many other conditions which I will not mention.

SOLUTIONS FOR INTRAVENOUS TRANSFUSION.

Formula No. 1.—Authors differ with regard to the composition of the solution. Dr. Park (see his *Surgery*) uses 0.6 of 1 per cent. solution, to which is added 1.0 sodium carbonate and sodium hydrate in sufficient quantity (?) to render alkaline.

His formula: Aqua dist..... 1000.00
Sodium carbonate 10.0
Sodium chloride... 6.0
Sodium hydrate sat. sol.

One drop to each $\frac{1}{2}$ litre to render alkaline.

Ludwig has suggested the addition of sugar which may assist in preservation of blood corpuscles.

Formula No. 2.—In *Pick's Surgery*, page 285, we find the following recommended:

Sodium chloride..... gr. l.
Potass. chlorate..... gr. iij.
Sodium phosphate..... gr. iij.
Aqua dist. ferv..... Oj.

Temp. 105° F.

Wharton and Curtis, *Surgery*, Ed., 1898, suggests 0.7 per cent., or, roughly speaking, about $\frac{5}{8}$ to the pint.

Another formula they suggest is:

B. Sodium chloride ʒiiss
Sodium bicarbonate..... gr. xv
Aqua dist. ferv.. Oij

Temp. 100° F.

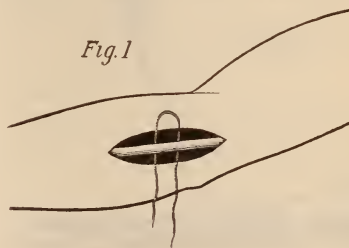
Waring, H. J. (*Manual of Operative Surgery*), calls for 75 per cent. salt solution. Like nearly all others, he suggests that the solution be given not too cold. Instead of 99° to 100° F., the fluid should be 120° F.

These formulæ are selected from the textbooks usually consulted by the general practitioner and are very little, if any, better than an extemporized solution made by adding one teaspoonful of salt to one quart of water, which must be boiled and allowed to cool sufficiently. The use of these formulæ, except in a well-regulated hospital, is out of the question. But a teaspoonful of salt may be added to a quart of boiling water and the solution is ready to use in a very short time.*

The rate of administration is stated by some authorities as 80 to 90 centimetres ($2\frac{1}{2}$ ounces) per minute. But here we can generally be guided by the exigencies of each case, the size

of the canula, and the amount of pressure, which in turn is regulated by the height to which the vessel containing the solution is held.

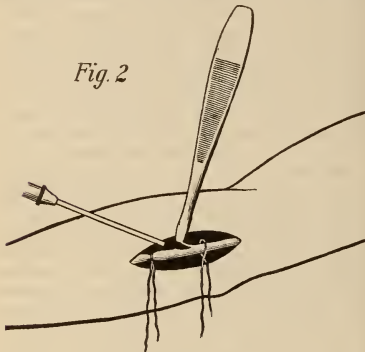
Technique.—The operation for transfusion is readily done in a hospital where the proper instruments are always to be obtained, but elsewhere many difficulties may arise. But it is possible to succeed with very few simple instruments if one has a suitable canula always ready with other instruments when about to perform an important operation, or even attend a case of labor. Every physician should carry in his pocket case, or obstetrical bag, one or more canulæ ready for an emergency. With the necessary canula, one can generally be sure of obtaining the other articles. A clean fountain syringe with the accompanying tube may be easily obtained. A glass irrigation apparatus is a desirable addition to one's outfit, but the fountain syringe will answer. Nearly all the difficulty usually encountered in the operation would disappear if the operator or better still, the assistant or anæsthetizer, would anticipate the operation and tie a bandage around the patient's arm above the elbow to prevent collapse of the vein. The writer has found the operation easy enough save from this one omission. The largest vein at the flexure of the forearm should be selected; the median cephalic is preferred if large enough to be easily isolated. An incision is made an inch or more in length and the vein quickly exposed. A double ligature (of catgut preferably) is thrust under the vein with for-



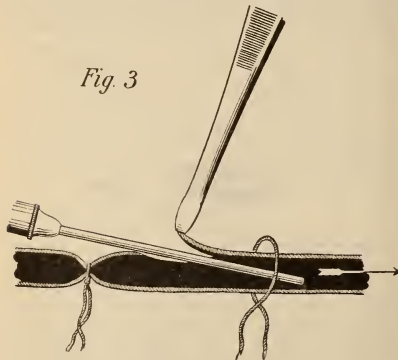
ceps or blunt needle, and cut so as to leave two equally long ends for tying. The lower or distal ligature is tied tightly around the vein. If the vein is well filled with blood it is easy enough to catch a small fold with forceps, and with scalpel or scissors make a partial cross section. The canula is to be inserted while this flap is held in the forceps, and, as above stated, the insertion is easy enough, provided the vein has not become collapsed

*Tablets of Sodium Chloride are now prepared always ready for use.

and almost or quite empty of blood. In the transfusions made by the writer, this has been the only real difficulty. It is a very difficult operation, to introduce a sharp aspirator needle in a collapsed vein without puncturing its walls, in which case the fluid will not enter,



but will distend the cellular tissue around the vein. Therefore, if one is not provided with a blunt canula, care should be taken to blunt or dull the point of the ordinary aspirator needle as much as possible, as the introduction will thereby be greatly facilitated. The canula may be introduced one-half to one inch into



the vein, and as soon as the point is known to be safely in position, the remaining piece of catgut is provisionally tied with a half knot around both vein and canula, which prevents escape of either blood or salt solution from the incision in the vein. If the same care is taken

to prevent the introduction of air that is taken to give a hypodermic of morphia, or any other drug, no accident will occur.

But it is easy enough to let the solution flow gently during the introduction of the canula, as the wound will be kept free from blood, and in this way the operation is, if anything, easier. Most authors suggest a temperature of 99° to 100° F. But such prompt results have been obtained from the use of a higher temperature that it is at least a plausible suggestion to use the solution at a temperature of 120° or 125° F., in the bag or glass container. By the time the fluid has reached the vein it will be some degrees colder, and besides these patients really need this extra heat. With a canula of the proper size there is no danger of injecting the fluid too rapidly. Twenty to thirty minutes may be required to give two or three pints, and this amount has been used in most cases before substantial results are obtained after a severe hemorrhage. It must be remembered that salt solution does not equal blood in value, and it is necessary to inject more than enough fluid to replace the amount lost. My experience would indicate that fully three times as much salt solution is required. At any rate, we should be guided by the effect upon the patient, and fortunately we are generally enabled to obtain prompt and satisfactory results in appropriate cases.

Finally, the provisional ligature is tied, after removal of the canula, and the wound dressed as a simple incision. In some cases it is necessary to resort to a second transfusion, perhaps in the night following the operation, in which case another vein should be selected.

My experience with intravenous transfusion has not been extensive, as I have only resorted to its use in the small number of cases where much blood has been lost during an operation. The last time was after a supravaginal hysterectomy for myofibroma done at Columbia Hospital last April. The patient lives in most excellent health to-day, after being apparently dead on the table for many minutes. We had no suitable canula ready, the vein had collapsed to the size of a pin, and yet transfusion was accomplished quickly and with almost magical effect.

At the German Hospital, New York, where I first saw the operation some years ago, it is the rule to transfuse patients when there is any doubt about the ability of the patient to rally after a serious operation. The house staff is instructed to do this work and to repeat the operation at any time after the patient is put to bed, should her condition demand it

It is of course often necessary to start the subcutaneous transfusion very early, or possibly before the operation is begun, but when there is no time to be lost we have in direct transfusion a prompt and powerful means at hand with which we can save the patients not otherwise to be saved from death. We have on more than one occasion noticed a rise of temperature after a direct transfusion, but this soon subsides, and we think it may be possibly due to a rebound from the very low temperature always present with hemorrhage and shock.

Finally, we call attention to the ever-important necessity of strict cleanliness in each step of the operation and of the apparatus used, although this advice should no longer be necessary, for there is no excuse at this time for any neglect of reasonable aseptic precautions.

1449 Rhode Island Avenue, N. W.

INJURIES TO THE WRIST—DIAGNOSIS AND TREATMENT.

By EDWARD A. TRACY, M. D., Boston, Mass.

Member of the American Medical Association, etc.

By far the most common of the injuries that happen to the wrist is sprain—sometimes so severe as to be differentiated from fracture only by a most careful examination.

The landmarks of the wrist are of prime importance in making a diagnosis of such injuries. These landmarks are the lower ends of the bones of the forearm, especially the styloid processes of the radius and ulna—which stand out as light-houses to illuminate our pathway when on the shores of doubt, but which unfortunately are sometimes obscured by the clouds of swelling that surrounds them after the storm of injury. It is well to be very familiar with the position of these styloid, or pen-like processes. The level of the radial one is lower than that of the ulnar. The difference in the level varies considerably, and some normal wrists are met with where there appears to be very slight if any difference in the level of the two processes.

When a case presents itself for diagnosis our first aim should be to locate the two styloids, and compare their relative positions with those of the opposite wrist—both forearms being in similar positions. If we find the radial styloid on a higher level than its ulnar fellow, we have fracture.—*Collis*.

This locating of the styloids is generally a

simple matter if the wrist be examined within a short time after the injury, as within a half hour; but when several hours have elapsed since the reception of the injury, the swelling may be so extensive and of such a nature as to almost prevent the detection of the relative styloid positions. It is a case, in fact, for the *tactus eruditus*. In such cases where access can be had to the X rays they are of use in simplifying the difficulty of diagnosis; but it will be a sorry day for surgery when the tactile sense of the surgeon is allowed to wither from non-use, and be replaced by what can be denominated X ray astigmatism.

If the styloids are found in normal relations with the wrist, we have a case of *sprain* to deal with. A sprain may be slight or severe—generally the amount of swelling is a guide to its severity. The synovial membranes are injured and manifest the indications of inflammation by tenderness, pain, and exudation of synovial fluid. The surrounding tissues are sometimes torn, manifested by *ecchymosis*. The tendon sheaths are sometimes injured—manifested by the *teno synovitis*, or inflammation of their sheaths, signified later on by the peculiar “rubbing crepitus,” to be felt by placing a hand over them when in action. When these conditions are present the sprain is severe, and treatment should be carefully carried out as if there was fracture present. Indeed, such sprains are rare without fracture of the lower end of the radius, and unless we are positive about the position of the styloids, we are safer to diagnose fracture.

The treatment should meet the indications. Rest for the injured joint means to cause absorption of tissue exudates, and means to prevent pathologic adhesions.

1. *Rest to the injured joint* is important. A very simple and elegant means of immobilizing the wrist joint is to cut a piece of wood-plastic splint material, moisten it with water, and to bandage it over the back of the forearm and hand. The material moulds beautifully and makes a light, porous, efficient splint, requiring no cotton batting or other padding.

2. *Means to cause absorption of the tissue exudates*. Massage, carefully applied. This is done by gently grasping and squeezing the forearm a little above the swelling (towards the elbow), and then relaxing our hold and repeating the grasp and squeeze about a half-inch below, and continuing to do this until we reach the lower limit of the swollen tissues; then a swift, gentle, gliding pressure from below upwards (that is, towards the elbow) should be done. In this way the lymphatic

circulation is stimulated and the broken-up detritus absorbed.

3. *Means to prevent pathological adhesion.* Passive motion, properly applied, does this. The fingers should be bent daily, and the wrist can be bent about the fifth day, gradually at first. The splint form, above described, permits of this easily.

In a future contribution the writer will treat of fractures at the wrist joint.

353 Broadway.

Correspondence.

NEW YORK, October 24, 1900.

Editor Virginia Medical Semi-Monthly:

Dear Sir,—I had hoped to write you during my stay in London, but my time was so limited in that city that I decided to wait until I arrived in New York.

I left Berlin on the 26th of September, and after travelling through Northern Germany via Hamburg, Hanover, then through the southern part of Denmark, and down through Scotland, Holland, and Belgium, and spending some time at the old cities of Amsterdam, Rotterdam, etc., I reached the city of Hague, where I boarded a steamer and crossed the North Sea for England, reaching the great European metropolis, London, on the 30th of September.

I spent the greater part of my time while in London at the King's College Hospital and the great Anatomical Museum at the College of Surgeons. This is beyond all doubt the finest collection of anatomical specimens in the world.

I visited the anatomical museums of Paris, Berlin, and other cities, but they do not compare favorably with this one in London.

It was my very great pleasure to be invited to hear Lord Lister's fine "Huxley" lecture at St. Martin's Hall on the 2d of October, and also to attend the banquet that was tendered him by the London profession after the lecture, at Charing Cross Hospital.

London is quite a fine "little village" of six million inhabitants; but for grandeur of buildings, wide streets, and smooth pavements, she does not compare with New York; but for old buildings, handsome churches, fine parks, and narrow, dirty streets, she is ahead of all the European cities. London can boast of the finest Zoological Garden in the world, Berlin not excepted. Her art galleries and theatres are fairly good. In medicine and surgery, she is far behind Berlin and New York.

I find, by careful examination, that our American surgeons are about as near the top of the ladder in point of skill as any of the European surgeons. While the German surgeons have better equipped hospitals, hence better facilities for teaching the medical sciences, yet for genuine skill and mechanical art in handling the knife, I think the American surgeon is ahead of the world. The German hospitals and universities are all under the control and support of the German government, hence they are well equipped with all the essentials that pertain to the science of medicine. If the United States government would lend a helping hand to our worthy medical institutions, as the German government is doing, the time would not be far distant when the American physician and surgeon would lead the entire world. I long to see the day when skepticism and superstition will be obliterated from the minds of the American people, as it is in Germany to-day. Until then, we cannot hope to have the encouragement and support of the United States government. Many of our intelligent and apparently best educated people, among the "high flies" of society, believe that physicians and *physic*, are non-essential to the well-being of our country." In consequence of this erroneous belief, the medical profession and the medical institutions are made to suffer for the necessary equipment to carry on the noble work of educating the medical student as he should be, and of healing and curing many fatal diseases that might not be classed as fatal if we only had the means and proper amount of encouragement to work and make research for remedial agents. In the great Empire of Germany, I found well equipped hospitals in nearly every small city and hamlet, where the destitute poor are attended and the physicians and nurses paid all by the government. The laity duly appreciate this, and are educated to the importance of supporting, by taxation, these hospitals. Would it not be well for Americans to give this subject some consideration?

I arrived in the great metropolis of the United States on the evening of the 13th of October, and since then have been attending the clinics of the two post-graduate schools here. It was my pleasure to take a post-graduate course here in 1884, hence I am no stranger to these fine institutions, even if it has been about sixteen years ago. I find the clinical advantages much better here than in Paris or London. The bacteriological and microscopical courses are not quite up to those in Europe.

I have spent much of my time in the laboratories of the two schools, and I find much room for improvement in these, as compared with the bacteriological laboratories of Germany. This may be due to the slow progress of the new science in this country, as compared with that of Germany. Then, as previously mentioned, we have not the liberal support and encouragement of our government, as they have in Germany.

I have had the pleasure of attending the fine clinics of Drs. Wyeth, Pryor, Wiley, Tuttle and Holt, at the Polyclinic School, and also of Drs. Phelps, Morris, Emmet, Collins and Edebohls, of the Post Graduate. These are all good men, and doubtless are worthy competitors of any faculty of men in the world.

Before concluding, I desire, through this medium, to express to my worthy friend, Dr. Henry Timrod Goodwin, of Staten Island, New York, my very great appreciation of the high courtesy and compliment he paid the writer in having him spend last Sunday at his beautiful and well appointed home in the heart of this lovely island just across and in direct view of the famous Hudson river. The doctor formerly practiced medicine in Norfolk, Va, as marine surgeon. His lovely wife was a Miss Powell, whose grandparents were Virginians.

I hope to reach my home in Roanoke, Va, in time to cast my vote for President. The people here are getting tired of paying the \$360,000 a day toward buying the half civilized Philipinos. We have enough of the African race already in the South to educate and support without augmenting the number. We also have enough territory in the United States to accommodate the entire world. All of France, Germany, and Switzerland together are not as large as the State of Texas, and yet with their hundred million people they have ample land to farm and some to spare. Now, when we think that the United States has 45 States and Territories, does it not appear ridiculous that we should be fighting and spending our money, at the rate of three hundred and sixty thousand a day, for more land, and that 5,000 miles away?

The other nations are laughing at our diplomatic mistakes, and I think it high time for a change in our government affairs. Please excuse this digression.

Yours truly,

BITTLE C. KEISTER, M. D.

Proceedings of Societies, etc.

THE AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION.

The Tenth Annual Meeting of the American Electro Therapeutic Association was held in the Academy of Medicine, New York city, September 25th, 26th and 27th, 1900, under the presidency of Dr. Walter H. White, of Boston, Mass. The address of welcome was delivered by the acting mayor, Hon. Randolph Guggenheimer, and was responded to by Dr. Charles R. Dickson, of Toronto, Canada. Dr. Louis F. Bishop, Secretary of the Academy of Medicine, extended the good wishes of the Academy, and Rev. Newman Lawrence also spoke.

The report of the Committee on Electrodes was presented by Dr. Charles R. Dickson, of Toronto, chairman; several new electrodes were submitted for inspection by Dr. Walter H. White, Mr. R. G. Brown, E. E., of Brooklyn, N. Y., and Dr. C. R. Dickson; the recommendations of the committee in regard to the standard dimensions of connections, and the manner of marking bipolar electrodes were adopted by the Association.

Rev. Newman Lawrence, of Stapleton, Staten Island, read a paper on "Electro Therapeutic Sins," scoring vigorously the use of electricity by those who did not understand it, the fraudulent character of so called electro magnetic body appliances, and the testimonial evil. A discussion on "Electricity in Tuberculosis and Present Modes of Treatment," was taken part in by the following: Dr. S. A. Knopf, of New York, spoke on the "Etiology of Tuberculosis; its Course and Termination." Dr. M. J. Brooks, of Stamford, Conn., dealt with "The Modern Treatment of Pulmonary Tuberculosis" "Electric Light as a Therapeutic Agent," was presented by Dr. Charles O. Files, of Portland, Me. "Electric Light; its Physiological Action and Therapeutic Value in Tuberculosis of the Throat and Lungs," was the subject of Dr. Wolfi Frenthenthal, of New York. Dr. Egbert LeFevre, of New York, gave a "Report on the Practical Value of Grotte's Method and of Others who Advertise Cures." The report was not of a favorable character. A committee was appointed to investigate the method of M. Grotte, consisting of Drs. William J. Morton, Robert Newman and Emil Heuel, of New York. Dr. J. Griffith Davis made a "Plea for the Better Application of Electricity in Diseases.

Some New Appliances for X Ray Work.

Mr. E. W. Caldwell, E. E., of New York brought out an improved stand and holder for

the X ray tube, discarding the rigid clamp for a spring; an ingenious shelf for supporting the arm in any position and steadying it there; a device to keep the limbs in the same relative position in taking radiographs of the hip joint; and a suggestion to interpose a thin sheet of celluloid to prevent injury to the plate by the moisture of the person's body.

Combined Electrization, or Galvano-Faradization,

By Dr. A. D. Rockwell, of New York. Among the advantages of combined treatment over the use of either current alone, he instanced the more powerful excitation of contractile fibre cells, greater stimulation of waste and repair, stimulation of osmosis, increase of heat production, and especially its value in local spasmodic conditions and the control of the symptoms of exophthalmic goitre.

Gleanings in the Field of Electro Therapeutics,

By Dr. Charles O. Files of Portland, Me. Several suggestive cases were alluded to. During a double amputation of the thigh, about an hour after a railway accident, the patient suddenly developed symptoms of severe shock to such an extent that he appeared to be dead. The prompt application of galvanism with one pole to the epigastrium and the other to the base of the brain revived the patient almost immediately; electrization had to be resorted to at short intervals for three weeks to avert collapse: the patient completely recovered. Every surgeon who had seen the case during the first fortnight had given a practically hopeless prognosis. A second was a most gratifying improvement following electricity and massage in a case of incipient tuberculosis. Electricity was a most valuable ally as an hypnotic, and in many inveterate cases of facial neuralgia persisting after operative measures for relief.

Discussion on Electricity in Gynecology, and the Present Reluctance of Gynecologists to Use Electricity—The General Office Work of a Gynecologist.

Dr. Fred. H. Morse, of Melrose, Mass., outlined the value of electricity in diagnosing the presence of deep seated pus; in metritis, endometritis, subinvolution, uterine displacement, ovarian neuralgia, painful menstruation, electrical treatment was most satisfactory; in acute inflammatory conditions electrical was not contra indicated, but special care was requisite then; a reliable battery, amperemeter, and a good high tension faradic battery were absolutely essential; asbestos cloth made a capital dispersing pad.

The Morton Wave Current—A Valuable Addition in Electro-Therapeutics.

In the absence of the author, Dr. W. B. Snow, of Atlanta, Ga., this was read by Dr. C. R. Dickson. The wave current was unique in many respects; thus, it was administered from but one side of the generator, the alternations were of charge and discharge, though of high potential it could be passed to and through the body with little discomfort; the patient received general electrization; the surges of the current passing through the tissues of the body, it permitted the use of the highest possible electromotive force; it was readily controllable; the constitutional effects were marked lowering of arterial tension, lessened frequency of the heart's action, and increased volume of pulse, increased oxidation and metabolic activity, marked diminution of nervous irritability, with sense of drowsiness, and a sense of fatigue if the treatment was too prolonged; it was indicated in all atonic conditions, chronic menstrual disorders, uncomplicated neuralgias, sciatica, sprains, and bruises, and many other conditions.

The Nervous Disorders Peculiar to Women.

Dr. G. Betton Massey, of Philadelphia, dealt chiefly with the relation of neurasthenia to these disorders, and the frequent need for well-regulated and properly directed activity as opposed to the notion of rest.

Use of the Continuous Current and Electrolysis.

Dr. Robert Newman, of New York, outlined his successful use of electricity for many years in a large range of cases, including the absorption of pelvic exudates, prolapsus uteri, and fibroid tumors.

Spark-Gap Currents—viz., Franklinic Interrupted, Static Induced, and Wave Currents,

By Dr. William J. Morton, of New York. The wave current, or "displacement current," presented more advantages than either of the others; it embodied all that could be obtained from an electro static machine in current form for therapeutic purposes; it was of especial value in neurasthenia and all cases where it was desired to improve the general nutrition.

A Lecture on Methods of Generating and Transforming Electric Currents for Therapeutic Uses,

By Mr. Charles T. Child, E. E., Technical Editor of the *Electrical Review*, was, in his unavoidable absence through illness, delivered by Dr. C. R. Dickson from Mr. Child's manuscript. The officers and a large number of the mem-

bers of the New York Society of Electrical Engineers were present on invitation. The direct current was a special case of the alternating current, in which the frequency was reduced to zero; the maximum of pressure for therapeutic use was sixty or seventy volts; the battery, though it had recently celebrated its centennial, was still far from perfect; the so called dry battery was only useful for small currents and for short periods; for motors and cauteries, storage batteries were the best. High pressure currents were reduced for therapeutic use by employing a shunt around a resistance such as coils or lamps; static machines generated potentials up to several hundred thousand volts.

Illustrations of the Value of the Cataphoric Method in Cancer,

By Dr. G. Betton Massey, of Philadelphia. The method consisted in driving the salts of mercury into the cancer by cataphoresis with heavy electric currents; the patient being etherized and placed on a large leaden plate covered with heavy pads, constituting the negative electrode, the positive being a tube of gold with amalgamated tip through which mercury was injected; three or four hundred milliamperes of current were used, sometimes for two hours or more. An inodorous slough separated in one to three weeks. Eleven out of thirty seven cases had been successful; in twenty-two the treatment had been begun too late. The treatment was not intended to take the place of the knife, but was very applicable to early manifestations, particularly carcinoma of cervix uteri, and before metastasis.

The Causes of Some Cases of Neurasthenia and Their Treatment.

By Dr. Francis B. Bishop, of Washington, D. C. A systematic quantitative analysis had showed quite commonly a diminution of the daily quantity of urea and an excess of phosphates; muscular tissue seemed to be the chief seat of the metabolism; exercise increased the output of urea; the object should be to promote chemical changes by muscular exercise, which ordinarily was followed by fatigue, and such cases were already fatigued, therefore he used electricity, beginning with a mild galvanic current to stimulate the cells of the brain and spinal cord, followed by general galvanization, and then by general faradization; lastly, about fifteen minutes in the ozone cage with static spray.

X-Ray Photography,

By Dr. E. R. Corson, of Savannah, Ga. Unless the X-rays were powerful enough to pene-

trate the bone, details could not be properly brought out. Mere length of spark did not indicate the efficiency of apparatus. By increasing enormously the number of interruptions, the quantity of current passing through the tube was augmented, and efficiency proportionately increased. A coil giving a spark of only eight or ten inches and all the current the X-ray tube could stand, was recommended; also the use of a hydrochinone developer. All negatives, no matter how strong, should be intensified after development; this gave sharp contrasts, showing no flesh.

Electricity in Brain Failures,

By Dr. D. R. Brower, of Chicago, Ill. The frequency of cerebral neurasthenia was to be attributed to the almost universal condition of unrest, keenness of competition, drifting away from the authorities of the past, and not a little to "young America" and the "new woman." It was frequently associated with disorders of the intestinal tract, or with dilatation of the stomach; daily sances of intragastric electrization lasting five minutes, carried out by the patient himself three or four hours after a meal, with attention to diet, with intestinal faradization by the physician, galvanization of the brain, and bulbar galvanization, followed by static insulation, were recommended.

Electro-therapy of Insanity,

By Dr. Alfred T. Livingston, of Jamestown, N. Y. The author had been using electricity in the treatment of mental disorders for about nineteen years. The calmative effect of the galvanic current in some cases was very marked; the treatment was founded on the theory that insanity was dependent largely, in the first instance, upon circulatory changes in the brain. An earnest plea was made for larger medical staffs in insane hospitals, and the better treatment of insanity in the earlier stages.

The following officers were elected for the ensuing year: President, Dr. Ernest Wende, of Buffalo; 1st Vice President, Dr. Frederick H. Morse, of Melrose, Mass.; 2nd Vice President, Dr. Daniel R. Brower, of Chicago, Ill.; Treasurer, Dr. Richard J. Nunn, of Savannah, Ga.; Secretary, Dr. George E. Bill, of Harrisburg, Pa.; Executive Council vacancies: Dr. Francis B. Bishop, of Washington, D. C., and Dr. Walter H. White, of Boston, Mass. The next annual meeting will be held in Buffalo, on September 16th, 17th and 18th, 1901. The New York Telephone Company very kindly installed a

private 'phone at headquarters, Hotel Bristol, for the exclusive and free use of the members, who were accorded also the privileges of the wires to the surrounding towns and cities, and the Long Distance Company extended like privileges. The efforts of the indefatigable chairman of arrangements, Dr. Robert Newman, of New York, for comfort and entertainment were untiring. Visits were paid to a most modern and typical Telephone Exchange, the Electric Vehicle Transportation Company (automobiles), and the Metropolitan Power House, at each of which most interesting addresses were delivered by those in charge; and on the last day of the meeting Park carriages were in waiting at headquarters after lunch, and a most enjoyable drive taken through Central Park, and Riverside Drive—visiting Grant's Tomb, Columbia College, Library and Laboratories, St. Luke's Hospital and the Crypt of the Episcopal Cathedral. An informal reception at Hotel Bristol was an unqualified success. A very popular feature was an energetic Ladies' Auxiliary Committee, whose excursions started daily from the place of meeting, an opportunity being thus afforded of seeing the Stock Exchange, Trinity Church, the Aquarium, Central Park, the Obelisk, Metropolitan and other museums, and places of interest, under most favorable auspices.

The Association is to be congratulated on its choice of President for the ensuing year. Dr. Ernest Wende, in his important and responsible position as Health Commissioner of Buffalo, has displayed very marked ability, and possesses more than a national reputation; his strong personality and great energy, coupled with the fact that the Pan American Exhibition will also be held in Buffalo next year, cannot but prove a very powerful incentive to a large attendance, increased membership, and meetings of exceptional interest in 1901, preparations for which are already well under way.

CLINICAL SOCIETY OF MARYLAND, BALTIMORE

The annual meeting of the Society was called to order October 19th, 1900, by the President, Dr. James H. Craighill. The Chairman of the Executive Committee, Dr. H. B. Jacobs, read a report of the work done during the last year, and presented a number of suggestions to be considered in the coming year's work. He particularly desired that the clinical nature of the Society should be maintained, and requested the members, with that view in mind, to present interesting and rare cases, and to

exhibit pathological specimens at each meeting.

Dr. William Osler then delivered a short address describing the exercises which took place at the recent centennial celebration of the Royal College of Surgeons, in London.

The election of officers for the ensuing year followed, and resulted in the choice of the following named gentlemen:

President, Dr. W. J. Todd; Vice-President, Dr. H. B. Jacobs; Recording Secretary, Dr. H. O. Reik (5 W. Preston St.); Corresponding Secretary, Dr. Nathan Herman; Treasurer, Dr. J. Frank Crouch; Executive Committee, Drs. H. B. Jacobs, W. S. Gardner and T. C. Gilchrist; new member of Finance Committee, Dr. J. M. Craighill.

At the close of the meeting a reception and smoker was held and proved to be a very enjoyable affair.

Analyses, Selections, etc.

The Diagnosis of Pulmonary Tuberculosis.

Robert H. Babcock, A. M., M. D., Professor of Clinical Medicine and Diseases of Chest, College of Physicians and Surgeons, Chicago, in a paper read during the session of the American Medical Association, at Atlantic City, N. J., June 5-8, 1900, said (*Jour. A. M. A.*, Oct. 20, 1900): This diagnosis may be a matter of considerable ease, or one of extreme difficulty, depending on the stage of the disease and the nature of the pathologic condition. Let us first consider diagnosis at an early stage.

Tuberculosis is an infection, and as is the rule with infections, it occasions a rise of temperature even at its incipency. Except very rarely, the elevation of temperature is slight. If the thermometer shows a constant elevation ranging between 99.5 and 100.5 F., it is—in a suspected case—strongly suggestive of tuberculous infection. The temperature should be registered four or five times daily.

The pulse is as a rule accelerated to a rate out of proportion to the temperature. However, an individual under examination is apprehensive, and is, therefore, likely to manifest acceleration of the pulse. Nevertheless, the pulse rate will be found to range in the neighborhood of 100. It is usually a pulse of low tension, and this is more characteristic than is an increase in the frequency. Undue rapidity with low tension forms, in the absence of signs of cardiac disease, a very suspicious combination. Its value is enhanced if conjoined with

increased body temperature, noted above. The respirations may or may not be increased. As a rule in incipient cases there is neither subjective nor objective dyspnoea.

Loss of weight is a suspicious circumstance and is an invariable accompaniment of incipient pulmonary tuberculosis, though it is so often slight that it escapes the patient's notice. Without the association of other symptoms and signs it can scarcely be held suggestive of tuberculosis. Decline in strength and a falling off of appetite are of small evidential value.

Cough is usually the first symptom to arouse apprehensions in the mind of the patient, as well as the physician. Although it is symptomatic of this disease even at its invasion, still it is not invariably so, and taken alone has but small diagnostic value. In every suspected case in which physical signs do not settle the question of diagnosis, the upper respiratory tract and the heart should be carefully examined for an explanation of the cough. Aurists will say that even the ears should not be left out of the field of exploration.

Sputum is, for a time, absent in cases of beginning tuberculosis, but when present exhibit its nothing characteristic, unless it shows bacilli. Even hemoptysis is not pathognomonic, although highly suspicious. When due to a deposit of tubercles in the lungs, physical signs may usually be detected, or there will be some of the suggestive symptoms already considered. If not, then the gums, nares, pharynx, larynx, trachea and heart should be carefully examined for a possible source of hemorrhage. In conjunction with a slight rise of temperature, loss of weight, and cough, hemoptysis is very significant of tuberculosis.

Having briefly considered the symptoms attending incipient pulmonary phthisis, let us now take up the physical signs.

Inspection.—Notice the contour of the thorax with its narrow apices, weak musculature, deficient expansion, etc., often characteristic of the tuberculous diathesis. We find that one of the earliest ocular signs is lessened expansion of one apex, observed oftentimes in the supraclavicular region. This area may be slightly depressed or retracted, as compared with the other side. In rather more advanced cases, are those in which the tubercular deposits are not so limited; these same changes may be noted in the infraclavicular region as well. Another sign, which is said to be a very early and significant one, is atrophy—more or less marked—of the scapulo thoracic muscles on the affected side. That drooping of the shoulders, which forms a part of the phthisical habitus,

may be seen at an early stage, but is generally present when the disease is more advanced.

Palpation does not furnish very reliable information, except as corroborative of that obtained by other means. It is largely influenced by individual peculiarities. Nevertheless, when in a suspected case there is a marked difference in the pectoral fremitus of the two apices, that apex at which it is distinctly increased is apt to be the seat of tubercular deposits. This is particularly likely to be the case in the supra-scapular region.

Percussion is the means generally relied on for the detection of incipient pulmonary tuberculosis, yet it is not always so trustworthy as is auscultation. Dulness at either apex is usually regarded as indicative of the disease in question. Still, one should always bear in mind that it is normal for some individuals to show slightly less resonance at the right apex. Therefore, in estimating the importance of trifling dulness at the right summit of the chest one must also consider the presence or absence of the symptoms of constitutional disturbance. Impaired resonance in my experience is far more frequently found above the clavicle and in the supra-scapular region. This is owing to the fact that deposits of tubercles take place earlier and more frequently at the tip of the lung, along its borders and on the posterior aspect of the apex. I also find diminished resonance early along the vertebral border of the scapula, to uncover which it may be necessary to have the patient fold his arms across the chest in such a manner as to draw the shoulder-blades apart. For the sake of emphasis let me repeat that whenever these changes, however slight, exist at the left apex, it is strongly indicative of tuberculous disease. Finally, an initial alveolitis may sometimes occasion slight hyper-resonance of a tympanitic quality. At a later period dulness replaces this tympanitic resonance.

Auscultation to be of full service for the early recognition of pulmonary tuberculosis requires great familiarity with normal breath-sounds and slight transitions therefrom. As with regard to percussion, so also with auscultation; one must remember that it is normal to some individuals for the respiratory murmur at the right apex to be less vesicular, that is, broncho-vesicular, as compared with the left. Therefore slight modifications on the right side do not have the same significance as when they are found at the left. Slight dulness and broncho vesicular breathing at the right summit of the chest, whether in front or behind, do not of themselves constitute sufficient evi-

dence of tuberculosis. Their value would be greatly enhanced if in a circumscribed area the inspiration should be wavy or jerky. Occurring on the left side, where vesicular breath-sounds are the rule, a broncho vesicular quality of the respiration is highly suspicious. When there is distinct bronchial breathing at either apex, it is not normal, but indicates disease, and being associated with unmistakable dullness, usually warrants a diagnosis of tubercles. Râles are not always present in incipient cases, and often when not heard on quiet respiration will be elicited by a deep inspiration or the act of coughing. Under these conditions they are fine crepitant or subcrepitant crackles heard toward or at the end of inspiration. They convey an impression of being moist, and frequently are mingled with fine bubbling râles of a somewhat larger size. These adventitious sounds may be very limited in extent or may occupy the entire dull area. Heard in either of the suprascapular fossæ they furnish extremely strong evidence of the disease under consideration. In front, especially along the inner margin of the lung, friction may be mistaken for these râles, yet should any such minute crackling râles be detected, it is generally safe to assume that tuberculosis is responsible for their presence. Incipient tuberculosis is as a rule unilateral, and bronchitis of non-tuberculous nature is bilateral. Moreover, the râles it produces in front are either heard over the course of the larger bronchi and are of large size, and toward the base rather than at the summit. The conjunction of dullness, broncho vesicular or bronchial breathing with these minute râles at one or both of the apices posteriorly will generally justify the conclusion that the lung is tuberculous, and especially so when these signs are distinct. Moreover, in such pronounced cases there are usually well-marked constitutional symptoms. There is usually sputum, and this will very probably contain bacilli. The difficulty is in incipient cases which furnish no physical signs or such as are so ill defined that even a skilled examiner is not quite certain of their existence. If the temperature, weight, pulse rate, state of the patient's strength, examination of the sputum, etc., cannot help one out, then he would do well to postpone a definite diagnosis until by repeated examinations he can at length arrive at a positive conclusion. Not infrequently an experienced observer may become mentally convinced from the family and personal history, from the general appearance of the individual, from the symptoms and from the *tout ensemble* of physical signs, that the

patient has tuberculosis, and yet he does not feel warranted in giving expression to his conviction. If, it does not seem best to wait for time to clear up the doubt, then recourse may be had to tuberculin.

Mensuration of the chest should include expansion, also its relative size as proportioned to height, the determination of the vital capacity by means of the spirometer, and the individual's weight as related to his height, all of which have their diagnostic value.

Regarding the employment of old tuberculin for diagnostic purposes, there is such wide diversity of opinion that statements are flatly contradicted. The opponents declare that it is both unsafe and unreliable, producing a reaction in syphilis and sometimes failing in cases of tuberculosis. The advocates of its use state the opposite just as positively. By those who have employed it extensively it is, however, stated that injurious effects follow too large doses or too frequent repetition of the injections. Therefore the precautions to be observed are—1. Use Koch's old tuberculin, not tuberculin R. 2. Let the initial dose be .5 to 1 milligram of the tuberculin; larger doses than this to begin with are sometimes employed, but it is better to err on the side of the caution, 3. If the first injection is not followed by the characteristic reaction, double the dose may be injected after an interval of three days. Some advise a shorter interval than this, but as there can be no other objection to waiting so long than the loss of time, it is again better to be over cautious. 4. Should this dose again not be followed by reaction, double the second dose may be given after another three days. It will seldom happen that a tuberculous individual will not react after receiving as much as 5 milligrams, which may be regarded as a safe third dose. Occasionally, a large-sized and insensitive person will require even as much as 10 milligrams, but this amount should be reached gradually. The characteristic reaction consists of a rise of temperature of 2 degrees F. above the patient's average daily temperature as determined by repeated observations during several days prior to the first injection. There is often also a feeling of malaise and some increase of cough. This reaction generally takes place within twenty four hours following the injection, but may be delayed to quite twenty-four hours. Carried out with the ordinary precautions stated, I consider this means of diagnosis safe, and have no hesitation in recommending it in cases in which careful physical examination does not enable one to arrive at a conclusion. I should not, however, advise

recourse to this diagnostic procedure without having first exhausted other means at hand.

Of late we have been hearing much of the service rendered by the X-ray in the field of diagnosis. Tuberculous infiltration of an apex is revealed by a slight shadow in the affected area. It also affords a means of detecting enlargement of the bronchial glands. This was recently very well shown in the case of a man who was sent to me for diagnosis. The skiagraph also showed slight opacity of the right apex, and thus confirmed what I had discovered by physical examination, yet which was so faint as to leave room for doubt.

It has also been recommended that small doses of potassium iodid, 3 grains three times a day, be employed to clear up doubtful cases. If there is slight alveolar catarrh of one apex, producing uncertain physical signs, this potash salt will occasion the development of fine râles in the affected area, or so modify the quality of the breath sounds as to aid in the diagnosis.

Agglutination of the blood, after the Widal method, is too recent and not sufficiently proved to require more than a passing mention.

Concerning the diagnosis of advanced pulmonary tuberculosis, when the disease has progressed to this stage, there is generally mixed infection, and it assumes the picture of ordinary consumption. As a rule, there is no difficulty in arriving at a correct diagnosis in these cases. The symptom complex alone is sufficient, yet I would not advise a reliance on symptomatology without examination of the chest. Occasionally, in aged people or persons with extensive chronic bronchial catarrh, it is not always easy to decide whether tuberculosis may not exist in such cases. A correct interpretation is facilitated by bearing in mind the fact that tuberculosis is a unilateral disease as a rule, and that the apex is always more involved than is the base of the lung. Of course when the disease has progressed to an advanced stage, both lungs are likely to yield signs of the disease; but one can generally determine that the disease is more extensive or more advanced in one than in the other lung, one having been affected primarily, the other secondarily. Although râles of associated bronchitis may exist throughout, they are likely to be more numerous at the bases and of a different character from those of tuberculous apex diseases. These latter are of a crackling kind, small or medium-sized, and are found together with dullness on percussion. If the breath-sounds are not so obscured by râles as to be of

undeterminable quality, they are broncho-vesicular, bronchial, or cavernous. Dullness at the base and resonance at the top do not occur in pulmonary tuberculosis, unless very exceptionally a basic affection becomes secondarily tuberculous. When anfractuons cavities have riddled an upper lobe, or tuberculous foci are scattered with comparatively healthy intervening tissue, and not a normal opposite lung with which to make comparison, it may not always be easy to determine the exact nature of the percussion note. One must then rely on auscultation to help him out, or he must await the result of treatment, in the hope that by clearing up the bronchitis at the base he may then definitely ascertain the condition of the apex. The detection of bacilli in the sputum will settle the nature of the case; but these are not always present in chronic ulcerated phthisis, and the failure to detect bacilli is no proof that the affection is not tuberculosis.

It may be set down as a general proposition that dullness and broncho-vesicular or bronchial breathing and râles at the apex indicate pulmonary tuberculosis. Signs of excavation corroborate the diagnosis.

The author presents the subject in a general way—applicable to the vast majority of cases—and does not attempt to detail the multiform deviations that may be encountered. Neither does he discuss the diagnosis of acute cases of the pneumonic type. Acute tuberculous broncho pneumonia, being an apex disease, is governed, so far as concerns its physical signs, by the same principles that underlie the diagnosis of the chronic varieties. The main difference consists in the greater severity of symptoms and more rapid development of the changes on which the physical phenomena depend.

Sensat on of Bones.

Dvoichenko (D. S.) (*Med. Obozr. Mesk.* 1900, Liv. 3-27), by means of a tuning fork, the author examined in the nerve clinics of Proff, Roth, Pfl, and Nechayew, in Moscow, 34 patients suffering from tabes dorsalis, myelitis, gliomatosis, disseminated sclerosis, neuritis, epilepsy, polioencephalomyelitis, hysteria and rheumatic polyarthritis—the sensation of vibration, pricking and burning caused by striking various bones by the tuning fork. The sensation of vibration remains normal in those diseases, where other sensations remain normal; to this group belong all diseases of movement, resulting from brain and spinal cord lesions, and likewise lesions of peripheral nerves where other sensations remain intact, whether or not trophic disturbances occur. In those diseases

where more or less disturbances of other sensations do occur, the sensation of vibration is likewise disturbed.

In peripheral lesions, cutaneous sensation and vibration sensation were almost always disturbed to the same degree and extent. In one case of peripheral neuritis resulting from poisoning by fish, where only paræsthesiæ and slightly diminished tactile sensation occurred, vibration sensation was sharply reduced, and absent on fingers and toes. There may be besides an elective disturbance of vibration sensation. In spinal lesions various pictures occurred. In myelitis the disturbances of vibration sensation went *pari passu* with those of the skin and other forms of sensation; in some cases reduced, in others they appeared as pricking or burning, in some cases only unilateral disturbance. In gliomatosis the disturbances of vibration sensation appeared over a larger extent than those of the skin, being reduced not only in the hands but also in the feet and pelvic girdle; in one case it was complete hemiplegia on the side where the cutaneous sensations were less affected; in another case, where the cutaneous sensations were disturbed, vibration sensations were normal, but were disturbed lower, in the femora and upper part of legs; in another case it was disturbed only in patella and lower part of right femur; there was, therefore, complete divergence in gliomatosis between cutaneous phenomena and vibration phenomena. *Tabes dorsalis* gave characteristic disturbances of the sensation of vibration; in all cases, whatever the stage of the disease, in the pelvic girdle the vibration was disturbed, being felt either as burning or pricking, or both; in some cases only the pelvic girdle and upper thighs were affected, in others more or less of all the bones of the skeleton, in others still the entire skeleton almost, depending on the extent of the tabes; in those where only absence of patellar reflex, Romberg's and pupillary symptoms were present, there was disturbance of the vibration, sensation in the pelvic girdle, sometimes also in the lower lumbar vertebræ and upper thighs; in cases of medium intensity, with more or less ataxy, the disturbance of vibration sensation was more extensive, but often did not coincide with that of cutaneous sensation; in severe cases of tabes, the disturbance of vibration sensation did almost correspond with that of the cutaneous sensation; in a case of tabes with arthropathies, vibration phenomena of femora were somewhat preserved; in other cases of severe tabes, bones of feet gave no disturbed vibration sensations; in hereditary

ataxy there were the same phenomena as in severe tabes, but without burning or pricking, and presence of anæsthesia.

In diseases of the brain there is a correspondence between disturbances of other sensations and those of vibration: Where there was cutaneous anæsthesia there was co extensive reduced sensation of vibration, but without burning or pricking, however; in one case of hysteria, where the cutaneous sensation was normal, there was partial vibration anæsthesia in central regions of the hands and feet and pelvic girdle.

Where there was considerable disturbance of all sensations there was likewise vibration disturbance, and in peripheral neuritis, myelitis, and hemianæsthesia they almost corresponded. Where there was only disturbed tactile sensation, there were co existent and co extensive vibratory sensation; where there was only disturbed, either temperature sensation or that of pain, the latter was more extensive; where the three were present together, vibratory sensation was disturbed over far greater area. Disturbed muscular sensation was accompanied by co-extensive disturbed vibratory sensation.

Book Notices.

Manual of Clinical Diagnosis by Means of Microscopic and Chemical Methods. By CHARLES E. SIMON, M. D., Late Assistant Resident Physician Johns Hopkins Hospital, Baltimore. *Third Edition. Thoroughly Revised. Illustrated with 136 Engravings and 18 Plates in Colors.* Lea Brothers & Co., Philadelphia and New York. 1900. 8vo. Pp. 566. \$3.50.

The rapidly growing demand for the application of the exact collateral sciences in the diagnosis of disease is a striking feature of the present day. With the colleges now introducing chairs on bacteriology all over the country, specialists in such collateral sciences as helpers in the clinical diagnosis of disease must be established in accessible centers, and devote their lives to such work. As general practitioners—whether in medicine or surgery—we are growing more and more dependent upon such specialists. For the help of such specialists in particular, and of clinicians in general, the book under consideration is of special service. To show the growing favor with which such matters are looked upon, it is only necessary to state that the first edition of the book was issued only four years ago, and the second

edition two years later. Even though the doctor may not be equipped for such blood and other examinations of a bacteriological character, he should possess himself of such a book as this because of the general information it gives. Nothing but words of praise can be written about this important and constantly useful book.

International Clinics—*A Quarterly of Clinical Lectures and Especially Prepared Articles by Leading Members of the Medical Profession Throughout the World.* Edited by HENRY W. CATTELL, A. M., M. D., Philadelphia. With the Collaboration of JOHN ASHHURST, JR., M. D., LL. D., and CHARLES H. REED, M. D., Philadelphia, and JAMES T. WHITTAKER, M. D., LL. D., Cincinnati. VOLUME II. TENTH SERIES. 1900. Philadelphia: J. B. Lippincott Co. 1900. Cloth. 8vo. Pp. 300.

This is the July number, 1900, of the popular series of practical, instructive *Clinics*. Of new inventions, the *Kromshop* is described. By the use of this optical instrument, one is able, under suitable conditions, to see a stereoscopic picture reproduced in colors. Seven articles on *Therapeutics*; ten on *Medicine*; two on *Neurology*; four on *Surgery*; two on *Obstetrics and Gynecology*; seven on *Diseases of the Eye and Ear*, and one on *Dermatology*, beside a *Report of the 31st Annual Meeting of the American Medical Association*, form the topics of interest in this volume. This work occupies a field peculiarly its own—containing clinical lectures so written as to embody the polyclinic idea of teaching. This volume is also richly illustrated. The contributors are carefully selected—foreign and American. Twenty-one plates and a large number of figures illustrate the work. A good *Index* is appended. These *Clinics* would be of great service to every practitioner of medicine or surgery, or any of the specialists.

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. *Second Edition. Illustrated with 244 Engravings.* Lea Brothers & Co., New York and Philadelphia. 1900. Cloth. 8vo. Pp. 318. \$3.25 net.

This is the text-book in many colleges. Since the subject is usually one first undertaken by the medical student in his college course, it seems to us that more elementary language might have been used in some parts to encourage the student to persevere. The work is all right for doctors or advanced medical students who appreciate the meaning of terms. But

the beginner becomes stumped by the words "cell," "epithelium," "cilia," etc., which occur on the first page of Chapter I. It is not a complaint against the substance of the book, for that is all right; but we do plead for simplicity of expression in teaching, so as to let the beginner easily get a correct idea of the technicalities used. Of course, it may be said that such explanations can be given by the teacher; but many a commencing student of medicine procures the books of the elementary year before he comes to college, and he loses time in appreciating the meaning of terms he soonest meets with. A chapter on *Histological Technique* has been added to this edition, which we regard as an important one. As an authoritative work on histology, nothing we have said in criticism above can be applied to the true value of this book, for there is no better. To one who understands the terms used, the descriptions are clear enough, and the facts are correctly stated. We commend the book without reserve to practitioners and advanced students.

Dictionary of Medicine and the Allied Sciences.

By ALEXANDER DUANE, M. D., Assistant Surgeon to New York Ophthalmic and Aural Institute; Reviser of Medical Terms for Webster's International Dictionary, etc. *Third Edition. Enlarged and Thoroughly Revised. With Eight Full Page Colored Plates.* Lea Brothers & Co. Philadelphia and New York. 1900. Large square 8vo. Pp. 658. Cloth, \$3.00 net; Full Flexible leather, \$4.00 net.

This is fast becoming the medical dictionary wanted by practitioners and essential for medical students. It gives the "pronunciation, derivation, and a full explanation of medical, pharmaceutical, dental and veterinary terms, together with much collateral descriptive matter, numerous tables, etc." "As the essence of a dictionary lies in its definitions, no pains have been spared to make the explanation of each word clear and sufficient. In the case of a word having several distinct meanings, clearness has been promoted by the use of numerals to emphasize the distinctions." The eight pages of colored plates (showing the appearances of bacilli and micrococci; casts and other urinary sediments; the centres of the cerebral cortex; human embryo at four weeks; leucocytes and erythrocytes; normal and abnormal blood; malarial plasmodia; staphylococci and streptococci) are introduced in this edition, not in previous editions. As further compared with previous editions, the author has broadened the scope of the dictionary so as to include words used in the pharmacy, dentistry and

veterinary sciences. Obsolete and useless words are omitted. This *Dictionary* deals sufficiently with every word the modern student or practitioner is apt to meet, giving its pronunciation by a simple phonetic system, its derivation and its full definition. The work is profusely illustrated with tables, which evidence a vast variety of information in a shape for instant reference. Practical utility has been the ruling purpose of the author. Another item that specially commends this book is its remarkably small cost, as stated in the title of the Dictionary, above.

Twentieth Century Practice—*An International Encyclopedia of Modern Medical Science by Leading Authorities of Europe and America.* Edited by THOMAS L. STEDMAN, M. D., New York City. In Twenty Volumes. Volume XX—*Tuberculosis, Yellow Fever, and Miscellaneous. General Index.* New York: William Wood & Co. 1900. Svo. Pp. 906. Cloth. \$100 for the 20 volumes.

This *Twentieth Century Practice*, now complete, was begun in 1896. Four volumes a year, each of about the size of the present volume, have been regularly issued, and each volume may be said to be thoroughly up to date. Except Ziemssen's *Encyclopedia of Medicine*, issued serially some twenty-five years ago, published originally in German and a translated American edition, issued almost simultaneously by the same publishing house as that which publishes the *Twentieth Century Practice* and Abbotts' *System of Medicine*, there is no work with which this *Century's Practice* can be compared. But, as this work is the more recent, and by authors well selected in the main, this is the preferable work; for it is as nearly up to date as any such publication could possibly be. The present volume gives nearly 400 pages to *Tuberculosis* by several authors. It is a series of chapters, so to speak, in every particular up to date, full of interest and instruction. It will ever be an authoritative and useful part of this twentieth volume. The section on *Yellow Fever* is of like character. Short but good practical sections are added on *Poisoning with Snake Venom, Mushroom Poisoning, Diseases of the Uvula, Soft Palate and Facial Pillars, and Neural and Mental Defects in Childhood.* The *General Index* to the twenty volumes is appended—covering over 300 double-columned pages. Wherever individuals are unable to purchase the *Twentieth Century Practice*, the local societies should secure the set of 20 volumes for the profession of their commu-

Manual of Obstetrics. By A. F. A. KING, A. M., M. D., Professor of Obstetrics and Diseases of Women and Children, Medical Department of Columbian University, Washington, D. C., and in the University of Vermont, etc. *Eighth Edition. Revised and Enlarged. With 264 Illustrations.* Lea Brothers & Co., Philadelphia and New York. 1900. Cloth. 12mo. Pp. 612. \$2.50.

The author states in the Preface: "It has not been necessary to add very much to this volume since the issue of the last edition, two years ago. Some statements, however, have been modified in conformity with the progressive trend of obstetric thought; several omissions have been supplied; a few errors corrected, and the text has been embellished with forty-one additional engravings." With this statement concerning this recent eighth edition, we see no reason to modify our expression as to former editions: "From first to finish, this *Manual* is thoroughly practical, concise in expression, well illustrated, and includes a statement of nearly every fact of importance discussed in obstetric treatises or encyclopedias. The well arranged index renders the book useful to the practitioner who is in haste to refresh his memory."

Progressive Medicine. *A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences.* Edited by HOBART AMORY HARE, M. D., Professor of Therapeutics and Materia Medica in Jefferson Medical College, Philadelphia, etc. Assisted by CHARLES ADAM HOLDER, M. D., Assistant Demonstrator of Therapeutics in Jefferson Medical College, Philadelphia. VOL. II. JUNE, 1900. *Surgery of the Abdomen: including Hernia; Gynecology; Diseases of the Blood; Diathetic and Metabolic Diseases; Diseases of the Glandular and Lymphatic System; Ophthalmology.* Lea Brothers & Co. Philadelphia and New York. 1900. Cloth. Svo. Pp. 411. Annual Subscription, each like present number, \$10, delivered.

The title given practically states the scope of this extremely valuable quarterly publication. Each number takes up a different set of subjects, so that it takes about a year to go round the entire field of medicine and surgery. An annual subscription to *Progressive Medicine* would be economical to the doctor and prove beneficial. It covers the field of progress. When no advances have been made in the year, nothing is noted. But if advances have been made in any part of the world, they are noted by the able contributors to this quarterly publication.

The Student's Medical Dictionary. By GEORGE M. GOULD, A. M., M. D., Author of an "Illustrated Dictionary of Medicine, Biology and Allied Sciences;" Editor *Philadelphia Medical Journal*, etc. *Eleventh Edition. Enlarged. With Many Illustrations.* Philadelphia: P. Blakiston's Son & Co. 1900. Royal 12mo. Pp. 848. Cloth. \$2.50.

This *Student's Medical Dictionary* is an improvement in every way upon former editions. It includes "all the words and phrases generally used in medicine, with their proper pronunciation and definitions, based on recent medical literature." It also contains "elaborate tables of the bacilli, micrococci, leucomains, ptomaines, etc.," also tables of the arteries, ganglia, muscles, and nerves; of weights and measures, analysis of the waters of the mineral springs of the United States, etc., etc. A new table of eponymic terms and tests has been appended. It is just here that the arrangement of the book seems defective; for unless the student is early taught that the eponymic terms are not named in the alphabetical arrangement of the book he is apt to conclude that the eponymic term is not defined, whereas there are some 50 double-column pages of such terms, alphabetically arranged, and published as a "*Supplement.*" This edition is about 100 pages larger than its predecessor, notwithstanding the fact that words that may be considered obsolete are omitted. Another beneficial feature is the very large number of illustrations used throughout this eleventh edition. The remarkably small price set upon the book is another advantage or recommendation. While small type are used, the printing is remarkably distinct and clear.

Editorial.

The Roentgen Society of the United States.

The "Preliminary Announcement" of the first regular meeting, to be held in New York city, at the Academy of Medicine, 17 West Forty-third street, December 13th and 14th, 1900. The Transactions of the organization meeting were published in the official organ, *The American X-Ray Journal*, St. Louis, Mo., March, 1900. Dr. Herbert Robarts, St. Louis, Mo., is *President*; Drs. G. P. Girdwood, Montreal, Canada, and H. P. Bender, Brooklyn, N. Y., *Vice-Presidents*; Dr. J. Rudis Jicinsky, Cedar Rapids, Iowa, is secretary and treasurer. All those wishing to become members of the Society, or to read papers before the session, or who may communicate with the secretary,

are requested to send in the names of the delegates on or before the meeting in December. The secretaries of all scientific, medical and other societies wishing to be represented, are requested to send in the names of the delegates on or before the meeting in December.

The Virginia State Board of Health.

The Medical Society of Virginia, under the new law regulating the State Board of Health, during the recent session in Charlottesville, nominated the following named gentlemen for commission by the Governor of Virginia as members of the Virginia State Board of Health for the term beginning January 1st, 1901: Drs. Paulus A. Irving and Landon B. Edwards, Richmond; Rawley W. Martin, Lynchburg; Vernon G. Culpeper, Portsmouth; Lewis E. Harvie, Danville; John H. Neff, Harrisonburg, and John T. Graham, Wytheville. Their term of office is four years.

Dr. A. S. Priddy, Keysville, Va.,

Nominated by the Medical Society of Virginia to serve as one of the three members from the State at large, has been duly commissioned by Gov. Tyler to serve on the Medical Examining Board of Virginia. Years ago, he was also a member of this same Board, and made a most excellent Examiner. He is also a member of the Virginia Legislature, and always keeps an attentive eye on matters of interest to the medical profession.

The Hunter McGuire Memorial Association.

An outgrowth of the movement of the women of Richmond to erect a monument to the memory of Dr. Hunter McGuire was organized at the Jefferson Hotel, Thursday night, November 1, 1900. The attendance was very large. The sole object of the Association is to secure sufficient funds with which to erect a suitable monument to commemorate the life and character of Virginia's distinguished surgeon.

Re-organization of the Vermont State Medical Society.

At the annual meeting of this Society, in 1899, a special committee was appointed to consider the subject of re-organization, to devise a plan, and to report during the session of 1900. The re-organization is proposed upon a basis of representation from County or District Medical Societies. There are only about 600 regular physicians in that State. The respective County Societies are to elect one Fellow for every ten members of the

County Society to represent it in the State Society. This would make the State Society a body of only about 60 or 65 members annually. The annual fee is to cover membership in both the County and State Societies, and entitles the member to receive the *Transactions*. The State Society has also taken upon itself the duty of defending all suits for malpractice, and all suits in any way affecting the professional status of any of its members when unjustly brought, and is to take cognizance of and prosecute violations of the medical practice act, or of the laws of public health. The committee further suggests for consideration, the advisability of creating a fund for the care of the aged among the members of the Society when necessary. In all probability, the re-organization along the general lines suggested in the above sentence will be effected at the annual meeting at Bellows Falls, October 10 and 11, 1901. Dr. W. D. Huntington, Rochester, *President*; Dr. D. C. Hawley, Burlington, *Secretary*.

The M. J. Breitenbach Company, New York, Loses by Fire.

We regret to learn that the building of the M. J. Breitenbach Company, New York city, manufacturers of Gude's Pepto-Mangan, was totally destroyed by fire on the afternoon of Monday, October 29, 1900. We are reliably informed, however, that although a state of great confusion necessarily existed temporarily, the company has succeeded in bringing order out of chaos, and they are already on their feet, so to speak, once again. As the market was well supplied with their Gude's Pepto-Mangan, there has been no interference with the sale of this well known *blood builder*.

Building of Messrs. Tarrant & Co., Wholesale Druggists, of New York, N. Y., Destroyed, Attended by Large Loss of Life.

Seldom in the history of any large city do we hear of a disaster more appalling than that which occurred about mid-day October 29, 1900, in New York city, when, incident to what began apparently as a small fire at the wholesale drug firm of Messrs. Tarrant & Company, there occurred several explosions—differing in intensity—of various chemicals stored in the building. Some idea of the force of the explosions may be gained by the statements made by many eye-witnesses, that this seven story building seemed to leap into the air, and that the column of *debris*, smoke and flame was shot skyward at least three hundred feet, while windows in the vicinity and for blocks around were blown out by the concussion. The Warren street station of the Ninth Avenue elevated

road, directly in front of the drug establishment, was demolished. As a result of the accident, the loss of persons killed will fall little short of two score, while many were injured more or less seriously. What was the exact loss of life will, in all probability, never be known, but it would have been much greater had not the building been destroyed while many of the clerks were out for dinner. It is now being asserted that the company may possibly be held criminally liable and responsible for the damage to life and property, because of violation of the terms of their permit—the combustibles stored in their building being largely in excess of what was allowed them by law—and if this be the case, the fire insurance companies cannot be held responsible for the damage.

It has now been decided to have investigations instituted concerning all of the wholesale drug establishments in the city, as it is well known that nearly all of the wholesale drug houses carry explosives in such quantities as to render them powder magazines to all purposes.

An Impostor—Beware of Him.

Dr. W. Peyre Porcher, 85 Broad street, Charleston, S. C., writes us that Dr. A. R. Shands, Washington, D. C., secretary of the Committee of Arrangements of the last Congress of American Physicians and Surgeons, has informed him that a man claiming to be "Dr. W. Peyre Porcher," and to have attended the meeting of the Congress in Washington, in May last, has been victimizing many of the profession of that city by pretending to be in distress, and borrowing money from them. This impostor claims to have many relatives and friends in Richmond, Va. Dr. Shands describes this man as being probably between 60 and 70 years old, clean face, heavy grey moustache, about five feet, eight or ten inches tall, and rather spare build. Dr. Porcher writes further: "I know of other instances in other cities in former years where doctors have been victimized in a similar manner; and, in one instance, the thief proved to be a Republican ex Governor of this State (S. C.). The above description would very nearly apply to the same man." The Doctor adds: "I hope that you will publish this, so that the Profession will be on their guard; and perhaps in that way the thief may be arrested. I have been personated many years ago—one of my friends being victimized in New York city, and the thief was never caught. There should be some way in which physicians could protect themselves from this class of scoundrels."

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Original Communications.

WHAT CAN BE DONE TO ENFORCE THE NEW MEDICAL LAWS OF VIRGINIA?*

By R. S. MARTIN, M. D., Stuart, Va.

Secretary Virginia State Medical Examining Board, etc.

At the last meeting of the Society I read a paper on "What Shall be Done with Illegal Practitioners in Virginia?" I made a special plea for some changes in our medical laws, as the law then in existence had not and could not be enforced. As a result of that plea this Society appointed a legislative committee, and as chairman, I wish to make the following report:

The desired changes in the law were made and introduced by Hon. E. J. Harvey, in the Senate, and in the House by Dr. A. S. Priddy.

The changes made are briefly as follows:

(1). Jury trials in the county or corporation courts for all violators of the law, instead of trials before magistrates, as formerly.

(2). All applicants coming before the State Board of Medical Examiners must present their diplomas from a recognized medical college when they register with the Secretary. Under-graduates are entitled to a partial examination on such branches as they may present a certificate from a regular chartered medical college of having passed satisfactory examination; and if they make 75 per cent. on such branches before the Medical Examining Board, no further examination will be required on such branch or branches. Under this law, students taking four years' course can stand the Board on such branches passed on at college and finish their examination after they graduate.

(3). *Reciprocity*, or Interchange of Certificates at the Discretion of the Board. At the last meeting of the Board the following resolution

was passed by the Board in regard to this clause:

"Resolved, That the Virginia State Medical Examining Board desires to reciprocate with the Boards of other States; but deems it necessary for its own protection, that every applicant claiming such recognition shall present with his petition a diploma from a reputable college, together with an attested certificate from a State Medical Examining Board, and shall pass a satisfactory oral examination before a committee of the Board. Having complied with these requirements, a certificate will be issued on payment of the usual fee."

North Carolina cannot exchange certificates on account of her laws, and many other States are in the same condition. Another law which was passed and found on page 1150 of the Acts of the Assembly of Virginia, makes the Commissioner of the Revenue liable to a fine of \$50 if he grants a license to a physician without first seeing his certificate issued by the Medical Examining Board, unless the physician began practice prior to January 1st, 1885; of this fact he must have satisfactory proof, if he deems it necessary. I find upon inquiry that the Commissioners of Revenue do not know, so far as I have been able to find out, of the existence of this law.

Our medical laws are sufficient for all cases. They are all we asked for, as good as possessed by any State, and if we can only have them enforced, they will bring their blessing both to the laity and the profession; therefore, the great question for this Society to discuss is, "What can we do to have these laws enforced?" Is it necessary for us to do anything? Has the experience of the past been such as to give us confidence in what will be done in the future? Has the object for which this Society created the Medical Examining Board been fully realized? Can we, as a body, acting in harmony for the best interest of the profession, and for the protection of the health of the citizens of this Commonwealth, eliminate from

*Read before the Medical Society of Virginia, during its Thirty-first Annual Session, in Charlottesville, Va., October 24, 1900.

the profession the quacks and illegal practitioners?

These are questions the importance of which I wish to briefly discuss, giving my limited experience and views for the purpose of having this Society take any action it may deem proper. If these evils are not eliminated, and this gross injustice is not controlled, the very existence of the Medical Examining Board of Virginia will be jeopardized.

The law has not been, and will not be enforced, if left alone to the State officials. You may think I am wrong in making this assertion, but I speak from experience and the experience of other State secretaries, whose letters I will briefly read you.

On August 25th, 1900, I wrote the following letter to the secretaries of the Medical Examining Boards of 25 different States:

"(1) Do you find any trouble in having the medical laws enforced in your State?"

"(2). If so, who is to blame?"

"(3). Do the physicians generally take any steps to have them enforced?"

"(4). Do the different medical societies in your State aid in enforcing the laws?"

I will briefly give you the replies received:

North Carolina has no trouble in having her medical laws enforced. The profession in the State and the officers of the law are quick to do their duty. The whole State, professional and laity, are in hearty sympathy with the medical laws, and their purpose to elevate the medical profession, and thereby to save life.

In South Carolina they have a great deal of trouble in enforcing the law, for the reason that nobody wants to appear as a witness against illegal practitioners, and the county officials are loth to take action for fear of losing popularity in succeeding elections.

In Kentucky, Dr. J. N. McCormack, Secretary, writes, that "unless our courts get cranky, we have little trouble in enforcing our medical law. Our physicians are fully alive to its importance, and we have the cordial support of our State and local Societies. We have one of the *ablest firms of lawyers in Louisville employed by the year, and they seldom let anything escape them.* I have recently decided to quit practice and devote the remainder of my life to the organization and betterment of the condition of the profession in Kentucky, and to public health work. I have recently visited over twenty counties, meeting the physicians at the county seat by appointment, and have organized promising societies in each county visited. It is my purpose to continue this until the entire State is covered. I talk with them not

only about better scientific methods, but also discuss frankly the disgrace growing out of local jealousies, and the disadvantage of prevailing business methods, laying special stress upon the failure to charge for services to the clergy and other classes who are able to pay. My hope is to finally bring almost the entire profession under the influence of our society."

West Virginia has trouble in enforcing her laws, but conditions are improving in the last few months. The general public and physicians are to blame, and until right recently physicians have been slow to take any action, but now they are coming to our assistance more within the past six months than any other time in the last few years. The State medical societies assist all they can to have the law enforced.

In Maryland great difficulty was experienced in having the law enforced until the Board employed its own counsel, and through him cases are prepared, testimony formulated and pushed upon the authorities. Still have trouble in enforcing the law, if the county authorities do not co operate. Blame due to the indifference of physicians, and disinclination of the State officers to prosecute for fear of personal resentment.

In Pennsylvania they have considerable difficulty in enforcing the law. The blame is due to the profession. Physicians rarely take any steps to have the law enforced. About one out of every ten does. The average physician is not familiar with the law; does not wish to take the trouble or to risk the odium involved in a suit. To secure witnesses willing to testify and have them present for a trial which is liable to all kinds of postponement, involves work and responsibility, as well as expense. They think that the Board of Examiners should see that the law is enforced. We are willing to assume our share of it, but our time would be largely taken up with investigations, if we took up all the cases reported to us. There have probably been 15 or 20 convictions under the law taking up different plans. My experience and observation demonstrates that the State medical societies should assume the responsibility of enforcing the law. If one county society compels all practitioners within its limits to respect the law, and five or six adjoining counties pay no attention to it, there is great dissatisfaction. The State Society should employ an agent—a man with some legal knowledge and tact in dealing with the public. The mere fact of the Society taking this action would have a good result. All complaints and charges could be referred to the agent, and he,

being familiar with the law, could settle many; in fact, a large majority of the cases without prosecution, as he could explain to violators their status, and demonstrate that they must comply with the law or suffer the penalty. The same principle is involved in enforcing the U. S. laws of immigration. The government has two agents (in large States) to whom all complaints are referred, and they investigate and dispose of them. It would involve some expense, but to my mind it is the only feasible plan.

• *California* has always had trouble in enforcing the medical law. The blame can be, in a great degree, charged to the character of our law. But aside from that, the people are very hard to govern as witnesses, as they would, as a general thing, prefer to lose their money than to appear in court; and the profession are often afraid to take the initiative, fearing that it will re-act on them and injure their business. Some years ago the societies took an active interest and assisted in the prosecution; but after spending large sums of money, they refused to do more in this city, and but few have been prosecuted for several years. In fact only such as I could reach and convict by my own efforts. (Los Angeles County Societies have recently placed the matter of prosecution in the hands of an attorney, and we hope that success may attend their efforts.) Our law has practically proven a registration. We sometimes think that we have more than our share of illegal practitioners, but it seems that other Boards meet with the same experience. We hope to secure a more rigid law at the next meeting of our legislature.

Colorado has no trouble in having laws enforced. It is true the question has not been decided just what stand we should take regarding Osteopathy and Christian Science. There will probably be a test case of the former before long. Physicians have always been interested in the enforcement of the law, and have always been ready to assist the Board even to the extent of giving financial assistance.

Connecticut has some difficulty in enforcing the law. The bringing of prosecution for violation of the laws is in the hands of the county health officer. (There are eight counties in the State) As a rule, this officer makes no great effort to discover offenders, but will prosecute if others get the evidence. At times physicians have aided in exposing violators, but there exists a feeling of reluctance in "getting mixed up" with such matters. I believe such prosecutions as have been brought were fathered by local societies. (There exists

flagrant violations of that part of the law relating to mid-wives. Some of these having failed to pass the examination, continue to practice, and their birth returns are sent in by some friendly physician over his own signature. It is difficult to get at these cases. Often the physician is a man of prominence in the profession and the community.)

Massachusetts has some difficulty, but the cause is chiefly due to the fact that the restrictive provisions in the law are somewhat ambiguous, and not broad enough, as interpreted by the courts, to include Christian Scientists and some other forms of quackery. The physicians frequently report violations of the law and aid in obtaining evidence against the accused.

Tennessee has trouble in enforcing her laws. The profession and the prosecuting attorneys are to blame. Physicians take no steps. They report to the Board infringements of the law, and ask that their names be not used. In very few cases the medical societies take no interest in enforcing the law. The last legislature emasculated the law exempting from examination graduates of Tennessee colleges.

The *New York Secretary* reports as follows: "The medical laws of the State of New York are not enforced through the operations of its State Board of Medical Examiners, violations of the law being reported to the District Attorney. The latter official proceeds to prosecute when *sufficient evidence is to hand to warrant such a course*. In the larger cities of the State county medical societies have in their employ, usually on an annual salary, *some attorney who investigates* and prosecutes unauthorized practitioners of medicine. The public itself is blame-worthy when prosecutions of the character mentioned fail, inasmuch as such failures usually occur (but rarely at that) as the result of jury disagreement. Physicians as a rule are jealous of their good name, and where an unauthorized practitioner is in evidence, it is not an infrequent occurrence to have the first complaint of the latter's infraction of the law emanate from one of the former in good standing."

Indiana has trouble in enforcing her laws, due to indifference of the public and fear of the profession. So many fear to be known in a prosecution. All who are prosecuted take a jury, and in many instances the jury is led to believe prosecution, for even the most flagrant violations, *is only persecution*. Physicians do not as a whole take *much interest*, yet in many cases individuals do assist us greatly. A few medical societies have aided us materially. The

vagueness of our definition of the practice of medicine causes us trouble.

Mississippi has trouble in enforcing her laws. The blame is due to the physicians living in the locality in which the illegal practitioner locates. Most of the physicians take interest in the law, but a great many are very negligent. Medical societies take great interest in having the law enforced. Notwithstanding the above negligence of some of the physicians in reporting illegal practitioners, the law regulating the practice of medicine is invaluable to the State of *Mississippi*, and we could not get along without it.

The Secretary from *Iowa* writes: "The greatest trouble is with opticians, Faith healers, Christian Scientists, etc. The courts too often decide that they are not practicing medicine within the meaning of the law. There is but little trouble with physicians and surgeons. When not enforced, they blame the people, not knowing the facts, not filing complaints, and, as above stated, with the courts. The physicians very often take steps to have the law enforced; quite as often, however, they in writing to that officer ask that their names be not given. The most successful method is where a county society has a committee on legal enforcement. This is often done in this State, and few illegal practitioners are found in such counties. The people must be educated along these lines. Courts and prosecuting attorneys too often hesitate to do anything unpopular."

New Hampshire writes: "Our law has been in operation but three years; but one lawsuit has come up, and that was carried to the Supreme court, and the Regent Medical Board sustained for refusing to license a man who would not and could not show proof requested by Regent. Several quacks have been arrested at the instigation of the local medical societies. The physicians themselves do not like to make complaint personally."

The Secretary of the *Wisconsin* Board writes: "We are more than pleased and surprised with the success that has attended our efforts in the enforcement of our law. With the exception of a complete balk with the connivance of the prosecuting officer, evidently for political purposes, and the loss of one case before a jury—on the plea that they let the accused go because they (the jury) could not understand the law—our efforts at prosecution have been universally successful. We have the honor to have brought to a conviction the first Christian Science case in the United States. We expect to redeem the above cited jury case, as also the first case cited as lost through connivance.

The Board has applied the law in a very conservative manner, and have in consequence the endorsement of the laity as well as that of the medical profession. We find in many cases that the complaint by a physician has tacked to it "in confidence." Where possible the Board will designate a member to personally inspect the case, and if found correctly reported, to act as complainant. This though is found to be very expensive. The three medical societies in this State are a unit in assisting the Board, if called upon to do so. The Board suggested the organization of the State Medical Licentiates to assist the Board in the enforcement of the laws, and for such other aid as may be deemed necessary from time to time. This league was formed in June last with some 140 members, and is growing rapidly."

I have read at length the letters from other State secretaries that you may see with what success they enforce their medical laws. You noticed that in those States where some one is employed (lawyer in most cases) whose duty it is to see that the law is enforced, and where they have the co-operation of the physicians and medical societies, they report no trouble with the enforcement of the law.

Coming home to *Virginia*, I will briefly answer the questions asked of other State secretaries.

(I.) We have trouble in having our laws enforced. The blame is partly due to the physician in not wanting to get mixed up in such cases; and to the fact that we have no one whose duty it is to see the law enforced; and lack of interest on the part of the Commonwealth Attorney for fear, no doubt, in some cases, of the effect in future elections; and to prejudice and lack of popularity of the law with the laity. In my county, at the May term of county court, we secured indictments against two illegal practitioners, one of them a magnetic healer. One of them left the State. The magnetic healer remained and stood his trial, and was convicted and fined fifty dollars. He put up the usual defense that his method did not constitute the practice of medicine within the meaning of the law, as he had not given medicine. He carried his case to the circuit court, but the Judge has sustained the verdict of the lower court, as to the law, but granted the magnetic healer a new trial on a defect in the indictment. The Commonwealth Attorney alleged that the healer was practicing medicine without first having obtained a certificate from the Medical Examining Board, and caused same to be recorded, "or" without hav-

ing obtained a special permit from the President of the Board. The circuit judge ruled the word "and" should have been used instead of "or." The court ruled "that any kind of treatment of the sick for a fee comes under the provision of the law, even if the healer did not administer medicine." This ruling was sustained by the circuit court also. Thus, the new law has been tested and found sufficient to convict magnetic healers; and, I think, would apply alike to all who practice any kind of treatment for a fee.

Notwithstanding this opinion made by Judge Moore, and sustained by Judge Whittle (and I understand that the same opinion was given Dr. R. W. Martin by the Attorney-General of the State). I have been unable to get an indictment made against certain parties operating a sanitarium in a town in this State. The Commonwealth Attorney doubts the law applying to such cases as they claim to cure by the means of "pure food, pure air and pure water," and no medicine. Recently, I have been informed that they use as the head of their institution the name of an old practitioner of medicine who lives some distance from the town, and never came about the sanitarium, hoping thus to avoid the law.

There are no reasons that I know of why the medical laws should not be enforced in this State. If they have for their purpose the elevation of the medical profession, and the protection of the health of the citizens of this State, they should be enforced. These are the aims and objects of the laws on the subject. A careful study of the reports of the Medical Examining Board of Virginia since it was organized, will convince any one of the great need of such a Board in this State, and of the great work it is doing. Out of 1,714 applicants for license in the last fifteen years, there are 454 rejections—26 per cent.—(a sad commentary on the medical education of this country.) Every one who has given the subject any thought will admit that our medical laws have not been enforced.

Prior to January 1st, 1900. I don't know of a single conviction where the fine has been collected. I tried, as I reported to you at our last meeting, but made a failure in all cases when the party employed counsel and prepared for defense. I could not, in some cases, get a trial; was laughed at and ridiculed for attempting to prosecute a man for the simple thing of practising medicine without having passed the Virginia Medical Examining Board. The only success I had with the old law was by getting parties to

come before the Board, or leave the State for fear of prosecution. Then, as you know, we could only try cases before magistrates, but this is no longer the case.

The last legislature, through the appeal made to it by the medical profession from all parts of the State, gave us a law which has been previously referred to—a law which, if properly enforced, will rid this State of illegal practitioners, quacks, Christian scientists, osteopaths and magnetic healers.

I told you at our meeting last fall that the doctors of the State had a power in politics, and when used for a noble and humane purpose the law makers would listen to our appeal. They gave us all we wanted in the way of laws.

And now I wish with no degree of egotism to predict that if the medical laws ever are enforced in Virginia in a satisfactory manner, it must be done by the help and cooperation of the legally practising physicians of this State with some one employed by this Society whose duty it will be to investigate cases, and secure evidence and push the matter upon the authorities. I believe the Commonwealth Attorneys, when shown their duty in regard to this law, will do it. I believe when the Commissioners of Revenue know they are liable to a fine of \$50.00 if they issue a license without first seeing the certificate issued by the Board, or having sufficient evidence that the party applying for license began practice prior to 1885, they too will be more careful not to issue a license without first doing that which the law required.

No one can doubt that illegal practitioners are getting more numerous in this State. The fact that we have an efficient medical law will not restrain them, if it is not enforced. The Attorneys for the Commonwealth are slow to act. In fact, out of several cases of illegal practice reported to me, I have not succeeded in getting a single one to act except the one in my county. We claim the honor, and justly so, of the conviction of the first magnetic healer in this State.

It is something of an enigma to know how best to meet these violations. It is not the province of the Medical Examining Board to prosecute illegal practitioners, although they make about the only efforts ever made to do so. It is a privilege of any law-abiding citizen to see that the State laws are complied with. It is as much the duty of the profession to see that those violating the medical laws in their community are prosecuted, as it is the duty of the Board. If the profession all over

the State would see that all illegal practitioners are prosecuted, we would soon have none. If this Society, which has the honor of being responsible for our medical laws, and also our Medical Examining Board, would assume the responsibility for their proper vindication, and all members act promptly in their respective counties, illegal practitioners would soon be unknown.

Some of you may think now that our new laws make it the duty of the Commonwealth Attorney to prosecute all violators of the law; that it will not be necessary for this Society to take any action. I want to remind you that from 1885 to 1896 they had the same power as now, and the law was not enforced. My experience, and the experience of many other State Board Secretaries, is that if the law is left alone to Attorneys for the Commonwealth to enforce, very few cases have or ever will be prosecuted. This is not due, in all cases, to the fact that they do not want to do their duty, but to the fact that they may not think it is their duty or care to look up the evidence necessary in such cases. Besides, the law in most sections of the State is, with the average citizen, unpopular; and most men in public life dislike to do anything that might jeopardize their popularity. I could mention several cases where I have made repeated efforts to get the Attorneys for the Commonwealth to take action against illegal practitioners and quacks but failed—they giving as an excuse that the law did not apply to such cases, or the party was simply practising for experience without any compensation. In other cases no replies were ever received to my appeal. So frequently has been my failure to get the authorities to act that now I sometimes think it is almost useless to try. Last winter we had trouble to prevent special bills being passed allowing certain parties to practice medicine who had failed before the Board, and were totally incompetent, and had it not been for the able and watchful members, Hon. E. J. Harvey in the Senate, and Dr. A. S. Priddy in the House, and others, some of these bills would have passed. I am reliably informed that in Southwest Virginia a combination has been formed by illegal practitioners to have a special law passed this winter, at the extra session of the Legislature, allowing them to practice without passing the Board. It will require *a united effort on the part of the legally practising physicians of this State to defeat it, but it must be done*; and I want to warn you that if the number of illegals continue to increase, as they will do if the law is not enforced, the

time will come, *and at no distant day, when they will wield an influence which might not be very easy to overcome with the Legislature*, for the medical laws did not pass last winter unanimously.

In conclusion, Mr. President, with disrespect to no one, and with no object in view except the elevation of our profession and protecting the health of our citizens, I wish to say that if the existence of quacks and illegals are a menace to this Society, the Medical Examining Board, and the health of our citizens, and we think it ought to be stopped, then it behooves us to look for a new *plan for enforcing the law*; for this is the only way to deal with such cases. Prompt action taken by this Society to enforce the law, and a few convictions in sections where illegal practice is far more *numerous than legal*, will bring about a change long looked and for greatly desired. For years we have folded our hands and trusted to the State officials to do their duty, but if ever we hope to accomplish all that can be accomplished with the present law, this Society, through its agent, must assume the *responsibility of enforcement of the law*. If I could direct the enforcement of the law, I would not recommend any harsh measures, and I would "temper" justice with "mercy" if the case demanded it; but with the *faith that I am right* and working for a noble purpose, I would be firm and resolute, and when parties would not comply with the law, after exhausting *all conservative measures*, I would enforce the law without *fear or favor*. Those of you who have not given the subject any thought have no idea of the number of ways illegal practise goes on.

Men failing before the Board go home and practice medicine. Some never come before the Board at all and practice in open defiance of the law and Board. Some who obtain special permits practice with them far beyond their limit. Some practice, as they claim, under another physician's license. A quack told me the day the magnetic healer was convicted in my town, that if I would not prosecute him he would *quit*, that he had no knowledge of a damaging nature, that the only medical books he had ever read were Dr. King's *Family Physician* and Dr. Pierce's *Medical Adviser*.

Is it right to allow this state of affairs to exist *any longer*? The remedy is enforcing the law. I believe there are physicians enough in this State who feel interest sufficient in the good of their profession to assist in enforcing the law. If we are to be benefited by our failures, and the *failures* of other boards to enforce the law, then we will adopt a plan tried by other States suc-

cessfully, namely, *employ a lawyer to collect evidence, and push it upon the authorities, and if needs be assist in the prosecution.* Let it be understood that this lawyer will have the hearty co-operation of the legally practicing physicians in the county where the quackery occurs. Let it be his duty, or the duty of a committee appointed by this Society to inform the Commissioners of Revenue of the new laws, and to see that they are punished if they violate them.

It does not take a prophet to foresee that if this neglect of applying the law continues what the result be. The enforcement of the law in the past has been a *farce* in most cases. This ought not to be the case. Some action must be taken by this Society to correct this great evil. The Medical Examining Board cannot enforce the law without *your help.* This is an age of divine healers, Christian scientists and the like. New kinds of doctors are made in the twinkling of an eye as it were, claiming power equal, if not superior, to our Saviour. They are coming into Virginia, in nearly every city and town in the State I hear of them. They are practicing their methods upon the citizens of our State without complying with our laws. For several years, as Secretary of the State Board, I have used all *my power* with the proper authorities to restrain these parties with the strong arm of the law. My success *has not been satisfactory.* I have, in all cases reported to me, done all I could without going to the county where the quackery occurred and looking up the evidence and pushing it upon the authorities. This you know is impossible with a practicing physician. In all this work I have had the co-operation of the entire Board. It is useless to expect success without some other method is adopted. The law is sufficient, so *says the Attorney-General and the Judges who have passed upon it.*

I have given you my opinion as to a new plan. It is not original with me but has been tried in other States successfully, and where it is not used, other States experience the same trouble we are having.

It will require money to employ a lawyer to look after the illegal practitioners in this State, but it will be money wisely and judiciously spent. The money can be obtained by increasing our annual assessment *one or two dollars* for the next year, and if the plan does not work well, it can easily be discontinued, or it can be obtained by private subscriptions. I will be one of 100 who will give \$10.00 for a fund to be used for the above purpose, or I will be one of 50 who will give \$20.00.

I would suggest that a committee be ap-

pointed to deal with this subject and report to this meeting at the earliest time possible so that some action can be taken before adjournment.

TRAUMATIC POPLITEAL ANEURISM

Treated by Ligation Above and Below, and
Excision of the Sac.*

By HUGH M. TAYLOR, M. D., Richmond, Va.,

Professor of Surgery, University College of Medicine, Richmond, Va.; Surgeon to Virginia Hospital, etc.

Gentlemen,—This youth has popliteal aneurism, the result of a fall and severe injury to his knee six months ago. Notice the pulsating tumor centrally situated in the popliteal space, as large as a turkey's egg. Its pulsation is distinct, synchronous and expansile, and the impulse is eccentric, all of which are cardinal symptoms of aneurism in its first stage, at which time there is only fluid blood in the sac; but they are by no means pathognomonic. As you well know, any tumor situated over an artery of sufficient size will have the impulse of that vessel conveyed to it, and many very vascular tumors have a distinct pulsation. We must seek for other evidences of aneurism and analyze these symptoms more fully.

Place the fingers of both hands upon this tumor and you will see with each pulsation the fingers are separated—*i e.*, the tumor expands with each pulsation. The impulse given an abscess, an inflammatory swelling or tumor situated over an artery, is up and down, and not expansile. If I make firm pressure over this tumor, I find I reduce its size very perceptibly. I drive the blood out of the sac by compressing it; this, of course, cannot be done in an aneurism in the second stage when the laminated clot has formed in the sac. If I empty this sac by pressure and quickly remove my hand, an appreciable interval occurs before the sac refills and the impulse returns; not so with an abscess—the first impulse of the artery is conveyed to the hand over the tumor. Pressure on the distal side of an aneurism will stop pulsation in the aneurism and make its sac more tense. Proximal pressure will stop the pulsation in both the aneurism and abscess.

If you apply your ear, a stethoscope, or phonendoscope over an aneurism, you will notice a *bruit*, very distinct in the first stage of the an-

* Clinical Lecture in the Amphitheatre of the Virginia Hospital. Reported by Hugh S. White, M. D., Resident Physician of the Virginia Hospital, Richmond, Va.

eurism, less distinct in the second stage, because the laminated clot lessens in intensity. The bruit is more pronounced over certain parts of the sac because the laminated clot is irregularly deposited and is thickest in that part of the sac where the blood current is slowest.

Is the bruit a sure sign of aneurism? By no means. Vascular tumors with large sinuses have a pronounced bruit, but there is this differentiating feature: In the case of an aneurism, the bruit is transmitted for some distance along the artery, while in the vascular tumor the bruit is only heard over the tumor.

We can only partially empty the sac in this case, and the inference is that the laminated clot (white fibrinous clot differing from the soft, rapidly formed red clot found in arteries which have been ligated) has begun to form in this sac. The facts that this aneurism cannot be emptied, and that the bruit is less distinct over certain areas, show that this aneurism is passing from the first to the second stage.

Popliteal aneurism, next to aneurism of the arch of the aorta, is the most frequent. This artery is liable to be overstretched, is frequently injured by supra-condyloid fracture, and is often the site of atheroma. In this case, we have a history of trauma, and trauma at a site at which it is liable to injure the blood vessel. In supra-condyloid fractures, the gastrocnemii muscles pull the lower fragment downwards so that the fractured end looks directly backwards, and this displacement not infrequently does damage to the popliteal vessels.

There is a diversity of opinion as to whether or not there was a fracture in this case. His attending physician, an exceptionally clever practitioner, thinks there was no fracture. It is perfectly possible to have the artery stretched and its middle coat torn, and a weak point in the artery wall thus occurs, and as a further sequence an aneurism. We are told that there was great swelling and inflammation about the knee, and that the boy was kept in bed by it for six weeks. There was some deformity about the knee for several months, and more than one physician thought there had been a fracture. The symptoms of aneurism did not manifest themselves until five or six months after the accident.

Are we justified with this history in classing this as a traumatic aneurism? The classical classification of aneurisms would not sanction this being put in that class. Your text-book (*American Text-Book of Surgery*) classifies a trau-

matic aneurism as one in which the artery is wounded and the blood escapes into the surrounding tissue. None of the coats of the artery enter into the formation of the sac of a traumatic aneurism; plastic lymph surrounds the clot. I do not think the artery in this case was actually punctured at the time of injury. I do think, however, the artery was overstretched at the time, and as a consequence, four or five months later dilatation of the artery at the point overstretched ensued, with ultimately the formation of a sacculated aneurism, which is so clearly due to a trauma that I think it should be classed as a traumatic aneurism.

An aneurism from trauma simply producing a weak point in the arterial coat, and later on dilatation, will present a different clinical picture from that in which the lesion to the artery is complete. In the latter case, the blood is effused into the surrounding tissue rapidly, and pressure plus the blood clot favors infection; hence, not infrequently these hæmatomata suppurate and an acute abscess ensues.

What shall we do to cure this trouble? We cannot let it alone, for it is growing. You know the tendency of all aneurisms is towards spontaneous cure or death. Nature is trying to cure every aneurism in which there is formed the white clot. If the mouth of the sac is small, and the force of the canal is weak, it is possible for nature to fill the sac with the laminated clot; or a fragment of the clot may be washed into the artery beyond the aneurism and plug it; or the weight of the sac pressing upon the artery may stop the blood-current in the artery, or inflammation may set up in the sac and obliterate it. All of our efforts to cure aneurisms are imitations of nature's methods of cure. When we resort to digital or instrumental compression of the artery feeding the aneurism we do not wish to stop the circulation completely in the aneurism. If we did this we would have the red soft blood-clot form in the sac, which is not so durable and is much more dangerous, because of its breaking up and being swept on as clots to plug distant vessels. We merely try by limited pressure to lessen the force of the current through the sac, and thereby help the fibrinous clot to form. If we tie the distal or proximal side of the artery we accomplish what nature accomplishes by pressure of the sac on the artery. If we introduce into the sac silver wire, or inject gelatine, we encourage coagulation of the blood; or if we needle the sac we excite a limited endarteritis and encourage the deposit of fibrin.

We have but two tendencies in aneurism—viz.: spontaneous cure or death. The former is too uncertain to rely upon. Death may occur from rupture and hemorrhage; from gangrene and pyæmia; from thrombus, or from pressure necrosis of surrounding tissue. In the case of traumatic aneurism the common outcome is infection, abscess and hemorrhage.

In the treatment of popliteal aneurism, we have the choice of several plans of treatment.

(a.) Ligation of the femoral (the Hunterian method).

(b.) Flexion of the leg upon the thigh, so as to compress the sac and artery.

(c.) Ligation of the artery immediately above and below the sac, and excision of the sac.

(d.) Instrumental or digital compression of the femoral.

The oldest method of treatment with which I am familiar is the Antillus method. Antillus lived in the fourth century, and his method was to tie the artery immediately above and below the sac. History tells us that Ambrose Paré introduced the ligature in 1536. Obviously, this is a mistake, if Antillus used a ligature and tied the vessel in the fourth century. Sir William Harvey is supposed to have discovered the circulation of the blood only a few centuries ago, and we are told that the ancients supposed that the arteries contained air; hence the name. These facts do not accord, in my opinion, with the idea that Antillus knew enough of the treatment of aneurisms to cure them by using a ligature above and below the sac.

It seems to me very much more logical to conclude that our forefathers were wiser than we think, and that in the many dark ages in the world's history, medical and surgical lore, as well as the knowledge of so many other things, was lost. We are told that prehistoric trephining was done; that mummies put away in the stone age, probably more than 4,000 years B. C., have been found with numerous trephine holes in their skulls, closed by membrane; and it has been stated that the exact counterpart of Sims' speculum and catheters were found in the ruins of Pompeii. Proximal pressure, digital or instrumental, in the preaseptic era was undoubtedly the safest treatment for aneurisms in the cases in which it could be applied. The treatment, however, is difficult to carry out, entails no inconsiderable amount of pain and discomfort to the patient, and is by no means certain as to its results. In the preaseptic era there were very many reasons for not adopting cutting operations. In the treatment of aneurisms we then had

septic ligatures in septic wounds, and sloughing and secondary hemorrhage was a not infrequent result. But this objection no longer holds good since the advent of aseptic surgery.

With regard to the true traumatic aneurism, the lines of treatment are logically fixed. In all instances in which the artery wounded is accessible, the rule admits of no violation to treat the wounded artery as we would any wounded artery, by exposure, removal of the effused blood and proximal and distal ligation of its ends. This can be safely done with the usual aseptic precautions, and is conservative practice in the fullest sense of the term.

The Hunterian principle in the treatment of aneurism was based upon the idea that if we ligate it some distance from the site of the aneurism on the proximal side we would get away from the atheromatous and into the healthy arterial tissue. Hunter surmised that the atheroma extended some distance above and below the sac; and in 1710 modified the Antillus method to the extent that he tied immediately above the sac, but did not disturb the sac in any way—certainly did not, as Antillus did, open the sac and pack it with myrrh. The Antillus method thus modified, as far as we know, was alone in vogue until proximal ligation was urged by Sir John Hunter, in 1785. As he had the septic ligature in a septic wound, plus atheroma, his operation was not infrequently followed by sloughing and secondary hemorrhage.

What advantage has the modified Antillus method in the treatment of this popliteal aneurism over ligation of the femoral? The femoral is so superficially situated that it is much easier to reach and ligate than the popliteal, and this operation is made notably more difficult since we have the popliteal space filled with the aneurismal sac.

If, on the other hand, you ligate the femoral there is always a possibility that the collateral branches may feed the sac and the aneurism not be cured.

Again, one of the dangers incident to all ligations is the fact that we call upon the collateral circulation suddenly to do the work, and sometimes it is not equal to the task, and gangrene may result. If we tie the femoral the whole limb from that point must be nourished by the collateral circulation, and the sac and its contents remain to be dealt with by nature. In one instance, examined after death, I have seen it reported that the artery, from the popliteal to the point of ligation of the femoral, was an obliterated cord. I do not know, but I think it probable when we ligate the popli-

veal that the artery is only plugged as far as the superior, external, and internal articular, and the possibilities of a thrombus are only slight, since we remove the sac and clot.

We speak of the modern operation of ligation and excision of the sac as a modified Antillus. It is a modification to the extent that Antillus did not excise the sac; but it is stated that he opened the sac after tying above and below and stuffed it with myrrh. I think you will see, when the sac is removed, that the parts are left in a very much better condition for prompt union than if the sac and its contents were left. The surrounding tissues are unduly pressed upon by the sac, and their powers of resistance to that extent have been diminished; and after the ligation, there is a further diminished resistance, incident to the very much lessened blood supply. Obviously, then, if the sac can be safely removed, it is better out than in the popliteal space. If we do not remove the sac, we practically leave a foreign body which will endanger prompt wound healing; and again the sac may refill and continue as an aneurism if fed by the collateral circulation, and also an additional danger may present itself in liberated trouble. One of the prominent dangers incident to removal of the sac is successful separation of the vein and nerve from the sac.

You doubtless recall the fact that your text-book gives the mortality of proximal ligation at 18 per cent.; that of total extirpation of the sac at 11 per cent. Gangrene, after proximal ligation, about 8 per cent.; after extirpation, only 3 per cent.

Dr. Ransohoff, in a paper read before the American Medical Association in June, 1893, reports 25 cases collected by him of total extirpation of the sac and no death. *In 31 cases of ligation of the femoral artery for aneurisms, hemorrhage occurred in 18. A very much lessened mortality, plus other decided advantages, fully warrant the procedure of complete excision after ligation.

I have made, as you see, a very liberal incision five inches in length over the centre of the tumor. Upon exposing the vessels, I find the vein to the outside, the nerve next, and the artery on the inside. I find them stretched over the tumor, and with the leg extended fully as it now is, there is no pulsation in the artery. This has misled me for a few minutes in my dissection, but upon flexing the leg, I can easily verify the artery by its pulsations. The mouth of the aneurism obviously

communicates with the anterior wall of the artery, and the artery, as it lies upon the sac, looks as if it was uninjured. By careful dissection, I have freed the vein and nerve from the sac, and will have them carefully held out of my way with retractors. I have now ligated the artery in two places above and in two places below the sac, and have cut the artery between each set of ligatures. I have now excised the sac, and upon examining its mouth, find it is a little hole not larger than a large birdshot.

I hated to cut that artery, and I now regret I did so, for I believe that this little hole could have had its edges freshened and sutured. This you know is no pioneer thought of mine. Your text-book alludes to the possibility of suturing cut arteries, and to an anastomosis, when a portion of the artery has to be removed, or to an anastomosis in the event that the artery is cut two-thirds or more across. If I had known before I tied the artery and cut out this section with the aneurism, I think I would have sutured the opening in the artery, removing the sac, and cured the aneurism without stopping the current through the popliteal to the lower extremity, and thus the danger from gangrene would have been avoided.

I do not think in this case a resection of any portion of this artery would have been necessary. I am sure I could have separated the artery from the sac up to the mouth, and then, after compressing the artery above and below, I could have sutured the mouth after freshening its edges. In so many instances, arteries have been sutured end to end, or when partly cut, that it is clearly correct surgery—certainly in those instances in which ligating the artery means that the life of a limb is endangered. This same treatment has been successfully practiced in aneurisms in some few instances, and it is claimed by good men that it is indicated in all injuries to large vessels in operations and in cases of stab puncture, bullet, or lacerating wounds. Dr. Murphy reports a bullet wound of the femoral in which he successfully anastomosed the artery. This treatment is also indicated in traumatic and dissecting aneurisms and in the sacculated fusiform and arteriovenous aneurisms. I believe this practice to be ideal surgery, and I am only sorry I did not practice it in this case.

I find the knee joint has not, in this case, been involved. Not infrequently the joint is involved by the pressure of the aneurism. I do find, however, that it has destroyed the periosteal covering over an area as large as a silver dollar on the posterior surface of the inter-

* Dr. J. B. Murphy, *Am. Ass. Obstet. and Gynecologist*.

nal condyle of the femur. Pressure caries of the bone has here occurred, and this is a good illustration of how every tissue, even bone, must give way before the irresistible pressure of an aneurism.

I shall carefully suture this wound, striving to leave no dead spaces in it. A strip of gauze will be left for a few days in contact with the exposed bone, the whole limb will be enveloped in absorbent cotton, and for the next few days we will watch with not a little anxiety the circulation below the point of ligation.

NOTE.—This patient made an uneventful recovery.

GASTRO-ENTEROSTOMY WITH THE MURPHY BUTTON IN MALIGNANT STRICTURES OF THE PYLORUS*.

By F. T. MERIWETHER, of Asheville, N. C.

In this paper, discussion is limited to the use of the *Murphy button in malignant diseases of the pylorus*; for in benign strictures it is possible, in many cases, best to use the suture. The thickness of the wall of the stomach in benign cases, at times as much as one-half an inch, precludes the successful use of the button. And then the saving of time is not so important.

The mortality of the suture and the button operations is about the same, approximately 35 per cent., but the fact that a great many of the button operations are done on advanced cases, and the suture operation on the selected cases, the advantage is rather with the button cases.

It should be impressed upon the profession that malignant growths of the stomach are surgical diseases, and as such should be treated. Few of these cases reach the surgeon until hopes of a cure are past, and then only palliation can be hoped for.

Gastro-enterostomy is only palliative; but it prolongs life, in many cases, from two to three years, gives relief from a great deal of pain and suffering, and if the other organs are not involved, it often restores the patient to a state of comparative good health temporarily.

A very important part of the technique is in properly preparing the patient. For at least three or four days preceding the operation, longer if possible, nothing but sterilized food should be given by the mouth, and that only

in small quantities. Experiments have shown the large number of bacteria in the stomach after taking food as ordinarily given. If necessary, the rectum may be resorted to, care being taken not to irritate it, for it will have to be utilized after the operation. For twenty-four hours before the operation nothing should be given by the mouth. In the preparation, the stomach should be washed at least three times a day, and immediately before the operation. Even with these precautions, when the stomach is opened, it is found that in many cases there are remnants of food taken days before. The mouth, teeth and gums should be thoroughly cleansed frequently.

Von Hacher's posterior operation should be preferred, though it is a little more difficult than the Wölfer or anterior operation. With it there seems to be less regurgitation of bile, and the discharge of the button is favored more. Care should be taken to suture the edges of the meso-colon, through which the anastomosis is made to the stomach, for otherwise this opening will probably contract. The button opening does not contract. The incision for the insertion of the button is usually made too large, and then when the button is closed there is so much puckering of the walls of the stomach and intestine as to interfere materially.

The incision should not be more than about two-thirds of the diameter of the flange of the button, which should be gently worked in sideways. Reinforcing sutures are not necessary, for if the button is closed properly leakage cannot take place. A few sutures should be taken in the proximal loop of the intestine, supporting it against the stomach. This is more necessary in the anterior operation, for in it there is more tension upon the union. These sutures aid in preventing the bile entering the stomach and encourage the food passing into the distal intestine.

It is best to have the direction of the intestine such that the waves of peristalsis of the stomach and intestine are in the same direction. The button is usually passed in from one to three weeks, though it may be retained as long as three months. At times it will lodge in the rectum, and for that reason if the button is not passed in three weeks it is well to explore the rectum every few days. Even if the button is retained in the stomach, it will do no harm. Feeding should be commenced as soon as the patient is off the table, small quantities being given at first.

The author advises a gastrostomy in all cases, either by a Kader or Witzel operation, or what

*Original abstract of a paper read before the Southern Surgical and Gynecological Association, Atlanta, Ga., November 13th, 1900.

is better, a combination of both of them, as modified by him. In it an oblique funnel-shaped canal is formed, the tube issuing through the left rectus muscle. This canal will accommodate a large tube, which can be easily removed and replaced.

The great advantage of being able to feed the patient at once after the operation with predigested food, first washing out the stomach, is almost invaluable. The causes of death in a large percentage of the cases are from *æsthenia*, continued vomiting, inanition, constriction of the button. By being able to wash the stomach before every feeding, and to continue feeding irrespective of the patient's feeling, would save a great many of these cases.

In very weakened patients, the operation might be done under local anesthesia, and no matter what the condition is the operation should be offered to the patient as affording the only method of relief in this most fatal disease.

SOME REMARKS ON THE USE OF HEROIN IN PHTHISIS, BRONCHITIS, ASTHMA, AND WHOOPING-COUGH.

By G. W. MITCHELL, M. D., Baltimore, Md.

The value of heroin as a cough sedative has been too well established to admit of doubt, but the discussion of its therapeutic possibilities has been by no means exhausted. The question of dosage and indications is still largely one of individual opinion, though the rapidly accumulating evidence is fast tending to settle this matter definitely. It is generally considered to be certain and uniform in action, without unpleasant consequences, and exerts a stimulant rather than a sedative influence upon the respiratory centre.

Its more recent derivative, the soluble hydrochloride, has largely superseded heroin in general practice. I have used it with excellent effect in a series of 33 cases in dispensary and private practice, with a view of testing its merits. These cases, in all of which cough was a prominent symptom, were divided as follows: Tuberculosis pulmonalis, 14; acute bronchitis, 5; chronic bronchitis with emphysema, 4; whooping-cough, 5; asthma, 2; reflex cough, 2; aneurism (complicating dyspnoea), 1. Improvement followed in every instance, but the result was the most striking in the tuberculous cases.

Tuberculosis Pulmonalis.—Fourteen cases were treated, exhibiting every phase of the disease. The most obstinate coughs in old

cases, previously treated by me with codeine or morphine with indifferent success, yielded to its influence, the number and severity of the paroxysms being diminished and the expectoration and the tendency to vomit overcome. The effect was uniform and sustained, and there was an improvement in the general condition, due to the alleviation of the exhausting and sleep-killing cough.

It did not perceptibly influence hæmoptysis, that complication occurring in three cases during the administration of large doses, and continued unabated in another case despite the injection of one-sixth grain for its control.

Its analgesic action was slight; in cases in which pleuritic pain was prominent, and in one case associated with rheumatism, no material relief was afforded.

Drowsiness was a frequent accompaniment of large doses, but, in the only instance in which I used it for its hypnotic effect, I was compelled to resort to morphine.

It seemed to have a *distinct influence over the night sweats*. My attention being called to this by a patient, a trial was made in five cases complaining especially of this symptom. In two, the sweats were entirely checked, and in the other three mitigated. They recurred upon omission of the drug.

Unpleasant consequences were practically *nil*. Slight pruritus and dryness of the throat were occasionally complained of, and after hypodermics of $\frac{1}{4}$ th grain, a feeling of "wooziness," or drunkenness, followed by drowsiness, occurred.

Special attention was devoted to its effect upon a sensitive stomach. Three cases, selected because of gastric irritability received large doses frequently repeated until marked systemic symptoms supervened. No disturbance followed. On the other hand, a lady taking $\frac{1}{4}$ th grain every four hours, had a violent gastric irritation on the fourth day. This was the only case of the 33 that showed intolerance. The dose recommended in this case was, however, in excess of that recommended by many authors, the average daily quantity advised being usually below one-half grain.

The dose ranged from $\frac{1}{2}$ th to $\frac{1}{4}$ th grain. The best results were obtained from $\frac{1}{2}$ th grain, given at 2, 6, and 10 P. M. This insured a comfortable night without sweats or cough, except the inevitable morning paroxysms. After a few days, the first dose can be omitted without discomfort.

The following cases are detailed as the most instructive to illustrate its value:

CASE I.—Miss B., aged 33, had grippe in

December, 1899, followed by double pneumonia with pleurisy. She has not been well since; the cough having never left her since the pneumonia; but has been under continuous treatment, regular and otherwise. She consulted me with a home-made diagnosis of "bronchitis of the throat." Examination revealed well advanced disease of both lungs, with cavities and tuberculous ulcerations of the pharynx. The weakness and emaciation were extreme, the patient being scarcely able to move. Relief from the cough was her only desire, the failure to give this having caused my predecessor's dismissal. She had not slept for three nights, and could retain no food on account of the cough. Heroin, $\frac{1}{4}$ th grain in solution, was given every four hours, and the throat was treated locally with lactic acid. The effect was magical. The cough was almost entirely arrested on the second day; vomiting ceased, and she obtained excellent sleep. This continued for four days, when a most violent attack of gastritis occurred, which lasted eight days. The patient attributed this to the medicine, which was discontinued. Meanwhile, the cough, sweats, and dyspnoea returned. After the gastric irritability had ceased, heroin hydrochloride in tablet form was given, one-twenty-fourth grain, at 2, 6, and 10 P. M. This was retained, and under its influence she once again became comfortable, the cough almost entirely ceasing. At the end of a week, the first two doses were omitted, and shortly thereafter the last without inconvenience. She was given sodium cacodylate and general supportive treatment with good effect. Although her case is absolutely hopeless, this patient has been able to enjoy life, while before she was praying for a cessation of her miserable existence. She is able to go about entirely free from troublesome symptoms, except dyspnoea, and extreme weakness.

CASE II.—Miss C., aged 28, history negative, has been under my care fourteen months for moderately advanced tuberculosis of both lungs. Her general condition was good, and remained so throughout the whole period. Her past treatment was briefly as follows: Creosote in ascending doses until a severe gastritis was lighted up, then the hypophosphites; codein for the cough, which was incessant. Improvement followed and the patient stopped treatment.

After four months, she returned much worse than at first, complaining of cough, vomiting, sweats, and insomnia. Codeine was found ineffective, and creosote could not be borne. Morphine, in small doses, afforded some relief.

It was discontinued, and the cough returned, and codeine was substituted without result. Morphine again controlled the cough. Then heroin was given, one-twelfth grain every four hours in tablet form. Cough returned, and mild gastritis occurred, and recourse was again necessary to morphine. The patient stopped treatment at this point, but returned in a wretched condition on September 2d. She was then given one-twenty-fourth grain heroin hydrochloride at 2, 6, and 10 P. M., with marked improvement for one week, when the medicine gave out. The cough returned worse than ever; the night-sweats were profuse, and sleep had been impossible for four nights. The patient threatened suicide. She was given one-twelfth grain of heroin hydrochloride hypodermically. Absolute freedom from cough, entire cessation of the sweats, and a good night's sleep followed.

September 16th.—Improvement continued, no cough or sweats.

September 18th.—Patient still improving, and taking only sodium cacodylate.

September 27th.—Cough and sweats as bad as ever. Hypodermic of heroin hydrochloride, one-twelfth grain.

October 5th.—Relief for six days after the last injection; then the symptoms returned as before. Hypodermic of one-twelfth grain.

October 9th.—Relief for two days, when profuse sweats occurred. Heroin, one-twenty-fourth grain, was then given by mouth as above.

October 12th.—No sweats since, and only slight cough.

October 15th.—Still improved. Patient is now quite comfortable.

CASE III.—Mr. H., aged 51, history negative, complained of cough, sweats, emaciation, and painful deglutition. What little food he was able to swallow he could not retain on account of cough. His general condition was good. Examination revealed very slight involvement of the right apex and well advanced disease of the larynx. The sputum, as in all these cases, was positive. He was put on creosote; guaiacol applications (50 per cent.) were made to the larynx, and codeine administered. Improvement followed rapidly, so that in two weeks he could eat with impunity, whereas before the mere swallowing of saliva was agonizing. The cough, however, was bothersome, and he was given one-twenty-fourth grain of heroin hydrochloride at intervals of four hours; but slight improvement followed, the cough at night still preventing sleep.

September 16th.—Heroin hydrochloride, one-

tenth grain, was injected hypodermically. He slept well that night, had no cough, and the sweats, previously severe, were entirely absent.

September 18th.—Heroin hydrochloride, one-tenth grain, hypodermically. He felt improved, the next two days being the best he had experienced since his illness began.

September 20th.—Heroin hydrochloride, one-twelfth grain, hypodermically. Relief for two days.

September 25th.—Heroin hydrochloride, one-eighth grain, hypodermically. Relief for two days.

September 30th.—Heroin hydrochloride, one-twelfth grain, hypodermically. Patient coughs slightly, but feels much better.

October 4th.—The cough returned after last injection, and was not subdued by heroin hydrochloride in solution, one-twelfth grain every four hours. Morphine, one-fourth grain, was given in addition at night.

October 20th.—The patient being without treatment two weeks, had rapidly lost ground. Deglutition is impossible, and the cough exhausting. The lesions in the lung and larynx were rapidly advancing. Morphine gave little relief.

CASE IV.—Mr. W., aged 44 years; tuberculosis of the lungs and larynx. He has been under observation for two years, the past treatment being similar to Case II. Heroin hydrochloride proved more efficacious than codeine or morphine—checking the night-sweats and easing the cough and expectoration.

CASE V.—J. B., aged 58; family history of tuberculosis and bronchitis, the mother and sister having died of it. He had all the subjective symptoms of tuberculous bronchitis. Examination showed involvement of both apices. He complained chiefly of cough, insomnia and copious sweats. Heroin hydrochloride, $\frac{1}{24}$ th grain, was ordered at 3, 7 and 10 P. M.

September 6th.—He slept well, and coughed less; no sweats for two nights.

September 8th.—Further improvement.

September 10th.—The patient coughed only once in twenty-four hours; no sweating.

September 13th.—He reported that he had a violent paroxysm on the 11th; slight sweat. Dose increased to $\frac{1}{12}$ th grain.

September 20th.—Improvement for three days, then return of cough. Dose increased to $\frac{1}{8}$ th grain.

The patient failed to return until October 12th. Condition aggravated. Hypodermic of heroin hydrochloride, $\frac{1}{4}$ th grain, administered.

October 14th.—Great improvement; no

sweating. Hypodermic of $\frac{1}{4}$ th grain of heroin hydrochloride.

October 16th.—Still improving. Creosote added to the treatment.

Acute Bronchitis.—Five cases were treated with good effect. The cough and expectoration were eased; the substernal pain was diminished, but the course and duration of the disease was uninfluenced. Two cases were given hypodermic injections of $\frac{1}{4}$ th grain of heroin hydrochloride frequently from the first invasion of the cough. There was no decided advantage over the other methods, except that the cough was less troublesome.

Chronic Bronchitis.—Heroin appeared of much greater value in chronic than in acute bronchitis. Opportunity was offered to contrast its effect with that of morphine and codeine in some long-standing cases.

CASE I.—Mr. McM., aged 60, had had a cough for from ten to fifteen years, together with dyspnoea, pain around the heart, and dropsy. Examination revealed typical chronic bronchitis with emphysema, an enormously enlarged right heart, a double cardiac murmur, and advanced arterio-sclerosis. He had been under my observation for three years. During that time he had run the gamut of all drugs recommended for chronic bronchitis. He vouchsafed the information that the last medicine (heroin hydrochloride) was the best he had ever tried. A $\frac{1}{4}$ th grain hypodermically would reduce his paroxysms to one or two in twenty-four hours. He obtained all the benefits of morphine without its disagreeable sequelae, which in this case were marked. At the present time he is kept comfortable by doses of $\frac{1}{2}$ th grain as indicated.

CASE II.—Mr. T., aged 49, a very large, fat German who had spent the last three years of his life in coughing and panting, and taking medicine. Examination: Patient was in evident distress, gasping for breath between violent paroxysms of cough which seemed never to cease. The chest was large and barrel-shaped; large sibilant râles were present over both lungs, with marked prolonged expiration; hyperresonance on percussion. He was given $\frac{1}{2}$ th grain heroin hydrochloride every four hours. The cough abated somewhat, but was still severe. Two days later he had an attack of asthma, followed by an increase in the cough. He was given $\frac{1}{4}$ th grain heroin hydrochloride. Marked relief obtained as long as the medicine lasted, only to be followed by distress on its omission. He was then given $\frac{1}{4}$ th grain heroin hydrochloride hypodermically. This produced the best results he had

ever obtained, affording long intervals of freedom from cough. He is still under this treatment.

Asthma.—Two cases were treated during the height of a paroxysm. The drug was inferior to morphine during the acute attack, but relieved the persisting cough.

Whooping Cough.—I was enabled to try heroin hydrochloride in this disease through the kindness of Dr. Frank D. Sanger, in charge of the Nursery and Child's Hospital. We selected five of the severest cases in a house-epidemic, involving about forty-five children, and placed them under constant observation with special reference to the cough. The remaining cases received other approved treatment, notably, bromoform. These cases were in the third week of the disease and of the most severe type, presenting the usual features of such cases. Under the influence of bromoform the attacks had diminished somewhat—fifteen to twenty being about the daily average when heroin was begun.

The following table shows the exact number of paroxysms in each twenty-four hours for the succeeding two weeks:

	Bromo- form.	September.									October.									Dose every 4 hrs.						
		Heroin hydroch.																								
Number of Paroxysms on....	28	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9									
Isabella Lucas, 4 yrs.....	15-20	9	7	3	...	7	10	4	4	4	9	6	5	3	5	6	5	1-80 grain.								
Virginia Gillespie, 11 mos....	"	9	8	7	4	1	7	1	8	8	6	6	5	4	4	5	...	1-130 grain.								
Russell Hooper, 6 yrs.....	"	10	8	5	4	4	8	2	...	...	...	...	...	...	...	...	1-80 to 1-60 gr.	
Rosa Goldman, 5 yrs.....	"	15	8	6	9	8	2	...	6	9	6	3	5	5	4	5	...	1-80 to 1-60 gr.								
Julia Rink, 2 yrs.....	"	10	16	7	7	5	5	5	6	4	5	6	4	5	5	5	...	1-120 grain.								

Holt says: "The value of any particular line of treatment is to be judged in a given case only by the effect in reducing the number and severity of the paroxysms," and adds that the effect ought to be evident in two or three days. Heroin hydrochloride certainly produced this effect to a marked degree in the above cases, as reference to the table will show; and it cannot be claimed that the result was due to a coincident decline in the disease itself, as the treatment was begun at the very incipience of the aggravated spasmodic stage. Moreover, the whoop still continues to a slight extent, showing that the cases were not of the brief type. Nevertheless, I cannot agree that

heroin affected the duration of the disease, nor can I understand how a cough sedative, pure and simple, can be metamorphosed into a specific for an ostensibly microbial affection. I believe that pertussis is a self-limited disease, unabridged by treatment, and any claim for specificity for a drug will react to its disadvantage, as has been the case with the vast number of once vaunted sure cures. What we can expect from heroin hydrochloride is prompt and sure freedom from a certain number of paroxysms, without the discomforts of atropine and the dangers of antipyrine and bromoform, and greater attenuation of the unavoidable seizures than either of the above can afford.

The case of aneurism was one of the transverse arch of the aorta, presenting all the classical symptoms, cough, dyspnea, and pain being the most distressing. He was given 1-12 grain of heroin hydrochloride every four hours. The symptoms abated somewhat under the treatment, but the patient passed from notice.

In conclusion, I believe heroin hydrochloride the most valuable cough sedative before the profession. It is more certain and uniform than codein, and fully the equal of morphine

without its disqualifications. In cases in which I have used all three drugs at various times, the preference has always been for heroin.

913 N. Broadway.

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DELAYED OPERATIONS IN APPENDICITIS.*

By JOSEPH PRICE, M. D., Philadelphia, Pa.

Honorary Fellow Medical Society of Virginia, etc.

If we ever succeed in educating the general practitioner up to the importance of early surgical interference in appendicitis, we will cease to discuss the subject under so many headings—*e. g.*, "Catarrhal," "Relapsing," "Perforation," or "Fulminating Appendicitis."

Some good practitioners always seek early surgical interference, and their operations are always done in the acute or early stages of the disease. They rarely wait for an interval operation or for the second or third attack and ill health; they have confidence in their diagnostic ability, and they are never in error. Recently, a physician of this class had his patient on my operating table one hour after seeing him in his office, and three hours after the boy left his work in pain. This physician rarely loses a patient.

Another, the "conservative" man, I am sorry to say, a very common class of physicians, hesitates from first to last. He is always in *doubt* about his diagnosis. His doubt commonly ends in disaster. He rarely urges operative interference until it is too late. He has confidence in remedies, and can cure with drugs. He condemns surgical interference in unqualified language. He says if he loses a patient it hurts his "business." The unfortunate patient commonly employs two or three physicians before the precise nature of the trouble is recognized. A consultation follows, and the patient is placed in a surgeon's hands, either in collapse, due to perforation, or with a general suppurative peritonitis, with all its complications. It is really surprising the great number of physicians attending many of these patients before we get charge of them. When I find a mass as large as my fist, I commonly ask, "How many doctors have you had?"

We should have a *nil* mortality in appendicitis operations. Therapeutics does not figure in the treatment of appendicitis. There should be no complications. The operation should be done early in the first attack. The common symptoms should be enough to warn and guide an intelligent practitioner. It distresses a surgeon to clean up a neglected groin in which the head of the cæcum and the iliac fossæ are green; the pelvic basin is full of strongly adherent ilium, or filth, or both; and

the peritoneal cavity full of muddy fluid, filth, and lymph.

Unfortunately, the general surgeon's inflammatory wall does not save the peritoneal cavity in all cases. Many cases have the adhesions only partly encircling the lesion. The inflammatory products go freely either up or down. We occasionally find huge pus and filth accumulations extending to the right kidney.

In some cases, the pelvic basin is charged with pus and filth. Multiple pus pockets are found fore and aft of the uterus in females, and the right tube and ovary and pelvic viscera are also found involved.

In the male multiple pus pockets are observed about the bladder and puriform accumulations in the pelvis beneath adherent bowel. The distension of the bowel results in numerous kinks and obstructions. A good number of these patients are dying of obstruction and intraperitoneal sepsis. Operations avail nothing if you fail to relieve the obstruction early. You may evacuate all the accumulations of filth, remove the gangrenous perforated appendix, make a general satisfactory toilet by irrigation or by a dry method, followed by well placed drains, and it will avail nothing if bowel paresis, due to distention, adhesions and sepsis, is not relieved.

Most of these patients have had a bowl of ice and a nausea basin at their bedside for two or more days before we see them. The old localized abscess recovering slowly after simple evacuation and drainage is not to be classed with the alarming conditions referred to. I have repeatedly known surgeons to remove the appendix, and close or drain without recognizing or looking for general bowel adhesions and filth present in the peritoneal cavity. Again, I have known them to remove the appendix and close the incision, and in two or three days reopen and find the pelvic cavity full of filth. Appendicitis does not remain localized many hours. If the operations are done early, inspection and exploration are easy; if done late, both are difficult. The old adherent non-perforative forms of appendicitis are safe, but sometimes difficult operations to do.

The search for an adherent appendix beneath the bowel requires patience and care, and the repair of large and small bowel lesions also require patience and care. I am satisfied it is a mistake to complete any operation for appendicitis when done early, without freeing all adhesions and making a careful inspection. I lament that the general practitioner is not fond of these operations, not interested in the

* Read September 26th, 1900, before the Philadelphia County Medical Society.

early pathology. The object lesson, the operation, should be published professionally, and every active practitioner should see a good number of the operations. It would result in lowering our mortality, greatly lessen the number of complications and delayed operations. I find in numerous small hospitals about the country that delayed operations come from outsiders, not the staff.

The entire staff are in the habit of witnessing about every operation done in the hospital and any member of it would be chagrined to have a patient go on the table late and be prodded by the remainder of the staff. I have repeatedly done two or three of these operations in the afternoon while the third member of the staff was out urging a patient not far off to come to the hospital at once for the removal of his diseased appendix. Twice this has occurred recently, the patient refusing operative interference, changing doctors, and dying in a few days.

If the general practitioner is not accustomed to urging operative interference it is always best for the surgeon to discuss it with the sufferer's parents, family, or friends.

Complicating methods are a mistake. There should be but one method, the clean extirpation of the appendix. The diagnosis made, there should be no delay and but one treatment, prompt removal. Many operators advocating delays also state that it is wrong to wait for adhesions. They also give statistics demonstrating well the disastrous results of the expectant method of treatment, the complications following it, and the high mortality resulting both with and without late surgical interference. But few authors fail to demonstrate that medication is valueless. It is the distressing death-rate from appendicitis that induces me to again open this discussion here. It is difficult to understand why so many teachers and general surgeons advocate delay and tinkering, when losing patients in good numbers after late operations, and often incomplete ones due to complications they are not willing to deal with. If the general practitioner or surgeon is in doubt about his diagnosis, anaesthesia will aid him greatly in defining the mass he wants to feel before operating.

The bowel examination urged by Pepper will aid him in clearing up his diagnosis.

241 N. Eighteenth Street.

TREATMENT OF POSTERIOR DISPLACEMENT OF THE UTERUS.*

By STUART McGUIRE, M. D., Richmond, Va.

Professor Principles of Surgery and Clinical Surgery, University College of Medicine; Surgeon in Charge St. Luke's Hospital; and Visiting Surgeon Virginia Hospital, Richmond, Va., etc.

The uterus retains its normal position in the pelvic cavity by virtue of its specific gravity. It is not held in place by its ligaments or supported by the vagina or perineum. It floats. The ligaments do not fix it laterally or suspend it from above, but permit wide range of motion and merely act as guy-ropes to steady it. The vagina and perineum do not suspend it by furnishing mechanical support from below, but merely maintain the hydrostatic equilibrium of the abdominal contents by transmission of atmospheric pressure.

Displacement of the uterus may result from mechanical force, or from increased weight of the organ, or from loss of the sustaining pressure of the air.

Mechanical force is seen to act as a factor in cases where displacements follow a fall; increased weight, in cases where displacements follow inflammatory processes attended by altered specific gravity; and loss of atmospheric pressure, in cases where displacements follow patulency of the vagina due to laceration of the perineum.

Posterior displacements of the uterus are more commonly seen than anterior displacements. They vary in degree and in the character and intensity of the symptoms they produce. A slight deviation from normal may cause distressing disturbances, and a complete retroversion or retroflexion may not be attended by appreciable discomfort.

The symptoms, when present, consist of headache, backache and sensation of pressure and weight in the pelvis; irritability of the bladder and rectum; inability to walk or maintain an erect position for any length of time, and general derangement of the nervous and digestive systems. Physical examination shows the fundus of the uterus in Douglas' cul-de-sac and the position and direction of the cervix correspondingly altered.

I have not attempted to go fully into the etiology or pathology of the disease, as a mere statement of the various theories held would occupy considerable space. Nor have I tried to give minutely the symptomatology of the trouble, as it would require a pen picture of

*Read at the meeting of the Richmond Academy of Medicine and Surgery, November 13th, 1900.

the so called "pelvic woman" that would tax my descriptive ability. I have merely endeavored to present a few of the facts which must be borne in mind in considering the practical treatment of the condition.

If the displacement causes no trouble and is only discovered accidentally, the treatment is silence. Nothing can be more mischievous than the unnecessary information of abnormality to a sex naturally imaginative in regard to an organ sentimentally endowed with exaggerated importance. A short existence in any out-door dispensary will demonstrate the fact that many women have displacements and do not suffer. Where ignorance is bliss 'tis folly to be wise.

If the displacement does produce symptoms justifying correction, then the logical, but not always practical, method of procedure is to find the cause of the displacement and remove it. If due to a sudden jar from a fall, the uterus should be replaced bimanually and the patient confined to bed for several days in the knee-chest or Sims' position.

If due to increased weight from endometritis from infection, or sub-involution from laceration of the cervix, then the uterus should be curetted or the tear repaired. If due to diminished or abolished atmospheric pressure from rupture of the perineum, then the divided tissues should be united and the vagina re-invested with its valve-like action.

Unfortunately, most cases of posterior displacement are seen at a date when the primary cause has ceased to be active and when pathological changes have become anatomical alterations. A removal of the exciting factor is then insufficient to correct the trouble, and it is no longer a theory but a condition with which we have to deal.

Failing to effect a cure by the correction or removal of the primary cause, three different plans of treatment may be followed, either singly or combined; namely, the postural treatment, or an effort to correct the displacement by gravity; the mechanical treatment, or an effort to correct the displacement by tampons or pessaries; and the surgical treatment, or an effort to correct the displacement by operative intervention.

The postural treatment is carried out by replacing the uterus bimanually and maintaining it in the corrected position by confining the patient to bed for weeks or months in the knee chest, or right or left Sims' position. The plan has only a limited field of application, but it is surprising to find what little discomfort it entails, and what good results often fol-

low its judicious and faithful trial. It should be employed in cases where the displacement is recent and uncomplicated by adhesions; where surgical intervention is declined or contraindicated, and where a modified form of the "rest cure" will probably improve the patient's general condition.

The mechanical treatment consists in replacing the uterus and endeavoring to retain it in the corrected position by tampons or pessaries. It is the plan most frequently adopted by the profession, and is endorsed by most of the leading gynecologists of the country. It is practiced with a show of intelligence by some and with routine imitateness or ignorant desperation by others.

Personally, I agree with Lawson Tait when he said: "I hate pessaries, and never use them when I can help it." I have endeavored to accept the principle upon which they are based, to apply them in the manner prescribed for conditions to which they are said to be applicable, and have never succeeded in securing the promised results. I am not in a position to denounce pessaries as frauds, but I am in a position to confess that as a pessary fitter, I am a failure. Repeated and conscientious practice has not enabled me to accomplish the feat of legerdemain necessary to securely and permanently balance a wabbling womb on a rocking support.

Admitting all that is claimed for pessaries to be true, they are but temporary makeshifts, without promise of permanent cure, attended by local mechanical irritation, and necessitating the possessor's frequent visitations to the doctor's office. They occupy about the same relationship to uterine displacements that trusses do to abdominal hernia, and I hope the ingenuity and inventive genius of the instrument maker, which have resulted in the production of a multitudinous variety of both, will shortly be given a needed rest, by the demonstration of the safety and surety of the surgical correction of each trouble, and the education of the general practitioner to the adoption of an apparently more radical, but really more conservative line of treatment.

The surgical treatment of posterior displacement of the uterus embraces operations by which the organ is placed and held in position by shortening its ligaments or attaching its fundus to the anterior abdominal wall. The methods practiced are so numerous that the limits of this paper only admit of a description and comparison of the two most popular—namely, Alexander's, and ventro-suspension.

Alexander's operation consists in an effort to shorten the round ligaments without invading the peritoneal cavity. Both inguinal canals are opened by two incisions made parallel with and immediately over them. The ligaments are located, isolated and hooked up. They are then subjected to traction until from two to four inches are drawn out and no more will come. The redundant part is excised and the remaining portion anchored by buried sutures of silk or catgut. The wound is then closed as in Bassini's operation for the radical cure of hernia.

The advantage claimed for the operation is safety, owing to the fact that the peritoneum is not opened. The objections urged against it are that it is difficult and time consuming; that it necessitates two incisions, and hence doubles the danger of infection; that it impairs the strength of the weakest point of the abdominal wall, and is sometimes followed by hernia; that it is not applicable to cases complicated by adhesions; that it fails to afford opportunity of examining, and, if necessary, correcting other pelvic complications, and that it is frequently not permanent in its results, as the ligaments may be too weak to hold the uterus in place, or may eventually stretch so as to cease to perform their new and unaccustomed function.

Ventro-suspension is an operation by which an effort is made to maintain the uterus in a slightly anteverted position by the formation of a peritoneal band between the fundus of the organ and the parietal peritoneum. A short median incision is made above the pubis and the abdominal cavity opened. The uterus is righted either manually or by aid of a tenaculum. Two fine silk sutures are inserted so as to attach the peritoneum at the lower angle of the wound to the fundus of the uterus at a point a little posterior to its summit. The incision is then closed in the usual way.

The advantages claimed for the operation are that it is safe if done aseptically; that it is simple and, therefore, quickly performed; that it is applicable to cases complicated by adhesions; that it reveals and affords opportunity to correct pelvic complications which were undemonstrable by bimanual examination; and that its permanent effectiveness in relieving symptoms has been demonstrated in a large number of cases.

The objections urged against it are that it fixes the uterus in a rigid and unnatural position; that it interferes with the natural expansion of the bladder and may cause dysuria, and that it prevents the normal development

of the uterus if it becomes pregnant, and may result in abortion. Kelly, of Baltimore, reports having practiced ventro suspension in over three hundred cases, and states that his results have refuted the criticisms. I have done the operation between thirty and forty times and have never seen one of the unfortunate complications follow. On the contrary, my experience has been that the uterus does not remain permanently fixed to the abdominal wall, but gradually lengthens the adhesions until, by traction, it becomes a peritoneal band, which permits of easy motion, and does not constrain the uterus unless it attempts to resume a position of retroversion or retroflexion. Irritability of the bladder has been less commonly observed than after other abdominal sections, probably because of their more extensive nature. Permanent impairment of the function of the bladder has not been feared because at one time I practiced the extraperitoneal treatment of the pedicle after abdominal hysterectomy and fastened it by pins in the lower angle of the wound and never saw the method followed by vesical trouble. Four of my cases are known to have become pregnant and gone to term without unusual discomfort, and have been delivered after natural labors.

FURTHER OBSERVATIONS ON THE CLINICAL APPLICATION OF THE SUPRARENAL CAPSULE.*

By W. H. BATES, M. D., New York, N. Y.

The aqueous extract of the suprarenal capsule is the most powerful astringent, hemostatic and heart tonic known. It lessens congestion of the eye and other organs. The extract is not irritating or poisonous, and, unlike other powerful drugs, is never contra-indicated. We have no remedy which is so useful in all forms of inflammation.

Preparations.—The author of the paper showed a solution of the suprarenal extract prepared from the fresh gland and sterilized. It is satisfactory (Armour & Co.).

For internal administration, the dried and pulverized gland is recommended. Five grains are chewed, mixed with the saliva and swallowed in a few moments without water. In this way, the extract is absorbed by the blood at once, and the effect will be apparent in less

*Original abstract of a paper read before the Mississippi Valley Medical Association, October 11, 1900, at Asheville, N. C.

than five minutes or not at all. The powder should not be swallowed in a capsule, pill or tablet, because the juices of the stomach may interfere with the action of the suprarenal.

For local use, a solution is prepared by mixing one part of the powdered suprarenal with ten parts of water. Let the mixture stand a minute and filter. The filtrate is ready for use. When properly prepared, the suprarenal solution—when instilled into a healthy eye—should whiten the conjunctiva in less than one minute. For local use in the nose, throat or urethra, it may not be necessary to filter the emulsion in water. Preservatives interfere with the action of the extract. Do not mix other substances with the suprarenal. Even sodic chloride lessens its activity. The best results are obtained with freshly prepared solutions.

Eye Diseases.—The extract has been used in all forms of inflammation of the eyes without harm. For acute infections, conjunctivitis, the extract has been used successfully as follows: The conjunctiva is whitened by repeated instillations of the extract, the discharge removed with the aid of an antiseptic wash, and the eyelashes cleansed very carefully. The patient's hands and face are bathed with a bichloride solution, 1-5000, or carbolic 2 per cent. solution, and precautions taken against reinfection from towels, pillows, or from other infected persons. I cured many cases in one treatment with the aid of suprarenal, cases which had previously resisted treatment for two weeks or longer.

Besides its local use the suprarenal has been administered internally with benefit in inflammations of the conjunctiva, cornea, iris, choroid and retina. The results are uncertain. Intraocular hemorrhage is controlled by the suprarenal in some cases when administered internally.

Ear Diseases.—The extract is useful in deafness from dry catarrh or from a purulent inflammation. I have not met a case of deafness during the past six years which was not temporarily improved by suprarenal within half an hour. One case was unable to hear one of the Hartmann series of tuning forks either by air or by bone conduction. He could not hear loud conversation, the sound of a bell or any noise which I produced. Tinnitus was very severe. Suprarenal in a few minutes made the patient hear all the tuning forks both by air and by bone conduction, and conversation at one foot from either ear. The tinnitus stopped completely to the evident relief of the patient.

The method of administration is important:

1. The freshly prepared solution is syringed through the punctum of the lower lid, down the nasal duct, and allowed to flow over the orifice of the Eustachian tube. This procedure is repeated a number of times, or until the hearing is no longer improved at one sitting.

2. The solution is applied to the inferior and middle turbinated bodies until the nasal chambers are widely opened.

3. The membrana tympani is punctured, and a few drops of a freshly prepared sterilized solution are syringed into the tympanum with a proper syringe. This method, which would seem the best, is seldom beneficial to the hearing.

4. Less often the internal administration improves the hearing and lessens tinnitus.

The suprarenal improves the hearing of chronic deafness but temporarily. Permanent results are obtained by the use of other treatment after the extract has benefited.

Nose and Throat.—We have no single remedy so useful in diseases of the nose and throat. Acute rhinitis is often cured by one treatment, in which the extract is applied locally until the nose is completely opened. This may require half an hour. Bloodless operations are now performed which formerly were accompanied with troublesome hemorrhage. Secondary hemorrhage occurs less frequently. Anesthesia is obtained quicker with a less amount of cocaine, and is prolonged. Less reaction after operations follows the use of suprarenal, and healing is promoted.

Shock is usually prevented, because the use of the extract in the nose is accompanied with a strong stimulation of the heart.

The suprarenal extract is not an objectionable hemostatic. To obtain the best results, it is necessary to use a freshly prepared solution. It must be applied to the whole field of operation, and to do this I use a bent probe wound with cotton wet with the suprarenal solution. In severe epistaxis with the blood flowing from the nose in a stream, it is necessary to use a syringe to force the suprarenal solution against the blood to reach the bleeding surface. The extract will control hemorrhage in "bleeders." Recently the internal administration of the suprarenal powder, gr. v. every two hours, has controlled nasal hemorrhage in hemophilia. It is an uncertain method.

All forms of inflammation of the tonsils are temporarily benefited. It relieves dysphagia in tubercular laryngitis.

Hay Fever.—The local use of the suprarenal solution to the nasal mucous membrane lessens

the congestion and stops the discharge. The experience of physicians in all parts of the world is very favorable. Its local use is always beneficial. The internal administration is uncertain in its effects.

Edema of the Glottis.—Six cases are now on record in which life was apparently saved by the use of the suprarenal. The patients were suffocating. The suprarenal powder gr. v was placed on the tongue, or the solution was applied locally. Relief followed within five minutes.

Heart Disease.—The suprarenal extract is a cardiac stimulant. It acts directly on the heart muscle, and has no effect on the nervous system. We have no remedy so valuable as a stimulant. It is indicated in all cases of heart disease, and improves the heart's action in aortic stenosis, and in the opposite condition of aortic insufficiency. A high tension pulse is benefitted and a weak or irregular pulse becomes stronger and regular. A rapid pulse may become slower, or a pulse which is too slow and weak will become more rapid. If the pulse in organic heart disease is strong and regular, the suprarenal produces no effect. Seventy-five cases of organic heart disease have been observed in which the suprarenal, gr. v, chewed, was followed by decided benefit within five minutes. Two pounds of the fresh gland, swallowed in the form of an extract, produced no effect on a normal heart. We have no heart stimulant which can compare with the suprarenal for safety, certainty, or power. It has no objectionable properties.

The suprarenal has been used with benefit to relieve congestion and inflammation of the bronchi and lungs. Uterine hemorrhage from cancer has been controlled by suprarenal, gr. v, chewed every two hours. Diseases of the urethra are benefitted by its local use, and bloodless operations performed, as in the nose. Diseases of the kidneys are reported in which the suprarenal lessened the amount of albumen.

50 E. Sixty-fourth Street.

REMOVE THE SPECIAL LICENSE TAX.*

By J. BEVERLY DESHAZO, M. D., Ridgeway, Va.

Cicero said: "There is nothing in which men so approach the gods as when they try to give health to other men." In all past ages, the garland has been woven for the doctor's brow. The high and the low of every clime, from the very poorest beggar to the proudest

ruler that wields the sceptre of earthly power, alike vied with each other in songs of praise, and paid homage to his sublime wisdom. It was not till this century that his name was excluded from a Hall of Immortal Fame, and the galling yoke of a special license tax was pressed down heaviest upon his profession, and worst, indeed, and in truth, here in Virginia. I am aware this is a tabooed subject, but touch the currency question, and especially our pocket-books, and it becomes pardonable and extremely interesting.

For nearly a hundred years our State legislators have upheld this law, and little by little increased it, till now we pay the highest license tax levied upon physicians anywhere in the United States. Indeed, with North Carolina and Georgia excepted, Virginia stands alone in this method of special taxation.

No state ever imposed a more unjust tax. It is self-evident that any law that singles us out as a class for a distinct tax, without any exemption whatever from regular taxes, and gives nothing special to our profession in return, is gross and profound injustice.

We do get special privileges one proclaims. Yes, what are they? To neglect every other business interest; to stay the march of deadly epidemics; to work twenty four hours, if demanded, seven days in the week, at the expense of body and soul (no wonder doctors have so little religion), sacrificing needed rest and recreation, braving wintry days and stormy nights, and—sad must I say it—not infrequently for thankless men. Compare this with what other classes of our citizens do, and mark the contrast. Any fair-minded judge would justly decide that a pension should be given us rather than an extra tax should be imposed.

It is, moreover, a burden the majority of physicians are not really able to bear. Very justly, it requires years of study, and a considerable outlay of capital, to fit one's self to begin practice. In return for this investment, considering the physical and mental labor required, the pay of the general practitioner is the least of any honorable profession followed by mankind. As positive proof of this, feel in your own pockets, or look around and notice how few rich ones you see, and recall how few law suits were ever instituted for a deceased doctor's estate, for it usually consists of kind words, and "professional services rendered."

Undoubtedly, it is a real hardship upon at least fifty per cent. of the profession of our State, but the average old profession, still proud

* Read before the Medical Society of Virginia, at Charlottesville, Virginia, October 24, 1900.

as a prince, so accustomed is he to appear to be doing well, that he fears to speak against it, because somebody might think that he is hard up financially.

It is hardest upon the young ones, and especially hard upon those who rarely attend our meetings. These have not the surplus means to bring them every year, and when, luckily, the Society meets near them, they, too, to keep up the air of royal splendor, set like mummies, and consequently their plaintive wails are never heard.

Finally, when we look after public sanitation, with its manifold blessings; when we make self supporting citizens of diseased and deformed paupers; when we increase the average of human existence by preventative and curative treatment; and, when we rob the most loathsome diseases of their terrors, should not the State in return, at least, exempt us from this unjust oppression?

WHY THE LAW REMAINS.

By reviewing the history of the law, we readily see why it has been enforced so long, and why borne so patiently. At first it was only a nominal tax, just enough to establish the principle, but gradually it was increased at one per centum till it was five dollars more. Again, the law was revised with five dollars added to the original, with the one per centum, and so on it climbed, till the last leap brought it to its present high-water mark. As an irritable stomach will not retain drugs in large doses, and they must be increased gradually, so our legislators, profiting by this same law of toleration, have treated us most scientifically, and hence the law, cultivated diligently by the delicate touch of skilled politicians, came down to us with many other evils of this century.

Our older members being wealthier, grew up with the idea that it was one of the burdens attached to the profession, and accepted it uncomplainingly; and, too, a false doctrine has been disseminated that the ideal of a physician's life should be to go without thinking of financial reward, wherever called, surrounded by a great halo of glory—not unlike a god—that for him to rebel against such a worldly matter as city or State taxes, if it was not really unprofessional, it was decidedly beneath the dignity and grandeur of the profession. From the standpoint of business, justice, and reason, when we think how this idea of fame has been abused, and this evil of taxation has been tolerated so long, we must confess we present the most pitiable illustration of impotence

that stands before the intellectual public representing any vocation.

DUTY TO OURSELVES AND STATE.

In these days, when great combinations force the price of the necessities of life up at the bidding of greedy individuals, when books, instruments, and everything we require in practice, are not exempt from this evil of trade oppression; and, on the other hand, crowding, contract practice, and the obliging dispensary, are nibbling at the other end of our revenues, is it not high time, and our duty to ourselves and our posterity, to stop this species of legalized robbery?

One may say, it is a duty we owe the State, but for what special consideration we search in vain. Are other taxes levied at a less rate than on other citizens? Is the fifty cent witness fee, or two dollars and a half for examining a lunatic, and a proportional fee for making a post mortem examination, such bountiful blessings from the State that we should pay extra for them? Homer said:

"A wise physician,
Skilled, our wounds to heal,
Is more than armies to the public weal!"

In addition, recall what our profession has done for the general welfare of the Commonwealth. A State Board of Health, with its innumerable blessings, has been established, stringent laws against quackery have been enacted, and our State Board of Medical Examiners has elevated the standing of young physicians from a stage of experiment—altogether giving greater security to the public, and additional honor to every practitioner in the State.

OTHER STATES REPEAL SUCH LAWS.

The profession has been similarly taxed in other States, but by the united action of the physicians such laws have been repealed. The doctors of Alabama arose in their might and freed themselves more than twenty years ago.

In 1888, Mississippi imposed a license tax on the profession, but in 1890 it was repealed. How? Not by a mild request of a few physicians, nor was it done by an obliging legislature while the doctors practiced along, attending to everybody except themselves; but the State Medical Association with all its resources took command, armed its members with petitions, and a canvass was ordered. With these petitions some of the best political fighters marched into the capitol; a terrific battle of the platforms was fought, and since that day

not a vestige of the law has oppressed the physicians of Mississippi.

HOW TO REPEAL IT.

This Society should state its grievances, and by a proper resolution appeal to our law-making assemblies for relief from this odious measure.

At last year's meeting of the Mississippi Medical Association, Dr. C. Kendrick, President, speaking of the work accomplished by their Association, said: "But for the action of this body it is quite probable the legislature of 1890 never would have repealed the \$10.00 tax on physicians. The friends of the Association used these resolutions by the Association as a powerful weapon in the fight for the repeal of the law." Can we not profit by the successful methods employed by other societies? The facts are, a little practical political work must be done by our members, and for our relief it is imperative. We must see our legislators at home. His disease is only mental now, and before he gets his body and raiment contaminated with the political air of Richmond, he can be treated successfully. If we can make the first impressions, and obtain the promise to aid us before the election, or before he leaves home, so much the better; our victory will be half won before the battle has been ordered.

In a speech before the New York Medical Society, Lieutenant-Governor Woodruff of New York said: "The medical profession should endeavor to draw near the executive and legislator. Much that the profession needs could be easily gained if the physicians of the State exercised that tact and energy displayed by politicians." Since it is by a political act we expect relief, why not heed the advice and study the ways of politicians? We can easily get the names of our personal friends to petitions asking for the repeal of the law. These will strengthen our law-making friends and soothe the political fears of others into a hypnotic condition that will guarantee help in the fight, or else they will be very careful in their opposition. With a few lobbyists in the corridors, and several fluent expert debaters on the capitol floors, the law can be repealed; but if we do not train each legislator up to his duty, and fortify him with proper resolutions and petitions, this law will remain to curse us till time shall be no more.

If we allow this injustice to continue when there is no limit to taxes but toleration, and our toleration amounts to supine indifference, what will be the final limit? So far, to every

call for higher taxes, the physicians, though conscious of the injustice of it, have pleaded guilty to the demand by meekly paying them. Is this not a pitiful picture, reflected from the inaction of the brightest brains of men?

Year in and year out we toil on in the great work for humanity, apparently blind to our own needs, and deaf to everything but duty to others. We let our finances take care of themselves at the expense of our dearest loved ones. We are truly the world's best friends. We stand at the gates of life as man enters the world, and at the gates of death when he goes out of it. Through all of our professional careers we share in, and minister to, the suffering of men, and the pain and woes of precious women. Daily, we give ease, hope and comfort without price, yet our cup of joy is never filled. We see the cruel burdens of maternity, the wretched sorrows of lust, the mutilated beauty of mothers, the withered buds of divine infancy, and souls sink low and ever lower in the great ebb of life. We hear pitiful appeals for help from hunger pains, from the pinched face of want; but not in vain. "We see the white rag of pleading truce on cheeks where scarlet flags of health should challenge the hosts of heaven or the hordes of hell." From innocent lips that should render the sweetest music of the universe, we hear the piercing shrieks of agony, mingled with the quivering wings of departing hope, and the anguish of despairing mothers as the angel of death hovers near in victory.

Such is the life of every true physician, from proudest and happiest commencement, to those halcyon days "beyond the smiling and the weeping." Then, in the name of justice, reason and heaven, is it right to reward his honorable life work, not with a crown of roses, but with a burden of iniquitous taxation? Can we not be aroused up to our duty to ourselves, and to the sacred rights of our profession, and profit by the experience of Alabama and Mississippi, and take proud Virginia from the hindmost ranks and make her in the medical, as in the historical world, the brightest star in the constellation of States? May this work never go backwards, or tarry for a moment, but continue onward and forward

"Like to the Pontic sea,
Whose icy current and compulsive course
Ne'er feels retiring ebb,
But keeps due on to the Propontic and the
Hellespont."

PSEUDO-MEMBRANOUS ENTERITIS AND ITS RELATION TO ABDOMINAL SURGERY.*

By FRANK A. GLASGOW, A. B., M. D., St. Louis, Mo.,

Professor of Clinical Gynecology, Washington University, etc.

The object of the above titled paper is to call attention to the frequency of pseudo-membranous enteritis, or mucous colitis, and to show that very probably many cases are mistaken for appendicitis or peritonitis.

The symptoms are severe. There are colic-like pains, varying in intensity from day to day, with sometimes long periods of comparative freedom from pain. While these colic-like pains are present the patient is generally costive, and when the bowels do move, from enema or purgatives, there are mucous or jelly-like masses, or even pseudo-membranes discharged. Sometimes these are good casts of the lumen of the bowel; at other times shreds, or long pieces resembling lumbricoids.

During the attacks of pain, the abdomen is generally very sensitive, as are also the rectum and pelvic region.

The peristaltic movement of the bowels causes much pain.

The disease is chronic, with acute exacerbations. The text books state that the disease lasts ten or fifteen years, and the patient dies of some intercurrent disease.

The patients are almost invariably of neurosthenic type. The disease is now believed to be of nervous origin. The acute attacks can be distinguished from peritonitis by the previous history, the discharge from the bowel, and in many cases by the absence of fever or elevation of the pulse. If there is fever, the pulse will not correspond with that of peritonitis.

It is pointed out that in many cases of appendicitis the appendix is not found in the condition we should expect it, after years of inflammatory attacks. The condition found does not conform to the symptoms.

The paper suggests that these cases should be termed *appendiceal colic*. The attacks are due to temporary closure of the opening of the duct into the bowel by inflammation or membrane.

Under this hypothesis, the maintenance of the integrity of the appendix, after severe attacks continued for years, can be under-

stood. The paper calls attention to the necessity of treating this preceding condition in order to prevent the occurrence of appendicitis. The many cases of pseudo-membranous enteritis and the very few cases of appendicitis which the author has had, confirms him in the above opinion.

He considers that when a case presents distinct *localized* symptoms of the appendicitis, we should operate, even if we know the patient to have mucous colic, for fear another attack would be serious.

The author suggests that the abdominal pains suffered subsequent to appendiceal operation, may be due to a continuance of the general bowel trouble, and not to adhesions.

He has found the application of *galvanic electricity*, a steady current of from 20 m. a. to 140 m. a. for fifteen or twenty minutes passed through the abdomen, to be of much benefit.

He has also administered *ichthyol* in daily doses of 20 to 60 grains with equally beneficial effects. He generally employs both. Neither of them, however, is a certain specific. General tonics do not seem to benefit much.

The author relates cases which apparently prove the above statements to be correct.

He urges on the profession further investigation.

3834 Washington Avenue, St. Louis, Mo.

Analyses, Selections, etc.

Excision of the External Carotid Artery in Cases of Inoperable Malignant Diseases of the Face.

Dr. Wm. Perrin Nicolson, of Atlanta, Ga., read a paper before the Southern Surgical and Gynecological Association during its session at Atlanta, Ga., November 13 and 14, 1900, upon the above named subject, and reported two cases upon which operation had already been done.

The first case was a *sarcoma of the nose* which began apparently as a polypus about eight months before. This was removed several times, but recurred promptly after each removal. When seen a few weeks before the operation, this had extended sufficiently to completely obstruct the nose and cause great pain by constant pressure. At the time of operation, this had progressed in a few weeks only so that the growth pressing under the orbit had forced the right eye out of position, and there had been also an extension upon the forehead upon the left side. The patient suffered intense pain, which required constant use

*Original abstract of a paper read before the Southern Surgical and Gynecological Association, November 14, 1900.

of morphine for its relief. The right common carotid was excised on October 3rd, 1900, and the wound healed promptly. The enlargement upon the left side of the forehead broke down, and the large abscess was opened a few days after the operation. The pus from this, or the discharge from the nose, set up a violent ophthalmia, from which the patient suffered for a week or ten days. Two weeks from the day of the first operation, the carotid upon the left side was removed, and very soon the symptoms improved in every respect, the patient was relieved of suffering, and the growth not only checked, but it apparently began to recede, with the prospects of a material improvement in his condition.

The second case was one of *inoperable sarcoma of the upper jaw* of three months' duration and of very rapid growth. In this case, the interval between the operations was longer than in the first, on account of the occurrence of a severe secondary hemorrhage on the seventh day, which was due to tying the vessel too close to the bifurcation. The first operation in this case relieved the patient of all symptoms caused by the rapidly increasing pressure, and the growth apparently subsided materially. The second operation had not been performed long enough to give much idea as to how much permanent decrease there would be in the tumor.

In commenting upon the operation, it was claimed that in these cases the patient was simply doomed if nothing could be done; and this appeared to be the only recourse that offered any hope of benefit. He had performed various operations upon the external carotid artery in the cases of malignant diseases, having tied the vessel twenty-six times, four of these being cases of double ligation. The operation had been not accompanied by any mortality. Little could be accomplished by simply ligation of even both carotids, because the circulation was re-established so rapidly that the nutrition could not be cut off with any degree of permanence. The operation of excision, as recommended by Dawbarn, seemed to be the only procedure that offered any hope; and while this would not, perhaps, produce much permanent effect, yet it seemed undoubtedly true that the lives of patients could be much prolonged and their sufferings greatly lessened. The operation was one of considerable magnitude and dealt with structures of great importance anatomically, yet the result demonstrated that there was comparatively little danger in the performance of it.

Appendicitis in the Female.

A paper on this subject was presented the Southern Surgical and Gynecological Association during its session at Atlanta, Ga., November 13 and 14, 1900, by Dr. F. W. McRae, of Atlanta, Ga. At the outset, the author referred to an exhaustive article by Edebohls as to the relative frequency of appendicitis in the two sexes; also to the work of Einhorn, who had found in 18,000 successive autopsies perforating appendicitis in 55 per cent. of males, and 57 per cent. of females. Robinson, in 128 autopsies, found evidences of past peritonitis in or about the appendix in 68 per cent. of females, and 56 per cent. of male bodies. Clinically, Edebohls finds that four per cent. of all women have appendicitis. On the contrary, Deaver believes that 80 per cent. of all cases occur in males. Of 1,577 cases of appendicitis collected from the annual reports of the city hospitals of Berlin, 949 were males, and 628 females.

The speaker quoted eminent authorities to show the divergence of opinion as to the relative frequency of the disease in the male and in the female. In practically all of the cases that had come under his observation in females, mistakes in diagnosis had been made either by himself or by the attending physician. Almost all of the attacks had occurred at or about the menstrual term, and most of them had been diagnosed "inflammation of the tube or ovary." In two cases of his own series the appendix and the right tube and ovary were involved; in two others the appendicular trouble was complicated with diseased kidneys. Two patients suffered with recurrent appendicitis, and attacks of renal colic before or after operation for the removal of their appendices. He had records of 49 cases of appendicitis seen within the last sixteen months, twenty nine of them being males, and twenty females. During this period he had operated on seventeen males and fourteen females.

The author then detailed 13 cases. Of this number, 8 and 13 were the most interesting, which we give herewith.

CASE VIII.—Mrs. W. C. T. First operation, October, 1899, for ruptured tubal pregnancy. Recovery with persistent fistula where drainage had been left. Second operation, May 10. Fistulous tract dissected out; cyst of the broad ligament removed, together with a chronically inflamed and very much enlarged appendix, surrounded by dense adhesions and adherent to broad ligament cyst. The diagnosis at the time of the first operation was "acute appendicitis, with abscess," and the recovery from

the first operation was tedious. Patient, who was profoundly septic at the time of the operation, recovered slowly, with characteristic septic temperature and pulse for several weeks. Whether appendicitis existed at this time or not, he was unable to say. Recovery from second operation tedious, but uneventful and complete.

CASE XIII.—Miss B. C., aged 21. Seen in consultation with Dr. Summerfield. There was a history extending over a period of about two years of indefinite abdominal pain, involving the whole right side from the liver to the pelvis. No definite diagnosis was made, and an exploratory operation was advised. Operation, September 7, 1899. The appendix was chronically inflamed, adhesions extending from the cæcum to the liver upward and down into the pelvis, involving the right tube and ovary. The right ovary was as large as a lemon, and the tube thickened and distended. The appendix, tube and ovary were removed. Patient made a tedious recovery, developing a left saphenous phlebitis about ten days after the operation.

The cases were reported to emphasize the difficulties attending diagnosis. In several of them systematic treatment directed to the genitalia had been carried on without giving any benefit whatever, while the removal of the appendix effected a cure. In others, the ovaries and tubes had been removed, and still the symptoms persisted until relieved by appendectomy. The author is convinced that the great disparity in the statistics as to the relative frequency of appendicitis in the male and female is due, in a great measure, to mistakes in diagnosis. It is much more difficult to make a diagnosis of appendicitis in the female than it is in the male. Sufficient stress has not been laid upon the fact that appendicitis in women usually occurs at or about the menstrual period.

Book Notices.

Osteopathic Treatment in the Hypnotic State; or, Suggestion-Massage: the Cure for Incurables. By Prof. THOMAS BASSETT KEYES, M. D., of Chicago. Formerly Professor in the Harvey Medical College, etc.; Formerly President American Psychological, Medical and Surgical Society, etc. Surgery, Medicine and Psychology, Publishers, Chicago. 8vo. Pp. 46. (From R. Ayres, Pub. Agent. 3142 Rhodes Avenue.)

"Osteopathy" is defined as "the science of

treating diseases by manipulating different parts of the body, particularly the nerves of the body; and the effects wished for, or those which the osteopath wishes to produce, are often accomplished by manipulating a part distant from the disease, depending for results upon the reflex or sympathetic correspondence which certain nerves have when manipulated, this action being transmitted to a different part of the body." In ancient China, "labor was controlled as to pains by pressing on the pubes just on each side of clitoris" The author has practiced this for many years—making "good strong and long expulsive pains of the uterus, and at the same time the os will be more readily dilated. By pressure over the second sacral foramen, just on the nerves as they emerge from their bony openings, you will cause the perineum and soft parts of the vagina to dilate, thus not only rendering labor less painful, but, at the same time, you may terminate a labor which would usually last twenty-four hours in from two to four hours." According to the author: "Dysentery and bloody flux, which have resisted all forms of treatment, will readily yield to the following treatment: First, lay the patient on his or her side, with the back towards you. Place the finger and thumb on each side of the spinal foramina, commencing with the sacrum, and make deep pressure on the nerves as they emerge from their openings, and so on up the spinal column. With each pressure which you make, the limb which is uppermost should be drawn backward with the other hand, or, better, have an assistant to aid you, and draw each limb backward alternately. In this way, you will have results as surprising as they are marvelous." Along with massage, "suggestion" plays an important part in "osteopathic treatment." A remarkable statement of the author is that, "by this method, *all consumptives* can be cured who have not advanced beyond the first stage (Loomis)." The book abounds in such wonderful statements—many of which tax credulity. We have made such full extracts to show what the author believes.

Mental Affections of Children—Idiocy, Imbecility and Insanity. By WM. W. IRELAND, M. D., Edin. H. M. Indian Army (Retired List), etc. *Second Edition.* Philadelphia: P. Blakiston's Son & Co. 1900. Small 8vo. Pp. 450. Cloth.

The title page states that this edition was "printed in Great Britain," and the Preface tells us that "this may be regarded as the third edition." It is a book replete with interesting facts for the psychologist, and to students of

idiocy, imbecility and insanity—especially as either of these conditions occur in children—the work is of very great importance. As a standard work on the subjects named in the title, no book is its superior. The long experience of the author as an alienist, and his great reputation in that field of science, and his clear, distinct forms of description, have contributed greatly to the stock of desired information. Cretinism is well discussed, but is made up mostly of the well digested opinions and statements of able writers on the subject. A good discussion of thyroid therapy is given in this chapter. This book will serve as authority in courts and in class-room studies.

Manual of Surgical Treatment. By W. WATSON CHEYNE, M. B., F. R. C. S., F. R. S., Professor of Surgery in King's College, London; and F. F. BURG-HARD, M. D. and M. S. (Lond.), F. R. C. S., Teacher of Practical Surgery in King's College, London, etc. *In Seven Volumes. VOLUME III. Treatment of the Surgical Affections of the Bones—Amputations.* Lea Brothers & Co., Philadelphia and New York. 1900. Cloth. 8vo. Pp. xvi—305. \$3.50 net.

This *Manual* is a standard surgical English work. Each of the seven volumes treats of a special subject or series of allied subjects. It deals sufficiently with the causes and diagnoses of surgical conditions to recognize them; but the chief purpose of the authors is to tell what to do under given circumstances. One hundred illustrations of apparatus and appliances, descriptive also of their uses, are arranged throughout the volume. *Fractures* of various bones are given about half the pages. *Diseases of bones* are considered in about 50 pages. *Amputations* in the upper and lower extremities conclude this volume. We had occasion to favorably speak of this serial American edition in noticing the former volumes. The more we see of the work the more does it commend itself to the favor of the practitioner of surgery, as also to the physician who has to do surgical work at times.

Speech-Hesitation. By E. J. ELLERY THORPE. Edgar S. Werner Publishing and Supply Co., New York. 1900. 12mo. Pp. 75. Price, \$1.

Dr. G. Stanley Hall, President of Clark University, says that Mrs. Thorpe's "method is laid on a definite and correct conception of the most common causes of the difficulty, and seeks by a rational and systematic method to remove them." Dr. Hall has made a special study of child life, and is well qualified to pass judgment on a book that treats of stut-

ing, stammering and other vocal defects. The author's conclusions have come from long experience with many cases. The book corrects fallacious theories in regard to the nature and cause and cure of speech-hesitation. There is a dearth of good books on the subject, hence this book is all the more welcome and valuable. It needs simply an index.

Studies in the Psychology of Sex—The Evolution of Modesty—The Phenomena of Sexual Periodicity—Auto-Erotism. By HAVELOCK ELLIS. Philadelphia, New York, Chicago: The F. A. Davis Co., Publishers. 1900. 8vo. Pages xii—275. Extra Cloth, \$2 net.

In the advertisement of this book, we are told that it is "sold only to physicians and lawyers." It deals with the sexual sense in a manner that is of intensest interest to these professions, and to selected readers. But if placed in the hands simply of the curious or sexually prurient, there is much of fact and of suggestion in the work susceptible of false interpretation and misuse—by those disposed to be evil thinking and evil doing. On the other hand, there is much in the book which, if read aright, would furnish fact enough, with illustrative cases, to compel fear of evil doing and drive to a purer life. The book, however, is especially of service to the doctor who is called upon to advise, and to the lawyer who has to explain to courts and juries the perverted states of men and women who, here and there in a lifetime, do or submit to some act recognized as a moral wrong and a crime in law. We do not know when, in a book of this kind, virtue stands out in exemplary relief, while on the other hand, the grave results of vicious acts are told in such a style as to excite horror or disgust. Properly read, as the book was intended, it is a most useful one.

The Art of Breathing as the Basis of Tone-Production. By LEO KOFLEK. Edgar S. Werner Publishing & Supply Co., New York. 1900. 12mo. Pp. 278. Cloth. Price, \$2.

When a method of singing published first in America is translated and published in Germany, the book must be of exceptional merit. Mr. Kofler's book has achieved this distinction, and has also reached its fifth American edition. It is pre-eminently for singers; thorough yet concise. It abounds in exercises given in detail, with explicit directions, positions illustrated by cuts, numerous music illustrations, and complete vowel and consonantal tables arranged for practice, with minute explanations of the right formation of

every letter of the alphabet. The author has studied all the methods of voice-culture, and presents a practical vocal method that he has made his own with a clearness that shows unusual pedagogical and artistic talents.

Practical Gynecology. *A Comprehensive Text-Book for Students and Physicians.* By E. E. MONTGOMERY, M. D., Professor of Gynecology, Jefferson Medical College, Philadelphia, etc. With 527 Illustrations; nearly all of which have been drawn and engraved specially for this work for the most part from original sources. Philadelphia: P. Blakiston's Sons & Co. 1900. Large 8vo. Pp. 819. Price, \$5. net.

This is a new work on Gynecology that fully meets the claim of being a "comprehensive text-book for students and physicians." After an Introduction of three pages, the subjects of diagnosis, pelvic and abdominal examinations are taken up in detail. Then follows a section of 40 pages on Therapeutics, in which some bacteriological matters are spoken of. About 60 pages are given to the female anatomy and physiology. Succeeding this comes the general section on Malformations, in which the various modes of repair are considered. Inflammation, especially as it affects the female organs of generation, is fully discussed in about 115 pages. About 88 pages are devoted to the various "Deviations of the pelvic organs." Genito-Urinary Hemorrhage and Ectopic Gestation are the next subjects discussed from a gynecologist's standpoint. About 260 pages are given to genital tumors of all kinds—including ovarian tumors. The eminent author took about fifteen years in preparing this book. There is little of debate in it; but in description of conditions and of means to relieve them the work is highly practical. We do not know when we have seen the first edition of a work of the kind so profusely illustrated from photographs and original sketches. The general plan of the author has been to consider each general subject "with reference to its influence upon the entire genital tract, and the work is divided into sections rather than chapters."

Editorial.

American Laryngological, Rhinological and Otological Society—Southern Section.

The Southern Section of the American Laryngological, Rhinological and Otological Society will meet in Richmond, Va., December 1st, 1900, 9:30 A. M., at the Jefferson Hotel.

Up to date, it is known that papers will be presented by Dr. Jonathan Wright, of Brooklyn, N. Y., "The Non-Myxomatous Character of Nasal Polypi;" Dr. D. Braden Kyle, Philadelphia, Pa., "The Effects of Epidemic Influenza on the Mucous Membrane of the Upper Respiratory Tract;" Dr. J. F. Woodward, Norfolk, Va., "Enlarged Turbinates—Syphilitic in Origin;" Dr. J. F. McKernon, New York, N. Y., "Brain Abscess, Complicating Chronic Purulent Otitis Media—Operation, Recovery, etc.;" Dr. M. F. Coomes, Louisville, Ky., "Surgery of the Soft Palate;" Dr. G. Hudson Makuen, Philadelphia, Pa., "How to Prevent Stammering;" Dr. L. B. Grandy, Nashville, Tenn., "Acute Inflammation of the Mastoid Processes;" Dr. H. Holbrook Curtis, New York, N. Y., "Nascent Chloride of Ammonia as a Vehicle for Creosote in Inhalation;" Dr. J. A. Stucky, Lexington, Ky., "Empyema Maxillary Sinus—Operation and Subsequent Treatment;" Dr. E. B. Dench, New York, N. Y., "Two Cases of Intracranial Infection Following Middle Ear Suppuration—Operation—Recovery;" Dr. A. G. Hobbs, Atlanta, Ga., "Caroid as a Digestive Solvent in Pharyngitis Sicca, Atropic Rhinitis, and in Diphtheritic Membrane."

Dr. Dunn, of Richmond, Va., and Dr. Mulen, of Houston, Texas, and others, have promised papers, but the titles have not yet been given.

Dr. Calhoun, of Atlanta, Ga., Dr. Chas. W. Richardson, of Washington, and Drs. Phillips and Myles, of New York, will open the discussions of the papers.

A full attendance of the Southern specialists is earnestly requested, and the general profession is cordially invited. That the session will be interesting is shown by the list of papers above presented. Dr. Joseph A. White, Richmond, Va., is Chairman of this Southern Section.

The Medical News Visiting List for 1901

Is issued in four styles: *Weekly*, dated, for 30 patients; *Monthly*, undated, for 100 patients per month; *Perpetual*, undated, for 30 patients weekly; and *Sixty Patients*, undated, and without preliminary data, for those requiring specially large record books. The first three styles contain 32 pages of data needed by practitioners, and blanks for recording all details of practice, both clinical and financial. Practitioners providing for the new year cannot do better than to possess themselves of one or the other of these *Visiting Lists*, published by Messrs. Lea Brothers & Co., Philadelphia, Pa. Pay \$1.25 and take your choice.

THE

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Original Communications.

AN IMPROVED APPLIANCE FOR THE TREATMENT OF FRACTURE OF THE CLAVICLE.*

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

Professor of Anatomy and Demonstrator of Orthopedics in the University College of Medicine, and Surgeon to the Virginia Hospital, Richmond, Va.

March 8th, 1898, I read a paper before the Richmond Academy of Medicine and Surgery, entitled "An Improvement upon Sayre's Method of Treating Fractured Clavicle." Subsequently I made some alterations in the apparatus which improved its efficiency. For this and other reasons to appear later, I determined to rewrite the paper for this body. The apparatus, as I now submit it to you for study, bears no more resemblance to Sayre's than to a number of others. Therefore, it deserves a shorter name.

As I hope to convince you that it is better than any method yet devised for the treatment of this condition, we will call it "An Improved Appliance for the Treatment of Fracture of the Clavicle." The treatment of fractured clavicle has been the bugbear of surgeons from the time of Hippocrates to the present day.

The great number of devices for the treatment of this condition and the imperfect success of each bear conclusive testimony to this fact. While a history of the various appliances for the treatment of fractured clavicle would aid in the consideration of the appliance under discussion, I do not think it of sufficient importance to justify consuming your time by giving it in this paper. I refer you to an old book, "Hamilton on Fractures and Dislocations," where you will find not only a description of the several devices, but the commendation and criticism each has aroused. Since writing my first paper, careful investigation of

the subject has, I hope, given me some better ideas regarding the conditions in fracture of the clavicle and the plan of treatment. Therefore, before describing the apparatus, which I wish to recommend, I desire to discuss the anatomical and other reasons why the indications for the treatment of fractured clavicle have not been more successfully met, and also the principles involved in the attempt to meet these indications. All surgeons agree that the indications in the treatment of this fracture, on account of the position and attachments of the bone, are to draw the distal fragment upward, backward and onward, through the medium of its connection to the shoulder, and to maintain this position. Can this be accomplished?

The *International Text Book of Surgery* voices the sentiment of surgeons in general when it says, in reference to failures in treatment, "This is due, not to the difficulties in bringing the fragments into proper relative position, but to the fact that any efficient retentive bandage or apparatus is so irksome that it soon becomes intolerable. Those which are efficient are intolerable, and those which are tolerable are inefficient." If the appliances for the treatment of fractured clavicle be tested, it will be found that a number of them are efficient when first applied, or apparently so; but all often prove inefficient in the end for two reasons, which you will please bear in mind, viz.: first, not one of them so confines the entire upper extremity as to prevent the patient from involuntarily (and of a child purposely) moving the parts, any motion of the upper extremity being necessarily transmitted to the fragments; secondly, all of them usually become so uncomfortable as to force the wearer to seek relief by repeatedly changing the position of the extremity or by actually displacing the apparatus. Let me say just here, as a prelude to the discussion of anatomical conditions, that any appliance which is intended to act as a fulcrum by which, with the humerus as a lever, the shoulder may be drawn outward, will fail to accomplish its aim or will do damage. If

* Read before the Medical Society of Virginia during its Thirty-first Annual Session at Charlottesville, Va., October 25, 1900.

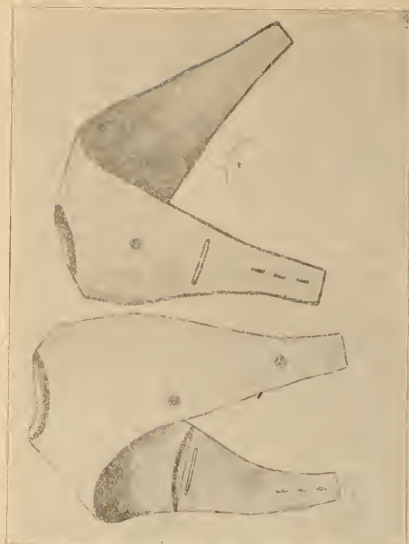


Fig. 1.

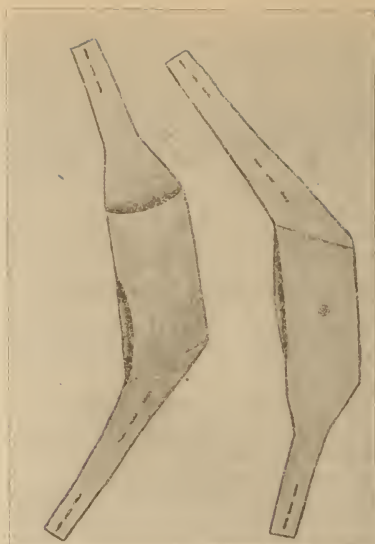


Fig. 2.



Fig. 3.



Fig. 4.

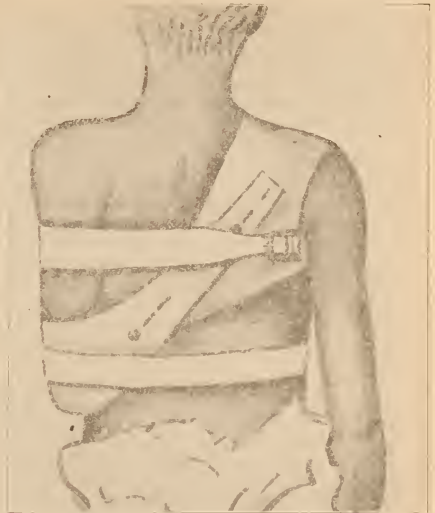


Fig. 6.



Fig. 5.

sufficient force be applied through the humerus, in the manner just mentioned, as to overcome the combined action of the muscles drawing the injured shoulder inward, the pressure exerted by the fulcrum will certainly do mischief, one serious probability being injury to branches of the brachial plexus with resulting paralysis.

It is through the scapula that we must carry the shoulder backward and outward. This bone is very obliquely situated. It is so placed that the glenoid cavity and the acromion process are on a plane anterior to any other part of the bone, and the inferior angle is on a plane posterior to any other part. In other words, a line drawn from the inferior angle to the glenoid cavity will run upward, forward and outward, and a line drawn from the superior angle to the glenoid cavity will run forward and outward.

If the posterior border and inferior angle of the scapula were fastened to the ribs by ligamentous bands about half an inch in length, you can easily see that to press the head of the humerus up against the acromion process would force the shoulder upward, backward and outward, in spite of the pectoralis minor and pectoralis major muscles. The resistance of the pectoralis major really does not count, for carrying the arm forward and inward relaxes this muscle. Are the posterior border and inferior angle of the scapula so held and controlled by muscles that the shoulder will go upward, backward and outward in response to upward pressure, in spite of the resistance of the pectoralis minor muscle? Yes. This can be proven on the skeleton, on the uninjured living subject, and on the subject with a broken clavicle.

On a skeleton, attach nine strips of elastic in the place of the serratus magnus muscle, representing its nine digitations. Attach five or six strips of elastic to the five or six lower dorsal spines. Carry them upward and a little outward, attaching them to the spine of the scapula near the posterior border, thus representing the lower part of the trapezius. Attach a few bands of elastic to represent the upper part of the latissimus dorsi, as it passes from the lower dorsal spines across the inferior angle of the scapula to the bicipital groove of the humerus. Attach three strips of elastic to represent the pectoralis minor muscle. Attach the outer end of the clavicle to the acromion process by a small rubber cord passed through perforations in the bones. Swing the bones in their normal position by strings running from the upper border of the scapula to the upper cervical spines. Now carry the humerus forward and inward on the ribs, thus making the

latissimus dorsi tense. Then push the bone upward and backward in the direction of its long axis. The scapula instantly begins to rotate on the point of attachment of the pectoralis minor to the coracoid process, the acromion starting upward and inward and the inferior angle of the bone outward. This rotation is arrested by the upper part of the latissimus dorsi, which holds the inferior angle. The superior angle and posterior border are prevented from going inward by the serratus magnus. The lower part of the trapezius prevents the posterior part of the bone from rising. The whole base of the bone being thus held, the shoulder goes upward, backward and outward, as is shown by the position it assumes and by the stretching of the rubber which fastens the clavicle to the acromion.

Look at the back of the person whose trunk is stripped of clothing. You will see the posterior border and lower angle of the scapula projecting. Take the elbow of one side in your hand, and carry the arm forward and inward across the chest to relax the pectoralis major, and then by pressing the elbow, push the arm upward and backward in the direction of its long axis. Now look at the back and you will find that the posterior border and lower angle of the scapula do not project so decidedly. Look at the shoulder, and it will be seen that it is not only higher than the opposite one, but on a plane posterior to it, and it has already been shown, from the anatomical position of the scapula, that if the shoulder goes backward, it must also go outward. If the manipulation of the elbow and arm just described be done when a fracture of the clavicle exists, it will very often replace the fragments in their proper position, which is further proof that the shoulder is carried outward. If some arrangement be made to press the lower angle of the scapula firmly against the back while the arm is being carried forward and inward and pushed upward and backward, the shoulder will be carried still further outward and with much greater ease, as can be demonstrated by pressing with the hand against this part of the bone while the arm of the patient is being manipulated to reduce the fracture.

The plan of treatment is based upon the facts embodied in the last sentence. As evidence that the scapula should be made useful in the treatment of fractured clavicle, recall the universal success obtained when patients are treated by keeping them on their backs. It is true that the weight of the shoulder is a factor here, but the result is chiefly due to the

scapula which acts as a lever. The ribs being the fulcrum, the bed presses one arm of the lever against the back while the other carries the shoulder upward, backward and outward.

Let us now examine the apparatus. It consists of a cloth puzzle which you may or may not understand when I complete my description. To hold the elbow forward and inward and support it, so as to keep the shoulder in the required position, can be accomplished only by some kind of sling. This affair is a sling which has undergone evolution to such an extent that it not only accomplishes the above results, but entirely confines the forearm and hand, the whole being done with comfort. In addition, it has two adjvants to be mentioned presently.

Everybody is aware how comfortably the shoulder can bear considerable weight, if this weight be attached to the coat both in front and behind, a little below and internal to the shoulder, and then allowed to hang on the opposite side of the body, the weight being distributed by the coat over a large surface. The comfort of the appliance depends largely upon this fact. Out of unbleached jeans, duck or other stout cloth, get a seamstress to fashion for the sound shoulder what, for want of a better name, we will call a shoulder cap, having an extension in front and an extension behind. (Fig. 1). When held in the hand, it bears a crude resemblance to a truncated dunce cap. It must be so made as to fit snugly the whole shoulder and upper part of the chest from the base of the neck to one and a half or two inches below the axilla (Figs. 3, 4, 5 and 6). That this may be accomplished, an armhold is necessary (Fig. 1), which also serves the excellent purpose of preventing slipping forward or backward. The posterior extension is directed obliquely downward, across and from two to four inches beyond the inferior angle of the scapula of the opposite side (Figs. 5 and 6). The anterior extension should course obliquely across the front of the chest, being directed toward the elbow of the injured side (Figs. 3 and 4), and should equal in length the posterior one. The end of each extension should be from one and a half to two inches wide, according to the size of the patient. On the under, or rather posterior surface of the anterior part of the shoulder cap, there should be made a pocket (Fig. 1) just wide enough to accommodate the patient's hand, and running in a direction upward and outward quite to the top of the shoulder. The mouth of the pocket should be about where the anterior extension crosses the middle line of the body,

and here a slit, two inches or more in length, should be made in the extension at right angles to its long axis (Fig. 1). When tension is made upon both extensions at the same time in a line with their direction, the cap should bear with equal pressure upon the shoulder and upper part of the chest. From the same stout cloth make a sleeve for the injured extremity (Fig. 2), reaching from the lower third of the arm of the injured side to the wrist (Figs. 2 and 3). It should be made with an angular bend in it, at the proper point to fit and grasp the elbow in flexion, and must have an extension at each end. One extension is just a continuation of about half of the circumference of the front end of the sleeve, along over the back of the hand and beyond (Figs. 2, 3 and 4), lessening in width until at the end it measures one and a half or two inches across and being in length from three and a half to six inches. The other extension is continuous with the posterior end of the sleeve at the back of the lower end of the arm. Its course lies right over the course of the posterior extension of the shoulder cap (Figs. 5 and 6). Its length is from four to eight inches. This extension has two or three button holes near its base and two or three near its end (Figs. 2, 5 and 6). There are two or three button holes near the end of the front extension of the sleeve, and also two or three near the end of the front extension of the shoulder cap (Figs. 1, 2, 3 and 4). In each place the holes are about an inch apart, and are in a line corresponding to the long axis of the extension. A button being placed on the outer surface of the sleeve near the elbow, one in the proper place at the base of the anterior extension of the shoulder cap, also one at the base and one at the end of the posterior extension of this cap (Figs. 1 and 2), the series of button holes described above, enable you to adjust the apparatus to a nicety (Figs. 3, 4, 5 and 6).

Now as to application: Having the shoulder cap on the sound shoulder and the forearm of the injured side in the sleeve, button the posterior extension of the sleeve on to the posterior part of the shoulder cap, adjusting it so that the elbow will be brought well back of the axillary line. Then pass the anterior extension of the sleeve through the transverse slit in the front of the shoulder cap, putting the hand in the pocket under the same. Bring the elbow forward and inward and press it upward in the line of the humerus, while an assistant holds the lower angle of the scapula firmly against the back. As soon as the fragments are restored to their proper position,

button the front extension of the sleeve to the base of the front extension of the cap, and the front extension of the cap to the sleeve. Be sure to adjust the fastenings sufficiently tight to hold the elbow as high as desired.

The sleeve being carried forward and inward sufficiently to bring the elbow considerably in front of the axillary line, right much tension is put upon the two extensions which are buttoned together on the back. As these cross the inferior angle of the scapula, they execute the function of pressing that part of the bone against the back. Make a band two inches or more in width and long enough to encircle the body. Fasten it by button or, preferably, by stitching to the sleeve, a very little above the outer side of the elbow (Figure 3). Encircle the body with it, making sufficient tension to press the elbow snugly against the trunk (Figure 4). Overlap the ends and stitch them together. The apparatus is now sufficiently complete, but, if desired, the pressure against the lower angle of the scapula may be increased by the following means: Loosely encircle the arm of the injured side just below the axilla, with a band two inches more or less in width. Carry this band horizontally across the inferior angle of the scapula of the injured side, and an inch or two beyond the median line attach it by buckle or otherwise to the back of the shoulder cap. This had better be done by needle and thread so as to avoid the presence of a buckle or button under the back when lying down. The part of the band encircling the arm may be padded.

This part of the apparatus should be put in position and fastened with some tension before the sleeve and elbow are drawn forward.

Let me caution you not to use this adjunct in any instance in which it proves uncomfortable, because the appliance does not stand in sufficient need of this or any other aid as to justify sacrificing comfort.

By making the extensions of sleeve and cap very narrow, buckles may be used as fastenings instead of buttons, if desired.

In the case of children, never rely upon the security of buckles or buttons, but use needle and thread freely.

Not only sew the parts of the appliance together at the points indicated for buttons, but also sew the mouth of the pocket to the front opening in the sleeve, thus making it impossible for the hand to be removed.

Every doctor who has used this appliance, besides reporting good results, particularly commends it as being comfortable as long as worn. They agree that it gives no trouble for

the reason that after being once applied nothing more is required until it is to be finally removed. It is not an annoyance even to children. In only one instance has there been complaint. A nervous woman wanted her hand out. That is just what is not wanted by the doctor. I hope this paper justifies the following conclusions:

1. That appliances for treating fractured clavicle have heretofore proven too uncomfortable to be borne without being molested by the patient or frequently loosened and readjusted by the surgeon.

2. That, in previous appliances, too little provision has been made for rendering the parts immobile.

3. That the scapula, as a factor in the management of the outer fragment in this fracture, has been neglected by some surgeons in favor of the humerus, which is unscientific—any one of these facts accounting for many failures.

4. That the appliance just shown you puts the fragments in their relative position certainly as well, if not better, than any other yet devised.

5. That it is perfectly comfortable, it matters not how long worn.

6. That it renders the entire upper extremity as immobile as can possibly be done without sacrificing comfort.

7. That it can never slip or get displaced without interference on the part of the patient.

I desire to add one more thought, which may aid in case of an emergency. Anything which will carry the shoulder directly upward will practically carry it outward. The clavicle is nearly horizontal in direction. The line traversed by the shoulder in going directly upward would form practically a right angle with the clavicle. A line connecting the elevated shoulder with the sterno clavicular joint would be the hypotenuse of a right angle triangle, and would therefore be longer than the clavicle, which would be the base of the triangle.

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SOME FALLACIES IN TESTING FOR SUGAR IN THE URINE*.

By M. D. HOGE, JR., M. D., Richmond, Va..

Professor of Pathology and Urology, University College of Medicine, Richmond, Va.

The sugar groups may be conveniently divided into three—viz.: glucose, saccharose and amylose—and it is with the first, dextrose or grape sugar, that we have to do. That it exists in normal urine in minute traces has been proven (Wedenski), but in such an insignificant amount that it is disregarded. In nursing mothers, where there has been some obstruction to the free flow of milk from the breasts, milk sugar sometimes makes its appearance in the urine.

It is more particularly the purpose of my paper to discuss some of the rather common mistakes made in testing for grape sugar rather than to discuss the subject of diabetes or its treatment. I am confident that such mistakes have been made from a variety of causes not recognized at the time by physicians, because on several occasions I have had urine sent me to test for and estimate the quantity of sugar from supposed diabetes, when, after several different tests carefully carried out, none has been found.

One case in particular which recently occurred is worth relating, for it is the most common cause of error: A gentleman who moved from this State to another wrote here to his family physician for a prescription for kidney disease, on account of pain in his back. The doctor, in reply, told him to first send him some of his urine; and in order to preserve it, put ten grains of chloral hydrate in the bottle, as it was summer time. This he did on several occasions, and each time the doctor examined it he got more or less reduction of the copper oxide. The patient returned on a visit to Richmond a short time after this, and his doctor sent him to me for an examination of his urine. He had no sugar in it, and the reddish discoloration on previous cases was due to the presence of chloral hydrate. Chloroform, when used as a preservative, gives the same reducing color. A large amount of creatinin in the urine also reduces copper, as does an excessive amount of urobilin.

Moore's or Heller's test, while very simple, is not very reliable. Equal quantities of the suspected urine and a 10 per cent. solution of caustic potash are boiled in a test tube. Reac-

tion: the color passes from a pale yellow to a dark brown if sugar is present. Fallacies, small quantities of sugar, less than one grain per ounce, are not detected. Patients taking rhubarb or senna, the urine will, by this test, give a dark brown color reaction.

Trommer's reaction is, to two volumes of urine mix one of caustic potash solution; add drop by drop a 1:10 solution of cupric sulphate; heat gently (not boil) and a yellowish red precipitate of cuprous oxide is deposited. Fallacies, here mentioned, are more or less true of all copper test solutions. Most of the solutions deteriorate with time, except those combined with glycerine. Second, certain substances, as urea, urates, uric acid, creatin, indican, urobilin, and arsenic, tannic acid, gallic acid, camphor, copaiba, salicylates, turpentine, glycerin, and carbolic acid and some alkaloids, when administered internally, all produce more or less reduction of copper. If albumin be present, which is often the case in the later stages of diabetes, the urine should first be thoroughly boiled and filtered. In order to overcome some of the misleading results from the substances above enumerated, when there is any doubt about the end reaction, it is best to first filter the urine two or three times through powdered animal charcoal.

Böttger's test. Here equal quantities of urine and liquor potassa are mixed; a small quantity (a pinch) of nitrate of bismuth is introduced and the solution thoroughly boiled. The color will range from grey to black, depending on the amount of sugar present, due to the formation of sub-oxide of bismuth. Fallacies: albumin, excessive amounts of pigments, mucin, and other substances containing sulphur, must first be removed by heating and filtering through charcoal.

Robert's fermentation test is the surest and freest from error. Each degree of density lost, as shown by the urinometer before and after fermentation, equals about one grain of sugar per ounce. For instance, the sp. gr. before fermentation shows 1.040; after 24 hours with the yeast mixture, it registers 1.037; this indicates three grains of sugar per ounce. The only objection to be urged is the length of time required.

Penzoldt Rubner test, warmly endorsed by Stern, is as follows: Equal parts of urine and a concentrated solution of normal acetate of lead are added and filtered. Ammonia, drop by drop, is added to the filtrate until a deposit of white lead saccharate is formed. On heating, the color turns to a light and then a darker shade of red. This test is particularly free from

* Read before the Richmond Academy of Medicine and Surgery, November 27, 1900.

disturbing factors, and may be relied upon to furnish an accurate and quick result.

NOTE 1.—*Detection of Creatinin.*—A few drops of a 10 per cent. solution of freshly made sodium nitro-prussiate and a 10 per cent. solution of sodium hydrate are added to the urine when we have a ruby-red color turning to yellow. If acetic acid is now added, the urine heated, there appears a green tint turning to blue, and on standing, a precipitate of Berlin blue is formed.

NOTE 2.—*Test for Urobilin.*—Add ammonia till the urine is alkaline, filter off the phosphates; to the filtrate add a solution of chloride of zinc when a green fluorescence is observed.

NOTE 3.—*Test for Indican.*—Equal parts of urine and hydrochloric acid, to which are added a few drops of nitric acid, are boiled in a test tube; when cool, shake up with a little chloroform, which, on settling, will be colored violet.

DISCUSSION.

Dr. A. L. Gray: I have listened with much interest to Dr. Hoge's very instructive paper, and I think the doctor will agree with me when I state that of all the many tests for sugar there is not one that can be alone fully relied on for the detection of dextrose in small amounts. The only absolutely certain method seems to be the end analysis and separation of the dextrose in its pure crystallized form.

There is not a test of the great number in use generally that will not respond to other substances and most of them fail to respond to small percentages in the presence of certain other constituents not infrequently found in urine. The copper tests respond to many agents, some of the most important of which are uric acid and the normal urinary coloring matters. All of us have noted, in applying Fehling's or Trommer's test, that in urine of high gravity with an abundant coloring, due purely to concentration, we have a reduction which is hardly sufficiently pronounced to say that there is unquestionably sugar present, but still too evident to be ignored. This is especially the case after prolonged boiling, and is caused by uric acid or some of the numerous other agents mentioned by Dr. Hoge. We often make the mistake of boiling this solution after the urine is added. This is not necessary. If sugar be present, the test will respond before the boiling point is reached; and by carefully heating to a few degrees below this point, we avoid the precipitation of these confusing substances.

The bismuth tests are open to the objection that any constituent containing sulphur when heated with bismuth produces a sulphide of bismuth, which, as Dr. Hoge tells us, obscures the test; and, in addition, after the internal administration of salol, antipyrine, trional, acetanilid and other coal tar derivatives, the urine has given positive results when tested for sugar.

The fermentation test is not sufficiently delicate, and responds to fructose and maltose.

Upon the whole, I prefer Fehling's test for general utility, convenience and delicacy; and from the fact that when freshly prepared it is as reliable as any when properly applied. When prepared in standard solution, it is exceedingly useful for quantitative analysis. If this solution gives a positive result, I usually apply one or more central tests; if negative, I am reasonably sure that there is no pathological amount of sugar present.

Again, we should bear in mind that saccharin, the diabetic's substitute for sugar, will sometimes prevent many of these tests from responding. Other agents having like effect are ammonia, albumen and peptone.

DRAINAGE IN ABDOMINAL SURGERY.*

By J. W. LONG, M. D., Salisbury, N. C.,

Emeritus Professor Diseases of Women and Children, Medical College of Virginia, etc.

Many of the problems involved in abdominal surgery have been settled, not always in the same way by different men, it is true, but by a general consensus of opinion, the outcome of our gradually accumulated knowledge. Many of the procedures practiced in abdominal surgery have been agreed upon. For instance, every surgeon agrees and insists that his hands, instruments, the field of operation, etc., must be clean, surgically clean; and it does not matter whether a man believed in "bugs" or not, he says "you must be clean;" nor does it matter whether he scrubs his hands till the superficial epithelium slips, dyes them and bleaches them in strong chemicals or merely scrubs his hands and rinses them in alcohol, still he emphasizes that you must be clean. Not only is cleanliness next to godliness in surgery, it is godliness itself.

While some surgeons make a short abdominal incision, and some make a long incision, all agree that the incision should be sufficient-

*Read before the Southern Surgical and Gynecological Association at Atlanta, Nov. 13th, 1900.

ly ample to allow the operator to work easily and expeditiously.

While some surgeons employ silk ligatures and sutures within the abdomen, and others use cat gut; some steam their silk fractionally, others boil it one time only, still others do both: some sterilize their cat gut by dry heat, others cumolize it; yet all maintain that whatever material is employed, and by whatever process it is prepared, it must be absolutely sterile, non-irritating, easily absorbed, and the smallest size commensurate with safety.

We all agree that loss of blood is the chief factor in the production of surgical shock.

I dare not include in this category of agreements the various methods of closing the abdominal incision, for if the gentlemen who practice the different methods of closing the abdomen were to suddenly agree, we might be forced to draw the same inference that the new waiter did at the medical banquet. You have all heard that story. After several courses had been served, the new waiter said to the old waiter, "I believe these doctors are getting drunk." The old waiter said, "I don't see any signs of it." The new waiter replied, "I don't either, except that they are beginning to agree with each other."

Touching many other points, there is a general consensus of opinion why can we not settle upon some well defined principles in the matter of abdominal drainage. To this end I have invited the attention of this distinguished body. Ever since Robert Houston in 1701 incised the abdomen of Margaret Miller, and left a "small tent in the lower angle of the wound," drainage has been considered a question of prime importance in abdominal surgery. Indeed, incision and drainage were about all that surgeons dared to do till the immortal McDowell deliberately removed a tumor from Mrs. Crawford in 1809.

That drainage is essential and desirable in some cases is evident; that it is unnecessary and undesirable in many cases, is equally clear.

Let us, then, consider briefly—

THE OBJECTS OF DRAINAGE.

The chief purposes for which drainage is employed are as follows:

1. To drain away existing septic material.
2. To afford an exit for the sepsis when the operator fears he has possibly infected his patient.
3. To provoke adhesions, and thereby wall off weak spots from the remainder of the abdominal contents.

4. To keep the peritoneal cavity free of blood and other fluids.

5. To allow of a more certain knowledge of the conditions present in the abdomen.

6. Gauze drains are sometimes employed as tampons to control hemorrhage.

1. *To drain away septic material.*—There can be no question of the propriety of drainage in those cases where sepsis is already present. Its value has been emphasized many times in cases of suppurating appendicitis, which may be taken as typical of septic cases. But it is to be noted when we come to apply this rule of action to other cases presumed to be already septic, that the surgeon, who does not follow a routine, formerly drained many cases that he now feels safe in closing without drainage.

By way of illustration, take the following recent case occurring in the hands of the writer:

Mrs. S., a very small woman, age 23, white, delivered forty eight hours before she was seen by the writer, of an average sized child; conditions only fair; pulse 120; temperature 101°; emaciated; abdomen greatly distended with an ovarian cyst. A few days' delay was advised. After ten days, abdominal distension was increasing, respiration was beginning to be embarrassed. Contrary to the writer's usual custom, he tapped the abdomen, drawing off thirty pints of heavy gelatinous fluid. This relieved the dyspnoea, but the evidences of sepsis continued. After a few days, the patient having gained a little strength, she was taken to more comfortable quarters and the tumor removed. The tumor, when removed, weighed thirty-three pounds, which, added to the thirty pounds removed at the tapping a few days previously, made sixty-three pounds. The tumor and pregnant uterus probably weighed as much as the woman. The cyst was multilocular, containing many different kinds of fluid. Adhesions were numerous, and evidences of widely spread peritonitis were present. Because of the rottenness of the cyst wall, a quantity of the fluid escaped into the abdominal cavity. The abdomen was thoroughly washed out and left filled with salt solution, and the incision closed without drainage. The recovery was perfect.

Formerly, it would have been considered necessary to drain this case because of the sepsis and peritonitis.

Nor is it necessary to always drain after removal of pus tubes even when the sac ruptures and the parts are bathed in pus, since it is well known that pus is frequently free from pathogenic germs. This is especially true in

old abscesses. Even the presence of some forms of pathogenic germs, notably the gonococci, is not an indication for drainage. The principle of drainage in septic cases is decidedly applicable when we invade the peritoneum through the vagina. Indeed, in these cases, as in suppurating appendicitis, the chief object is to drain the pus foci and serum distended tissues. Here we have ideal drainage, for gravity aids capillarity, and it is oftentimes marvelous how quickly these patients recover.

2. *When the operator infects his patient.*—After the earlier operators got over their dread of opening the peritoneum, surgeons gradually learned that mere opening the peritoneum was a perfectly safe procedure, provided the operator's hands and implements were sterile. In this day it is almost inexcusable for a surgeon to infect his patient, yet almost all of us say, "If we handle the parts a great deal it is better to drain"—unmindful of the fact that we are virtually admitting that we have probably infected our patient. With instruments, sutures and sponges thoroughly sterile, with our hands conscientiously scrubbed, washed in chemicals and the use of rubber gloves, prolonged handling of the parts ought not to be an indication for drainage.

However, the unexpected occasionally happens.

Last month, while the writer was doing an hysterectomy in a private house in a distant city, the patient suddenly stopped breathing, and she looked like all the blood in her body had suddenly sidetracked itself into the capillaries and was determined to stay there. It required prolonged efforts at artificial respiration with the patient in the inverted position to establish the respiratory function. But for the intelligent, faithful efforts of professional friends, the patient must have died. The writer was kept busy trying to protect the open abdomen. Of course, chloroform was the anesthetic being used. A friend of mine had just lost a patient from the same anæsthetic a few days before.

After this anæsthetic episode everything went wrong, as they usually do when one thing gets awry. The outcome was that when the operation was finished, we did not know whether the patient was infected or not. For fear that she was, drainage was employed. The recovery was stormy, but satisfactory in the end.

3. *To promote adhesions and wall off weak spots.*—The well-known property of the peritoneum to throw plastic lymph around any

foreign body is often utilized when, after injuries to the bowel, ureter or other viscus, there is fear of leaking and consequent contamination. The gauze drain here serves the dual purpose of isolating the vulnerable part and drainage.

4. *To keep the peritoneal cavity free of blood and other fluids.*—Just here is a point of departure. One school cites the fact that blood or serum or any innocuous fluid, when retained in the abdominal cavity, makes an excellent culture medium, and claims that the way to prevent infection is to keep the peritoneal cavity free of fluids. Even when hemorrhage has been controlled, advocates of this plan expect in most cases, especially where many adhesions have been broken up, that there will be enough oozing to require drainage. They usually use a glass drain, and empty it frequently with a long nozzle syringe.

The other school takes the position that the peritoneum is amply able to take care of any reasonable amount of oozing blood, or indeed, a large amount of other fluid, even when there is mild infection present; and they encourage this absorptive function of the peritoneum by leaving in its cavity a liberal quantity of normal salt solution, which is not only easily absorbed itself, but dilutes the oozing blood and renders it more readily absorbed. Those who follow this teaching, close the abdomen without drainage, no matter how many adhesions have been broken up or how much fluid is left in the peritoneal cavity.

5. *To allow of more certain knowledge of the conditions present in the abdomen.*—This argument is used in favor of the drainage tube, particularly in cases where there are great fears of hemorrhage. It must be conceded that hemorrhage occurring within a few hours after operation, may be detected by means of the drainage tube and syringe. The same is true to a less degree of the gauze drain.

The objections to this argument is that in the vast majority of cases it is unnecessary to inspect the abdominal cavity to see if there is hemorrhage. The use of suture material that will not readily break or untie, with careful inspection of every possible bleeding point, ought to insure against hemorrhage; certainly this is true in all cases in which the tissues are not softened by sepsis or malignancy.

6. *Gauze tampons.*—There are a variety of circumstances under which it is expedient to pack a bleeding point with gauze tampons to

control the hemorrhage. In these cases the gauze, of course, also acts incidentally as a drain.

HISTOLOGY AND PHYSIOLOGY.

Many of the reasons advanced in favor of drainage were promulgated before the histology and physiology of the peritoneum were understood.

Wegner, in 1877, was the first to demonstrate the wonderful ability of the peritoneum to absorb fluids, even as much as the entire weight of the animal in twenty four hours.

Muscattello, in 1895, proved that while there were no stomata between the peritoneal endothelium, that fluids and minute foreign bodies passed between the endothelium of the diaphragmatic peritoneum by a retraction of the cell protoplasm, from thence they were taken up by the open spaces found only in this portion of the peritoneum and passed on into the lymph circulation. This observer demonstrated a normal intra peritoneal current capable of carrying fluids and small bodies to the diaphragm, and this, too, irrespective of position, though gravity has a marked influence on the current.

It has also been shown that the leucocyte is the principal bearer of foreign particles along the highway just described.

Another fact pertinent to the question is that the leucocytes and other factors producing this intra peritoneal current bear off pathogenic bacteria along this wonderful highway as readily as they carry innocuous substances, provided the enemy be not too numerous or too virulent.

These facts open up to our view the surprising capabilities of this highly vitalized membrane, and the abdominal surgeon should doff his hat to his ablest ally—the peritoneum.

OBJECTIONS TO DRAINAGE.

Excluding cases of acute suppurative infection, such as appendicitis or pelvic abscess, that can be reached through the vagina, and widespread general peritonitis, drainage is objectionable for many reasons, among which are the following:

1. It is deceptive.

The writer has tried all kinds of drainage and found them unsatisfactory. Its use is not a guarantee against infection—the ever present menace to the patient; in fact, both gauze and the glass tube constitute an additional source of infection.

2. Cases not drained do better.

The observation of any considerable number

of cases will demonstrate this. A smaller per cent. of the patients become infected, they suffer less nausea, less pain, require less morphine, have less tympany, the bowels are more easily moved, the mortality is lower, and in a word, do better than cases that are drained.

3. Drainage is neither scientific nor workmanlike.

I say this with an apology and all due deference to those distinguished gentlemen present who drain most of their cases.

Take a case of large myoma or pus tubes with adhesions. To drain such a case is to say in substance to the patient, "we cannot open your abdomen, remove the abnormal growth, separate the unnatural adhesions, and close your abdomen without leaving your peritoneum in a condition that requires an open door." The "open door" policy is all right for China, but not for the peritoneum. The presence of a drain is a tacit admission that we have left something undone that we ought to have done, or that we have done something that we ought not to have done. Even in a case of cuppurative appendicitis or pelvic abscess, if we could enucleate the sac in its entirety and without contaminating the surrounding tissues, just as we do a simple pus tube, there would be no need of drainage; but since this cannot be done we must content ourselves with less complete work and leave nature to finish the job. Joseph Price, who is known as an advocate of drainage in certain cases, is quoted as saying, "drainage is an evidence of incomplete work." In a word, when we drain we do so because we cannot do better.

TREATMENT OF COMPOUND FRACTURES.*

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I have chosen as the subject of this brief paper "The Treatment of Compound Fractures," because of its extreme importance to all medical men, and more especially to the general practitioner. The operation for the relief of these cases is of the nature of an emergency operation, and as such, the general practitioner—especially in a country district—may be called upon at any time to perform it. Compound fractures occur most frequently about the leg, and vary greatly in the intensity of the injury. Many are exceedingly

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destructive, and on first sight seem to demand immediate amputation. One of the principal objects of this paper is to enter a solemn protest against indiscriminate amputations, and to urge upon the profession the extreme importance of making every possible effort to save an injured limb.

I shall never forget the remark made by a young practitioner some years ago when consulting with an older member of the profession—an honored ex President of our State Society. The case was one of persistent non-union of the bones of the leg following a comminuted fracture in an elderly man with poor healing power. The younger doctor urged amputation, and when asked for his reasons, stated that there was always more honor in performing an amputation than in saving a limb! Fortunately, the good judgment of the senior medical man prevailed, and the patient is now walking on two real legs, although it took months to produce the desired result. I know of nothing in surgery more distasteful than amputations, but, fortunately for our patients, the day of destructive surgery is past, and the era of life saving, limb-saving, conservative surgery is at hand and steadily gaining ground.

Of course, gentlemen, when limbs are already amputated for us by a railroad train or a saw-mill, we have nothing to do but to smooth up the parts and make them as useful as possible; but an amputation should *never* be done so long as the *circulation of the blood in the part is sufficiently good to keep it alive*. It matters not if all the muscles are torn through; these can be sewn together, or even, if lost, the resulting stiff limb, especially if a lower one is far more useful than an artificial leg. If the nerves are cut, we can often graft the ends together, or if unsuccessful in this, even these are not necessary to the life of the part. Extensive destruction of the skin can later be easily remedied by skin-grafting. *So that all we need is sufficient circulation of blood in the part*. It is remarkable how the blood vessels remain intact when everything else is destroyed. The most desperate case of this kind that I have had in my practice was in a brakeman whose elbow was caught between the bumpers of two cars. The joint was mashed into a pulp, and there was extensive destruction of the soft parts. The forearm was held to the arm by a small strip of skin and by the soft parts of the front of the elbow, fortunately including the main artery and the median nerve. After much difficulty and doubt, I rounded the bones off as best I could—making an artificial joint at the elbow,

and by X Ray examination made some time afterwards, I found that the bones were working almost as nicely together as with the original joint, though naturally not so strong.

Three years ago I had two cases almost exactly alike, in which a railway car was supposed to have run over the lower part of the leg above the ankle joint. Both tibia and fibula were crushed into small fragments, the muscles were all torn through, considerable skin was missing, and there was hardly anything left of the injured part except blood vessels and nerves. In each of these cases resection and wiring of the bones with necessary treatment of the soft tissues resulted in a solid and useful limb with about two and a half inches shortening.

The old treatment of compound fractures, where amputation was not done, was to dress the wound by the open method, packing daily with gauze, etc. The modern method is to close the wound, put on dressing, and then apply permanent splints.

By the old method, months and sometimes years were required to effect a cure. *By the new, if properly performed, union takes place almost as promptly as in a simple fracture*.

There are few more trying cases for the surgeon than a compound fracture of the lower limb treated as an open wound. It is almost impossible to keep such a wound free from infection, and when the broken ends of bone become septic they refuse to unite. Moreover, consider the various and complicated appliances necessary to immobilize the joint, and at the same time to permit of free access to the wound. These are only a few of the difficulties met with in such cases. I lay stress upon them to emphasize the importance of the strict carrying out of the modern method so as to get perfect results in every case.

If called to a case of compound fracture, I would urge you to do no probing, but to immediately wash the wound off thoroughly with a strong bichloride solution, and to cover it completely with cotton or gauze wet in the same liquid, or with sterilized gauze if you have any that is trustworthy at hand. If necessary to handle the wound, do so with the *strictest antiseptic precautions*. Now you can examine as to the circulation, and can temporarily immobilize the limb by the usual means. The patient should be prepared at once for the operation, and this should follow as soon as the general condition admits it. In most of my cases I have been able to operate within a few hours of the occurrence of the accident. In some few cases there has been a longer delay.

In one recent case the operation was obliged to be postponed until twenty hours after the accident. The result was fairly good, though not perfect, and the union was not firm until about the eighth week.

The technique of the operation varies, of course, with the part which is injured. Let me describe in detail the operation for compound fracture of the leg. While the patient is being anesthetized the part must be prepared by a thorough shaving of the skin in the vicinity of the wound; then scrub with sterilized soap and water, washing with ether, and finally with bichloride 1 to 500. This cleansing must be as thoroughly done as possible. In most cases the constrictor can safely be used. I prefer one of large soft rubber tubing applied to the thigh. For the arm a rubber bandage is safer. Although in many cases the skin wound may be very small, this is deceptive, and the disturbance is often found to be very great underneath.

The skin wound must be enlarged freely so as to perfectly expose the internal injuries. Fragments of bone and other debris have to be carefully removed. Throughout the entire operation it is well to irrigate freely with 1 to 3,000 bichloride, and to wash out thoroughly once or twice with 1 to 500 solution of the same. The constrictor prevents all danger of absorption of the chemical.

The ends of the broken bones require careful attention. If badly comminuted they *must* be sawn or chiseled so as to bring them into good apposition, all sharp edges being smoothed off to prevent subsequent laceration of the soft parts. In two cases, where the fractures were very oblique, I have prevented shortening of the limb by bringing the broken ends together laterally and wrapping them with several turns of silver wire. Fixing the ends together with silver wire or with large strands of kangaroo-tendon should be done in some cases when the bones cannot be kept securely together by splints. The objection to wire is that, in many cases, it acts as a foreign body, and later sets up irritation, which necessitates its removal by a secondary operation. About the leg, we can usually hold the bones together without wiring.

I do not wish to give the impression that I am opposed to the wiring of bones, for this procedure is invaluable in operations where there has been bad union or where the bones are not held readily together. However, in fresh cases, I am growing more and more to favor the fastening of the ends of such broken bones with large threads of kangaroo tendon, which has

strength and lasting quality enough to hold them until sufficient callus has formed.

Before adjusting the bones, diligent search should be made for injuries of the various soft structures. Divided nerves may be repaired by freshening their ends and suturing carefully together with fine silk. Torn muscles should be smoothed up and brought together with catgut stitches. Veins and arteries have, of course, to be tied to prevent hemorrhage. Care must be taken to prevent the bones pressing against the large vessels of the part. In most cases I do not remove the constrictor until the dressings have been applied, unless there is fear of secondary hemorrhage when I have the constrictor loosened to find the bleeding points, and when remedied, re-applied. This is important, permitting a clean dry wound and one free from blood clots.

Only when the circulation in the limb is very bad the constrictor should be done away with altogether.

After the bones are adjusted an assistant should hold the limb firmly and securely until retention splints are applied.

It is best to suture the skin together with catgut, *very loosely*, leaving spaces for drainage between the stitches. No drainage tubes or packings of gauze are used, the pressure of the dressings sufficing to force out any serum that may collect in the wound. The part should be thoroughly enveloped in iodolorm gauze, followed by several layers of sterilized gauze. In these cases I am partial to the use of the German moss, which is prepared in pads of convenient size, and about half inch thick. The pressure exerted by this soft, spongy material is so uniform and free from discomfort that I employ it in a great many of my operations. For the leg two pads are applied, one behind and one in front. Short coaptation splints are applied next. Then the whole limb from toes to hip is enveloped in cotton and securely bandaged. The best splint material is found in thin veneering, which is a refuse from wood factories. It is cut into long strips and applied to the entire limb, one piece passing around the sole of the foot and extending up both sides of the leg like a stirrup. Finally, the whole is enveloped in wet starch bandages made of ordinary starched crinoline, such as is used in the manufacture of hats. When dry this material makes a bandage as secure as plaster, with much less weight, and with the advantage of elasticity.

I have entered thus into detail because the dressing of these cases is all-important to the

ultimate perfect result. If properly performed, with all details thoroughly attended to, these cases should now do as well as cases of simple fracture. The bandage should be kept tight, cutting and applying fresh bandages when needed.

Within a few days after the operation a thorough X ray examination should be made to be sure of the position of the bones. The materials used for dressings and splints in no wise interfere with the penetration of the light. It is of great interest also to repeat this examination from time to time, so as to watch the formation of the new bone tissue, as well as to guard against the occurrence of any late displacement.

The first change of dressing should not be done for at least four weeks. At that time the wound ought to be entirely healed and the union firm. To be on the safe side, it is best then to put on a light plaster cast and leave it for one to three weeks.

Compound fractures of the thigh are more difficult to treat. In many such cases, wiring must be done. Draining of the wound is more difficult on account of the thickness of the soft tissues; and in order the better to accomplish it, I am in the habit of turning in the skin at the most dependent part of the wound, thus lessening the depth. No drainage material should be employed because that would require an early dressing of the wound for its removal. The dressings have to be applied with considerable pressure, the splints should extend from foot to waist, and the limb should be suspended.

In compound fractures of the forearm, the limb must be bandaged to the side of the chest which acts as a splint.

I wish to lay especial stress on the constitutional treatment of cases of compound fracture. I believe that in all surgical work we ought to pay more attention than we do to our patient's healing power, and especially in cases of this kind. Here we want the very best of conditions, so that the tissues, both soft and bony, shall unite quickly and thoroughly. Good nourishing food should be given, and a great deal of it, plenty of pure water to drink, mild cathartics, and strong doses of strychnia and iron, with cod liver oil and iodides in the appropriate cases. My own experience teaches me that lime is a great bone healing remedy, and of late I have been giving it in all of my cases of fracture. I prefer it in the form of syrup lactophosphate of lime.

In conclusion, I would emphasize the fol-

lowing important points in the treatment of compound fractures:

1. Free opening of wound.
2. Removal of all useless torn tissues.
3. Thorough disinfection.
4. Good coaptation of bones.
5. Loose closing of wound.
6. Firm pressure dressing.
7. Constitutional treatment.

I shall not tire you with a statement of cases. Suffice it to say that in the large number I have treated in my own practice, the results have been most gratifying and uniformly successful; and though in a few cases union has been somewhat delayed, I cannot recall a single case where I have had to treat by the old method.

SURGICAL INDICATIONS IN PURULENT EAR DISEASE.*

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My object in bringing this important subject before you is to impress the importance of early, prompt, systematic and efficient treatment in a class of cases which have, until recent years, been too carelessly and ineffectually treated. The pathologic and etiologic factors in such cases are being more thoroughly studied and better understood. We are to day better able than ever before to appreciate the extreme gravity of such conditions, and now know that a discharging ear is a standing menace to life instead of, as formerly, being considered a mere inconvenience. We now regard the condition seriously, and do not rest satisfied until the discharge is cured.

Nearly 20 per cent. of all ear cases belong to the class of otorrheas. Acute or chronic suppurative conditions of the middle ear have their origin variously, and are most common in childhood, usually beginning with what is commonly called "earache." The larger proportion of earaches are inflammatory rather than neuralgic in character and the result of sub-acute or acute catarrh of the middle ear, due to cold in the head, the eruptive fevers, as measles, scarlet fever, etc., influenza, diphtheria, sniffing cold fluids into the nose, bathing, or as complications of acute infectious diseases,

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as bronchitis, pneumonia, whooping cough, tuberculosis, cerebro spinal meningitis and syphilis, infection usually taking place by way of the naso-pharynx, through the Eustachian tube. The knowledge of the causal relation which naso-pharyngeal diseases bear to suppurative conditions in the middle ear is rendering the treatment much more effective. Hypertrophy of pharyngeal tonsil—adenoids—enlarged tonsils, deviated septum spurs, enchondroses, polypi and hypertrophied turbinals are the primary causes of more otorrhœas than all other causes combined, especially when present during an attack of the acute infectious diseases, as influenza, measles, scarlet fever, diphtheria, etc. Chronic suppuration is but a sequel of acute suppuration and full of import to the afflicted patient. While the laity, and unfortunately some members of the medical profession, who are not well informed upon the consequences of the disease, minimize its importance, and advise that it be left alone, and that children will outgrow it, the patient's life may pay the penalty of its neglect. The disease may outgrow the patient. The close relation of the tympanic and cranial cavities should suggest to the mind of every thoughtful physician the importance of prompt and skillful interference with the progressive destructive ravages of the suppurative process. It is not self limited, it does not tend towards resolution, but toward dissolution, and no trifling makeshift is pardonable. The whole tympanic cavity is usually affected; in fact, I believe all acute or chronic infectious inflammatory processes are not confined solely to the drum cavity, but involve the mastoid antrum as well. The ossicles become necrotic, epithelial formations accumulate and block up the cavity, forming what are known as cholesteatoma. The disease may extend to the labyrinth; this is infrequent—more frequently, as said before, extending to the mastoid antrum and cells—and thus carious processes set up in drum cavity and mastoid, and thus encroach upon the facial canal and sinuses; hence, as an offspring of middle ear suppuration we may have mastoid suppuration, phlebitis, sinus thrombosis, meningitis, subdural abscess, pyæmia, and abscess of the brain, with its attendant phenomena.

Given, then, a suppurating middle ear, how shall we treat it? The complete removal of all obstructive conditions to respiration, such as adenoids, enlarged tonsils, spurs, deviated septum, hypertrophied turbinals, conjoined with suitable local medicinal measures, is often all the treatment that is necessary, if the case is

seen early, before any necrotic process has taken place in the tympanic or neighboring structures. How long are we warranted, in acute or chronic cases, in using medicinal measures, before resorting to surgical proceedings? Every observer is ready with his own answer. The pendulum has swung to and fro. At present, our German cousins have become extremists and adopt ultra radical measures in all chronic suppurations by treating such conditions by the mastoid operation. When indicated, it undoubtedly should be done and done promptly, but other and more conservative measures should be given a fair trial. I would not be understood to say that conservatism is synonymous with good sense at all times. There is a time when delay is dangerous, and hesitation may cost the life of the afflicted. For just such cases as these the tympano-mastoid operation is necessitated.

In answering this question, I have reached the conclusion that in many cases the mastoid may be involved, and yet present neither tenderness nor swelling over the mastoid. This applies as well to chronic cases; hence I make it a rule in the event of discharge continuing after three or four weeks of antiseptic cleanliness and enlargement of drum opening, if necessary for drainage, to operate.

In all chronic cases, or where chronicity supervenes, where we have to contend with polypi, granulations and necrotic tympanic structures, surgical measures must be used. What measures shall be adopted? Radical treatment? Yes. Radical treatment means the institution of active surgical measures, as much as and no more than necessary, as against the delay, linger and wait methods of ultra-conservatives. My application of radical advances in such conditions begins with the use of surgical good sense at the right time. Then surgical measures may begin with the removal of adenoids or other obstruction to free respiration or tympanic drainage. It may mean the removal of carious or necrotic ossicles or tissues therein, as polypi and granulations. It may mean the opening of the mastoid antrum and cells, and removal of other tissues made necessary by involvement in the diseased process, as the tympanic structures or opening into the cranial cavity for the purpose of evacuating an abscess formation.

In cases having lesions of the middle ear, such as necrotic ossicle, polypi and intra-tympanic granulations, although successful attempts at removal by way of the external ear can be made, yet there is always danger in rekindling a smouldering point of infection,

making the mastoid operation subsequently necessary.

The following histories of recent cases are samples of the above:

Female, æt. 28, consulted me September 2nd last with history of both ears discharging for years—since childhood. Recently left ear very dull of hearing with profuse discharge. Now cannot hear watch on contact with left. R. contact. Examination reveals both drums gone with large granulations, polypoidal masses at site. I advised removal, but under cocaine had to desist, due to pain; and, on 9th instant, a week later, under chloroform, carefully removed the granulations and polypi from each ear. All went well in right ear, which ceased discharging and became dry and cicatricial. The left, however, continued to discharge more profusely with deep-seated pain, not over mastoid, and fistulous opening at meatus at post superior wall. No fever. No mastoid tenderness or swelling. On September 29th, I advised opening the mastoid, which was done on October 1st; and, on gaining entrance to antrum, through dense bone, it was found filled with cholesteatomous masses, pus and debris. This was thoroughly curetted, wound dressed and patient remained in hospital one week, all discharge ceasing, and has since made a complete convalescence with hearing watch at two inches. This case illustrates what has been referred to before, viz.: that some mastoid cases present neither tenderness nor swelling over the mastoid, discharge and restlessness alone showing the necessity for operation.

CASE II.—Female, æt. 58, was seen first time June 22d last with right ear discharging since February 23d of this year, result of grippe. Now canal swollen so that drum could not be seen, but perforation whistle elicited. Two fistulous openings at entrance of canal, one inferior and one posterior, with granulations present and profuse discharge therefrom. These were removed and fistulæ enlarged, but no improvement followed treatment. At no time could tenderness or swelling be noticed over mastoid antrum or tip. On July 27th, I emphasized the importance of opening the mastoid, which was then done, and on gaining entrance to antrum, through thick dense bone, it, with mastoid cells, was found filled with old granulations. These were thoroughly curetted, and since patient has made a complete recovery. Wound of ear cicatricial and hearing watch at 15 inches. Urine shows glycosuria and albuminuria both before and after operation. Sclerotic mastoids (externally) are usually seen beyond middle life (45 years), whilst the inte-

rior remains spongy, thus allowing suppuration in the depths, with no tendency to speedily work outward, and these indicate that an early operation should be done to prevent cerebral complications. This again illustrates not only the necessity for early operation in cases where discharge cannot speedily be arrested by other means, but also the necessity of opening the mastoid when neither pain nor swelling is present.

In this connection, permit me to briefly refer to the history of a case of cerebellar abscess of otitic origin, which I reported in the *Journal of the American Medical Association*, April 8th, 1899.

On February 2d, 1899, I was asked to see a boy, whose right ear had been discharging three years, result of typhoid fever, since which time he had not been in good health, irritable, peevish and illy nourished. From time to time relapse of the otorrhœa would occur, and one year ago manifested certain cerebral symptoms—vomiting, nausea and vertigo—followed by a cessation of discharge and coma, and as a result death was looked for and so thought by his attending physician, but suddenly an immense discharge of pus took place from his ear, and in twenty-four hours he was up and about, and had continued so up to a week before I saw him, when his family physician was asked to see him, the boy complaining of pain indefinitely located over right side of head, discharge from ear being slight. When I saw him, pain and irritability were marked; canal was free, drum perforated at anterior inferior quadrant low down, and no discharge; no redness or tenderness over mastoid antrum or tip; temperature 99, pulse 72; eye ground normal; no sensory or motor paralysis; intellect clear; speech unaltered. The advisability of opening his mastoid for the relief of the continued pain, which would yield to no therapeutic measures, was considered and done next day. A small amount of cholesteatomatous material was removed from the antrum and communication established, with tympanum and external ear. He continued free from pain, restless and apathetic, losing strength and flesh. Temperature and pulse normal. On the 9th day after the operation he became semi-conscious, head retracted, pupils dilated, eye ground normal. I suggested to the parent the serious character of the boy's condition and that his trouble was in the brain—suspecting either a cerebellar or an extradural abscess. The absence of temperature, rigors, and chills excluding sinus thrombosis and meningitis, operation was ad-

vised and permission granted, but inability to reach the boy's home, on account of the blizzard, prevented, the boy dying on the 11th day after operation.

Autopsy showed a large pus cavity in right lobe of cerebellum, infection having taken place, not by the mastoid antrum through the lateral sinus groove, but the necrotic process had made an opening 2 mm. in diameter through the tympanic wall anterior to and above the lateral sinus, thus invading the cerebellum. The abscess capsule was found very thick, giving evidence of different stages of inflammatory activity, thus explaining his miraculous recovery of a year ago.

This case illustrates the dangers from complications by delay in radical measures on purulent ear disease as well as the necessity for surgical procedure without the classical symptoms (tenderness and swelling) of mastoid disease.

In summarizing, I would say the surgical indications in purulent ear disease are:

In acute cases—

(1) Removal of all obstructive conditions to respiration, and proper ventilation of tympanic cavity, viz.: adenoids, enlarged tonsils, deviated septum, spurs, enchondroses, polypi and hypertrophied turbinals.

(2) Enlarge opening in drum, if too small, to permit free drainage.

(3) Opening the mastoid, if discharge continues after three or four weeks of persistent antiseptic cleanliness.

In chronic cases—

(A) Careful removal by the auditory canal of granulations, polypi or necrotic tympanic structures as thoroughly as you can.

(B) Discharge continuing, the mastoid operation must be done:

(1) For the removal of necrotic bone, either in tympanum or mastoid antrum and cells, as this is the only means of eradicating the germs of infection.

(2) When granulations and polypi recur after removal.

(3) In long standing purulency, which cannot be arrested otherwise, even though the patient is not suffering, to prevent further complications.

(4) Tuberculous and cholesteatomatous processes can only be removed by the mastoid.

(5) Relapsing cases should have the radical operation done to prevent complications.

(6) In abscess of the brain, cerebellum or sinus thrombosis, having their origin in purulent ear disease, the preliminary mastoid operation should be done.

(7) After a fair trial by these radical means and purulency continues, the mastoid operation is the surest and safest way of eradicating it.

(8) The mastoid operation, when done early, not only saves and improves hearing, but in many instances averts death, through complications.

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THE RATIONAL TREATMENT OF HEPATIC COLIC.

By H. RICHARDSON, M. D., Baltimore, Md.

Mount Hope Retreat, etc.

The liver is the largest organ of the body, discharging many important functions, not the least of which is the elimination of certain waste products by means of the bile. By the bile is eliminated the cholesterine, a product probably of nerve metabolism, as well as bilirubin, and some of the poisons which are arrested in the liver. Besides its excretive function, the bile is also of service in the assimilation of fats and in neutralizing the hydrochloric acid from the stomach, thereby precipitating proteids held in solution.

It is evident that to maintain the body in equilibrium, it is necessary for the liver to pour a sufficient volume of bile into the intestine; and should that quantity be markedly decreased from any cause, there will result an imperfect elimination of waste products, and also a decreased nutritive assimilation. The active principles of the bile, so to speak, are the bile salts, viz.: glycocholate and taurocholate of soda, which hold the cholesterine and the coloring matters in solution.

Cholesterine, the substance of which gallstones are usually composed, is extremely intractable, being insoluble in water or cold alcohol, though soluble in hot alcohol; therefore it is impossible to give a solvent by the mouth which can, by any chance, be efficient with the exception of the bile salts. Glycocholate of soda is re absorbed from the intestine under normal conditions, and consequently the amount of bile salts in the liver can be increased by its administration by the mouth.

Of all the drugs described in the materia medica as cholagogues it has been proved, over and over again, that not one of them will increase the flow of bile except *fel bovis*; but the dried ox bile of the drugstore contains all the impurities which it is the function of the bile to eliminate. The *fel bovis purificatum* is very little better—only the mucoid substance being removed in the so called *purificatum*. The

adult secretes from 500 to 800 c. c. of bile in the twenty-four hours, containing about 1 per cent. of bile salts; consequently, there are about 5 to 8 grammes (80-120 grs.) of glycocholate of soda utilized per diem.

In the laboratory at the Mount Hope Retreat experiments were tried as to the solubility of a cholesterine gall stone, and also of a pigment-stone in a 1 per cent. solution of glycocholate of soda. The pigment-stone broke up and dissolved readily and the cholesterine stone more slowly.

It therefore occurred to the writer that glycocholate of soda would at least prevent the formation of gall stones, and probably slowly dissolve those already formed *in situ*. This treatment has been tried in five cases of recurrent hepatic colic with complete success, no attacks having occurred since the commencement of the treatment, which consisted in the administration of 5 grains of glycocholate of soda* three times daily at first, decreasing to 5 grains once a day.

In one case, there has been no attack for nearly two years, though previously they had occurred every two or three months; in the other cases, no attacks have occurred for from one year to six months.

The writer has also used it in several cases where there appeared to be a hepatic trouble, where the skin had the dirty yellow discoloration or the so-called "liver spots," often seen in chronic malaria, with marked success, the skin becoming normal in color and the general condition improving. The use of nature's solvent for cholesterine, and for coloring matters, appears to be a rational method of treatment, and the results detailed above confirm it.

Proceedings of Societies, etc.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON ORTHOPÆDIC SURGERY.

(Meeting of October 19, 1900.)

The Diagnosis of Potts' Disease.

DR. H. GIBNEY read a paper on this subject, which paper was illustrated by the exhibition of photographs and the presentation of patients.

CASE I. *Cervical Potts' Disease*.—Girl 8 years of age. Marked deformity from disease of long duration of several of the cervical vertebræ,

* Supplied by Messrs. Hynson & Westcott, of Charles Street, Baltimore, Md.

with scars of abscesses below the site of the disease. Treatment had been discontinued in the summer of 1900. The child had worn a head support, combined at first with a plaster of Paris jacket, and afterwards with a Knight's spinal brace.

Pain near the seat of the disease, which is often absent in the other regions, is a common symptom in this region, with a sensitive area at the side of the neck, severe pain with voluntary motion of the head and neck and apparent torticollis, yielding easily to traction applied in such a manner as to hold the head in its normal position. Before treatment, relief was sought by a supporting hand held under the chin. Abscesses are not an uncommon incident of cervical disease, detected by an examination of the posterior wall of the pharynx or burrowing under the superficial muscles of the neck.

CASE II. *Cervical and Dorsal*.—Boy 5 years of age. Affected for 2½ years with disease extending from the middle cervical to the middle dorsal region. Two abscesses had opened spontaneously at the sides of the neck under the sterno cleido mastoid muscle. He had worn a plaster of Paris jacket and a jury mast for 18 months.

A grunting noise with each expiration is almost characteristic of cases of the dorsal region, and an early diagnosis is greatly assisted by the occurrence of gastralgia and the appearance of a careful gait and a peculiar apprehensive attitude, expressive of timidity and insecurity, and an instinctive desire to avoid disturbance of the diseased vertebræ. The first sign of a kyphos is seen in a slight angle breaking the long natural curve of the spinous processes observed in profile as the patient lies prone.

CASE III. *Tenth Dorsal—First Stage*.—Girl 8 years of age. Under observation since May 5, 1900, and regarded for a time as a case of lateral curvature with a hyper-sensitive, almost neuralgic, condition of the spine. Very recently, a suspicious point had been detected at the tenth dorsal and treatment would now be by a Knight's support.

Dr. T. H. Myers said that lateral curvature often attended incipient Pott's disease and obscured the nature of the more serious affection, as had occurred in the present instance. He thought that these doubtful cases should be considered as caries of the vertebræ until a positive diagnosis could be made.

Dr. H. S. Stokes said that in obscure cases of early Pott's disease the plaster of Paris jacket was valuable as a means of verifying the diag-

nosis. In cases in which there was at first no apparent deformity if the jacket were applied and left on for a time, then removed, the kyphosis, if present, would be seen at once. This effect was seen too soon to be due to further progress of the disease, nor could it be said that the jacket had caused the kyphosis. In a doubtful case, showing no deformity, he would apply the jacket as a diagnostic measure.

Dr. A. B. Judson said that similarly the tumor or white swelling of the knee became more obvious soon after the beginning of mechanical treatment, probably from pressure and restraint applied to the soft parts.

DR. GIBNEY resumed his presentation of patients as follows:

CASE IV. Dorsal Lumbar.—Girl 2½ years old. Affected with disease of the dorso-lumbar region of nine months' duration. No abscesses. The spine had the marked rigidity which attended disease in this region, and marked gastralgia had been a part of the history of the case. A plaster of Paris jacket had been applied at first, but lately a recession of the deformity had been observed to follow the strict application of a Bradford frame.

CASE V. Eleventh Dorsal—Third Lumbar.—Girl 13 years old, who had recently come from Russia with a very marked kyphosis. But little had been learned of the history and treatment. Sinuses were discharging at points where abscesses had opened spontaneously. The gait and attitude were very characteristic of disease in this region. A Knight's support had been applied, and, as the child's general condition was fair, the prognosis was good.

Dr. Myers said that the characteristic attitudes of Pott's disease, although early and important signs, were also seen in osteitis of a syphilitic or malignant origin. It was, therefore, important to consider the personal and family history, the age, the location of the disease, and the mode of onset, as well as the pain and tenderness. The fourth patient presented had been free from pain in the abdomen and legs. Pain in the terminations of the nerves was not so early or so prominent a symptom in the lumbar as in the dorsal region, while local tenderness was more apt to be recognized in the cervical region, where the affected parts could be more easily palpated than in the other spinal regions. In the cervical region, the vertebral articulations might become infected by organisms gaining access from the pharynx after measles or scarlet fever with resulting muscular spasms and malpositions of the head simulating those of Pott's disease, and it might

be a long time before it could be decided that a post-pharyngeal abscess had its origin in vertebral caries. A long time might also elapse before it could be known that a traumatic osteitis in the cervical or lumbar region had become tubercular. There were absolutely no pathognomonic symptoms.

Dr. J. P. Fiske said that he had not as yet seen a case of traumatic spine go on to tubercular caries.

Dr. Judson said that Pott's disease presented some unexpected features, such as the occurrence of pain in the front of the trunk while the disease was in the back. Some patients also, with serious and purulent destruction of bone, maintained the appearance and general ability of robust health. This affection, justly compared with fracture of a central and most important part of the skeleton, was as a rule so free from local pain and disability that when these symptoms were persistent and exaggerated Pott's disease gave way to malignant disease of the vertebræ as a probable diagnosis.

Dr. Myers said that the diagnosis of the latter affection would be assisted by consulting the following clinical features: Rapid emaciation and loss of strength, every motion exquisitely painful, pain constant but motor paralysis less constant, marked muscular rigidity, kyphosis absent or late in its appearance, occurrence at any age.

Dr. Fiske said that as they all had deformity the presentation of these patients failed to throw light on the most important question, that of making an early diagnosis. Diagnosis before deformity was an extremely difficult thing, and proportionately important and desirable. Suspicious spinal symptoms might be produced by rheumatism, by neurotic reflexes, myositis following a blow by some other and more obscure muscular lesion. He had seen cases in which circumcision had dissipated spinal symptoms which had been hard to interpret. Muscular spasm or spinal rigidity could not alone support a diagnosis of tuberculosis of the spine.

Dr. C. R. L. Putnam recalled the history of a case which he had observed in a foreign hospital. A man, 45 years of age, totally paraplegic, was thought to have disease of the first and second lumbar vertebræ with a tubercular abscess pressing on the spinal cord. The removal of two laminae revealed the presence of an echinococcus cyst behind the theca. The result was unfavorable.

Dr. Myers had seen a tumor of the lower cervical cord produce not only symptoms of pres-

sure on the cord but also the local pain and muscular rigidity which usually attend vertebral disease.

Dr. F. A. Goodwin, of Susquehanna, Pennsylvania, said that railway brakemen, from their custom of jumping off and on trains in motion, frequently received spinal injuries accompanied by rigidity, pain on pressure and other symptoms of true Pott's disease. Perfect rest for a long time, however, almost always cleared up the diagnosis. It had been his misfortune to see a number of patients in whom the diagnosis of Pott's disease had been inexcusably postponed by eminent authorities. He instanced the history of a little boy who had been treated for asthma and other affections without an examination for kyphosis which had existed to a marked degree for a long time, during which grunting expiration, pain, inability to stoop and rigidity of the spine had been obvious features of the case. On the other hand, he had made a diagnosis of Pott's disease in a little girl who had a board-like rigidity of the spine. She could not stoop to pick up a coin from the floor without putting a hand on the knee for support. Her recovery without treatment was explicable by the supposition that there had been synovitis of the costo-vertebral and costo-transverse articulations. He thought that a diagnosis before the appearance of deformity was exceptional and recognized the inherent difficulties of the situation.

Dr. L. W. Ely referred to the opinion which prevailed among general practitioners that Pott's disease in the dorsal and lumbar regions was attended by sensitiveness to pressure on the spinous processes. Although this supposition was not unreasonable, in view of the nature of the lesion, the fact was that this symptom was of very rare occurrence. Running the fingers down the spinous processes in a doubtful case, was of almost no value in making a diagnosis.

Dr. G. R. Elliott said that in a rapid carious process, we had the full quota of symptoms clearly defined, while a slow morbid action gave but few and obscure indications. The X-ray had been a disappointment in this field. It had failed to reveal a deposit before the appearance of deformity. What was desired was an early diagnosis—a diagnosis before deformity which, of itself, made the diagnosis without the assistance of symptoms or any other signs. A most important early symptom was abdominal pain. How often are we told of the postponement of a spinal examination in favor of treatment for intestinal disturbance until an

early diagnosis was impossible? A child should be examined with all the clothing removed. In no other way could the obscure signs be recognized. The enlarged abdomen was another important early sign. The contraction of a psoas muscle, exposing one to the risk of a faulty diagnosis of hip disease, might be the earliest sign of Pott's disease. He recalled the case of a child who was said to have cervical caries of two months' duration following scarlet fever with rheumatism. There was painful spasm of the muscles of the neck, the head resting on the shoulder and a hand supporting the chin. The symptoms all disappeared without fixation after treatment by simple suspension. On the other hand, a patient with supposed rheumatism of the spine, whose symptoms included pain in the back, stiffness and misunderstood reflex spasm, was bathed, rubbed and shaken up for three months, and, after vigorous anti-rheumatic treatment had lasted for a year, the appearance of kyphosis determined the diagnosis.

Dr. Gibney said that photographs clearly presented the attitudes, but failed to display the characteristic movements and deportment of the patient affected with Pott's disease. There was in his collection, however, one which graphically copied (see the accompanying figure) the over-erect attitude which was



Equilibrium disturbed by kyphosis of Pott's disease and restored by lordosis.

assumed by the patient's entire figure and threw light on the mechanism of the production of the lordosis which appeared as a compensating curve below the kyphosis.

CLINICAL SOCIETY OF MARYLAND.

BALTIMORE, November 2d, 1900.

The meeting was called to order by the President, Dr. W. J. Todd, who, in assuming his new duties, delivered a brief address.

Case of Acromegaly.

DR. J. HALL PLEASANTS exhibited a colored man, the subject of acromegaly associated with gigantism. The man was of enormous size, the hands and feet particularly showing huge development. For years he had been unable to secure shoes large enough to fit him. All the usual signs of acromegaly were present. Skiagraphic pictures of the long bones and of the bones of the hands and feet were exhibited, showing very well the peculiarities belonging to this disease.

The doctor referred to the literature upon this subject, calling especial attention to the possible relationship between acromegaly and gigantism, and briefly considered the treatment of this affection.

DISCUSSION.

Dr. Osler: I have been very much interested in the treatment of acromegaly, having had some four or five cases here, three of which were under observation for a prolonged period of time. All of them received very thorough and rigid treatment with thyroid extract without any of them receiving the slightest benefit. One patient lost a little weight at first under the use of the drug, just as any patient treated with thyroid will; but in one case, the well-known "Pauline," the patient actually thrived on the extract. Two of our cases took pituitary also without any benefit.

There is one very typical case of this disease in this city—a colored woman who has not a very large frame, but whose face and hands are perfectly characteristic. I have seen her several times on the street cars.

It is a very remarkable disease, and I am inclined to hold with Marie in the non union of gigantism with acromegaly. The matter is still under observation and discussion, however. I might mention an interesting historical point in reference to the disease in this country. I was on the staff of the *Medical News* when Marie's report came out, and Dr. Hays sent me the paper with the request for an abstract and an editorial. The following week I went to Toronto, and one of the physicians asked me to visit a remarkable case he had in the hospital. I went with him and saw

a perfectly typical case of acromegaly. It was one of the two first cases reported in this country. The other was a merchant who had a very beautiful wife, and they came to be known as the "beauty and the beast."

Dr. Randolph: These cases usually show a primary optic nerve atrophy in the later stages, and in the case to which Dr. Osler has referred there was a very singular sector like defect in the field. It might be interesting to have such an examination made here if it has not been done.

Dr. Pleasants: I asked Dr. Friedenwald today to examine the eye, and he attempted to do so, but the patient would not submit to an examination at the time, and we had to desist.

Dr. Osler: Dr. Randolph's remarks remind me that it was an ophthalmologist who first made the diagnosis in one of these cases, basing his opinion upon the peculiar appearance of the field.

Dr. Paton: In this connection, I would like to remark that there have been a few cases of enlargement of the pituitary body without acromegaly. To-night, before coming here, I tried to find some sections of this kind that I have in my possession. Undoubtedly, in all the cases of acromegaly, with reliable observations, changes in the pituitary body have been found, but there are a great many changes in the pituitary body without symptoms of acromegaly, so that the hypothesis used to explain the latter affection is not as strong now as it was a few years ago.

A series of reports on the *Men and Papers at the International Medical Congress, held in Paris, August, 1900*, were then presented.

The first, dealing with the *Section on Otolology*, was presented by Dr. J. J. CARROLL.

The Section of Otolology in the International Medical Congress was presided over by Dr. E. Gelle, and included in its membership many well known men, such as Politzer, Hartman, Dundas Grant, Pritchard, Meniere and others. The average number attending the daily sessions was about 60 or 70. While the United States had her full quota of doctors at the Congress, many of her best otologists were not present. The entire programme consisted of about 57 papers, not one of which was written by a delegate from the States. In the absence of Dr. Katz, of Berlin, an American, acting as his substitute, exhibited some transparent, microscopic preparations of the middle and inner ear. He was the only American to respond to a number on the programme.

The subject discussed covered pretty well the entire field of otology. Beside individual pa-

pers, reports were made upon important topics as follows:

1. A project to make the recording of hearing tests uniform. Drs. Schiffers, of Liege, and Hartmann, of Berlin.

2. Hearing exercises in the treatment of deaf mutes. Drs. Urbantschitsch, of Vienna, and Schwendt, of Basle.

3. Surgical treatment in sclerosis of the middle ear. Drs. Siebenmann, of Basle, and Botey, of Barcelona.

4. Otitic pyæmia. Drs. Grant, of London, and Brieger, of Breslau.

5. The causes and treatment of the vertigo of Meniere. Drs. Pritchard, of London, and Moll, of Ernheim.

6. Toxic diseases of the labyrinth. Drs. Gradenigo, of Turin, and Kaspariantz, of Moscow.

The paper which probably represented the hardest work and elicited the liveliest interest was the report upon hearing exercises in the treatment of deaf mutes. The subject was not an unfamiliar one to the members of the Congress—some of them recalling, perhaps, the experiments of Ernaud in 1761, of Pereire in 1768, and of Itard in 1802, while among the more modern workers in this line they would have thought of Toynbee, Jager, Gallaudet and Javal; but no doubt the one who has of recent years labored most over the method, and brought it most prominently before the world, is Urbantschitsch, one of the two men who prepared the report.

In 1888, he tried the exercises on a deaf and dumb boy who could hear only letters when shouted very loudly in the ear. In the course of the experiments the boy gradually became able to hear spoken sentences at from two to four feet, and finally, at the end of two years, he was able to follow a class in one of the common schools. This observation prompted him to give the matter greater attention, and his subsequent efforts have been rewarded with even better results. The method is about as follows:

In a great many deaf mutes, who are thought to be totally deaf, there is a remnant of hearing power capable of being developed, and this may be brought about by loud sounds produced either by the voice or by suitable instruments. Let us suppose, for example, a patient who cannot hear loud conversation nor the sounds of the tuning fork. In order to detect the amount of hearing left, a vowel like A or O is shouted repeatedly into one ear. If no response is given, a funnel is made of the hands so as to intensify the sound, and the

different vowels repeated in a loud voice close to the ear. If still no response, loud notes of the accordion are used to awaken, as it were, the dormant powers of the labyrinth. An interesting experiment by Urbantschitsch may serve as an illustration. The patient was a 22 year old deaf mute, who, after repeated exercises with the vowels, was able to tell the difference between them with the right ear; the left ear, however, showed only the slightest trace of hearing. He then supplemented the exercise by the use of the accordion as follows; While shouting the vowel A in the left ear (worse ear), and at the same moment sounding the corresponding note of the accordion in the right ear, an effect upon the auditory apparatus of the left ear was at once apparent. By repeated tests, he was convinced that it was not the passing of the sensation upon the right ear to the left, because as soon as the calling of the vowels was discontinued, although the accordion was still being sounded in the right ear, every trace of sensation in the left ear immediately disappeared. From this and other observations, Urbantschitsch maintains that auditory sensations, present in the perceiving apparatus of one ear, can excite the acoustic centres of the other, therefore, by making the two ears hear, the better ear may help the worse, but the converse does not hold good, namely, that the worse ear may help the better.

When the ear has been aroused to hear the loud notes of the accordion, and has learned to appreciate the different vowels, the exercise is continued with consonants, then according to the progress made with words, phrases, and sentences. Hearing in deaf mutes seems at times to be favorably affected by more or less continuous sound, as is shown by a deaf man who gradually regained his hearing by methodical exercises. This patient told Dr. Urbantschitsch that when he spoke out loud he could not at first hear anything, but after a few minutes of continuous loud talking, he could discern first, letters, then syllables, words, and finally, whole sentences.

The difficulties met with in this method are numerous. The exercises themselves are apt to become tiresome to the children and monotonous to the teachers. The results are gained very slowly, and only after months of constant application for the pupils, and with a rare amount of patience on the part of the instructors. On account of these difficulties, this system has been confined to institutions for the care and education of deaf mutes. For very small children, still too young to enter such institutions, the nursery should be supplied

with a goodly number of wind and stringed musical instruments, music boxes, bells, etc. For children about three or four years of age, a fair supply of picture books should be on hand, and the daily lesson should be the calling aloud the name of something in the book or around the room while at the same time pointing to the object itself. After six years of age the regular hearing exercises may be systematically carried out. The importance of having intelligent, faithful, patient, persevering teachers cannot be exaggerated. They should engage and keep the interest of their unfortunate pupils in the work, and should be quick to see just how much exercise an ear can stand, for when the ear becomes fatigued by such exercises, the hearing power rapidly diminishes and the lesson should be immediately interrupted and not resumed until the next day.

This method of treatment for deaf mutes is not without its opponents. Politzer and others who have examined the pathological anatomy of such cases contend that hearing exercises can have no effect upon a labyrinth destroyed almost entirely by a morbid process. Bezold, while appreciating the argument of the opponents, is, nevertheless, in favor of the method, and claims that it can produce an increase in the perceptive power, and a development of those parts of the labyrinth which have remained more or less unaltered by disease. He advocates the hearing exercises only for those deaf mutes who learn to hear sounds, after a certain number of exercises, and he thinks that in institutions there should be two groups of pupils, one capable of being taught by this method, and the other to remain under older methods.

The consensus of opinion among the otologists of the Congress was, as far as I could judge, that while the deafness is total or nearly so, it is useless to employ the hearing exercises, but that those subjects who possess an appreciable amount of audition should have the hearing exercises, and, as helping agents, the phonograph and musical instruments which have agreeable tones, such as the piano, organ, accordion, etc.

If we consider the practical value of this method by improving the modulation of the voice—by giving deaf mutes a form of language, by throwing around them a safeguard in their ability to hear sounds of approaching danger, especially in the crowded streets of large cities, and by enabling them to understand spoken language—I think we may, with reason, consider the adoption of the same system

for the benefit of the 41,000 deaf mutes in our own country.

SECTION ON GYNÆCOLOGY.

Dr. T. S. Cullen said that in the gynæcological section there was not much which was absolutely new. Most of the prominent and best known representatives from the continental countries were present. The principal papers dealt with the conservative treatment of myomata. They seem to be adopting the conservative plan of myomectomy in place of hysterectomy more and more.

Cancer of the uterus was considered, but the discussion turned principally on the question of treatment. Orth recommended the vaginal hysterectomy for nearly all cases. It was my pleasure to follow him, and I advocated the abdominal route. When the general discussion was taken up, I believe almost all of the ten or twelve speakers expressed a preference for the abdominal route—the belief being that this gave the best results.

Considerable attention was given to the treatment of extra uterine pregnancy. In America, this condition is, I think, observed rather earlier than elsewhere because the general practitioners recognize it more quickly, and in consequence more lives are saved.

In Paris, a great deal of study has been devoted to the *introduction of cocaine into the spinal column for the production of anæsthesia in abdominal operations*. I saw a partial removal of a sarcoma, the treatment of an umbilical hernia, and a case of pus tubes with inflammation of the uterus, in which a complete hysterectomy was performed under cocaine. The patient talked to the observers during the time of operation. I think the view of the Americans present was that its application should be restricted to those cases in which we dare not give a general anæsthetic. We do not know what the after effects of the use of cocaine may be.

I think the Clinical Society of Maryland may feel that it has been highly complimented in that two of its members—Drs. Osler and Jacobs—were selected as the two executive officers from the United States.

SECTION OF DERMATOLOGY.

Dr. T. C. Gilchrist remarked that one feature of the dermatological division was a separate room where many photographs, paintings, models, etc., were shown and stereopticon views of transparencies were given. Several important subjects were put forward for general discussion, and in accordance with an idea

suggested by Brock, a *résumé* of the papers to be read was printed and distributed among the members so that one could have an idea of the points to be discussed.

The principal subject of discussion, perhaps, was the question: "Is eczema a parasitic disease?" Some years ago, an investigator found a certain cocci present in a number of cases, and stated that he could reproduce the disease from these. His views were received with favor by some, with doubt by others, and the result of the discussion at the Congress seemed to be that it was not proven as yet that it is a parasitic disease. The monococcus referred to proved to be the epidermidus albus of Welch. The vesicle of eczema is probably sterile.

Another topic of discussion was as to the parasitic nature of alopecia areata. A French observer has thought he has discovered the organism of this disease. Here again, however, the consensus of opinion seemed to be that it is probably a parasitic disease, but the organism is not yet proven.

The next subject discussed was *tuberculosis of the skin*, not only the varieties in which the presence of the bacillus could be shown, but also those in which there was a strong hereditary history without the demonstrable evidence of the presence of the organism.

An excellent feature of the Congress was the regular morning exhibition of patients—fifty or sixty being shown each day. The most prominent feature of the whole Congress was a consideration of lupus vulgaris. Fourteen cases were sent down from Copenhagen to show the results of Finsen's treatment, and these results were wonderful; the cosmetic effects were such that in most of them you would not have suspected they had ever had the disease. That sunburn of the skin is due to the ultra violet rays of light has been proven. Finsen demonstrated that if a tube of muriate of silver be put under the skin of a dog and rays of light made to penetrate the skin, the silver will be found blackened when removed. It was next learned that if the blood be pressed out of the skin first, the ray of light penetrate it much more rapidly—in about one-third of the time. Finsen's method of treatment consists practically in concentrating the sun's rays, minus the heat rays, on the parts, and this is done for an hour every day for from six to twelve months. His apparatus consists of a plano convex lens of two pieces, the space between being filled with a solution of ammonium sulphate. A similar apparatus is pressed closely against the part of the body to be treated to produce anæmia, and the tubes

attached to this are so arranged as to carry a continuous current of cold water, and thus prevent burning of the skin from overheating of the apparatus. The sun not shining constantly in Copenhagen, Finsen has used the electric light of about 30 amperes, concentrating it by a telescopic arrangement. At the Santorni Hospital, I saw them treating cases three or four at a time, and the results were really beautiful.

Adjourned. H. O. Reik, M. D., Secretary, 5 W. Preston street, Baltimore.

Analyses, Selections, etc.

Irreducible Incarcerated Retroflexed Gravid Uterus

Dr. William A. Quinn, Henderson, Ky., read a paper on this subject before the Southern Surgical and Gynecological Association, held in Atlanta, Ga., Nov. 13-15, 1900, in which he stated that the pregnant uterus may become retroflexed by reason of great laxity of the uterine ligaments. It may become incarcerated by adhesions formed before conception takes place, or by the cervix pressing against the pubic arch, lifting the bladder out of the pelvis, elongating the urethra, and preventing perfect evacuation of the urine, which has a tendency to force the fundus down under the promontory of the sacrum. Softening of the lower segment, which takes place in the gravid uterus, lessens its self support and its resistance, and robs it of its natural power to rise out of the pelvis and correct its position. With the persistence of the conditions which cause the retroflexion, and the rapidly increasing size of the uterus, it soon becomes incarcerated and cannot free itself. If the condition is recognized on or before the end of the third month, if adhesions and other complications are absent, often it is only necessary to thoroughly evacuate the bladder and lower bowel, and the uterus will free itself, or it may sometimes be necessary to place the patient in the knee-breast posture, and even to administer an anesthetic, and it will require the employment of no unusual skill to easily and readily restore the organ to its normal position. Lusk, in his work on *Obstetrics*, mentions sixteen cases by E. Martin, in four of which spontaneous reposition of the organ followed the evacuation of the bladder, and in eleven reposition was accomplished in the knee elbow position. Lusk himself had never met with a case of irreducible, incarcerated gravid uterus.

A very prominent etiologic factor in the

causation of this condition, is unrepaired former injuries to the pelvic floor. An incarcerated retroflexed gravid uterus, with the fundus snugly fitting down into the hollow of the sacrum under the promontory, meeting with no resistance from the pelvic floor, as pregnancy advances, goes on increasing uniformly in size until at about four and half months it will be found to have so moulded itself to the pelvis as to become irreducible.

The author quoted Hirst, who, in his work on *Obstetrics*, gives an illustration from a frozen section of irreducible, retroverted uterus of three and a half to four months, with death from rupture of the bladder. Hirst likewise mentions a collection of 51 fatal cases.

The following, in order of frequency, were the causes of death: Uremia and exhaustion; rupture of the bladder; septicemia; peritonitis from inflammation of the bladder; pyemia; rupture of the peritoneum and of the vagina; errors in treatment, and gangrene of the colon.

Dr. Quinn then cited an interesting case at considerable length, in which it became necessary to extirpate the uterus by the abdominal route. Six weeks from the time of the operation the patient was able to attend to her household duties.

On examining the specimen the uterus was found to contain a fetus, the arrest of development of which seemed to have occurred between the fifth and sixth months of fetal life.

At the time he did this operation he was not aware that abdominal section had ever been advised or practiced previously in cases of irreducible, incarcerated retroflexed gravid uteri. Even the most recent works on obstetrics made no mention of it. In searching the literature, however, the author found that celiotomy had been done in similar cases by seven different surgeons, and he said that to Dr. Mann, of Buffalo, belonged the credit of first doing celiotomy for this obstetric complication.

Further Observations on the Treatment of Aneurysms by Lancereaux's Method—(Subcutaneous Injection of Gelatine.)

L. E. Golubinin (*Klin. J.*, Mosk., 1900, IV, 19-36,) describes this method. This method was tried in Prof. Shervinski's clinic of the University of Moscow, in eight cases. Two died in the clinic, the other two after leaving it; of the remaining four nothing is known. During observation, and while the patients were receiving the injections, the subjective symptoms were more or less improved, partic-

ularly so in one case, who, however, died after leaving the clinic. In this latter case, likewise, there was objectively improvement. But these slight improvements do not, in the author's view, speak conclusively in favor of this treatment.

Book Notices.

Manual of the Diseases of the Eye. With 243 Original Illustrations, Including 12 Colored Figures. By CHARLES H. MAY, M. D., Chief of Clinic and Instructor in Ophthalmology, Eye Department, College of Physicians and Surgeons Medical Department, Columbia University, New York. New York: William Wood & Co. 1900. Cloth 12mo. Pp. 406.

This *Manual*, "for students and general practitioners," is concise, practical and systematic. "Rare conditions have merely been mentioned; uncommon affections, of interest chiefly to the specialist, have been dismissed with a few lines, and common diseases, which the general practitioner is most frequently called upon to treat, have been described with comparative fairness." This book is intended to supply a foundation to which further knowledge may be added by reference to more extensive and comprehensive "text books." The illustrations, excepting those showing instruments, are original. This is a fine book, and is especially of service to general practitioners, who make no claim to special work in the line of ophthalmology.

Progressive Medicine—A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART EMORY HARE, M. D., Professor of Therapeutics and Materia Medica in Jefferson Medical College, Philadelphia, etc.; assisted by CHARLES ADAMS HOLDER, M. D., Assistant Demonstrator of Therapeutics in the Jefferson Medical College. VOL. III—SEPTEMBER, 1900. Lea Brothers & Co., Philadelphia and New York. 1900. Cloth. 8vo. Pp. 408. \$10 a year—4 volumes.

This *Quarterly Digest* is issued in four abundantly illustrated octavo volumes, issued quarterly, commencing each March number. This Vol. III treats of "diseases of the thorax and its viscera, including the heart, lungs and blood vessels; diseases of the skin; diseases of the nervous system; obstetrics." No practitioner could better invest \$10 a year than in annual subscription to *Progressive Medicine*. Each volume takes up the advances in given departments—so that the four volumes a year cover the whole field of medicine and surgery.

Practical Urinalysis and Urinary Diagnosis A Manual for the Use of Physicians, Surgeons, and Students. By CHAS. W. PURDY, LL.D., M. D., Queen's University, Fellow of the Royal College of Physicians and Surgeons, Kingston, Canada; Professor of Clinical Medicine at the Chicago Post-Graduate Medical School, etc. *Fifth Revised and Enlarged Edition.* With numerous illustrations, including Photo-engravings, Colored Plates, and Tables for estimating total solids from Specific Gravity, Chlorides, Phosphates, Sulphates, Albumin, Reaction of Proteids, Sugar, etc., etc., in Urine. 6x9 inches. Pages xvi+406 Extra cloth, \$3.00 net. F. A. Davis Company, Publishers, 1914-16 Cherry street, Philadelphia.

Such is the title of about the best practical work on urinalysis and urinary diagnosis in existence. In addition to a careful and thorough revision of the preceding edition, much original and new matter has been included in this edition. In this edition, the author has extended the range of centrifugal analysis, which the author chiefly has "elevated to a scientific process, justly entitled to rank among the so called exact methods of analysis. By means of the improved methods and new tables herewith introduced, the quantities of albumen and chlorine, of phosphoric and sulphuric acids in the urine may be simply and rapidly determined, both relatively and absolutely, with a degree of accuracy equal to that of any other method." A section is also added on the microscope—how to make satisfactory examinations of the urine therewith. The chemical department has also been carefully reviewed. In short, this work has been improved throughout—more especially in its practical bearings on clinical medicine. The book, as now presented, the profession is of constant and incalculable service.

Medical and Surgical Nursing. Edited by H. G. O'BRIEN, M. D., Professor of Clinical Surgery, Hamline University, Medical Director and Lecturer St. Joseph's Hospital Training School for Nurses, St. Paul, etc. G. P. Putnam's Sons, New York and London. 1900. Cloth. 12mo. Pp. 287.

The title page tells us that this is a treatise on modern nursing from the physician's and surgeon's standpoint, for the guidance of graduate and student nurses, together with practical instruction in the art of "cooking for the sick." With the exception of the chapter on "cooking for the sick," the editor informs us that "all the articles are written by physicians and surgeons engaged in teaching either medical students or nurses or both." "Each contributor writes on one or more designated subjects in his own way and in the manner the

subject should be presented to the nurse." It is an excellent book for the private family—especially that chapter that tells of the means of cooking for the sick.

Practical Treatise on Fractures and Dislocations. By LEWIS A. STIMSON, B. A., M. D., LL. D., (Yale), Professor of Surgery in Cornell University, Medical College, New York, etc. *Third Edition, Revised and Enlarged.* With 336 Illustrations, and 32 Plates in Monotint. Lea Brothers & Co., New York and Philadelphia. 1900. Svo. Pp. 842. Cloth. \$5 net; leather, \$6 net.

Stimson, on "Fractures and Dislocations," has become the standard work on the subjects named, so far at least as America is concerned. Although the second edition was issued only in 1899, the popularity of the work is demonstrated by the demand this year for another edition. This demand has enabled the author to avail himself of the opportunity to strike out much in former editions that is growing obsolete because of improved technique and methods. The understanding of the descriptions in the text is made the easier by the profession of skiagraphs and well drawn illustrations. "Prominent [among the additions] is that representing the advance in our knowledge of traumatic hæmatomyelia, and the light it has thrown upon the prognosis and treatment of injuries of the spinal cord, and the judgment it permits concerning the supposed efficacy of surgical interference in such cases." We have lately been specially interested in the subject of treatment of fractures of the clavicle—that being the subject of a paper in this number by Prof. J. W. Henson, which will be read with profit and interest.

Editorial.

License Tax of Physicians and Surgeons in Virginia.

During the recent Session of the Medical Society of Virginia, held at Charlottesville, October 23-25, Dr. J. Beverly DeShazo, of Ridgeway, Va., presented a carefully prepared paper on "Repeal the License Tax of Doctors." His powers of argument and earnestness of effort carried conviction with his utterances. His paper led to the adoption of the following resolution by the Society: "Resolved, That the Chair appoint a committee of seven members to have charge of this special question, with power to appoint sub committees for the county and city districts; and that it also have full power to formulate methods best calculated to

secure the repeal of this law." Dr. DeShazo is Chairman of that Committee, which is actively at work. Sub-Committees of two and three—according to the population of the county or city—have been appointed by the State Committee to secure influences in their respective communities for such repeal.

There are a number of reasons why a special license tax of more than a nominal amount of a dollar—to pay expense of registration of license¹ practitioners in the State—should be removed.

In the first place, the nature of the doctor's work differs entirely from that of money making professions or businesses. The appeals of suffering humanity come to him in such a form that he has to respond to the calls made upon him—it may be for the poor woman in the agonies of labor; or for attentions extending oftentimes over many weeks to patients with typhoid fever or other protracted illness; or for some prolonged surgical cases—yet without even the hope of pecuniary reward! Every friend of the sick man, woman or child, is ready enough to call the doctor, but none willing to pay him for the services he may have to render. We venture nothing in the statement that far more than two thirds of the ordinary practitioner's work is not paid for by patient or friend. Much of his work is never even "booked," because he knows it to be useless. And yet, if any misfortune happens to the patient, or if the result of treatment is not successful, how ready are some of the friends and neighbors to blame the doctor, and scatter reports about him that are unkind, untrue, and hurtful of all that he has to depend upon—his good name! He not only gets nothing, but *worse than nothing* for all his earnest efforts to save or relieve. "Oh, for the rarity of Christian charity!"

Beyond the individual, the doctor at his own expense of time and money, and at the risk oftentimes of his own health and life, is the counsellor and benefactor of the public. When epidemics threaten or come in their rage, to whom do the people come in earnest, frightened inquiry as to what shall we do to be saved? The well-to-do citizens hide themselves away to places of safety—leaving the masses too poor to get away, *and the doctor* in their communities to fight it out. Who pays the doctor? Few of those citizens who are left behind are able to pay anything. And thus the doctor with more work on hand than he can possibly attend to becomes poorer in finances, and broken down in health. In numerous such instances he stands at his post as

the teacher and the workman for the good of the public. Is it right that, in addition to his taxes as other citizens, for property or excess on a given amount of income—is it right that he should have a special license tax imposed on him—a tax which, for the majority of cases, is an onerous one?

We venture the assertion that there are relatively few doctors in the Southern States who are making money from the practice of their profession alone—not because they have not practice large enough to engage the major part of their time, but because they cannot collect a fair earning for their professional work. Almost invariably do we find that the doctor who is in easy circumstances is so either because he is the fortunate child of an inheritance, or else by salaries or incomes only indirectly coming out of his profession, or else by some lucky business speculations or investments, or else by being also a farmer, or a trader, etc. He is something else than a routine practitioner of medicine, which "splices out" his meagre *income from practice*.

The practitioner does much more for the State than it or the public ever does for him. When he restores a workingman to health, he has saved the State from an invalid pauper, and has restored to the community one able to provide for himself and others, and yet the physician remains unpaid in whole or in part. The *practitioner of medicine* by dint of perseverance established the State Board of Medical Examiners, whose whole duty is to see that the public is provided with competent doctors—and freed of quacks and ignoramuses—and yet see at what sacrifice to each member of that Board is it patiently and faithfully doing its work, without expense upon the State. The Virginia State Board of Health was inaugurated by practitioners, and for years did their work faithfully and as well as the law permitted because the law provided that "the said Board shall not be a tax upon the State." This Board was established in 1872. It is not until 1901 that the law allows the Board of seven doctors, in different sections of the State, the use of \$5,000 a year out of which to pay all of its expenses of quarterly meetings and travelling expenses, and all other annual expenses incident to the sanitary condition of the entire State of Virginia. How much of the work that may fall upon the Board in the event of epidemics or complaints of health nuisances which may have to be done at individual expense and sacrifice of time, the future only can answer. And yet that Board of practitioners is only for the good of the public!

It is neither just nor rational to place the practitioner of medicine in the list of those businesses or professions upon whom a special State license tax—in many instances an onerous one—should be imposed—unless also a special license tax were imposed on the preacher, the teacher, the every day laborer, etc. And, of course, the thought of any such thing would be absurd.

The Medical Examining Board of Virginia

Will hold its Fall Examinations, 1900, in Richmond, Va., December 18, 19 and 20. The Board itself will meet for routine work at 8 P. M., Monday, December 17. Full details are given on the fourth cover page of this issue, to which we refer readers of this notice. We especially call attention to that paragraph which tells applicants who are graduates that they *must present their diplomas of graduation for inspection*. Applicants who are *not graduates* "must present their certificates of such branch or branches successfully passed on by them at College, and can stand examination before the Board only on those branches."

Medical Society of Virginia—Time of Meeting 1901.

During a recent meeting of the Lynchburg Medical Society, the following were appointed as the Committee of Arrangements for the *Thirty-second Annual Session (1,01) of the Medical Society of Virginia*, which is to convene in Lynchburg, Va., Tuesday, October 15th, 1901: Drs. C. E. Busey (Chairman), J. A. Anderson, H. W. Dew, James L. Kent, and D. F. Dinsmore.

Roentgen Society of the United States.

The first regular meeting of this Society will be held in New York city December 13th and 14th, 1900, in the Grand Central Palace, Lexington Avenue, corner Forty third street, Library, fifth floor. Take elevator on Forty-third street. Dr. Heber Roberts, St. Louis, Mo., *President*; Dr. J. Rudis Jicinsky, Cedar Rapids, Iowa, *Secretary and Treasurer*.

Medical Society of State of New York.

The Ninety-fifth Annual Session of this Society will be held in Albany, N. Y., January 29-31, 1901. Those who desire to read papers should communicate at once with the chairman of the Business Committee, Dr. Frank Van Fleet, 63 E. 79th street, New York city, or with the President, Dr. A. M. Phelps, 62 E. 34th street, New York city, giving the title of the paper and such other information as

the author desires. Papers should be condensed as much as possible in reading, as they can be published more fully in the *Transactions*. Arrangements for reduced fares can be made when purchasing railroad tickets. Dr. Frederick C. Curtis, Albany, N. Y., is secretary of this Society.

Physician's Visiting List (Lindsay & Blakiston) for 1901,

Is ready. It is sold by all booksellers and druggists, or by the publishers, Messrs. P. Blakiston's Son & Co. (successors to Lindsay & Blakiston), 1012 Walnut street, Philadelphia, Pa. This is the fiftieth year of publication. "To few publications of any kind is granted such length of days." It is issued either as the *Regular*, or the *Perpetual*, or the *Monthly Edition*. All styles contain special memoranda pages. The *Regular* dated edition with pencil, pocket, etc., for 25 patients a week, costs \$1; for 50 patients, \$1.25. Or for 50 patients a week, in 2 volumes—January, June, and July—December inclusive as to each volume, \$2; the same for 75 patients a week, \$2; the same for 100 patients a week, \$2.25. *Perpetual edition*, same as the *Regular* edition, but without dates, can be commenced at any time, for 1300 names, interleaved, \$1.25; for 2600 names, \$1.50. *Monthly edition* requires name to be written only once a month; plain binding, 75 cents; leather cover, pocket and pencil, \$1. No discount can be allowed from these prices.

Swindler Arr-sted.

During the latter part of the past month, we received a letter from Dr. W. Peyre Porcher, of Charleston, S. C., in which he stated that a man personating himself, etc., had been victimizing many of the profession by pretending to be in distress, and borrowing money from them. The description given by Dr. Porcher for the apprehension of the swindler corresponds with that of a man named Wm. A. Ferguson, who was arrested in New York city November 26, 1900. It is claimed that this offender, who is described as being 59 years old, with heavy gray moustache, about 5 feet 8 inches tall, and of spare build, has for more than a year been victimizing physicians throughout the Eastern States. For some reason Ferguson was discharged by the magistrate of the court in which he was first tried November 28th, but he had hardly reached the street when he was re-arrested by a detective who will carry him to Washington, D. C., where, it is said, he is under indictment for swindling physicians, having pursued there the same methods he pursued in New York.

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Original Communications.

THE BACTERIOLOGY OF THE STOMACH.*

By J. H. KELLOGG, M. D., Battle Creek, Mich.,

Medical Superintendent of Battle Creek Sanitarium, etc.

The great service which has been rendered by chemical examinations of the stomach fluid by the methods developed by Golding Bird, Hayem and Winter, Tœpfer and others, has to a considerable degree diverted attention from the recent results of laboratory researches pertaining to the bacteriology of the stomach. Abelous was one of the first to make a careful study of the microbes found in the mouth and the stomach. Gillespie later took up the study. Some eight years ago the writer, recognizing the inadequacy of chemical methods as a complete guide to therapeutics and in the treatment of gastric disorders, began a systematic bacteriological examination of the gastric contents obtained after a modified Ewald test meal. Several years previous (1892), there was begun a systematic chemical examination of stomach fluids in all cases requiring an investigation of this kind, employing the exhaustive method of Hayem and Winter, with which the method of Tœpfer has since been combined, obtaining more accurate data respecting the fatty acids and neutral chlorine compounds.

Over 15,000 stomach fluids have been examined in the laboratory of which I have charge by the combined method which I have devised, which also includes a determination of the quantity of soluble completely converted carbohydrates, as also of various coefficients related to gastric work.

After a careful study of several thousand of these cases, I became convinced that further information must be obtained to make possible an exact adaptation of therapeutic measures,

especially in dealing with the more intractable forms of gastric disorders. After careful study of the work of my predecessors in this line of research, and with the aid of the technical skill and experience of my friend Dr. Novy, of the University of Michigan, and assistants especially trained for the purpose, I elaborated a plan for the examination of stomach fluids with reference to practical gastric therapeutics. The object sought was not so much to identify known organisms or to discover new ones, but to obtain practical therapeutical indications. The information sought included especially the following data:

1. The number of bacteria or spores or yeast or mould present per cc. of stomach fluid.
2. The presence or absence of gas forming bacteria.
3. The presence or absence of acid forming bacteria.
4. The presence or absence of gelatine-liquefying bacteria.
5. The relative toxicity of the products of the parasitic organisms found in the stomach fluid.

Some of the earlier results obtained by this method I presented in a paper read before the New York Academy of Medicine some three or four years ago. Most of the facts here presented have been presented in a paper read before the Medical Society of my own State (Michigan) at their last annual meeting.

It is not necessary to describe in detail the technique of the methods employed. The number of microbes is determined by counting the number of colonies found in a plate culture containing 1 cc. of stomach fluid diluted with a known quantity of culture media. The formation of acid and the presence or absence of gelatine-liquefying bacteria are observed in the usual way. For the determination of the relative toxicity, an intravenous injection of rabbits and guinea-pigs was made with a culture obtained by inoculating six ounces of sterilized bouillon. In some instances, inoculation of guinea pigs was practiced by intraperitoneal injection of a

* Read by invitation by Dr. Read for the author before the Medical Society of Virginia during its Thirty-first Annual Session in Charlottesville, Va., October 25, 1900.

bouillon culture. The toxicity determination was not made in an ordinary examination, but only in special cases as a means of determining the origin of toxic matters giving rise to a state of general toxæmia often present. The relative number of aerobic and anaerobic bacteria is determined by the use of a culture chamber devised by Prof. Novy.

Various culture media have been employed in addition to the regular laboratory media, such as fruit juices and various vegetable products. Numerous researches of various sorts have also been undertaken for the purpose of determining the various sorts of foods in relation to bacterial development in the stomach and other questions of interest.

The bacteriological examination above briefly described has been made in the laboratory of which I have charge in several thousand stomach fluids always in connection with an exhaustive chemical examination of the same stomach fluid.

It is the purpose of this paper to present briefly the results obtained and the conclusion arrived at from a study of the data afforded by these examinations. A point of cardinal interest and which has been found to be of the greatest therapeutic value, is the number of bacteria found present.

Of the total number of stomach fluids examined bacteriologically (8,042), 2,320, or 28.8 per cent., were found to contain bacteria. These were divided among the different classes—hyperpepsia, hypopepsia, simple dyspepsia and apepsia, as follows:

Hyperpepsia.....	461 or 10.8 per cent.
Hypopepsia.....	1,712 or 73.7 “
Simple dyspepsia.....	135 or 5.8 “
Apepsia.....	12 or .5 “

Of the total number of infected fluids, 805, or about one-fourth, contained more than 100,000 bacteria per cc., and in 198 cases, or 8.5 per cent., the number of bacteria per cc. was found to be one million or more. The highest number counted was thirty-three million; but in 128 cases or 5.5 per cent. of the infected cases, the plate was completely overgrown. As examples of the large number of bacteria found in some cases, I present the following, in which I have also given in tabulated form the results of chemical examinations:

No.	Bacteria.		Total Acidity.	Calcnl. Acidity.	Hcl.	Soluble Carbohydrates
	Aerobic.	Anaerobic.				
13525	33,000,000	.....	.024	.050	.000	6.600
.....	1,000,000	700,000	.196	.028	.000	5.660
10471	16,400,000	12,000,000	.026	.014	.000	3.060
9457	6,000,000	.....	.246	.308	.088	5.560
.....	175,000	.....	.018	.048	.000	9.660
6917	500,000	.....	.004	.048	.000	5.980
.....	100,000	.....	.030	.020	.000	6.480
.....	11,200,000	.....	.004	.066	.000	8.480
14001	2,500,000	8,500,000	.112	.116	.000	.280
13975	3,900,000	.....	.020	.019	.000	1.080
13936	5,520,000	.....	.672	.080	.000	4.860
7002	4,000,000	.....	.066	.046	.000	7.860
10827	3,600,000	.....	.100	.098	.000	.800
11372	3,100,000	.....	.012	.032	.000	8.090
10246	2,439,000	.....	.014	.014	.000	1.720
.....	72,000	.....	.060	.080	.000	6.334
11072	2,160,000	.....	.110	.119	.000	6.052
10497	1,080,000	.....	.012	.144	.000	8.6858
.....	216,000	.....	.004	.010	.000	4.500
13269	1,800,000	.....	.196	.212	.126	
7196	1,600,000	.....	.022	.060	.000	9.100

Of the 2,928 cases the percentage of stomach fluids infected to the extent of 100,000 or more bacteria to the cc. of stomach fluids found in the several classes above mentioned, was as follows:

Class.	No. Cases.	No. Containing 100,000 or more to cc.	Per Cent.
Hyperpepsia.....	3,389	129	13.6
Hypopepsia.....	3,924	665	43.6
Simple Dyspepsia..	716	16	18.8

The most important fact brought out by this study is, I think, the large number of perfectly sterile stomach fluids. Of the total number counted as infected, 682, or more than one-third contained less than 10,000 colonies. Such cases I have not regarded as pathological, but considered the infection as accidental, and having no particular significance. In 821 cases, or nearly one half, the number of bacteria found present, was less than 100,000. I have considered it very questionable whether in such cases the infection might not be accidental, or if not accidental at least possessed of little or no pathological significance.

We have left barely one-tenth of the total number examined, in which the number of bacteria per cc. was found so great that it may be considered an etiological factor in the diseased conditions present in the stomach, or in the system at large. These facts are very greatly at variance with opinions very widely held re-

specting the relation of bacteria to digestion. Pasteur held that microbes played an essential part in the chemistry of digestion. Abelous, finding that certain bacteria isolated from the stomach were capable of coagulating milk, dissolving the coagulum as well as coagulated egg fibrin and gluten, while others manifested a diastatic action upon starch, concluded that bacteria are useful in the production of peptones from proteids, and sugar from starch. Schottelina, in his experiments upon chicks, hatched in sterile chambers, concluded that bacteria are necessary to a healthy growth of chicks, for the reason that chicks subjected to the experiment gained weight very slowly as compared with chicks hatched and reared under ordinary conditions, a conclusion evidently not wholly justified by the premises, since there are other important factors contributing to the good health of chickens, living under normal conditions, besides the presence of bacteria. McFayden, Nencki and Seiber, in observations made upon a woman suffering from an intestinal fistula, observed "that no putrefaction of proteids occurred in the small intestine." They concluded, as the result of their observation, that bacteria did not produce peptones, and that "digestion could proceed to greater advantage without their presence." Gillespie, in his remarkable work, "The Natural History of Digestion," calls attention to the fact that although bacteria are capable of producing peptones, which closely resemble the products of normal digestion, the peptones of bacterial origin differ in the fact that further changes take place as the result of which ammonia, amines, fatty acids, sometimes indol and skatol are produced. The mere fact that gelatine and other proteids are liquefied by bacteria does not prove the utility of these organisms in digestion. The process is one of putrefaction, and not one of normal digestion. Du Claux, several years ago (1855), showed that beans and other plants germinated and grew readily in a soil rich in organic matter though wholly free from microbes. His observations led him to the conclusion that, from a biological standpoint, the nutritive life of the young plant does not differ radically from that of the young animal. Nuttle and Theifelder proved the correctness of Du Claux's position by rearing a guinea pig under aseptic conditions. The animal was taken from its mother by Cæsarean section performed aseptically, and placed in an ingeniously constructed apparatus, in which it could be aseptically cared for, fed, and supplied with water and air, without the

admission of a single microbe. The little animal soon accustomed itself to its glass house, its feeding nipple, and the other conditions which surrounded it, and thrived so well, that at the end of eight days, during which time it had consumed thirty five grams of food, it was found to have gained ten grams in weight. This showed a gain over its brothers, who had been nourished under the ordinary conditions, being fed with non-sterilized milk, and breathing ordinary air. Not a single bacterium was found in its alimentary canal by a most careful search, every tube inoculated remaining sterile.

That microbes are commonly found in the stomach when empty, that is, when it contains neither food nor gastric juice, is well known. It is also indisputable that bacteria are commonly present in great numbers in the stomach during the digestion of ordinary food. The fact that bacteria are derived from the food in a majority of cases is clearly shown by a large number of cases in which bacteria and micro organisms of all sorts have been found wholly absent, as above stated. An examination, made after a test meal, shows bacteria to be present in the stomach for the reason that nearly all food, even bread, contains living bacteria in great numbers. In the examinations, the results of which are reported in this paper, the test-meal consisted of thoroughly sterilized material. When ordinary bread is used, plenty of microbes are found at the end of the first hour of digestion, although, as Gillespie has pointed out, the number of microbes steadily diminishes after the first hour. At the end of the fourth hour, he found only one or two colonies in a plate culture, in which the number at the end of the first hour was "practically innumerable."

My observations establish clearly, I think, the fact that when the food is sterile the process of stomach digestion is carried on without the presence of bacteria. Moulds and yeast added to the sterile test-meal nearly always appeared in the plate-cultures, although there was no evidence of growth in the case of moulds.

An interesting fact to which attention should be called, is the considerable number of cases of hyperpepsia in which the stomach fluid was found highly infected. The percentage is small, it is true, compared with the number of cases of hyperpepsia and apepsia, but, nevertheless, the number is sufficiently large to indicate clearly that the gastric juice alone is not a perfect antiseptic. I called attention to this fact in my paper read before the New York

Academy of Medicine some years ago, and cited a considerable number of cases in illustration.

Several years ago Gillespie, called attention to the fact that free hydrochloric acid combined with proteids has very little inhibitory effect upon the growth of micro-organisms. He also noted that free hydrochloric acid is more active in the presence of combined chlorine than in its absence. The writer knows of one case (10,301), that of a man, in whom the amount of free hydrochloric acid found present was .074, with combined chlorine to the amount of .242, notwithstanding the bacteriological examination showed 1,050,000 bacteria present in 1 cc. of stomach fluid.

The antiseptic power of the stomach does not depend alone upon the hydrochloric acid. The mucous membrane of the stomach, like that of the mouth, lungs, the nasal cavity, and other mucous surfaces, together with all the living cells of the organism, has the power, when in a state of health, to resist the growth of micro-organisms. The normal stomach is inhospitable to bacteria. When the general vital resistance is lowered, as indicated by the coated tongue and decayed teeth, for example, the stomach is likely to be also deteriorated to such a degree that its resisting power to micro-organisms is lost; these parasites take up their abode in the stomach, and by producing various putrefactive and fermentative changes in the food substances, become a source of toxins which may be produced in such enormous quantities as to completely overwhelm the body, producing the conditions known as chronic toxæmia, pernicious anæmia, and many other obscure systemic conditions. It is more than probable that Bright's disease, hepatic cirrhosis, atheroma, and various degenerations of the nervous system and other structures resulting in partial or complete loss of function, have their origin in subtle toxins derived from the alimentary canal, as Dana, Bouchard and others have so clearly pointed out.

The most important therapeutic deduction which I have drawn from my observations has been the value of fruit dietary as a means of sterilizing the stomach. Some four years ago, by the aid of my able assistant, Dr. George B. Burleigh, I first conducted a series of experiments for the purpose of determining the influence of organic fruit acids upon the growth of bacteria found present in the stomach fluid. In more recent study of the subject the technical work has been most conscientiously done by my colleague, Dr. Frank Otis. In observa-

tions made it was at once clearly apparent that the growth of micro-organisms was strongly inhibited—lemon, lime, orange, strawberry, apple juices, and the juices of various other fruits, not only preventing the growth of ordinary micro-organisms which are found in the stomach, but actually destroying such vigorous pathogenic organisms as the typhoid bacillus, the colon bacillus, the bacillus of Asiatic cholera.

I recognized at once that these results afforded a complete and satisfactory explanation of the marvelous influence of the fruit diet in various infected conditions which have long been recognized in the treatment of certain forms of gastric and intestinal disorders, which have given rise to the systematic employment of the so-called "grape cure," which has been practiced in Switzerland and Italy and other continental countries from the most ancient times, and more recently in California and Ohio. Accounts have appeared at various times in medical literature of the use of peaches, apples, and other fruits with equal success.

I at once made a practical application of the observation made, in the treatment of cases requiring sterilization of the alimentary canal. For some time before this observation was made I had made it an invariable rule to employ systematic lavage every other day or once or twice a week, according to the number of microbes found in the stomach fluid, or the persistency of the infection. It occurred to me that by the employment of fruit juices and a fruit dietary the use of the stomach tube might be very largely dispensed with. And now, after three years trial of this method, during which time I have employed it in the treatment of hundreds of cases, I am able to say that the use of the stomach tube other than as a means of diagnosis is almost altogether unnecessary, except in cases in which there exists extensive diverticula or organic obstruction of the pylorus.

In a patient recently under treatment, a physician (No. 14,225), the count of microbes was in less than a month reduced from 5,340,000 aërobes, and 2,435,000 anaërobes to 18,000 anaërobes, and 32,000 aërobes, a nearly sterile state. In this case the stomach was temporarily completely sterilized by a sterilized test meal, consisting of ten ounces of strawberries and nine ounces of water. Kitasato and Van Ermengen showed several years ago that citric acid has a powerful germicidal property, even destroying the cholera spirillum and the typhoid bacillus in solutions having a strength

of less than one-half of one per cent. According to Kitasato, malic acid, the acid of apples and most other fruits, is equally efficient with citric acid in the destruction of micro-organisms. These facts have long been known, and it is surprising that a more general use has not been made of this valuable fact. More than a century ago, Dr. Dwight reported cases of sick headache successfully treated by making the patient drink a glass of good cider before each meal. I have had equally good success in the treatment of this class of cases by having the patient swallow eight to sixteen ounces of orange juice half an hour before each meal, at the same time, of course, regulating the dietary by the exclusion of foods which abound in micro-organisms, such as cheese, fermented bread, butter and milk. In cases in which a high degree of infection exists—that is, in which the count of microbes is very large, a million or more—the antiseptic dietary of Dujardin-Beaumetz is clearly indicated. The influence of infected food may be easily shown experimentally. For example, in one case in which I administered scraped beef, prepared and cooked in the usual way, the bacteriological examination of the stomach fluid showed 788,580 colonies, although in a sterile test meal no colonies at all were found. In this same case a test meal of cheese gave 17,000,000 colonies for one ounce of stomach fluid. In the worst cases it is necessary to prohibit not only germ-containing foods, like cheese and raw milk, but foods which encourage the development of germs, such as meat, eggs, milk, even though boiled, and coarse vegetables, when the motility is deficient. Bouchard has shown that food retained more than five hours in the stomach undergoes putrefactive and fermentative changes through bacterial growth.

In the therapeutic employment of a fruit dietary any acid fruit may be employed. Fresh fruit is more effective than cooked fruit, but cooked fruit is nevertheless efficient. In my experiments, fresh fruit appeared to be more active in suppressing bacterial growth than cooked fruit, although the latter is highly efficient. A good plan, commonly employed in cases in which the stomach fluid is found infected to a high degree, is to put the patient upon an exclusive fruit dietary for a period of time varying from two days to a week, according to the patient's vigor and the influence of the dietary upon his strength. The exclusive fruit dietary is of course a sort of mild starvation, since fruit consists so largely of water that it is impossible for a patient to eat a sufficient quantity of any ordinary fruit to furnish

the twenty ounces of water-free nutrient material required for daily sustenance. The patient may be allowed to eat as much fruit as he likes. The fruit should be served to the patient in regular meals, but at shorter intervals than when ordinary foods are employed. At least four, and, if desirable, five meals may be taken at intervals of four to five hours. Ripe fresh fruit or stewed fruit, leaves the stomach, according to Beaumont's observations, in one and a half to two hours. A variety of fruit should be employed, so that the patient may be encouraged to eat freely. If there is noticeable weakness, the patient may take with his fruit twice a day a couple of ounces of zwieback thoroughly browned or a browned granose biscuit. It is better to take the dry food first, the fruit afterwards, so as to insure thorough mastication and insalivation. Ripe bananas, and even ripe olives, may be used in connection with a fruit dietary with advantage although possessed of no marked germicidal power. After the patient has been confined to an exclusive fruit dietary for the desired length of time, he should be placed upon a modified fruit diet, which may be managed in any one of several ways, as may be best suited to the requirements of the case.

A plan that works well in many cases is to give the patient two fruit meals and one meal consisting chiefly of fruits, grains, and nuts, avoiding meats and milk. The mixed meal should be taken in the middle of the day, the morning and evening meals consisting wholly of fruits. Or, the breakfast and dinner may consist of mixed food, while fruit only is taken at the evening meal. The interval between breakfast and dinner should be not less than six hours, while an interval of seven hours is better.

Another plan is to require the patient to live wholly upon fruit for one day each week. The effect of a few days' exclusive fruit dietary in the developing of a natural appetite and improving the vigor of digestion, regulating the bowels, and relieving the somewhat vague, but nevertheless distressing, symptoms which the patient generally describes under the term "biliousness," is most gratifying to both patient and physician.

The popular idea that fruit is difficult of digestion is based upon a lack of knowledge respecting the proper use of fruit. It is the combination, and not the fruit, which does the mischief. Fruits do not agree either with vegetables or with meats, but agree perfectly with grains, especially when the latter are taken in a dry form, as toasted bread, zwieback, etc.,

thoroughly masticated. In the writer's opinion, the therapeutic value of fruit is beyond estimate. Fruit is a natural intestinal antiseptic. A fruit diet for a few days may always be relied upon to relieve an attack of so called "biliousness." The adoption of a fruit diet when an attack of migraine or sick headache is impending will generally abort the attack if it does not altogether prevent it.

I have found many persons who declared that they could not digest fruits. Inquiry has almost invariably shown the cause to be the admixture of fruit with various other substances with which fruit is incompatible, as coarse foods, meats, rich gravies, ice cream, and similar indigestibles. Occasionally, acid fruits are found to be badly borne in cases of gastric ulcer and gastric catarrh; but, even in these cases, the patient may be gradually trained to tolerate a fruit dietary without difficulty. In a case of hyperpepsia, acid fruits should not be taken at the beginning of the meal, but the cereal preparations should be taken first. A half hour later, acid fruits may generally be taken without difficulty. This restriction is necessary because of the fact, which has been demonstrated by an elaborate series of experiments, that organic acids of all sorts interfere with the digestion of cereal foods in the stomach, as the amylolytic action of the healthy stomach terminates at the end of thirty to forty minutes, fruit may be taken at the end of this period without interfering with the digestion of starch.

As a practical suggestion, it should be added that fruit juices for antiseptic purposes should be taken without sugar or with the addition of as little sugar as possible, since Brandel has shown that solutions containing more than 10 per cent of cane sugar were capable of producing marked irritation of the gastric mucous membrane, thus lessening the normal resistance of the stomach, inducing catarrh, and promoting the growth of micro organisms.

In conclusion, the results of the observations referred to in this paper may be briefly summarized as follows:

1. A healthy stomach does not require the aid of germs in the digestion of foods.
2. Sterile food is digested in the healthy stomach without the development of bacteria or other micro-organisms.
3. Neither free hydrochloric acid nor combined chlorine, even when present in excess, are certain means of sterilizing the gastric contents.
4. The gastric contents may be found sterile after a sterile test meal in cases in which free

hydrochloric acid is entirely absent and the proportion of combined chlorine small.

5. Fruits, especially fresh fruits, and fruit juices, are capable of completely sterilizing the stomach when used in sufficient quantity.

TREATMENT OF RETRO-DISPLACEMENTS OF THE UTERUS.*

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It is not my purpose to deal with this subject in its entirety, but briefly and from a practical standpoint. I feel as if an explanation is due the Society for introducing a subject on which so much has been written and so little can be said that is original, but I know of no subject in gynecology where such wide divergences of opinion exist, as to the proper treatment in individual cases of posterior displacements of the uterus.

We find one class urging operative intervention in all cases (some wedded to one form of operation and some to another), disclaiming the value of any local or mechanical measures. Another class claiming that only occasional cases demand surgical intervention beyond the repair of a relaxed vaginal outlet, if it exists, and relying entirely on local and mechanical therapeutics.

It is in the mean between these extremes that we must look for the most satisfactory results. Because pessaries and local applications have been abused through ignorance and too long continuance, it does not follow that they may not be employed with profit. Nor does it equally follow that, because an operation has not cured a given case, it is never again indicated. Undoubtedly many cases have suffered too long and have been injured by the ignorant and injudicious use of palliative measures. It is equally true that some of us have not been sufficiently conservative, and not a few cases which could have been cured by milder measures have passed from the practitioner into the hands of the gynecologist for operative treatment. Again, it does not follow that, because an uncomplicated retroversion or retroflexion exists, treatment is always indicated; some patients go for years with these conditions present apparently in perfect health and ignorant of any pelvic trouble. My expe-

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rience in this class has been that they are cases which have been followed by little or no descent, which, I believe, is the most potent factor in the accompanying symptoms and results.

Experience has shown that anterior positions, even if excessive and beyond normal limits, do not necessarily produce symptoms unless the uterus is on a lower level than normal; and the fact that they do, when this is the case, is proved by the relief obtained from the use of a pessary which forces the cervix upward and backward, thereby increasing the anterior displacement.

The first change in the genesis of a backward deviation is descent, and the application of mechanical measures must be for this condition in the treatment.

In comparison, uncomplicated retro displacements are rare. Under complications, I refer to metritis, endometritis, pelvic peritonitis, adhesions, tumors, lacerations of the cervix, etc. These conditions cause the uterus to sink downward either by increased weight or by traction, and are important features to be dealt with in the treatment.

A correct diagnosis is most important, and often difficult, as any one who has ever examined many women will confess, even when they have been submitted to the influence of an anæsthetic. Upon the diagnosis will depend the course of treatment to be pursued, therefore a careful inventory of the pelvis must be taken and all abnormalities noted—the size, position, inclination, and mobility of the uterus, the condition and position of the appendages, and the presence or absence of adhesion. The greater per cent. of retro displacements is due to conditions occurring at or following childbirth, such as traumatism, subinvolution, getting up too soon, etc., and are, therefore, preventable or easily curable if recognized and the proper treatment pursued. All lacerations of the pelvic floor and perineum should be repaired immediately, or in a few hours after the occurrence of the tear, as the torn parts can be more accurately adjusted to their former relations at this time than at the secondary operation. Where there is a laceration of the cervix, unless there is hemorrhage, the operation is ordinarily delayed until after the puerperium, though, if there is any reason to believe it is extensive, the patient should be examined under the strictest aseptic precautions and the immediate operation performed. I have followed this plan for twelve years, and have never had reason to regret it. The importance of repairing these injuries cannot be over esti-

mated. For not only is sepsis prevented, but subinvolution of the uterus, and ligaments as well, which is such a frequent cause of displacements.

Again, every obstetrical case should be examined at the expiration of the fourth week; and if any displacement is present, it should be corrected and a suitable support introduced. Following this rule, I have often been surprised to find a backward displacement occurring after a normal delivery, which, after being corrected and kept in position, along with local depletive measures, resulted in a permanent cure.

Retroadisplacements of the uterus may be treated in two ways, by mechanical means, and by surgical operation. In considering the first, there are complications that frequently accompany these displacements, and they are more often the factors in producing the symptoms than the displacement itself. They may not only prevent replacement, but render all means to keep the uterus in position useless. The obstacles to replacement are tumors, inflammation, and adhesions. Inflammatory complications frequently require a month or more of preparatory treatment before replacement can be effected. At times a uterus, which is at first too tender to tolerate a pessary, will bear it without inconvenience after a course of treatment. In such cases, the fundus may be raised and held in place by a pack of lamb's wool, while other depletive measures are practiced. When a relaxed vaginal outlet exists, it should always be repaired, preferably by Emmett's method; otherwise, any effort at reposition will be rendered useless by the immediate recurrence of the displacement as soon as the intra-abdominal pressure is exerted on the uterus. An endometritis frequently exists; and when this is the case, a thorough curettage is advisable. I have seen cases of retrodisplacements relieved of all untoward symptoms by a curettage and a perineorrhaphy, even though the retrodeviation remained.

The method of the reposition of the uterus will depend on the complications present; if adhesions are present, any method should be attempted gradually with the use of massage. In uncomplicated cases, it is done immediately by certain manipulations, the methods of which are known to you all. The use of the sound and repositor are mentioned only to be condemned. They are both dangerous instruments except in the most skillful hands. When the complications have been treated and the uterus has once been restored to its apparently normal situation, it may be retained in position by a

well fitting pessary. The Hodge pessary, Smith's, Emmett's, or some other modification of the Hodge, will practically serve all purposes.

The function of a mechanical support is to maintain the uterus on its normal level in the pelvis, and to keep the cervix in its normal position, about one inch from the hollow of the sacrum. This is done by crowding the posterior *cul de-sac* upwards and backwards into the hollow of the sacrum—or, in other words, its function is to supplement the inadequate uterosacral ligaments. The smallest sized pessary that fulfills the indications should be used. One properly adjusted should give the patient no consciousness of its presence. A pessary designed to prop up the body of the uterus is objectionable and dangerous, because its construction is based upon false principles. The same is true of one that will support the uterus by distending the vaginal walls. One with a curve too acute that will lift the uterus above the normal level, and render the broad ligaments tense, will produce the same interference with the venous circulation in the broad ligaments as occurs in the descent of the uterus. In other words, it should be fitted to the individual case, and not the case to any pessary, which is too often done.

A pessary is contra indicated in all cases when there is a marked degree of inflammation of the uterus and appendages, and in all cases where there are adhesions and cicatricial bands holding the uterus out of position. Again, a relaxed vaginal outlet, or a tumor in the walls of the uterus, may render the support useless, and it will also generally prove a failure in case of prolapse of the ovary.

Upon an accurate diagnosis, upon a true recognition and a proper treatment of the complications and a certain amount of mechanical skill, will depend whether the pessary will prove useful, useless, or injurious. There is still a large number and class of cases that cannot be relieved by these milder procedures, requiring surgical intervention for their relief.

The operations I prefer are *suspensio uteri* and shortening the round ligaments, generally the Alexander method.

The following results are quoted from seventy-five cases in which these operations were done. *Suspensio uteri* and Alexander operation were about equally practiced in all these cases except six in which the ligaments were shortened intraperitoneally. The mortality was *nil*, and with a few exceptions, the results were very satisfactory. Five of the cases of *suspensio uteri* have borne children, three of which have had

one ovary removed, Pregnancy and parturition were normal so far as I could learn, with one exception, a very neurotic patient who complained of a drawing sensation and a good deal of pain at the site of the wound. I examined this patient five weeks after parturition, and found the uterus had become detached from the abdominal wall, and was again retroverted. She had the appendix as well as a pus tube removed, in addition to the operation of *suspensio uteri*. One of the cases was a failure because the nurse allowed the bladder to become overdistended which tore the uterus from its attachment. One case of hernia has been reported. It was a bad case of pus tube in which I used drainage, and one patient complained of some vesical irritability, for months afterwards. In nearly all of the cases mentioned, the method as advised by Kelly was followed.

The method adopted in the Alexander operations was that advised by Edebohl, in which the entire anterior wall of the inguinal canal was opened. The ligaments were drawn out at the internal ring and the intra abdominal portion shortened by stripping back the investing peritoneum; the wound was then closed after the manner of the Bassini operation for the radical cure of inguinal hernia, leaving the shortened ligament behind the lower edge of the internal oblique.

In a few of the cases the pelvic cavity was entered and examined through the dilated ring, and in one case a diseased ovary and tube were removed. In two of the cases the operation was a failure, owing to adhesions that were not recognized, and in one where a chronic *öophoritis* was known to exist, there was some improvement. So far as known, three have borne children. Pregnancy and parturition were normal. One of the cases, wife of a physician, complained of some discomfort at the site of the right wound. In no instance was there a failure to find the ligaments, nor have any hernias been reported. The operation of Mann and Dudley was practiced in the intraperitoneal shortening of the ligaments. In all six cases the uterus was in a good position when they left the hospital, but it has not been possible to follow them subsequently.

I have been favorably impressed with this operation and expect to continue to practice it in suitable cases. As a primary measure to any of these methods of treatment of posterior displacement when the conditions exist, a *perineorrhaphy*, a *trachelorrhaphy* or a *cuirettement* should be done; the latter, as a rule,

should always be followed when the round ligaments are shortened.

In conclusion, I shall briefly discuss the advantages and disadvantages of the Alexander operation and suspensio uteri.

1. The mortality should be *nil* or almost so in either, but there is certainly less risk in the Alexander operation—infection in one case would mean a local suppuration; in the other, possibly a fatal peritonitis.

2. Alexander's operation is to be preferred by far from the standpoint of pregnancy; for in suspensio uteri a small per cent. of cases have been followed by disturbances of pregnancy and difficulties of labor.

3. It is preferable because it seeks to support the uterus by its natural ligaments and forms no intraperitoneal adhesions which may be an element of danger.

The disadvantages are—

(1) That two incisions are made in the abdominal wall instead of one as in the ventrosuspension or intraperitoneal shortening of the ligaments; especially is this the case when the cavity is entered through the dilated rings, thereby increasing the risk of hernia.

(2) That the operation proper is limited in its application. It is only applicable in those cases where the uterus is mobile.

(3) *The difficulties in diagnosis.*—We cannot always definitely determine the existence of adhesions between the uterus and the anterior wall of the rectum which may render the operation nugatory.

(4) *In cases associated with marked descent.*—While the operation cures the version, it does not lift the uterus to a higher or to a normal level, thereby falling short of the indication for any operation.

(5) In ovarian prolapse, especially if the ovarian ligaments are long, Alexander's operation cannot be depended upon to raise the ovaries to a normal position.

(6) *The absence or attenuation of the ligaments.*—These disadvantages are more apparent than real. The presence or absence of the ligament will depend on the experience and skill of the operator to find it more than on any abnormality. While it is true that we may find the ligament to be only a thin cord in the canal, the intraperitoneal portion is nearly always better developed and of sufficient strength to hold the uterus in the anterior position.

The operation of suspensio uteri has the great advantage over Alexander's operation in that it permits the inspection of the condition of the peritoneal cavity—affording a much better opportunity for the conservative or rad-

ical treatment of the diseased appendages, and the separation of adhesions.

It is preferred in cases where there is a decided prolapse, for this operation lifts the uterus on a higher level than Alexander's, and thereby fulfills a most important indication.

Its disadvantages are—

(1) That it is more dangerous both at the time of the operation, and later on, from the presence of the adhesion that is formed.

(2) That it fixes the uterus in an unnatural ante flexion for a posterior flexion—substituting one abnormal position for another.

(3) The uterus being fastened close behind the symphysis pubis, adhesions to the bladder may follow, or the pressure, as the bladder becomes distended, give rise to dysuria.

(4) Should pregnancy occur, it has been found that in a certain (though small) per cent. of cases, the operation has been followed by abortions or difficulties of labor that may endanger the woman's life.

Finally, intraperitoneal shortening of the ligaments possesses all the advantages of suspensio uteri except in retro displacements associated with marked descent, where the other operation is to be preferred.

AN ANALYSIS OF SEVENTY-TWO CASES OF COXALGIA.*

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In this paper it is my purpose to consider some facts and deductions concerning coxalgia in a more or less general way—rather than in statements of tabulated form.

It is important to note several of the more common symptoms and signs of this affection as to their absence or presence, in varying intensities, in different cases, because they are of special interest with reference to the results under the particular treatment pursued, and especially with regard to the stage of the disease when treatment was begun.

In reviewing the ultimate results as a whole, of a series of cases of any tubercular affection, the diathesis is important as bearing unfavorably, in a measure, on the outcome. The duration before coming under observation, and, in like manner, the care *previous* to the same and *since* the outset must also be considered, as affecting the result. Whether the presence of pain is invariable or not, the *location* of the

* Read by invitation before the American Orthopedic Association, Washington, D. C., May 2nd, 1900.

pain will be of greater importance in connection with the outcome, when we are more certain why, in a given case it is referred to the knee rather than to the hip, or *vice versa*.

Any history of traumatism should not escape notice of course—and especially its degree.

Other interesting points, as bearing on the results, are the invasion, whether sudden or insidious; the presence and location, not of an abscess necessarily, but of one or more sinuses; the degree of shortening; atrophy, and the position of the limb at the beginning of treatment, and at its termination. Any operative measures must be taken into account, and the location of the disease, whether right or left, might be of interest if it could be shown to be more common on one side than on the other. Also the presence of other tubercular joints, as a complication, especially in the knee or ankle of the *opposite* side, has a bearing as well, indirectly, through impairment of the general health by preventing locomotion and exercise.

In a series of seventy-two cases, treated in the Hospital for Crippled and Deformed Children of this city, extending over a little more than four years, a distinct history of a *tubercular diathesis* or probable infection was obtained in but thirty-nine. Of these, twelve had histories of one or both parents being tubercular; twenty had tubercular grandparents or uncles or aunts, and seven were exposed to tubercular infection from brothers, sisters or others in the household.

Trauma occurred in forty-six of the seventy-two cases, and of these forty-one were of slight degree, and the other five severe. The invasion was insidious in forty-eight and rapid in twenty-four cases, just one-third.

The *duration before coming under observation* varied from less than a month to eleven years, and the care of patients received previous to the first visit I have divided into (1) good; (2) fair (in which there were more or less attempts at proper treatment); and (3) bad (in which the treatment was either nothing at all, or consisted in the application of liniments, or the administration of antirheumatic remedies and the like.)

Those that received *good* care were but five in number; the *fairly* treated were sixteen; and those that were *badly* cared for amounted to fifty-one.

Pain was present in sixty-six of the seventy-two cases, and was referred in almost an equal number to the hip and the knee, or both.

There were *abscesses*, as indicated by one or more sinuses, in twenty-nine cases; and the

locations, as bearing on the probable seat of the disease, were fourteen externally or to the outer side; ten anteriorly; one posteriorly, and four in the groin.

Shortening was found in thirty-five cases, and varied from one quarter to three inches.

The "*position of flexion*" at the beginning of treatment ranged from 15° to 90° or more degrees in the forty-seven cases in which it was present. At the termination of treatment, or up to the present time, twelve of these forty-seven have no position of flexion, but some other malposition; twenty-one have a normal position, and the remaining fourteen have some flexion or other deformity. In this latter number are the neglected cases of long duration, and having more or less ankylosis and bone destruction.

Operative measures were pursued in twenty-one of the total number of cases consisting of six incised abscesses (the remaining abscesses being allowed to "point" or be absorbed); two excisions of the joint; ten erosions, and in three, Gant's operations were done.

The cases complicated by other tubercular joints were six; Pott's disease, two; tumor albus of the knee, two; and two of tubercular osteitis of the lower extremity of the tibia.

The treatment pursued in these cases may be divided into (1) *recumbency with traction* by weight; (2) the use of the *traction splint*, and (3) the *plaster spica*.

In all except as hereafter explained recumbency with bed traction was used until the acute symptoms subsided or malposition was corrected; thirteen were treated in recumbency, and further treatment declined; nineteen by a traction splint from the beginning, as there was no malposition, and ambulatory treatment could be permitted; and thirty-eight by recumbency and bed traction, followed by a traction splint, high shoe and crutches, and six had a plaster spica applied.

Intra-articular and intra-osseous injections of iodoform emulsions were not used, as all American orthopedic surgeons have abandoned its use as not hastening nor affecting a cure.

The *ultimate result* regarding motion in flexion was normal motion in ten; motion in flexion of 45° in eight cases; of 30° in eight cases, and of 15° in nineteen cases. The remaining twenty-seven had less than 15° motion in flexion, or none at all.

To show what proper treatment may accomplish even after a very long time has elapsed, I wish to mention here one case particularly, which, before coming under our observation,

had had coxalgia eleven years, with treatment which may be considered, on the whole, as fair, though intermittent.

When admitted, he had a "position of flexion" of 60° and practically no motion in any direction, a sinus just below the great trochanter, and one inch shortening. Under recumbency and traction, and later a traction splint, high shoe and crutches, his motion—now two years later—is normal with but the one inch shortening.

The deaths were seven, two from meningitis (9 months, and 2 years old), and one from general miliary tuberculosis (12 years old) without any operation; two from meningitis following redressment forcé (9 and 6 years old); and one from scarlet fever, and one from broncho pneumonia, aged three and one-half years, two months after incision of abscess and curetting.

Going back now to consider, it will be observed that scarcely more than half of the total number gave a history of any tubercular diathesis. The remaining number must be considered as having acquired the infection, predisposed by poor food, improper modes of living and unhealthy environment generally.

The preponderance of slight traumatismes over the severe, it will be noted, is marked; but five of forty-six injuries, in a total of seventy-two cases, were severe. The invasion, nevertheless, was rapid in one-third of the seventy-two cases, and from this it would seem that the duration of the *invasion* does not, necessarily, depend upon the severity of the injury. It may be mentioned here, as a matter of observation, however, that those cases which start from a severe injury usually progress more favorably and more rapidly; undoubtedly, because the pain or discomfort is so great that treatment is applied for and instituted much earlier than it otherwise would be.

The importance of the duration of the disease, and especially of the character of the care received prior to the first visit, is obvious; and it is interesting to note as influencing the ultimate result, that over two-thirds of all the cases received care which was *wholly bad*—a tremendous disadvantage one has to expect to labor under at the very outset of his treatment.

It is deplorable, indeed, that such a large number of coxalgia cases pass through the first stage of this disease under the care of the general practitioner with his antirheumatic remedies and liniments when, even though it is a chronic condition, time is of the utmost im-

portance, and *proper* treatment cannot be instituted too soon.

Pain appears to be almost constant, but its distribution does not yet seem to be of much moment as regards the probable course of the disease and its ultimate result.

One or more sinuses, in but twenty-nine cases out of seventy-two, seems a small number. Apparently, they are more often found in cases which were particularly severe at the onset, or in those cases in which the traction has been habitually more or less imperfect, from walking or resting on the end of a traction splint, as a child is very prone to do.

Atrophy may be expected in three-fourths at least of all cases, and *shortening* in about half. The degree of the latter will depend largely upon the earliness with which proper treatment was begun, and not necessarily upon the presence or absence of discharging sinuses. A particularly severe case may go on to suppuration with one or more sinuses, despite all of one's efforts; and yet, by persistent and proper traction, the shortening may be kept down to a small degree—the tissues absorbed and otherwise destroyed by the activity of the process, being largely replaced by the new tissue built up in the process of repair. A "position of flexion," at the beginning of treatment, may be expected in about two-thirds of all cases of varying severities seen, and its degree has a wide range, being as much as a right angle or more sometimes. At the termination of treatment, it will have disappeared in about two-thirds of *these*—the remainder having this or some other malposition of bone destruction.

A tubercular osteitis of another joint obviously increases the seriousness of the case. Aside from the additional tax upon the system, the treatment is greatly interfered with if the complication is in a leg. If on the same side as the coxalgia, proper traction is difficult when endeavoring to treat both conditions—and if in the opposite limb, locomotion is interfered with when it is desirable to employ a traction splint, high shoe and crutches. Operative measures should be pursued most tentatively where the slightest activity in the process in the joint remains. Opening a sterile abscess exposes it by frequent dressings to the danger of secondary infection, especially in children who soil their dressings.

And yet it is asking a great deal of the system, already taxed as it is, to expect it to assume the added work of absorbing any large amount of detritus through the abnormal and tubercular tissues surrounding the joint. But

some of these cases, after a free incision, do heal up nicely after discharging a few weeks; the healing being hastened by bringing together by a subcutaneous continuous suture, the edges of the wound after all discharge has ceased.

It must now be remembered that the condition is by no means yet cured—there has simply been removed an accumulation of pus, which is practically a foreign body, the cause of its formation being still present, but, with proper care, the activity of the process may be greatly retarded, and further accumulation probably prevented.

As far as curetting is concerned, even after the greatest care, in many cases, it is questionable whether the results expected to be gained by such interference warrant the risk of meningitis or general miliary tuberculosis being set up.

The early exploratory operation in tuberculosis of the hip is not practiced by the best orthopedic surgeons of to-day. It is known that in many cases the primary focus is in the acetabulum, but there is no symptom or sign by which the location can be determined, before a discharging sinus has formed, at any rate. If acetabular, or if the diseased spot is in the head, it cannot be reached unless the bone be dislocated, as is done for an excision; and even in excision, as Bradford and Lovett have said, it is impossible to remove *all* of the tuberculous material.

If simply one tubercular focus existed in these cases, *we should cut it out*, but the *whole epiphysis* is honeycombed with tubercular tissue. * * * * General surgeons have tried in vain to get results more rapidly by these early erosions, but skilled orthopedic surgeons concur, after examining these cases, that no appreciable gain has been made.

The course to be pursued, therefore, must be determined imperatively by the conditions obtaining in each individual case.

Where all progress of the disease has ceased and deformity is a result, subcutaneous osteotomy of the femur, to increase the length or overcome malposition, is, of course, frequently desirable and very effective.

In the treatment of these cases, the endeavor has been, as far as possible, to secure absolute rest to the joint, to exert traction, and to overcome any malposition, as before stated.

In a case which has reached a stage where there is no malposition, little or no shortening, and a greater or less degree of motion, it will be found, if it cannot, for one reason or another, be watched carefully, that the plaster spica is

to be preferred to other procedures. It secures fixation in a good position, and has not the disadvantage of a poorly applied or intermittently worn traction splint.

Our ultimate results regarding motion may be considered fairly good; no malposition and fair motion as a whole, in nearly two-thirds of the total number of cases. To arrest the disease, and to prevent any permanent flexion or adduction as a result, is to achieve something, considering the numerous difficulties that have to be contended with from the very outset of the treatment.

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PHARYNGEAL AND NASO-PHARYNGEAL GROWTHS.*

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In presenting this paper, I desire to state that I shall attempt nothing of an original nature, but will rather endeavor to bring to your notice *some practical points in the prevention and treatment of growths of the pharynx and naso-pharynx*. Growths or tumors of these cavities are both of a malignant and benign character. It is of both of these varieties I shall speak, and to growths of the naso-pharynx I shall more particularly invite your attention.

We shall first take up the subject of *Malignant Growths*. In this connection I wish to discuss one point only, and that is, Whether or not the transformation of a benign into a malignant growth does take place? and to cite some cases apparently illustrating the change.

The subject of the transformation of a benign into a malignant tumor is one that is of great interest to us all, and to the laryngologist one of peculiar interest, and a subject on which much has been written and said. The older writers on neoplasms of the pharynx, naso-pharynx and larynx have all claimed that such a transformation does undoubtedly take place, but their claims were only supported by the clinical facts and results.

Since the introduction of the microscope and the perfection of the technique of bacteriology and pathological research, the etiology and pathology of tumors have been thor-

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oughly gone over, and many of the old ideas as to their origin, growth and transformation completely overthrown and exploded.

The old idea and theory that benign tumors were the result of an inflammatory process resulting in a thickening or hypertrophy of the normal tissue and the formation and development of a tumor, and that a malignant tumor or cancer was the local manifestation of a constitutional affection, or dyscrasia or cachexia, have been proved to be entirely erroneous; but on the other hand, it has been thoroughly established and proven that all tumors, whether benign or malignant, originate from "an essential tumor-matrix, (which) may be composed of embryonic cells, the offspring of mature cells, which for some reason have failed to undergo transformation into tissue of a higher type, and which may remain in a latent, immature state for an indefinite period of time, to become, under the influence of either hereditary or acquired exciting causes, the essential starting point of a tumor."¹

All recent writers on pathology divide tumors into three great classes—benign, malignant, and retentive cysts; and these are subdivided according to their structure and the tissue cell from which they grow—"the structure and character of a tumor depending upon the stage of the arrested cell growth and the embryonic layer from which the matrix is derived."² "A matrix of epithelial cells from epiblast in which cell growth was arrested near the completion of the process of differentiation, will in all probability become the starting point of a benign epithelial tumor; on the other hand, if the development of the same cells was arrested at an earlier stage, the proliferation will result in tissue of a lower type, and the resulting tumor will be a carcinoma. The same holds true of mesoblastic tumors; the more imperfect the differentiation, the greater the tendency to the production of a sarcoma than to that of a fibroma."

The causes of the growth or proliferation of these embryonal matrix cells and the formation of the tumor, are "a suspension or diminution of the physiological resistance in the tissues in the vicinity of the matrix," or a traumatism, which may be either in the nature of a long continued irritation, or of an acute nature. Heredity, race, climate, age and sex also appear to have some causative relation as to the formation and nature of tumors.

Transformation.—The possibility of the transformation of a benign into a malignant tumor

has been asserted by a few and denied by most of the older writers on surgical pathology. Accumulated clinical observations, since the diagnosis of tumors, have been made more accurate by increased knowledge of their pathology; and a more frequent resort to the use of the microscope in the examination of tissue removed for diagnostic purposes, and of fresh specimens after operation, have brought more convincing proof of the possibility of such an occurrence. Prof. Senn says, as the result of his own observation, that he is convinced not only that such a transformation is possible, but also that it takes place much more frequently than has heretofore been supposed, and also that he is equally certain that malignant tumors not infrequently originate from embryonic tissue of post-natal origin.

The transformation of a benign into a malignant tumor implies a change in the histological structure of the cells of the benign tumor as well as a change in the environments. The cells of which benign tumors are composed resemble the normal cells of the part or organ in which the tumor is located. The transformation depends, therefore, upon influences which accomplish such a change from mature into embryonic cells. At the same time, and probably from the same causes, the physiological resistance of the adjoining tissues is diminished. Senn has for years maintained that embryonic tissue of the post-natal origin, may, in the production of tumors, serve the same purpose as the congenital embryonal matrix. Embryonal cells, during the process of regeneration after inflammation, or in the healing of a wound or fracture, may fail to undergo evolution into so complete a state of perfection as the maternal cells which produced them, and that such cells are set aside and remain in the tissues in a latent condition in a manner similar to that claimed for the congenital matrix of embryonic cells. The kind of tumor produced by such a matrix will correspond to the type of tissue from which the matrix was derived. Epithelial cells buried in a scar will produce an epithelioma.

Every surgeon knows that carcinoma not infrequently develops in scar tissue.

The exciting causes, in effecting a transition of a benign into a malignant tumor, are such local and general influences as transform mature cells into embryonic cells, and which at the same time render the corresponding tissues more passive to cell infiltration. Among the local causes are injury, prolonged irritation, and incomplete removal of the benign tumor by excision or cauterization. The incomplete

¹ *Pathology and Surgical Treatment of Tumors.*—Senn.

² *Pathology and Surgical Treatment of Tumors.*—Senn.

removal of a benign growth by the application of caustics, is regarded as one of the most fruitful sources in the transformation of a benign into a malignant tumor. Papilloma and fibroma of the skin, when exposed to friction and irritation by the clothing, etc., are liable to undergo such a transition. The incomplete removal of a myxoma or fibroma of the nasal cavities by the hot snare, forceps or parenchymatous injections, if frequently repeated, is very liable to give rise to sarcomatous degeneration of the growth.

The foregoing is, then, the theory, and is called "Cohnheim's theory," which is advanced and accepted by most of the modern writers on the surgical pathology of tumors, as to the origin and growth of tumors, and of the transformation of a benign into a malignant tumor.

We may find in the upper respiratory tract, as the nares, the naso-pharynx, the pharynx or larynx, any of the growths met with in any other structure of the body. The simple typical papillomata are frequently found; that a transition of these simple tumors to a malignant form does undoubtedly take place is a well-established fact. Slow irritation of such a tumor tends to produce a carcinoma, and trauma may produce sarcoma. That it is often difficult to say that this transformation does or has taken place is due to the fact that we do not see them till after the transition has taken place, and microscopical examination of the tissue will then prove nothing; but there are a few cases on record in which an examination of the tissue was made when the tumor was in a benign state and the transformation has taken place, as proved by subsequent microscopical examination.

In support of, and as illustrating the above, I submit for your consideration two cases—the first, in which there was the transformation of a benign papilloma of the tonsil into a carcinoma; and the second, in which there was the transformation of a fibroma of the naso-pharynx into a sarcoma.

CASE I.—Capt. W. R. W., age 63 years; by occupation, hotel keeper; was referred to me by his son-in-law, Dr. W—. When I first saw the patient, December 3, 1896, he was a strong, robust man, in perfect health, and very active for his age; had been sick very little during his whole life; temperate in his habits, but using tobacco quite freely. There was no history of syphilis, and no history as to heredity for tumors or growths. He stated that about three months before, he had noticed some little inconvenience in swallowing; and, on examin-

ing his throat, had discovered this tumor. On examination, I found a tumor occupying the position of the right tonsil, smooth, and of the same color as the surrounding parts, about the size of an ordinary black walnut; the tumor was moderately firm in consistency, and not attached to either of the faucial pillars, its base being slightly constricted. It had given him no pain and no inconvenience except to interfere sometimes with swallowing. There was no glandular enlargement; and he stated that the tumor had grown little or none since his attention was first called to it.

I gave it as my diagnosis that the tumor was a simple papilloma of the pharynx, and suggested its removal, which could have been readily done with the cold wire snare. The patient himself was very willing, and rather anxious, to have the operation done, but his family, and his son-in-law in particular, objected seriously to any operation being done. After about a month's treatment with local application by his son-in-law, which produced no change in the size of the tumor, the patient's family asked my advice as to sending him to a hospital, and selected Johns Hopkins; to this I cheerfully assented.

The report of the pathologist of Johns Hopkins of a section of the tumor removed for diagnostic purpose was "that the tumor was a simple typical papilloma." The tumor remained in the same condition for about one year, which was in all about eighteen months from the time it was first discovered by the patient; he then began to have some slight pain in the throat on swallowing, and there was some slight ulceration of the top of the tumor, and some slight hemorrhage. He had, in the meantime, removed from Greenville, S. C., to a town thirty miles away. The growth then began to rapidly enlarge, and to involve the surrounding structures, interfering seriously with deglutition and respiration.

The lymphatics of the jaw and neck became involved and rapidly enlarged; he had a rise of temperature, with rapid emaciation, the growth now involving the pillars of the fauces, the soft palate on that side, and extending down to the larynx; there was an extremely offensive discharge, and deglutition and respiration greatly impeded. I was telegraphed for to come and perform a tracheotomy, but the operation was done by another surgeon before I arrived.

When I saw him at this time, the growth filled the whole pharynx and extended up into the naso-pharynx and down to the trachea—all the glands of the neck were greatly enlarged

—the patient dying in forty-eight hours after the tracheotomy.

Although no microscopical examination was made at this time, all the clinical symptoms and conditions were those of undoubted carcinoma. I am fully convinced that a transformation from the benign papilloma to the malignant carcinoma did take place in this case, and was most likely due to the continued irritation produced by the use of tobacco, and also to the use of the local applications which his son-in-law persisted in using "to shrink it up," as he expressed it. I believe that if this case had been operated on at the time I first saw the case, probably the patient's life would have been much prolonged, and that he would have been saved a great amount of pain and suffering.

CASE II.—The second case I present for your consideration is one of particular interest, in view of the fact that this apparent transformation did take place, a microscopical examination having been made three years ago, when the tumor was found to be a true fibroma; and the microscopical examination made at the present time showing it to be a malignant sarcoma; also on account of the rarity of fibroma in a negro woman—Mackenzie stating that fibromata of the naso-pharynx are exceedingly rare in women, and Bosworth stating that he has never seen a case reported as occurring in a negro. The history given by the patient is that about five years ago she began to notice some fullness in the upper part of the throat, but with no pain. She then had some slight difficulty in swallowing, and noticed that her voice had changed in tone. In the spring of 1896, the patient was seen by another laryngologist, the tumor then filling the whole naso-pharynx, and coming down to the level of the soft palate, which was somewhat pushed forward. In his report of the case to the American Laryngological Association, at the annual meeting held in Pittsburg, Pa., May 14 to 16, 1896, he says: "A piece cut from the tumor, and examined with the microscope, showed it to be a true fibroma." After trying electrolysis for six weeks, which produced no change in the growth, he then removed about one-half of the tumor with the hot snare. The patient was then sent home with the understanding that she would return in the fall. *This she failed to do.* For about one year or eighteen months the growth did not trouble her, when it began to grow again, and to cause frequent hemorrhage; she began to lose flesh and

strength, the hemorrhages increasing in number and severity—her swallowing and respiration becoming much interfered with.

When I saw her on August 8, 1899, she was much reduced in weight and strength, and had fever, the temperature ranging from 97° to 101° and 102°, the temperature often being subnormal in the morning. She had, at this time, a great deal of difficulty in swallowing. The tumor then filled the whole naso-pharyngeal space, pushing the soft palate forward, and hanging down in the pharynx below the level of the epiglottis. The tumor was a little darker in color than the surrounding mucous membrane, was soft to the touch, and bled very readily on moving it. On its surface, there were three or four smaller lobulated masses. I removed the dependent portion with the cold wire snare, taking it up just above the level of the soft palate, the tumor cutting easily and with not much hemorrhage. This piece measured two inches by one and a half inches at the top, tapering to one-half inch at the bottom, and three-fourths inch thick. This was submitted to Dr. M. D. Hoge for microscopical examination, and he reported that the specimen was a "spindle cell sarcoma." The remainder of the tumor, which filled the naso-pharynx, and which I approximate as measuring two inches by one and a half inches broad by one inch thick, was removed at several subsequent operations by means of the cold wire snare, the forceps, and the curette; the base was then cauterized with the galvano-cautery. The hemorrhage was very much less than one would suppose from such a large tumor in this location. The temperature rapidly declined after the removal of the first piece; she could then swallow easily, and she has continued to improve, gaining at least twenty-five pounds in weight, and her strength and activity have returned to normal. At no time did she have much or any pain, and there has been no involvement of any of the adjoining lymphatics or glands. The tumor was attached to the basilar process of the occipital bone, and extended down the posterior wall a little to the left side for about one and a half inches.

That a transformation from a benign to a malignant growth did take place in this patient, I am firmly convinced, and am inclined to think that it was probably due to the incomplete removal of the tumor at the first operation.

CASE III.—In this connection, but not bearing on the subject of transformation, I wish to report a case of *primary sarcoma of the soft palate.* I report this case because of the fact that sar-

³ *Journal Laryngology, Rhinology and Otolaryngology*, Vol X, 1896.

coma of the soft palate is extremely rare, and also in view of its happy result. Sarcomata of the soft palate, having their origin there and not being connected with some of the adjacent bony structure, is exceedingly rare, and not many cases have been reported.

John W. McG—, of —, S. C., age 39 years, cotton planter by occupation, consulted me in Greenville, S. C., August 13th, 1894. He gave this history, that about fourteen months before he had first noticed a small smooth swelling far back in the roof of his mouth, on the right side. He was then in perfect health, and was working here, managing a large cotton plantation. The tumor grew very slowly and gave him no trouble whatever till about five months before I saw him, when, in endeavoring to rescue a companion from drowning, he was overcome and was taken from the water unconscious, in which state he remained for more than half an hour before he was revived—all the known means for the resuscitation of the drowned being used before he recovered. From that time he became exceedingly nervous, with loss of sleep and loss of appetite, rapid loss of flesh; and the small swelling in his soft palate began to enlarge. He was a man five feet seven inches in height, and weighed 190 pounds previous to this accident, and although quite fat he was very active and muscular. When I saw him he was pale and flabby, and had lost about 30 pounds; was exceedingly nervous, and had some difficulty in swallowing, and his articulation and pronunciation were much thickened and muffled. The tumor was situated in the soft palate to right of the median line, oblong in shape, about the size of a large English walnut, with its long axis lying obliquely, the mucous membrane over the surface being perfectly smooth, but slightly reduced. There was little or no pain, no glandular enlargement, but considerable interference with swallowing and talking. There was no attachment to the hard palate. I removed the tumor, under cocaine anesthesia, by making an incision through the mucous membrane over the long axis of the growth, and dissected it out with scissors. This was a little tedious, as there were many tough, thread-like attachments; the patient complained bitterly at the pain in the muscles of the jaw produced by keeping his mouth open so long; so I had to give him a good many rests; I succeeded in making a clean dissection without going through the top to the soft palate. The wound healed rapidly, and all the swelling quickly subsided. The tumor was $1\frac{1}{2}$ inches long by half inch in

diameter, and of moderately firm consistency. It was immediately put into alcohol and sent to the Army Medical Museum, Washington, D. C., for microscopical examination. Dr. Gray, in his report, says: "The tumor is a giant cell sarcoma, and the patient will probably hear from it again." After the removal of the tumor the patient's health began rapidly to improve, all his nervousness and sleeplessness disappeared, and he began to gain in weight and strength, and when I saw him two months later, he was in his normal health and working hard on his plantation.

In a letter from the patient, received two months ago, which is more than six years since the removal of the tumor, he says that he is in perfect health, and that his mouth is perfectly natural and has given him no trouble since the operation. Now, whether this is also a case of transformation in a benign growth or not, I am not prepared to say; but I am much inclined to think that it is, and that the shock produced by the drowning accident was the probable exciting cause.

In discussing the second part of my subject, *Benign Growths of the Naso-Pharynx*, I shall confine my remarks strictly to the pharyngeal tonsil or adenoid vegetations, as they are commonly called. My apology for bringing to the attention of this Society a subject on which so much has already been written and said, is that I wish most earnestly to make a plea to the general practitioner for the early recognition and prevention of these adenoid growths in the young, growing and developing child. I am yearly more and more convinced that the importance of this subject is not fully appreciated by a large majority of the general medical men. The fact that, in the great majority of cases of adenoid vegetations, the enlargements begin in early infancy, is entirely overlooked; or, if recognized, the prevention of the far-reaching damaging effects upon the tissues and structures of the growing child have not received the attention that the importance of the subject demands.

As a specialist seeing daily patients with poorly developed, ill-formed mouths, narrow contracted nasal cavities, chronic purulent nasal discharges, impaired hearing, chronic suppuration, middle ear catarrh, deaf-mutism, impairments of speech, flat and badly developed chest walls and muscles, and children dull and listless, with inattention and lack of memory, who are often wonderfully improved by the removal of these adenoid vegetations, I should be derelict in my duty if I should fail to attempt, though even in a feeble way, to impress

on the general practitioner the great importance of the early recognition, and, to a large extent, the prevention of their cause.

The mucous membrane lining the naso-pharynx is continuous with that lining, the pharynx, larynx, nares, and Eustachian tubes, is covered with columnar ciliated epithelium. Beneath the mucous membrane are found racemose mucous gland, very numerous above and around the orifices of the Eustachian tubes. Throughout the membrane there are also numerous crypts or recesses, the walls of which are surrounded by lymphoid tissue similar to that found in the tonsils. Across the back wall of the naso-pharynx, between the two Eustachian tubes, a considerable mass of this tissue exists, and has been named "the pharyngeal tonsil." This tissue is very loose and lax. The structure or pharyngeal tonsil or adenoid gland is a physiological structure, and is always present in a more or less degree; only when it becomes enlarged, thereby causing obstruction, is our attention directed to it. As this tissue usually atrophies in the majority of persons about adult life, it is in childhood, and usually between the age of three and ten years, that it demands our attention.

It has been found that the lymph spaces of the nasal and naso-pharyngeal mucous membrane are in close connection with the subdural and subarachnoid lymph spaces, and also with the lymphatics and glands of the neck—the submaxillary and submental. This is a point of great importance to which I wish to call your attention further on.

In normal breathing carried on through the nose and naso-pharynx, the air is cleansed, warmed and moistened, the lungs are fully expanded, and the blood properly oxygenated. The muscles of the face around the nasal orifices, as well as those of the chest, are properly exercised. Any obstruction to normal respiration, and especially that caused by enlargement of the pharyngeal tonsil, is fraught with danger to the growing, developing child.

Adenoids are usually classified into two varieties. 1. The soft or gelatinous type. 2. The hard or fibrous type.

The first (*soft or gelatinous*) type appears as a smooth, semifluctuating mass that is spread over almost the entire naso-pharynx. This variety is composed almost entirely of lymphoid structure; it is very soft and friable, and is easily broken under pressure with the finger. This we see more frequently in infants and very young children. The second or *hard variety*, or hyperplastic as it is called, shows an increase in the lymphoid structure, with a

great overgrowth in the connective tissue element. The mucous membrane is well formed, with a great increase in the layers of epithelial cells. To the finger the surface feels smooth, but very lobulated and fissured. This hard variety sometimes appear shrunken, and feels coarsely granular.

The causes of enlargement and hypertrophy of the naso-pharyngeal tonsil, or adenoid gland, are numerous:

In children with inherited syphilitic or tubercular diathesis, there is a tendency to general glandular involvement; from lessened physiological resistance, and diminished vascular tone, there is a tendency to sluggish circulation in the lax mucous membrane, and this will lead to engorgement and watery infiltration, more marked where the lymph-channels are numerous.

Climate is an important exciting factor, enlargements occurring more frequently in damp climates and where there are sudden changes of temperature; this is especially true in children of the lymphatic type; children in the cities seem to be more frequently affected with these engorgements of the mucous membrane than those in the country, possibly due to the fact that the air in cities is constantly laden with dust and smoke. Irritating vapors may act as causes in bringing about engorgement and inflammations of the nasal and post-nasal mucous membrane.

Repeated attacks of "catching cold," or acute rhinitis, is probably the most usual cause, especially if the rhinitis is of the purulent or of the infectious type. This is brought about by the discharge of the irritating material into the naso-pharynx, which excites inflammatory processes in the lymphoid tissues. On the other hand, there can be no doubt that inflammations of the nasal mucous membrane are often secondary to engorgement and inflammatory conditions of the naso-pharyngeal adenoid tissue.

Interference with the systemic circulation, due to congested conditions of the liver, kidneys or lungs, will bring on engorgements and congestion of the mucous membrane of the upper air passages, especially of the lymphoid structure. In young children intestinal irregularities, constipation, or irritation produced by worms, engorgements of the nasal and naso-pharyngeal mucous membrane will be produced.

Irritating materials coming from the general circulation, as in the uric-acid diathesis, are also classed as exciting causes. In a great many of these cases of enlargement of the

pharyngeal tonsil we also have an accompanying enlargement and hypertrophy of the faucial tonsils.

Having thus briefly gone over the anatomical description of the pharyngeal tonsil, the physiology of normal nasal respiration, the different types of enlargement of this lymphoid structure, and the various causes producing these enlargements, let us now study the *damaging effects resulting from these enlargements, more especially in the growing child.*

One of the first symptoms to arrest our attention in a child with enlargement of the pharyngeal tonsil or adenoids, as they are commonly called, is the inability of the child to breathe properly through its nose; it snuffles and snorts, and has to open its mouth frequently to get a long breath; at first, this may show itself only at night, but in a short while the child keeps the mouth open constantly, and soon he becomes a confirmed "mouth-breather." Normal breathing through the nose, as well as the action of the muscles controlling the nasal orifices, have much to do with the size of the nasal cavities and the development and contour of the face. When there is much obstruction to nasal respiration, the facial muscles are drawn down, retracting the upper jaw and altering the curve of the alveolar arch. The anterior part of the hard palate is tilted out, its upper portion is drawn in, and the sides retracted, the dome then forming a high narrow arch. The septum is forced up and sometimes twisted, and the nasal cavities narrowed. On account of this irregularity in the shape of the arch, there is great unevenness in the development of the teeth, sometimes irrupting high up and pushing the upper lip out still more; the lower jaw is usually receding and drooping; these changes in the formation of the face and mouth are permanent; and it matters little if we remove the obstruction to nasal respiration, we will have a permanent mouth breather with characteristic "peculiar facial expression, or rather, the peculiar expressionless face."⁴

In respiration carried on through the mouth, especially in very young children, the lungs expand very imperfectly, allowing the thoracic walls to fall in, causing a shortening of the antero-posterior diameter. "The chest becomes thin and flattened, the intercostal spaces are depressed, and the infra- and supra clavicular regions retracted." The thoracic muscles not having proper exercise, become small and poorly developed.

When these obstructions are large, the

breathing is done wholly by the mouth; the air not being cleansed, warmed and moistened, acts as an irritant, and consequently the delicate structures of the pharynx, larynx and the bronchi readily become inflamed. There is usually some spasmodic cough, a constant tendency to take cold, and attacks of catarrhal croup, bronchitis and asthma frequently occur. The voice early takes on the peculiar muffled nasal twang, due to the interference with nasal resonance.

In nearly every case are there an associate nasal and post-nasal catarrh, offensive discharges from the nose, sometimes purulent in character, frequent hæmorrhages, accumulations of thick tenacious stringy mucus in the pharynx and naso-pharynx, which cause cough, and constant clearing of the throat and hawking and expectoration. In young children, a good deal of this mucous secretion is swallowed, quickly upsetting the digestion.

Very frequently we see enlargements of the glands at the angle of the jaw, with great thickening and induration of the surrounding tissue.

From 60 to 75 per cent. of ear troubles are brought on by diseases of the nose and naso-pharynx. Enlargement of the pharyngeal tonsil or adenoids, is undoubtedly one of the most frequent exciting causes, and in nearly every case do we see later on some disturbance about the ears; tinnitus, deafness, deaf-mutism, chronic catarrhal inflammation, and acute suppurative infectious inflammation may occur. These are due to the enlargement of the adenoid tissue pressing on the openings of the Eustachian tubes, and to the engorgement of the mouths of the tubes; this obstruction to the Eustachian tubes interferes with the ventilation of the tympanic cavities, and will lead to catarrhal inflammation of the middle ear and Eustachian tubes, with resulting thickening and deposit "scar tissue," producing permanent diminution in the hearing. Again, if infection should occur, we will have acute suppurative inflammation of the middle ear, which may become chronic or may involve the deeper structures of the ear, or may pass to the cranial cavity.

Enlargements of the pharyngeal tonsil interfere with the proper ventilation and drainage of the accessory nasal sinuses, and if an infectious or purulent inflammation of the lymphoid or adenoid tissue should occur, we not infrequently see acute inflammation take place in the frontal, ethmoidal or maxillary antra.

"Naso-pharyngeal obstructions induce ab-

⁴ *Diseases of Nose and Throat.*—Kyle.

normal breathing, anæmia, disturbed sleep, and a variety of nervous manifestations. The disposition is altered, the child becomes fretful or sullen, the memory is defective, and apart from the impairment of hearing, such patients are inattentive, backward and dull."⁵

Headaches, limited to the forehead and temples, are often seen, and may be due to the retention of morbid products and obstructed circulation. "Attacks of night terrors, walking in sleep, morbid dreams, melancholia, and other evidences of disturbed cerebral functions may occur."

Children with adenoids are much more susceptible to infectious diseases, both on account of the lessened physiological resistance of the nasal and naso-pharyngeal mucous membrane; as well as their generally weakened vitality—the type of the disease being much more severe and the convalescence much prolonged.

In the anatomical description, the intimate communication between the lymphatic vessels in the naso-pharyngeal mucous membrane and those at the base of the brain was noted: "Bacteriologists have reported the presence of micro organisms in the nose and throat similar to those found in many cases of meningitis. Clinical observations show that the different varieties of meningitis are most commonly observed between the ages of three and five years, at which time naso-pharyngeal troubles are very common. This intimate lymphatic connection, and the identity of the micro-organisms in the naso-pharynx and meninges, may explain the cause of many heretofore obscure inflammations of the brain and meninges."⁶

Now, as to prevention and treatment.

The various symptoms and conditions which I have endeavored to detail above are matters of daily observation to the specialist, but by the general practitioner their importance and significance are often overlooked. The general practitioner always sees these cases first; the specialist only after the adenoid enlargement has continued for some time, and some one of the various morbid conditions I have described demands attention.

Huber (*Arch. Pediatrics*, August, 1900.) aptly says: "The family physician does well to remember that his duties are not confined to the treatment of an individual case or disease. Children under his care ought to be regarded as his wards from a medical standpoint. With a history of recurring attacks of nasal catarrh or mouth breathing, the dangers should be

made clear to the parents; and their relief should claim his immediate attention.

The nasal passages and the pharynx of young children should be left clean and free from obstructions; they should be inspected often; and so important is this matter of cleanliness and patency of the nasal and naso-pharyngeal cavities that daily washing of the parts is practiced by a great many men."

Jacobi says: "I have always made it a rule to keep all the integuments clean. At least once a day a physiological solution of salt water is poured through the nares of every infant or child over whom I have control. Big adenoids should be removed—large tonsils resected. There is more danger in a dirty nose than in an unwashed face. * * * There are many cases of nasal diphtheria, such as are most likely to resist the influence of antitoxin, which are still spared a fatal termination by persistent and correct irrigation of the nares and naso-pharynx." Again: "Pure air and sunlight are indispensable to health. The air should enter the lungs by way of the nasal passages; 'and breathed into his nostrils the breath of life,' we find recorded in Genesis."

On the first evidence of obstruction to nasal respiration, the nose and naso-pharynx should be carefully examined and thoroughly cleansed with some mild antiseptic wash. The finger should be passed into the naso-pharynx; and in very young children this can be readily done; and if the soft gelatinous masses of lymphoid tissue are felt, as they almost will invariably be, it should be thoroughly broken down and destroyed. The parts should then again be washed with the mild antiseptic solution, and in the great majority of very young children this will be all that is necessary.

The engorgement and thickening of the pharyngeal tonsil will subside, any catarrhal discharge from the nose will cease, and normal nasal respiration will be re-established, with complete cessation of all the symptoms, and cure of the patient. This simple procedure, readily done by the family physician, and inflicting little or no pain when done early, will be the means of relieving the child of a great amount of discomfort at the time, and of far-reaching disastrous results in the future.

If the engorgement of the lymphoid tissue is allowed to remain, thickening and hyperplasia of the tissue takes place, and operative intervention will invariably have to be resorted to later on. The choice of instruments, whether snare, or forceps, or curette, is usually a matter of education or preference with the surgeon; but whatever instrument is employed, the re-

⁵ Huber.—*Archives of Pediatrics*, August, 1900.

⁶ Huber. *Archives of Pediatrics*, August, 1900.

removal of the adenoid vegetations should be thorough, especially the hardened glandular tissue in the vault of the pharynx, and any growths on the lateral walls above the orifices of the Eustachian tubes.

Personally, I prefer to remove these growths with the curette, as I believe they can be more thoroughly and quickly removed and with less danger of wounding the surrounding tissues.

In young patients, some general anesthetic should be given, and I prefer chloroform, putting the patient completely under its influence; in older persons, the growths can usually be removed without pain by the use of cocaine. In most cases, there is very little hemorrhage with the operation, and in a great number of cases operated on I have seen no case of secondary hemorrhage, though one or two cases have been reported.

The parts heal readily in two or three days, and except to keep the surface clean with some mild antiseptic wash, no after treatment is necessary.

3 North First Street.

THE TREATMENT OF PERI-RECTAL ABSCESSSES.*

By JOHN L. JELKS, M. D., Memphis, Tenn.

Peri-rectal abscesses, when properly treated, are not so serious as when formerly the practice was poultice and await pointing.

Rectal abscesses need not result in fistula except those that are the result of malignant diseases, namely, tuberculosis, cancer, and syphilis—in fact, then, not to the abscess *per se*, but to the degenerated tissues involved, where the pus infection is a concomitant and complicating condition, and then in tuberculous and syphilitic cases we can restore the parts to health by early and timely treatment.

The fault to be found in a simple incision and drainage of these abscesses is that their walls are not gotten rid of, hence the barrier to general infection or infection of other and deeper structures—so generously supplied in this locality—remains to continue an irritation and suppuration. In many, the abscess wall becomes calloused, and all efforts to establish granulation are futile. As soon as able to elicit fluctuation (and I dislike poulticing to accomplish this end), I open freely and hastily irrigate through an irrigating curette attached

to a fountain syringe until the irrigating fluid comes away free of debris; then, with a sharp irrigating curette, fearlessly and surely remove all the abscess wall, thereby converting the cavity into a surgical wound pure and simple.

I use formalin solution in irrigating these cavities, and pack them with gauze iodoformized, except in cases possessing an idiosyncrasy.

After thus treating these cases, I expect no further suppuration; and though others advise use of such agents as bichloride of mercury, carbolic acid and hydrogen dioxide in irrigating these cavities, they have to the author proven defective and objectionable.

Since using formalin solution when irrigating these cavities, suppuration is seldom noticed. Superficial abscesses are dealt with in the same manner, or may be frozen and excised when small; and are, when otherwise treated, liable to infect deeper structures. In these, local anæsthesia will suffice for thorough curettage. Very painful wounds should be dressed with boric gauze saturated in antibrule of fifty per cent. solution. I have not found in rectal surgery the objection to the use of formalin referred to by rhinologists and laryngologists.

Thorough dilatation of the sphincters is essential in the treatment of all cases.

Proceedings of Societies, etc.

CLINICAL SOCIETY OF MARYLAND.

BALTIMORE, November 16, 1900.

The meeting was called to order by Dr. H. B. Jacobs, vice President; Dr. H. O. Reik, 5 W. Preston Street, Secretary.

Simple Goitre in Infancy.

DR. SAMUEL AMBERG read a paper on this subject, and exhibited a number of very interesting cases.

DISCUSSION.

Dr. Harry T. Marshall said: It is interesting, in connection with the loss of the thyroids, to consider the number of instances in which the thyroid is enlarged. Dr. Halsted, some years ago, operated upon a number of dogs, taking out part or all of the thyroid, and in not a single case did he fail to get a large growth of the accessory thyroids. It is probable that in human beings the same conditions would attend, for when there is an enlargement of the normal thyroid, there is usually some enlarge-

* Original synopsis of a paper read at Asheville, N. C., October 11, 1900, during session of the Mississippi Valley Medical Association.

ment of the accessory glands. Such enlargements have been found in the trachea, and even in the bronchi, causing (by obstruction) the symptoms of asthma.

Dr. Jacobs: An interesting point in the therapeutics of simple goitre is that long before the thyroid extract was discovered it was known that iodine would benefit such conditions; and since it has become known that thyroid extract has a beneficial effect upon them, it has been discovered that the thyroid extract contains iodine. It is an example of the occasional importance of empiric methods of treatment.

An eminent authority in Geneva has said that he invariably puts these patients on thyroid extract, and feels sure he can always say that the goitre will, at least, be reduced in size.

Dr. A. L. Hodgdon: Apropos of Dr. Jacobs' remarks, I would like to say that I have found in these cases of goitre that iodine, administered cataphorically, will reduce their size.

Amblyopia and Squinting Eye Benefitted by Cataract Operation.

Dr. Herbert Harlan said: It is well known that in the majority of cases of squint one of the eyes is more or less amblyopic, and it is a question whether it is the amblyopia that causes the squint, or whether the amblyopia results from the lack of use of the eye caused by the squint. I think there is very little doubt that there are cases in support of both sides of this question. There was one very interesting case reported some time ago of a boy 13 or 14 years old, whose vision had been very carefully tested and recorded, and who, afterward, had to have his good eye enucleated as the result of an injury by a piece of steel. In the course of a week after the operation he began to see out of the eye which had been amblyopic, and the vision continued to improve until it became very good.

The patient I wish to exhibit to-night has a somewhat similar history. He is a man of 62 years, whose left eye turned sharply in toward the nose, and he thinks it has been so since early infancy. At the time I first saw him, he was very markedly jaundiced, and he had just recently been operated upon for gall stones. The squinting eye had a mature cataract, and the other one an incipient cataract. It occurred to me to operate on the squinting eye while the other cataract was in the process of maturing. I did so, and since that time the cataract in the right eye, which was the straight one, has entirely matured. He assures me posi-

tively that since ever he knew anything about it he has had nothing more than light perception in the left eye. A simple extraction was performed, and he only remained in the hospital nine days. So long as the other eye was good enough to allow him to move about, the vision in the amblyopic eye improved very little; but after the cataract in the good eye had matured, the vision in the eye that had been operated upon improved rapidly. At first, he had a great deal of difficulty in turning the eye out, and on that account I performed a double tenotomy. He now has vision of $\frac{5}{200}$ in the amblyopic eye; and as there is a slight capsular deposit, a capsulotomy may give him better vision still.

This is probably a clear case of sight restored to an amblyopic eye, and seems to prove that that eye at least was amblyopic on account of lack of use.

DISCUSSION.

Dr. H. O. Reik: The case which Dr. Harlan has just reported is not only extremely interesting in itself, but has an important bearing on the theory of amblyopia exanopsia. It has long been a subject for debate whether in these cases of strabismus the amblyopia constitutes a congenital lesion or is the result of long continued suppression of the visual image.

Dr. Harlan referred to the case of the file worker, reported by Dr. Johnson several years ago, in whom the loss of the good eye as result of an accident was followed by rapid and complete restoration of normal vision in the amblyopic eye. Since then Dr. Johnson has reported two other cases presenting strong clinical evidence in support of the view that amblyopia can follow non-use of an eye. One of these was, in effect, similar to the above, I believe—recovery of vision in the bad eye when compelled to use it because of the loss of the good eye. The third case gave valuable information from another point of view. The patient received an injury to the brow and eye, involving the eye muscles in such a way that binocular fixation became impossible. For some time after the injury, there was troublesome double vision, and several examinations showed full normal vision in both eyes. The patient learned, however, to suppress the image in the squinting eye, the diplopia disappeared, and a careful examination, several years later, showed that the vision in this eye had fallen from $\frac{20}{20}$ to $\frac{20}{100}$.

Javal, Risley and others have published similar cases, and, in the face of the clinical evidence now collected, it seems impossible to

doubt any longer the existence of an amblyopia exanopsia.

Dr. R. L. Randolph: I am very much interested in Dr. Harlan's paper, and I am reminded of a case recently reported by a German, I believe, within the last three months. Klein, I think, also reported a similar case some three years ago. The case recently reported was a boy eleven years old, who had always squinted strongly with his right eye. The left eye was wounded by a piece of wood, and as a result, ulceration of the cornea followed with prolapse of the iris, and his vision was reduced to light perception. It was then thought wise to exercise the squinting eye, which only possessed ability to count fingers at five feet. Within two weeks he was able to count fingers at twenty feet, and within twelve months the vision had gone up to $\frac{3}{8}$, and he could read the finest print with the aid of a weak concave glass.

These cases seem to confirm Priestly Smith's idea concerning the early treatment of squint. He has laid down rules for systematically exercising the squinting eye while binding up the good one. I never operate upon these cases of squint in children until they can help me by such exercises.

Dr. Harlan: Have you ever gotten any benefit from tying up one eye?

Dr. Randolph: I cannot say that I have.

Dr. Hiram Woods: The question of the improvement in a squinting eye when it is compelled to work is an interesting one. There are cases in which no amount of treatment will develop the sight. One of the most remarkable cases I have ever seen occurred a year ago in a young lawyer in Baltimore. He had a normal right eye with a very small error of refraction. There was a latent squint which was an internal one. He had a high error of refraction in the left eye, his best vision being $\frac{2}{8}$, and he discarded the left altogether in the fusion of stereoscopic pictures. I persuaded him to exercise that eye, and in six months his vision improved to normal and he had stereoscopic vision for the first time in his life.

Now it is a question in my mind, when these cases develop sight rapidly, whether it is an actual improvement in sight or a becoming conscious, on the part of the patient, of the sight he has not previously noticed. It is a common thing in testing refraction to have the patient stop short at $\frac{2}{8}$, or thereabout, and swear he cannot read any further; but by gentle coaxing you bring him to $\frac{3}{8}$ or $\frac{4}{8}$, or some point far above what he thinks he is capable of. So, in my case, it was a question

whether the vision had improved or whether the patient had been taught to work up to his abilities.

So far as this rapid improvement of vision in Dr. Harlan's case is concerned, I wish we had something more to act on than simply the patient's statement. As long as one has an eye that gives him ability to walk about, and a perfect eye on the other side, the degree of vision existing in the bad eye will not impress him very much; but let something happen to destroy the good eye and he is compelled to use the bad eye, and he comes to appreciate it very much more, and there follows a development right up to the limit of which that eye is capable. This man's whole mental attitude is very different now from what it was when he had a perfect eye on the other side. This is a phase of the matter that throws some doubt on the rapid development of visual power; the possibility of the eye really having more power of vision than the individual appreciates, has to be considered. To test the eye carefully now, and then again a year hence, would, to my mind, give much more valuable information than we have in the patient's statement, due to the sudden change.

Dr. Harlan: I am perfectly satisfied in my own mind in regard to this question of amblyopia exanopsia. In this case the interesting point was the length of time the squint and amblyopia had existed. I grant the force of Dr. Woods' objections, but my experience has been, both with children and adults, that though they say the eye is not good they claim to see more than they actually do when I come to test them. There is no doubt this man's vision has improved very much since the operation. After the operation he only counted fingers at close range until the sight of the other eye faded out, and then the amblyopic eye began to show a rapid improvement.

Ambulatory Case of Typhoid Fever.

EXHIBITION OF SPECIMENS.

Dr. Harry T. Marshall said: The interesting part of this case is its clinical history. The patient was admitted to the hospital November 9th, in an irrational condition, and his history was unsatisfactory on account of his mental confusion. He said he had been suffering for three weeks with headache, loss of appetite and dizziness. During these three weeks he had been wandering about the streets, more or less continuously, and sleeping out of doors at night. His family found him three or four days previous to his admission into the hospital, but he refused to go to bed. Examination showed a

sallow skin, pale mucous membranes, and very poor pulse. The spleen was palpable and abdomen tympanitic. While in the hospital he was given subcutaneous injections of salt solution, stimulants, and turpentine stupes for the tympanitis. He did not respond to treatment, but had a hemorrhage from the bowels, which was repeated at intervals of a few hours until he had five, shortly after which he died. His temperature was 101.4 on admission, and 104 at the time of death. The pulse varied from 104 to 124, and respirations from 24 to 32.

The condition at autopsy was typical of typhoid at the end of the second or beginning of the third week. The interesting feature of the case is that it was a case of ambulatory typhoid, walking about the streets, in spite of the most intense typhoid lesions in the upper bowel. He had no diarrhoea, so far as we could ascertain, but he could readily have spread the germs very widely. Another very interesting fact is that he had five hemorrhages within 24 hours, without any change in his temperature, which remained persistently high.

DISCUSSION.

Dr. John S. Fulton: I would like to say a word as to the great importance of these cases, having had under observation an outbreak that illustrates the great damage this kind of a case can do. On the 5th of September, a case of typhoid fever died at a farm house. The family had been assisted in the care of this patient by the wife of a dairyman on the adjacent farm. A short while afterward this woman and her son began to complain. The physician attending them diagnosed the trouble as "summer grippe," and still maintained that diagnosis. I saw the boy and woman both recently, and both have the appearance of convalescents from typhoid fever. The boy milked the cows, some fifteen or twenty, daily, and the mother attended to the cans. On the 8th day of October, this boy went to bed for the first time and remained there but a few days; the mother continued at her duties.

On the 11th of October, a case of typhoid occurred on the route of this milk man, in a town of 2,500 inhabitants, and between the 11th and 27th of the month there occurred in that town 35 cases, and of those 34 took milk from this man. Their drinking water was either the town supply or in about a dozen cases private wells. The largest daily incidents of typhoid fever cases occurred on the 18th, six being reported for that day. The milk man was compelled to stop serving milk, and since the 27th of October the number of typhoid

cases on his route has reached about 43, making in all 78. Of course, a few more are due. The one case that was counted as not having gotten the infection from that milk has since been proven to have gotten infection from the same farm, although she did not drink milk.

I mention this because it seems to illustrate so well a malignant infection from a case of typhoid that had not been compelled to stay in bed at all. An older boy in this same family is now in bed with severe attack of same disease, which is likely to prove fatal. If it is "summer grippe," it is a bad series of cases.

Dr. J. M. Craighill: I think it is sometimes quite hard to recognize these cases of ambulatory typhoid. Any physician who is doing dispensary work sees cases almost daily in which it is hard to make a positive diagnosis. Only to-day, at the University Hospital Dispensary, we saw a man that we think has typhoid fever, but we could not be sure. An examination of the blood gave no positive result. He had an enlarged spleen, was tender about the iliac region on the right side, and we thought we distinguished some rose spots on the abdomen. In a day or so, probably, we can make a diagnosis, although it will still be early to decide from the Widal reaction.

Rather an interesting set of cases came under my care in the hospital recently. Three sailors were admitted from the same ship. Two of them had typical malarial symptoms and showed the plasmodium in the blood. The third had typhoid symptoms and gave the Widal reaction, but after three or four days the temperature took on the malarial curve, and responding quickly to quinine, he went out with the rest of the patients in a short time.

Dr. H. B. Jacobs: It seems to me this is a most interesting case. It is interesting to know that a man could walk about with such a lesion as he had in his ilio cæcal valve. Then the ability of that man to spread the disease is certainly very great. When one thinks of the more recent results of the careful examination of the urine, which show that it, too, is full of the typhoid germs, and considers that it is likely to be voided in any place where such a man happens to be, it is manifest that the danger of spreading infection is greatly increased.

Dr. Randolph: I would like to ask Dr. Marshall what would have been the objection to operating after the first hemorrhage in this case, and what are the symptoms that determine one to operate in a case of this character?

Dr. Marshall: I did not see this case in life, but suppose it was operated upon because of its

peculiar history. There was little or no distension of the abdomen, the leucocytes were down to 3,500, and did not rise at all, and there were no localizing symptoms in the abdomen at all. There was nothing here that would lead one to suspect perforation.

In regard to the most important signs for determining to operate, perhaps some of the surgeons present can tell you better than I can. The general condition of the patient would, of course, count for much in considering the question of operating.

Adjourned.

Analyses, Selections, etc.

New Treatment of Syphilis with Bin iodized Oil.

Dr. P. Chapelle, of Paris, contributed a paper to *Le Tribune Medical* worthy of reproduction. He says: The "specific bin iodized oil," recommended by Panus, Dieulafoy, Lancereaux, Brissaud, Fournier and the leading specialists for the diseases of the skin, is a very dilute and unsatisfactory preparation; but a great improvement in the administration of mercury has been recently made, by utilizing the solubility of *nascent mercuric iodide* in a strictly neutral aseptic oil, which keeps in definitely. This "specific bin iodized oil," which contains 1 per cent. of HgI_2 , has been aptly called *cypridol* (a name which gives no clew as to the nature of the medicament), can be used either hypodermically or taken in capsules.

Since Ricord's time, insoluble mercurial treatment has been largely adopted on account of the severity of the soluble salts, but their assimilation is slow, irregular, and gives rise to considerable trouble in the alimentary canal, even when given in combination with small doses of opium. All disadvantages of this nature, which are inevitable with soluble and insoluble mercurial preparations, are avoided with cypridol, which does not effect the stomach or digestive organs, and rarely produces salivation even in massive doses. It is conveniently exhibited in capsules of 20 centigrammes, each of which represents exactly $\frac{1}{32}$ of a grain of *mercuric iodide*.

One capsule should be taken with the two principal meals daily, and this dose may be increased to five capsules daily, but should not be exceeded, except under special conditions.

Experience in clinics shows it advisable to commence treatment with capsules or injections of cypridol (or to alternate their admin-

istration) as soon as syphilis is recognized and to continue it for three years, even if there is an apparent cure after a short time.

During the first three months, the treatment may be suspended eight days every month, during which interval, small doses of iodide of potassium, sodium or strontium are given. For the following three months, cypridol should be administered every alternate fortnight, and after that, eight days of each succeeding month.

This radical treatment with cypridol will insure the patient's permanent cure; it is indispensable, however, to maintain the best hygienic conditions of life.

Frequent, but not too prolonged hot baths; washing, to free the skin from irritation, are useful, and care should be taken to keep the buccal cavity exceptionally clean by careful washing and gargling of the throat with boracic acid and chlorate of potassium. An ointment of the same should be used to anoint the genital and anal orifices.

The great antiseptic and antizymotic value of cypridol can be utilized in a great number of cases. It constitutes an excellent specific for bacteriological affections or parasites of the alimentary canal, the skin and the scalp; it is indicated in the treatment of serous affections, fistulas, cold abscesses, white tumors (in hip, knee, ankle), lupus, spina ventosa and other manifestations of tuberculosis. Successful experiments have been made in the Paris hospitals on neoplasms, anthrax, furunculosis, paludal intoxication, and in the great majority of epidemic diseases.

Incompatibilities of Heroin and Heroin Hydrochloride.

Heroin and heroin hydrochloride form an essential part of so many formulæ for the relief of cough, dyspnoea, and pains in the treatment of respiratory affections that it is important to determine in what combination they will prove most effective, and what are their incompatibilities.

Owing to the *insolubility of heroin in watery solutions*, it is necessary to add a few drops of some acid, acetic or hydrochloric, in order to effect its solution. This can be entirely obviated by using the *hydrochloride, which is freely soluble*. The only incompatibilities of heroin and the hydrochloride worthy of special mention are the alkalies, such as bicarbonate of sodium and carbonate of ammonium. On the other hand, salts of neutral reaction, such as iodide of potassium or chloride of ammonium, may be used in the same mixture, and this also applies to acid salts, such as the hypo-

phosphites or acid phosphates. The vegetable expectorants, as ipecac, senega, squill, and sanguinaria, are entirely compatible with heroin and its hydrochloride. Although many physicians employ heroin without admixture very desirable results have been reported from combinations with iodide of potassium, chloride of ammonium, and the vegetable expectorants, according to the indications present in particular cases.

As to the dosage of heroin and heroin hydrochloride: The large doses recommended at the time of the introduction of heroin are no longer preferred by the majority of authors, the average dose ranging from $\frac{1}{24}$ to $\frac{1}{12}$ grain in adults, and $\frac{1}{120}$ to $\frac{1}{60}$ grain in children. It is advisable not to employ larger doses until the smaller ones have been given a trial. Furthermore, many physicians now resort to the hypodermatic use of heroin hydrochloride in cases in which it is desirable to obtain an immediate effect, and especially in the treatment of spasmodic conditions, such as asthma, care being taken in the preparation of solutions not to add the drug until the water has partially cooled.

Book Notices.

Dictionary of Medical Science. Containing a full explanation of the various subjects and terms of Anatomy, Physiology, Medical Chemistry, Pharmacy, Pharmacology, Therapeutics, Medicine, Hygiene, Dietetics, Pathology, Surgery, Ophthalmology, Otology, Laryngology, Dermatology, Gynecology, Obstetrics, Pediatrics, Medical Jurisprudence, Dentistry, Veterinary Science, etc., etc. By ROBLEY DUNGLISON, M. D., LL. D., late Professor of Institutes of Medicine, Jefferson Medical College of Philadelphia. Edited by RICHARD J. DUNGLISON, A. M., M. D. *New (22d) Edition Thoroughly Revised, Greatly Enlarged and Improved, with the Pronunciation, Accentuation and Derivation of Terms.* Imperial. 8vo. 1350 pages. Cloth. \$7.00 net; full leather, \$8.00, net. Lea Brothers & Co., Publishers, Philadelphia, and New York. 1900.

"*Dunglison's Medical Dictionary*" was first issued about seventy years ago, and has been standard authority ever since. Each of the editions—an average of three and a half years apart—has been an improvement on its predecessors—bringing it each time up to date. The 20th edition contained 6,000 new words; the 21st edition—issued seven years ago—was increased by 44,000 words; and the present (22nd) edition has been increased by about 15,000 words—including all departments of

medicine—veterinary as well as human. One criticism, however, of the book is that the *Appendix*, of about 200 pages, contains most of the new words. So that the owner has to remember that if he does not find the word for which he is looking in the first 1,181 pages of the *Dictionary*, he must then turn to the *Appendix*, alphabetically arranged, and examine further. This, however, if remembered, does not materially interfere with the pleasure of the book. The print is clear and distinct. Each word, as far as possible, is pronounced, accentuated and defined. The definition is very generally in plain, intelligible language, and conveys an accurate idea of the words defined. But it seems useless to further speak of this dictionary, for by far the greater part of the American profession at least must be well acquainted with it. Simply to announce the issue of a new edition is sufficient to make a demand for it.

American Text-Book of Physiology. Edited by WILLIAM H. POWELL, Ph. D., M. D., Professor of Physiology in Johns Hopkins University, Baltimore. *Second Edition. Revised.* (In Two Volumes.) VOL. I. Philadelphia: W. B. Saunders & Co. 1900. Royal 8vo. Pp. 598. Cloth. \$3 for Vol. I.

To meet the convenience of students who use this work as their text book the publishers decided to divide the former unwieldy one-volume edition of nearly 1200 pages into two volumes of about equal size. In Volume I are considered the blood, lymph and circulation; secretion, digestion and nutrition; respiration and animal heat; chemistry of the body. The contributors to this volume are John G. Curtis, M. D., Columbia University; Wm. H. Powell, Ph. D., M. D., the Editor; Graham Lusk, Ph. D., F. R. S., of Yale Medical School; W. D. Porter, M. D., of Harvard Medical School, and Edward T. Reichert, M. D., of University of Pennsylvania. Each of these writers is connected with the Chair of Physiology in his respective institution. The rearrangement brings all that relates to the nervous system and muscle in Volume II. Relatively little change has been found necessary in the part that now constitutes Volume I—although each article has been revised and re-edited wherever necessary to bring the Chapter well up to date. New matter in abundance, however, is incorporated in Volume II. Old matter that is now getting to be obsolete or proven not to be true is eliminated from the book. Each Volume is well indexed; the print is good, and the book is illustrated wherever needed.

Manual of Otolaryngology. By GORMAN BACON, A. B., M. D., Professor of Otolaryngology in Cornell University Medical College, New York; Aural Surgeon New York Eye and Ear Infirmary. *With an Introductory Chapter* by CLARENCE JOHN BLAKE, M. D., Professor of Otolaryngology in Harvard University. *Second Edition, Revised and Enlarged. With 114 Illustrations and 3 Plates.* Lea Brothers & Co., New York and Philadelphia. 1900. Cloth. 12mo. Pp. 422. \$2 net.

This is intended obviously as a text book for the college student. It is, however, such a *multum in parvo* that the specialist in the line of ear diseases may also adopt it as his companion—leaving it always handy on his consulting office table. It would be well for the general practitioner also to have such a book in his ready reference library, and he should especially keep himself informed as to the dangers of intracranial complications and sequelæ of internal ear diseases, of mastoid disease, etc. One of the best illustrations of abscess of the cerebellum that has ever come under our observation is that given on page facing page 349, which shows such an abscess which developed as secondary to chronic suppurative otitis media. General practitioners should keep a frequent eye upon the patient who complains of pain in the ear or around it.

Medical Diseases of Infancy and Childhood. By DAWSON WILLIAMS, M. D., Lond. F. R. C. P., London, Physician to East London Hospital for Children, Shadwell. *Second Edition, Revised with Additions.* By FRANK SPOONER CHURCHILL, M. D., Instructor in Diseases of Children, Rush Medical College; Professor of Pediatrics, Chicago Polyclinic. Illustrated with 72 Engravings and 2 Colored Plates. Lea Brothers & Co., Philadelphia and New York. 1900. Cloth. 8vo. Pp. 342. \$3.50 net.

This is a most excellent, practical work, which has stood the test of experience—plainly and concisely written, without omission of any part of the English edition; but with many bracketed sentences or paragraphs by the American editor, bringing the book well up to date, and representing the views and practices of American doctors. The book is divided into 47 chapters—each of which, as a rule, treats of several related subjects. Throughout, the author and the American editor as well, write as good experienced practitioners are wont to do—telling what they have seen and done—and yet the work is sufficiently technical to serve also as a first rate students' text-book. Formulae of prescriptions are abundantly given as guides for the prescriptions of readers of the book. We confess to a special fondness for the style of teaching as given in this work, for the entire book has a remarkably practical cast.

Stringtown on the Pike. *A Tale of Northernmost Kentucky.* By JOHN URI LLOYD. *With Illustrations.* New York: Dodd, Meade & Co. 1900. Cloth. 12mo. Pp. 414. \$1.50.

The author of this novel is a native Kentuckian, but is now one of the firm of Lloyd Brothers, Cincinnati, and a Professor of Chemistry. He is also the author of "Etidorfa," etc., which established his reputation as a novelist. When one starts to read "Stringtown," he soon becomes so interested that he is not apt to read much else until he finishes. It is, in great part, a story of the old darky life in Kentucky before and during the War between the States. Much of the story is pathetic; some of it is extremely amusing; some of it is historic. Many points in the book make it interesting to the doctor. It would be to him, when he comes home for the night, a most pleasant diversion—oftentimes causing laughter, and then bringing irrepressible tears.

Book of Detachable Diet Lists, and a Sick Room Dietary. Compiled by JEROME B. THOMAS, JR., A. B., M. D., Instructor in Materia Medica, Long Island College Hospital, etc. *Second Edition, Revised.* W. B. Saunders, Philadelphia, Pa. 1900. Cloth. About 200 pages. \$1.25.

This book of Detachable Diet Lists is adapted to patients afflicted with albuminuria, anemia and debility, constipation, diabetes, diarrhœa, dyspepsia, fevers, gout or uric acid diathesis, obesity, tuberculosis. The page is perforated near the binding so that the page adapted to the want of the patient is torn off and handed to his nurse. On this List page are given some general rules and a list of dietary articles that the patient may take in a given sickness, and those dietary articles that he must avoid. Then follow detachable pages which give "sick room dietary," which must, in every instance, be added to or scratched by the doctor. Then follow a few detachable sheets on Rectal Alimentation. The book is a very useful one, as it guides the doctor as to what to prescribe, and details to the nurse how to prepare and administer.

Physicians' Manual of Therapeutics. PARKE, DAVIS & CO., Detroit, Mich. 1900. 12mo. Pp. 526. Flexible leather.

This *Manual*, "referring especially to the products of the pharmaceutical and biological laboratories of Parke, Davis & Co.," contains so many useful facts for the practitioner that it ought to have this notice. Besides some 450 pages of materia medica, giving the general

qualities of drugs and their preparations, their medicinal values are noted, doses given, and antidotes stated. About 40 pages are devoted to "therapeutic suggestions," which are given under the titles of the diseases, etc. A fuller table than usual in visiting lists, etc., contains points aiding in the "differential diagnosis of eruptive fevers." A number of pages contain tables of "equivalents of weights and measures; of imperial measure units; approximate measures, and a table of thermometric equivalents." An index of 12 double-columned pages renders reference to the page easy.

Editorial.

Standardization of Drugs and their Preparations.

What right has any firm, whose business is to furnish the physician with his principal weapons, to place upon the market pharmaceutical preparations of unknown medicinal value? Should we not expect, yes, even demand, that the producer of fluid extracts make his products conform to some standard of excellence; that he shall indicate what effect his fluid extracts may be expected to have ere he sends them forth from his laboratory?

It has been shown that even drugs selected with care vary most extraordinarily in their percentage of active principles. Witness, for example, this statement by the editor of a leading pharmaceutical journal, *Bulletin of Pharmacy*, January, 1899, who knows whereof he speaks: "Professor Puckner assayed nineteen samples of belladonna leaves procured, mind you, from dealers who were told that only the best was wanted, and that purchase would depend upon the results of assay. He found these nineteen samples to range in alkaloidal content from .01 to .51 per cent! The strongest sample fifty-one times as strong as the weakest."

The most careful treatment of such drugs, with the choicest menstrua, and by the most approved processes, will yield preparations that may be fair to look upon, but in medicinal value they will vary just as much as the crude drugs from which they are made. The compensatory remedy for this unfortunate condition is standardization; chemical standardization when practicable, and when that method is inadmissible, as it often is, physiological standardization. It has been found that certain important drugs cannot be assayed chemically, as their medicinal virtues reside in unstable bodies, and these are readily decomposed in the analytical processes. For this reason the

strength of such powerful and useful drugs as digitalis, aconite, convallaria, strophanthus, ergot, cannabis indica and many others cannot be determined satisfactorily by the analytical chemist. However, the problem which proved to be an insurmountable difficulty to the chemist, was solved by the pharmacologist with ease. He tests upon living animals all drugs that cannot be assayed chemically. Dogs, rabbits, fowls and guinea-pigs receive doses of the preparations under examination. Accurate observations of their physiologic effects are made, variations are noted and corrected, until the preparations correspond in medicinal strength with the adopted standard extracts.

Formerly the physician was obliged to make his own physiologic tests of ergot, digitalis and so on—not upon dogs and guinea-pigs, however, but upon his patients. The old way was to begin with small doses of powerful drugs and then push them until the desired effect was produced. The new way is a much better one; it is safer for the patient, more satisfactory to the physician, and it is more scientific. Prompt results are assured, for the physician knows just how much fluid extract of ergot, aconite or cannabis indica, he need include in his initial dose to secure a definite result.

The name of the greatest pharmaceutical manufacturing house in this country is so closely linked with the phrase "drug standardization," that the one suggests the other. Parke, Davis & Co. began years ago to manufacture a full line of standardized fluid extracts that are guaranteed to be of definite and uniform strength. More recently they devised and perfected methods for standardizing physiologically those important drugs that are incapable of analysis by chemical processes. They have done a great deal for the medical profession and for humanity, and standardization, more especially physiological standardization, is one of their greatest achievements.

Dr. Irving C. Rosse, Washington, D. C.

Has printed a list of his *Contributions* to medical literature, 1871-1900, which cover 105 distinct titles. Such a record shows what one who is capable can do if he will; and there is not one of the papers that we have ever seen that is not accurate, interesting and instructive reading. We note that a number of these papers have been contributed to this journal. Dr. Rosse did the chief work on the *Index Catalogue of the Library of the Surgeon-General's Office*, 1880; was a collaborator of the surgical vol-

ume of the *Medical and Surgical History of the War of the Rebellion*; was the author of articles in *Naphey's Therapeutics*, in *Appleton's Cyclopaedia*, in *Reference Handbook of Medical Sciences*, etc. We notice also he is to be the author of papers in the *Second Edition of the Reference Handbook of Medical Sciences*—the first volume of which is to be issued in 1901.

Buffalo Lithia Water for Dropsies.

The water of Spring No. 2 of these famous springs has proven itself to be so valuable in numerous forms of dropsy other than marked ascites, etc., that we are surprised that it is not more generally prescribed. Besides having seen so many instances of its signal service, either when freely used alone or as an adjunct, we have been informed by some professional friends of cases occurring in their practice where it has acted with magical influence. It seems to be especially serviceable in nephritic conditions, characterized by limited secretion of urine with albuminuria and dropsy of kidney origin. A very striking case occurred in the practice of Dr. Charles V. Carrington, surgeon to the Virginia penitentiary, who was also seen by Dr. J. Allison Hodges, Professor of Nervous Diseases, etc., University College of Medicine. In a recent note to us, Dr. Carrington says: "In the spring of 1898, I attended Mrs. M. S. Q. through a long spell of appendicitis and acute Bright's disease. After the appendicitis became less marked, the renal complications became more marked, and her urine was highly albuminous for several months. Buffalo Lithia Water and peptonized milk were my sheet anchors. * * * As soon as Mrs. Q. could travel, I sent her to Buffalo Lithia Springs, and there her improvement was most marked. The water logged condition (and she was swollen all over) was improved from the jump. In five months after the beginning of her spell she was all right—urine normal, and since then, to this day, she has been in excellent condition."

Angier's Petroleum Emulsion with Hypophosphites.

This petroleum preparation is fast becoming fixed in professional favor as the agent which does the most in arresting or curing tuberculosis. Beside its nutritive qualities, its use stimulates the appetite, acts as an antiferment, and produces a more healthy tone and power of assimilation. With improvement of the processes of digestion, assimilation and nutrition, diseased lungs must of necessity improve. As Prof. Osler, of Johns Hopkins University, has said: "Arrest or cure of tuberculosis is a question entirely of nutrition. The essential factor is so to improve the resisting forces of the body that the bacilli cannot make further progress."

New Orleans Polyclinic.

Physicians will find the Polyclinic an excellent means for posting themselves upon modern progress in all branches of medicine and surgery. The specialties are fully taught, particularly laboratory work. Fourteenth annual session opens November 12, 1900. For further information, address Dr. Isadore Dyer, Secretary New Orleans Polyclinic, New Orleans, La.

Dr. J. Leonard Corning.

Our attention has been called by Dr. J. S. Brownne, Resident Librarian, New York Academy of Medicine, to an error in our issue of October 26, 1900, which we are only too glad to correct. In the article by Dr. H. M. Taylor on "Subarachnoid Injection of Cocaine," etc., he refers to Dr. Corning as being dead. Dr. Corning is not dead, but is "very much alive," and we trust will long remain so.

Obituary Record.

Dr. Frank S. Harker

Died at his home, in Richmond, Va., during early hours of December 8th, 1900, aged about 40 years. He was for some years a pharmacist in the West end of the city, in whom all his patrons had marked confidence, and commanded a first class retail trade. He was especially interested in microscopical and chemical subjects. In 1890, he began the study of medicine, and graduated from the Medical College of Virginia as doctor of medicine in 1892. The same year, he passed the Virginia State Board of Medical Examiners, and located in this city, where he rapidly grew in professional favor with patients and doctors. In 1893, he joined the Medical Society of Virginia, and remained a member till his death. In 1899, when the University College of Medicine, Richmond, Va., was founded, he became Adjunct Professor of Histology, Pathology and Urinology. In 1895, when Dr. Chalkley died, leaving a vacancy in the chair of Professor of Chemistry, Dr. Harker was elected, and served as such until 1896. But diabetes had set in, and with deep regret, the Faculty had to accept his resignation. Since then his health has been failing, and early in November of this year he had to relinquish practice. He was a Christian gentleman, a good physician, and a generous, warm hearted friend. His funeral services were conducted from the Quaker church of this city, December 9th. The Richmond Academy of Medicine and Surgery met Saturday night, December 8th, and adopted resolutions appropriate to the occasion.

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Original Communications.

MALARIA: ITS ETIOLOGY, SYMPTOMS, AND DIAGNOSIS.*

By H. STUART MACLEAN, M. D., Richmond, Va.,

Professor of Physiology, and Lecturer on Bacteriology, University College of Medicine, Richmond, etc.

On the *early history* of malaria volumes have been written. The disease is mentioned in the work of Hippocrates, who studied it closely, and divided it into the three chief varieties which we now recognize. From early time, the association of the disease with low, marshy land has been noted and commented upon, and surmises, both ingenious and difficult of contradiction, advanced. This keen sense of observation in men who, from our standpoint, were seriously handicapped by the crudities and superstitions of the times, compels respect, for, as we know, recent developments corroborate their linking the one with the other, although not in the way they thought.

We know now, however, that there is but one active etiological factor, and the miasms, polluted water supplies, and noxious gases of the older writers are clearly demonstrated to be but contributory, through their depressing influences, and the readiness with which they favor the propagation of the real cause. In an indefinite way the parasitic origin was believed in in the eighteenth century; and the oft-quoted remarks of Rasori ("For many years I have been of the opinion that intermittent fevers are produced by parasites, which re-create an attack in the act of their reproduction—this occurring at more or less intervals, according to the species"), show a train of thought marvellously close to the truth. In the early part of the eighteenth century, Lancisi studied at length the question of the origin of malaria, and after demonstrating its

intimate relation with marshy lands, and the suggestive improvement of which occurred when such places were properly drained, stated that he believed the cause to be certain minute animal cells engendered by the decaying processes and taken into the system through the respiratory tract. He likewise mentioned the mosquito as a possible agent in the production of infection, but on account of the defective means of observation, and the erroneous, yet generally accepted, theories of physiology and pathology, he pursued the theory no further.

During the middle of the present century, many observers studied the blood and various parts of the body with a view to demonstrating a parasite in connection with the disease, but all were unsuccessful until Laveran, in 1880, announced his discovery of a parasite in the blood of malarial patients. While too much praise cannot be given Laveran for his success, it is interesting to note that years before (1849) Virchow accurately described pigmented bodies in the blood of patients suffering from malaria, and others made the same observation, but all failed to properly interpret their significance.

The parasites of malaria, commonly (and erroneously, as Thayer has pointed out,) known as the *plasmodium malarie*, belong to the lowest form of animal life, known as protozoa. They are placed among the sporozoa, according to the classification of Butschli—sporozoa being those unicellular animal bodies which reproduce by division into a number of smaller bodies, or sporulation. Too much space would be required to give in detail the development of our present knowledge concerning the parasite, and how large a number of observers have contributed to what has become one of the most astonishing advances in medicine in the last few years. Richards suggested the intra-corpuseular or endoglobular development; Golgi, the connection between sporulation and the paroxysm; Marchiafava and Celli, first claimed that the so-called parasites were altered blood cells; but after careful investigation, they not only retracted this claim,

* This was the subject for *general discussion* before the Medical Society of Virginia during its Thirtieth Annual Session, held at Charlottesville, Va., October 23-25, 1900. Dr. MacLean was the *Leader*.

but substantiated and materially added to the data already at hand; these and many others are familiar to students of the subject. After Laveran's discovery, until 1894, practically nothing was known of the method of infection and the different phases of the life cycle of the parasite. As has been said, the fact that the parasite assumed various forms and developed spores in the circulation, thus perpetuating its existence, was clearly seen; but how the parasite was transmitted from a sick to a healthy individual was not at all understood. In studying the parasite, it had been demonstrated that all forms began their existence as small, colorless, hyaline bodies, non-pigmented, located in the red corpuscles, and having more or less active amoeboid movement. These gradually increased in size, developing in their substance granules of pigment, until they equalled that of the normal red corpuscle. Here, however, the first and a most important distinction was made. While the great majority of parasites went on to sporulation (called sporocytes), others did not so terminate, and some were seen to develop what were first taken to be flagellæ on their surface. These were known as the flagellated parasites, and are even so spoken of to day, although it is clear that such is not the nature of these filaments. The flagellæ were never noticed in freshly drawn blood, but developed on the slide shortly after withdrawing from the body.

This fact prompted investigation by Manson, of England, who advanced the theory that these "flagellated" parasites were the initial stage of a second life cycle of the parasite occurring outside the human body, probably in some insect capable of transmitting the disease. In this he was correct, with the exception of one slight detail. Manson thought that filaments, which were seen to break off and move rapidly among the corpuscles, were spores (zoöspores), which simply developed into parasites. Such is not the case. At this point McCallum, of Baltimore, studying the blood of birds infected by a parasite similar to the plasmodium, announced that these peculiar "flagellated" parasites (gametocytes) are possessed of sexual properties, being either male or female; and that when they are taken into the intestinal tract of the mosquito (which, it seems, plague birds as well as men), the males rapidly liberate a number of these filaments (known as microgametocytes). These filaments search out the female gametocytes and fertilize them, this fecundated cell being known as a zygote. This "mother-cell" is situated in the intestinal

wall, and grows rapidly for about seven days.

Stimulated by Manson's articles, Ronald Ross took up the work along this line, substantiating the above observations of McCallum; and in further study, found that the increase in size of this "mother-cell" was the result of the development within it of a large number of germs or blasts. At the end of the seven days the zygote ruptured, and these parasitic embryos were set free and distributed throughout the body of the mosquito. In studying his mosquitoes, Ross noticed that large numbers of these little bodies were gathered in a gland about the head of the mosquito. This gland was found to empty through a duct passing along the under surface of the "stinger" of the insect. This gland is known to secrete an irritating fluid, which is injected when the insect stings, and is supposed to facilitate the flow of blood from the puncture. It was therefore easy to see how simple the method of infection really was. The young parasites are deposited in the puncture with the poison, and infection results.

Clear and simple it appears to us now, yet it required over two years of work, with at first but failure to reward him, before Ross was able to demonstrate the above. And all because for two years he experimented with but two varieties of mosquito of the genus *Culex*, the commonest of these pests, which are now known to have no concern nor place in the transmission of the disease. Finally, a native brought him a few mosquitoes of a different genus, and in these he readily found the parasite.

We have said that the parasite showed varying characteristics in the blood, and these distinctions constitute the several forms of organism. The parasite of a tertian fever is to be distinguished from that of a quartan or æstivo-autumnal fever; and a differential diagnosis can be made from an examination of the blood without a knowledge of the clinical history.

The question is often asked as to the place of the daily or quotidian fevers in this arrangement. Curiously enough, there is no distinct parasite for the daily variety; a double infection of the tertian, in which two sets of the parasite reach the stage of sporulation on alternate days, brings about the daily paroxysm. In the same way, triple sets of the quartan parasite may produce daily paroxysms and the irregular forms of the æstivo-autumnal fevers, by having groups of parasites which sporulate on successive days, produce a quotidian fever. Fevers which at first are tertian or quartan, may become quotidian; therefore, by the development in the blood of separate groups of

parasites, whose maturity (or sporulation) occurs on successive days, and then, under the influence of improved surroundings, etc., the character of the fever may change spontaneously, without the use of quinine, and chills occur every other or every third day, according to the form of infection. Such changes are commonly seen in the course of malarial fevers, and are explained on the ground that one or more generations or groups of the parasite diminish in number until their sporulation is insufficient to produce the customary paroxysm.

Mode of Infection.—It is argued that infection may occur in one of three ways: 1. By infection from without, either by inhalation, ingestion or inoculation; 2. By direct inoculation with malarial blood; 3. By the placental circulation.

For many years it has been commonly believed that breathing impure air or drinking impure water transmitted malaria. The theory to day has many supporters, who claim that it is at least one method. There is lacking the one requisite in such a case, however; that of actual demonstration. No authentic case is on record where the disease has been proven to be due to either the one or the other. Exception might be made for a case reported by R. Ross, who had a patient drink water containing the dead bodies of infected mosquitoes, with the result that the patient developed fever some ten days later, and plasmodia were found in the blood. In many subsequent experiments he was unsuccessful, and there is reason to presume that this was an accidental infection. The theory of the contraction of malaria by inhalation has likewise been vigorously discussed, but here the arguments are more easily controverted. The discussion is materially limited by the exact knowledge at our command concerning the etiology of the disease, and all arguments must agree not only with certain laws or conditions pertaining to atmospheric conditions, but must recognize the parasitic factor. Indeed, evidence which has been quoted as supporting the possibility of infection in this manner has been proven by experiment to have the opposite effect. For instance, the careful studies of Italian observers in and about the malarial districts of Rome have resulted in demonstrating that restriction of malaria within limited areas persists in spite of prevailing winds, which should result in the spread of the disease; then the fact that infection is more prolific after rains, when the dust is laid, than during or after the prevalence of a dust storm, is against the theory. Bignami has shown that when

ships lay off the shore of malarial districts only those sailors whose duties keep them for a considerable time on shore contract the disease. It is likewise difficult to explain, on these grounds, why the night should be the usual time for infection. Direct inoculation with malarial blood is a certain method of reproducing the disease, and was noted in the '80s by Italian investigators; it is of value simply as confirmatory evidence of the causal relation of the parasite. Congenital malaria has never been demonstrated. It is probable that the fetus in utero enjoys immunity in the case of maternal malaria, and such a condition is explained by the fact that the parasites show no inclination to leave the circulation. In cases of pernicious malarial fever, with cerebral hemorrhages, the parasites are never found in the extravasated blood, and this peculiarity has prompted the inference that congenital malaria can scarcely occur.

Infection from without by inoculation is the theory which alone is supported by actual proof. The work of Ross and several Italian observers has established it fully, as has been briefly outlined. After Ross discovered the peculiar variety of mosquito, which acted as the host for the parasite, his observations were confirmed by Bignami, Grassi, and others; and it became generally recognized that one variety was capable of transmitting the disease from man to man.

There are six genera of this insect recognized in the United States, and but one is capable of transmitting the parasite. These, the genus anopheles, have been found at fault in every instance. The most common variety of mosquito is the genus culex, the ordinary house mosquito, but these have never been identified as carriers of malarial infection. These discoveries have great practical value, for having definitely ascertained the cause of the disease and the agent concerned in its transmission, such knowledge makes possible the adoption of preventive measures. First, we are enabled to detect readily the presence of the anopheles. While at rest the culex has its body parallel to the surface on which it is located; the anopheles, while at rest, holds the body at right angles to the surface. The favorite breeding places of the culex are rain barrels, drains, ditches, and other artificial collections of water about houses, while the anopheles are found in stagnant ponds or pools removed from the immediate vicinity of towns.

Measures for the destruction of breeding places and the destroying of the mosquitos may be practiced with good results. The

beneficial effects of drainage need but to be mentioned, for they were recognized long before the true source of infection was known. Where draining cannot be utilized to advantage, the introduction of fish into the pools is of benefit, as these feed upon the larvæ and nymphæ; or the establishment of a current in the water prevents the development of the adult mosquito. More practical, however, is the use of agents for the destruction of the insects and their eggs.

Considerable experimentation along this line has resulted in the discovery that large surfaces of water can be effectively rid of mosquito eggs at a comparatively trifling cost. Petroleum is very efficient; one ounce applied to stagnant water will destroy the larvæ, etc., for an area of eighteen square feet. Permanganate of potassium and sulphate of iron are likewise recommended. The time will probably soon be when malarious districts are systematically treated along this or similar lines, with the view, and the effect, of materially diminishing the prevalence of the disease—perhaps eradicating it.

Immunity.—It is conceded that there is a relative degree of immunity attainable to the disease. There are undoubted instances of natural or inherited immunity, but they are rare. Whole families are noted to be free from infection in districts where every one else has the disease. Acquired immunity is of much more frequent occurrence, and it may be said to assume two forms—that in which the immunity seems to accumulate in power as the patient experiences successive relapses, each one milder than the preceding, until the patient ceases to have paroxysms or any malarial manifestations other than a varying enlargement of the spleen, and perhaps some cachexia; and in the form in which the patient, from the time of entering a malarial district, never experiences a typical malarial paroxysm, but presents from time to time nervous or digestive derangements, which have the one characteristic of periodicity. These latter cases, as the Italian writers have pointed out, occur usually among the better classes. Such instances may be said to be really a persistence of the disease in a chronic, but mild or atypical form, yet the fact remains that such individuals enjoy freedom from severe typical attacks. Instances are commonly reported from the west coast of Africa of natives, who, having visited a malarious district, and there sustained an attack of the fever, can subsequently visit that region without incurring another attack.

Relapses.—The possibility of relapses in mala-

rial fever should at all times be borne in mind. The distinction must be clearly made between a relapse and a recurrence. The latter is the result of the insufficient administration of quinine, and takes place a day or so after the apparent recovery. A relapse may occur weeks, months, or even over a year, after the primary attack, and is due to the initial infection. The explanation is that upon recovery from the first attack the parasites are so reduced in number and the body attains so marked a capacity for protection that the remainder of the parasites continue in the larval or latent state until by gradual increase or diminished vitality, on the part of the individual (or both), they are capable of again producing a paroxysm. This renders easy the explanation of the presence of malaria at a time when, and in a locality where, the disease does not exist, a point for some time used against the causative relation of the parasite.

The subject of the *pernicious forms* is far beyond the scope of this paper. Attention might, however, be directed to the multiplicity of diseases which are simulated by this variety of malaria, for no subject is of more practical importance to the physician. The pernicious forms are the product of the æstivo autumnal parasite, complicated by imperfect treatment or lack of treatment. Such cases, starting, probably, as an ordinary fever, seem to accumulate virulency by each successive attack, lose their identity as frank malaria infections, and exhibit symptoms entirely at variance with an ordinary attack. Prominent among such instances are the profound nervous disturbances noted at times. The comatose, delirious, and convulsive forms are of sufficient frequency to be more or less familiar to the general practitioner, but other forms are not infrequently erroneously diagnosed. Meningitis, ataxic conditions, localized neuralgias, intestinal lesions—these are some of the more common diseases simulated or even produced by malarial infection. In all such cases will be found the æstivo autumnal parasite. It is known that these parasites possess a greater toxicity, and they multiply more rapidly, and these facts are used to explain their causative relation with the pernicious fevers. The Italian writers believe this to be the case, and assert that, as a rule, in pernicious fever an increased number of the parasites are present. They admit, however, that in some pernicious cases of long standing the number of parasites gradually diminishes, they may in rare instances entirely disappear, while the untoward symptoms persist, and a fatal termination ensues. The ex-

planation that in such cases the symptoms are due to an increased virulence on the part of the remaining parasites is only a conjecture, and it seems as reasonable to believe that much of the disturbance is due to the blood and other structural changes brought about by the infection.

It is well known that profound changes take place in the blood in malaria, aside from the presence of the parasites. For a long time before the organism had been recognized a diagnosis would not infrequently be based upon the presence of dark brown or black granules of pigment free in the plasma or contained in the leucocytes. During the growth of the parasite in the red blood corpuscle it possesses the property of converting the hemoglobin into a pigment, known properly as melanin. Not long ago the writer was able to diagnose a case by recognizing these granules in a specimen of blood in which the plasmodia were very scarce, due to the time of collection of the specimen.

At the same time there is deposited in the cells of the tissues a pigment, derived from the remnants of the disintegrated corpuscles, and those which die because of the depressing influence of the infection without having served as hosts to the parasite. Marchiafava and Bignami, in their recent work on the subject, express the opinion that pigment is to be found in the blood in every case of malaria. The anemia produced is a constant symptom, and is the result of the destruction of red corpuscles by the parasite infesting it. At first the body is able to restore the original number of corpuscles between each attack, but as the disease continues the recuperative power of the blood-making organs diminishes, and a constant anemia results. In protracted cases this anemia is of serious import, reaching as it does as low as one million cells, per cmm. It calls for especial attention, for not a few of the sequelæ and complications of the disease are due to the impaired oxygen-carrying power of the blood.

Chronic malaria is a subject of considerable importance. Every physician is confronted at times with cases of malaria but imperfectly relieved by the routine treatment, and presenting year after year a progressively increasing cachexia with repeated attacks of fever. Here it might be noted that chronic malaria is at times diagnosed when there is insufficient evidence to warrant it. Carcinoma, chronic suppuration, general tuberculosis, even pulmonary tuberculosis, bone disease, and many other such diseases are mistaken and treated

for chronic malaria. This condition is the result of incomplete eradication of the initial attack with subsequent relapses or repeated reinfections. The distinction between it and simple relapses lies in the cachexia and the organic changes which take place. The organs chiefly affected (spleen and liver) show but the natural sequence of the disturbances which pertain to every case of acute malaria. The disease produces an engorgement of these organs with deposit of pigment in the endothelial cells, and even in the parenchyma. The disputed point as to whether malaria can produce hepatic cirrhosis cannot be positively answered yet, but it seems very probable that this constant congestion and cell irritation might readily produce an increase in the connective tissue. Amyloid degeneration is a frequent accompaniment of chronic malaria, attacking chiefly the kidneys and producing changes which materially increase the severity of the trouble. In all these cases the gravity of the disease rests not with the malaria, but with the condition it has produced.

The urine presents some points of interest. Ren Picci has called attention to the increased elimination of urine after the relief of an attack of malaria. This symptom pertains in from forty to fifty per cent. of all cases, and commences from one to ten days after the disappearance of the fever. The significant feature is that this polyuria may become more or less permanent, and in such cases may be misinterpreted by the physician. The amount may vary from 75 to 125 ounces in the twenty-four hours. He explains this polyuria as an effort on the part of the kidneys to eliminate the results of tissue disintegration produced by the parasites and their products.

Hemoglobinuria is a condition met with quite frequently in the Southern States, and has earned an unenviable reputation. When malarial in origin, the æstivo-autumnal parasite is always present, or at least has produced the malaria to which the hemoglobinuria is due. There can be no doubt but that quinine can, and not infrequently does, produce this condition, and that, too, in spite of the fact that upon previous occasions the patient may have taken similar doses of the drug with none but beneficial effects. It cannot, therefore, be termed an idiosyncrasy in the true sense, and is probably dependent upon some temporary susceptibility, the result of the drug or the disease.

For convenience, this condition may be divided into three classes—*hemoglobinuria occurring in the course of an attack of malaria, and*

before the administration of quinine; *hemoglobinuria following immediately upon the exhibition of quinine to a case of malaria*; and *hemoglobinuria independent of either malaria or quinine*. The practical importance of this classification lies in its bearing upon the selection of a remedy. Hemoglobinuria does not occur early in a primary attack of malaria, being seen in chronic or relapsing cases. The question of the administration of quinine depends upon the history of the case. If it be an old established case, in which there has been no recent exhibition of quinine, the drug is indicated, and will cure not only the febrile manifestations, but likewise the urinary symptoms. On the other hand, if quinine has already been given, and was followed by the hemoglobinuria, the drug should be withheld.

Differential Diagnosis.—Owing to the variety of diseases which simulate and are simulated by malaria, the question of differential diagnosis is a far reaching one. The examination of the blood affords ready means of distinguishing, however, and has simplified the matter considerably. Perhaps one of the greatest difficulties now lies in recognizing grounds for suspecting malaria. For instance, a patient is seen with a history of pelvic tumor, pain and fever, which may be remittent or intermittent. The question as to whether the case be one of purulent inflammation, or some ovarian lesion, with complicating malarial infection, is of great importance to the surgeon, who, perhaps, can ill afford to wait twenty four hours to note the effect of quinine; likewise, in that class of cases which are seen so often in the eastern portion of Virginia, and which are undoubtedly atypical typhoid fever. *The resemblance of typhoid fever to malarial fever* in some of its forms is very striking, and can only be differentiated by a blood examination for the plasmodium and Widal's reaction.

To the physician who has the time to personally make the necessary blood examinations there is no work in clinical diagnosis which yields such strikingly gratifying results as the detection of the parasites in a case of malaria. It requires a degree of aptness, however, which is attainable only after considerable practice, and the failure which comes at first must not discourage. It should be borne in mind that there are seen in the blood distorted and necrotic red corpuscles, which are very readily mistaken for the parasite, and also that occasionally the parasites will not be found in the peripheral circulation during the chill. In these exceptional cases the presence of pigment-bearing leucocytes or leucocytes contain-

ing parasites or fragments of red corpuscles are equally diagnostic, and close search will usually reveal an occasional small hyaline parasite.

LOCOMOTOR ATAXIA.*

By CLIFTON MAYFIELD, M. D., Washington, D. C.

Tabes dorsalis, or locomotor ataxia, is a morbid condition resulting from destructive degeneration, probably first of the posterior spinal root processes, extending through the posterior median columns, and, as is demonstrable in well advanced cases, involving the cells of the posterior gray cornea.

Whether or not the disease process begins in the nerve parenchyma or sheath, is a question not settled. Certain it is that there is wasting of the former and overgrowth of interstitial tissue, a sclerosis more or less marked to the naked eye, proportionate to the duration and severity of the disease.

As the disease advances, the whole of the posterior median columns become involved in an ascending direction, the medulla and cerebral nerve processes showing evidences of change. Indeed, this change may, in old cases, show extension to all parts of the cord.

What causes this degeneration of the particular nerve elements involved is a question upon which writers are not entirely in accord. I believe it is almost unanimously conceded that syphilis is the most frequently recognized causative agent. Some authors claim that about 50 per cent., others that as high as 90 per cent., of tabetics are syphilitic; still others, more radical—particularly the Germans—claim that all these cases are, as Möbius, of Leipsic, denominates them, "metasyphilis"—that is, a sequel of syphilis. From this latter conclusion, my own observations force me to dissent, for in certainly two of my cases, beyond the shadow of a doubt, not a suspicion of evidence or history of syphilitic infection or heredity could be elicited by careful and painstaking investigation. Other cases I have treated I firmly believed to be non-syphilitic from the negative evidence secured, but concerning which I could not speak with the same positiveness as of the cases to which I have referred. However, if the disease may originate from causes other than syphilis in two cases, surely it may in many more. Those who accept the metasyphilitic theory do not claim

*Read at a meeting of the Medical and Surgical Society of the District of Columbia, November 1st, 1900.

to find clear histories of infection in more than 90 per cent., charging the other 10 per cent. to unrecognized infection.

I cannot see any reason why other influences may not operate to the same end, especially the toxins of certain acute diseases, as typhoid fever, rheumatism and diphtheria. Prolonged exposure probably, and traumatism possibly, may be found to be the only ascertainable causes in certain cases.

In those cases properly classed as metasyphilis, it may, I think, be conceded that many, possibly most, would have escaped the disease but for some other direct cause, such as dissipation, exposure or acute infection.

The duration of the disease varies greatly, though always decidedly chronic.

I recently examined a patient who first came under my observation seventeen years ago, whose condition now is not much worse than that of one in whom the disease first manifested itself only seven months ago.

As a rule, under careful treatment the disease may be greatly prolonged, and even decidedly improved, but never, I believe, can a cure be effected; indeed, the *pathological changes* characteristic of the disease would lead us to look upon a cure as an impossibility, certainly if the disease has progressed to the point of nerve degeneration.

Probably, in the so-called cured cases, there has been only marked improvement, with almost entire disappearance of the ataxic gait; or, more probably an error in diagnosis, a polyneuritis incorrectly called tabes, explains the unlooked for result.

As to differential diagnosis, aside from progressive paralysis with tabetic symptoms, in which cerebral disturbances mark the disease, there is really but one condition with which locomotor ataxia may readily be confounded—namely, multiple neuritis or pseudo tabes.

The latter disease usually occurs in alcoholics, and upon the withdrawal of the exciting cause is, in the majority of cases, curable. In tabes, the foot, in walking, is thrown heavily and irregularly forward, the heel first striking the ground with considerable force, the foot being flexed upon the leg. In polyneuritis, there is foot drop, and the foot is raised well from the ground in stepping, to avoid the tendency of the toes to drag or catch.

In many, if not a majority, of the cases of true tabes, the Argyll Robinson pupil will be found; this never exists in false tabes. In both alike, there is usually abolition of the deep reflexes, but the skin reflexes are more likely to persist, or even become exaggerated, in mul-

tiplex neuritis. While severe pains are common to both, they are not so sharp, shooting or boring in the latter, and tenderness on pressure over nerve trunks is absent in the former.

Locomotor ataxia is marked by atrophy of the optic nerve, disturbances of the sphincters, loss of sexual power, and disturbances of the special senses; these are absent in multiple neuritis, except the occasional occurrence of a slight degree of optic neuritis. The progress of the disease, too, is usually more rapid in the latter, and muscle wasting may be so great as to cause the patient to become bed ridden in a short time, while in tabes muscle degeneration is not marked, comes on slowly, and only in keeping with the lessened use of the limbs.

In spite of the apparently decided difference of symptoms, in practice mistakes are frequent.

Two cases have come under my observation and treatment, in which diagnoses of tabes dorsalis were made and entirely confirmed by the best of authorities, which later, by their progress, proved to my mind conclusively that we were in error.

The two cases were much alike in their general symptoms. The gait partook much of the ataxic character, and superficial as well as deep reflexes were abolished. The pains were sharper than is usual in polyneuritis, and there did not exist that muscular atrophy that one may usually expect to find in cases of any duration in the latter disease.

The only symptoms, as I recall them now, for unfortunately I have no notes of the cases, that pointed towards the true diagnosis, were the negative signs of non-involvement of the cranial nerves. That mistakes were made is, to my satisfaction, proven by the rapidity of progress, decided response to treatment and eventual recovery.

As to the treatment of this disease, while we may scarcely hope for recovery, something can be done to prolong life, relieve suffering, and even to bring about decided improvement.

A quiet life, free from excitement or worry; nutritious food and light exercise, with careful avoidance of fatigue or over exertion; abstinence from tobacco, all stimulants and sexual excitement and indulgence; the use of baths and electro therapy, all work to the desired end; general tonics, too, may serve a good purpose; and for the pains, some of the coal-tar derivatives are quite useful; but here, according to my observations, effective treatment ends. I have never believed treatment by drugs accomplished anything toward recovery. Naturally, in cases originating from syphilitic

infection, we turn to mercury and iodide of potash. Inasmuch as nerve tissue, degenerated by whatsoever cause, can by no possibility be regenerated, we expect nothing more of these drugs than to stop the progress of the disease; and even in this we meet with disappointment.

In those cases in which there is no suspicion of syphilis, or in which, as is sure to be the case, anti-syphilitic treatment has failed, the drugs of my choice are nitrate of silver and ergot. Just why I so persistently turn to these remedies, I could scarcely explain, unless because I feel that I must be doing something, and having made mistakes in diagnosis I always dream of the possibility of multiple neuritis, and the good results I believe I have more than once obtained in that disease from this treatment.

Arsenic and strychnia have been frequently used; the latter, however, seems to me rather contra indicated by reason of its recognized physiological effect upon the cord and its meninges.

Not a great many years ago, nerve stretching, and later, treatment by suspension, were medical fads, whose real value is proven by the "innocuous desuetude" into which they have so soon fallen.

As a detailed recital of the symptoms of tabs will be wearisome, I rely upon the history of a case I present. This case exhibits, practically, all of the symptoms of the disease, and is particularly interesting on account of the unusual acuteness of development, and more especially because I believe the origin of the trouble is so clearly traced to typhoid infection.

G. B., a policeman, white, 28 years of age, born in England. Married, and the father of two exceptionally healthy children. His mother died at the age of 42, of diabetes. His father is at present in robust health, 68 years of age. Has one sister, now living and in good health. He declares that his family has been a very healthy one, and generally long lived. He left school at the age of 15, and clerked for about 4 years. Coming to this country, he enlisted in the army, but throughout his enlistment served as clerk or school teacher; afterward, for about three and a half years, was employed on a railroad as fireman or brakeman. He was appointed on the police force, July, 1899, having previously passed a very rigid examination for the New York city force. At the time of his appointment he weighed 184 pounds and was 6 feet in height. He was taken sick with typhoid fever, about the 12th

of September, 1899, previous to which time he had never had any illness whatsoever. The attack was typical in every respect, with rose spots, bowel hemorrhages, delirium and moderate deafness. Solid food was allowed November 19, but owing to indiscretion in diet he relapsed November 25th. Convalescence was re-established December 7th, and he left hospital December 24th.

At the time of his return home his condition was excellent, except for the persistence of a marked degree of deafness, which, however, improved to a decided extent.

His habits have always been good. He drank very moderately, and for five years past has been practically a total abstainer, and never smoked more than two cigars a day. In the matter of sexual indulgence he has always been temperate, occasionally indulged illicitly, but never with lewd women.

He always prided himself upon his strength, and just previous to his illness outran a horse going at a good gait.

He returned to duty April 13, 1900, and soon thereafter observed that he stumbled a good deal, and at the same time began to experience severe shooting pains in the legs, and observed that his ankles seemed to tire and give away readily.

From the end of March until July he was under treatment for his deafness, at first by myself, and later by Dr. Johnson Eliot. About this time he first called my attention to his rheumatic pains, and examination showed a rapidly progressing case of tabs. From then until the present all symptoms of the disease have steadily increased in severity. There is decidedly ataxic gait, with the characteristic shooting pains below the knees, a sensation when the palms or soles are touched, as though some soft substance intervened, and tactile sense in the limbs is diminished. These symptoms are more marked in the legs than in the arms. Contrary to the usual condition, patellæ reflex is exaggerated, though other reflexes are absent. The Argyll Robinson pupil is not well exemplified, though there is slow reaction to light and rapid reaction on convergence. Ophthalmoscopic examination shows a moderate degree of optic neuritis, about equal in extent in both eyes. Vision is decidedly impaired, to an extent out of proportion to the degree of existing neuritis. Toenails are deformed and ingrowing. There is loss of sexual power and disturbance of the bladder sphincter. Memory is impaired and sleep is disturbed by dreams. He is nervous and irritable, and at times almost hysterical.

There is, however, not the slightest evidence of dulling of intellect. Hearing has grown very poor, there being complete deafness to the ticking of a watch, and at the distance of three feet only a very loud voice can be understood. In addition, the rather unusual symptoms are found of impaired taste and smell. Muscular power is decidedly diminished, and he is easily wearied. The sensation of a girdle is at times marked, but there have been no gastric crises. The latter, with arthropathies and fractures, are all that are lacking in the way of symptoms to complete the most perfect picture of locomotor ataxia I have ever seen.

THE MODERN CÆSAREAN SECTION.*

By EDWARD P. DAVIS, A. M., M. D., Philadelphia, Pa.,

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By the term "Modern Cæsarean section," we understand the Cæsarean operation as now practiced by the majority of obstetricians. The primitive Cæsarean section consisted of incision through the abdominal wall and through the womb, with the extraction of the child, or its expulsion through the contractions of the uterus, aided by the force of gravity. Porro's operation amputates the womb through the lower uterine segment, leaving the stump at the lower end of the abdominal incision outside the peritoneal cavity, depending upon compression of the stump to control hemorrhage. It possesses the merits of simplicity and rapidity in execution. It is, however, in most cases inferior to modern methods.

The modern Cæsarean section is divided into two classes. If it be desirable to continue the patient's power of reproduction, the uterus, tubes and ovaries are preserved, and after the extraction of the child, the uterus is sutured and the abdomen closed. In aseptic patients in good condition, this is the operation of choice.

When it is not desired to preserve the power of reproduction, the modern Cæsarean section removes the child, if living, by incising the uterus, and if the womb is not the site of a septic or malignant disease, amputates the uterus at the cervix, removing the tubes and ovaries, leaving the stump of cervix to close the

vagina. If the uterus be the site of cancer or of septic infection, the womb and its contents, if the child be dead, are entirely removed unopened. If the child be living, the uterus is incised and the child is extracted and total extirpation performed afterward.

The most usual application of the modern Cæsarean section is in cases of pelvic contraction. The decision to operate rests upon the failure of the child to enter the birth canal after the patient has had sufficient pains to make a thorough trial, and sufficient time has elapsed. By pelvimetry, we ascertain that a viable child can rarely enter the pelvis, whose true conjugate is much below 8 centimeters or $3\frac{1}{8}$ inches. If the mother be aseptic, not exhausted by labor, the membranes not having ruptured or but little of the amniotic liquid having escaped, she is a favorable subject for operation.

The conditions essential to success in this operation are to-day those given by Sænger some years ago. Thorough asepsis must prevail. The operator must have sufficient skill to incise the abdominal wall and the uterus safely and to close the uterine wall accurately and efficiently. A thoroughly reliable and clean assistant is required.

The success of the simple Cæsarean operation, accurately termed "celiohysterotomy," depends upon accurate closure of the wound in the uterine wall. Efforts at resecting the wall of the uterus to secure better adaptation have been abandoned. That method of suture which brings the edges of the wound into best approximation and so retains them is best. Some operators pay no attention to the deciduous lining of the womb, but pass their stitches through the entire uterine wall, regardless of its various portions. These through and through stitches are reinforced by sutures in the peritoneal covering of the womb. Others seek to avoid the deciduous membrane, passing their stitches through the uterine muscle and closing the peritoneal covering of the uterus by a separate and continuous suture. The material for suture should be silk of the best quality for the uterine wall. For the peritoneal covering of the womb, fine silk or catgut may be chosen. The majority of operators turn the uterus out of the abdomen to open it. If the intestines be well protected by soft towels wrung out of hot sterile water, they escape injury.

The time for celiohysterotomy must be well chosen. The cervix should be sufficiently dilated to permit the lochia to escape. The uterus should be contracting strongly at regu-

* Read by title before the Thirtieth Annual Session of the Medical Society of Virginia, held at Charlottesville, Va., October 23-25, 1900. Dr. Davis prepared this paper by invitation of the Committee on Invitation.

lar intervals, but the uterine muscle should not be fatigued by long labor. If possible, the membranes should be unruptured, or should have ruptured but a short time before the operation.

The results of hysterotomy under good conditions are excellent. This finds its best illustration in Sweifel's series of seventy-five celiohysterotomies performed upon women in an aseptic condition, without a death.

In cases where the patient is aseptic and the uterus is not the site of a malignant growth, if the patient declines to run the risk of further pregnancy, the possibility of conception may be removed by the performance of celiohysterectomy. This is not a Porro operation, but is a surgical procedure which has undergone evolution in the development of the surgery of fibroid tumors of the womb. In this operation, the uterus is amputated at the junction of the cervix and lower uterine segment, the tubes and ovaries being removed. The stump is covered with peritoneum and the abdomen closed without drainage. If the parts are brought well into apposition, the only surfaces not left covered with peritoneum are the stumps containing the ligatures upon the ovarian arteries and the artery of the round ligament. The results of this operation are equally good in our experience with those of celiohysterotomy. We have observed no greater shock and no greater tendency to complications by this operation than by the simpler one. It is, however, more complex than celiohysterotomy, and its performance requires greater familiarity with the pelvic tissues. As there is very little lochial discharge from the stump of cervix, celiohysterectomy may be performed when the cervix is softened and before it is dilated. The operator may pass his finger from above through the cervix or a suitable dilator to insure the escape of the slight flow which follows after this operation.

The removal of the entire pregnant uterus or extirpation of the womb is indicated in cases where the uterus is septic or the seat of a malignant growth. If the child be living, the uterus should be opened before its removal and the child extracted. In cases where the child is dead and the womb already infected, the uterus should not be opened until after its removal from the patient's body. In this way, the escape of septic matter from the womb is avoided as far as possible. This operation is accompanied by but little more shock if the operation be rapidly done than are the others. The same vessels must be ligated to control hæmorrhage, the difference lying in the open-

ing of the vagina and the separation of the bladder, and of the connective tissue in front of the rectum from the womb. It is usual to drain such cases, especially if septic, by the passage of iodoform gauze from above downward into the vagina. In septic patients where the child has perished during labor, this operation is especially valuable.

The Trendelenburg posture and the development of the surgical treatment of fibroid tumors of the uterus have rendered possible celiohysterectomy and the removal of the entire pregnant womb. The field of these operations may be briefly described as follows:

In contracted pelves where a viable child cannot be born by the natural passage, and if the mother is willing to risk further pregnancy, celiohysterotomy or Cæsarean section with the retention of the uterus is indicated. In cases where a woman has lost a child in previous labor through prolonged and difficult forceps extraction or difficult version, celiohysterotomy should be seriously considered. The decision to operate would be based upon the failure of the child to enter the mother's pelvis under good uterine contractions and with sufficient time.

In cases where the mother declines the risk of further pregnancy and the child cannot enter the pelvis under good uterine contractions and with sufficient time.

In cases where the mother declines the risk of further pregnancy and the child cannot enter the pelvis, celiohysterectomy is the operation of choice, provided the mother be in good condition and the child living.

If the mother be infected or the subject of cancer of the womb and the child be dead, the removal of the entire and unopened uterus is indicated. If the child be living, the womb must be opened before its removal from the body and the child extracted.

The question naturally arises, "What is the field of induced labor, and what are the positive indications for embryotomy?" The induction of labor is indicated in a pelvis whose true conjugate is at least 8 centimeters or $3\frac{1}{8}$ inches, from the thirty-third to the thirty-eighth week of gestation. The induction of labor, however, exposes the child to considerable risk which varies with the skill of the operator and conditions present. A mother would be justified in declining this risk for her child and electing Cæsarean section.

Embryotomy upon the living child can no longer be considered justifiable if the child is in good condition. Where, however, the physician is alone in the case, and where his with-

drawal would expose the mother to danger, if she persistently refuses Cæsarean operation and demands embryotomy, the physician may accede to her demands under protest. Remembering that the life of the mother takes precedence over that of the child, the physician must use his best endeavors to save both, and failing in this, must give the mother the greater consideration.

In addition to the indications stated for the Cæsarean operation, there are two conditions in which the operation has a possible but hitherto comparatively untried field. They are eclampsia and placenta prævia. The prompt cessation of eclamptic convulsions which usually follows delivery, has suggested the propriety of emptying the uterus by Cæsarean section in eclamptic patients, in whom the os and cervix are tightly closed. Celiohysterotomy is performed in these cases, as there is no indication for interfering with the mother's power of reproduction.

In placenta prævia where the os and cervix are tightly closed and the patient is bleeding, celiohysterotomy has been performed with success. The same reasoning which justifies its performance in eclampsia may be applied here with the added argument that in placenta prævia, the operator can control the hæmorrhage immediately.

Two methods of performing the operation are at present experimental. In one, the incision is made at the fundus of the uterus, either longitudinally or transversely. Fritsch, who introduced this, claims for it less hæmorrhage, quicker uterine contractions, and better permanent closure than when the incision is made as usual longitudinally upon the anterior wall of the uterus. Experience has demonstrated that this method is practicable, whether it is advantageous is not yet proven.

Dührssen has brought to our attention "vaginal Cæsarean section." By this method, the vagina and uterus are incised at their junction or through the lower uterine segment, the child is extracted through the incision and the parts closed. This operation at present must be considered experimental. It is adapted to cases where the bony pelvis is ample, but where excessive rigidity of the cervix or a tumor in the lower portion of the uterus prevents delivery through the cervix.

The results of celiohysterotomy and celiohysterectomy are as follows:

Braun Fernwald,* in a paper entitled "The Cæsarean Sections of the Last Ten Years,"

collected 260 cases of Porro's operation with a general mortality of 10.3 per cent, and a corrected mortality of 5.24 per cent. He collected 278 cases of celiohysterotomy with a general mortality of 7.5 per cent., and a corrected mortality of 4.7 per cent. He also secured the results and histories in 87 cases of removal of the uterus, either entire or partial, with a general mortality of 10.3 per cent. and a corrected mortality of 2.5 per cent. By the term "corrected mortality," we mean the mortality in cases not severely infected and hopelessly ill before the operation. By "general mortality" is meant all cases dying after operation without reference to the previous condition of the patient. It is interesting to note that Braun-Fernwald's statistics indicate that the removal of the uterus, either entirely or partially, is a safer operation than the closure of the uterus, allowing it to remain.

From the recent literature of the subject, we have collected 203 celiohysterotomies with a general mortality of 7.8 per cent. The cases of death among this series were, in most cases, from septic infection existing at the time of operation, and resulting from neglect on the part of the previous attendant in prolonged and difficult labor. We have collected 51 celiohysterectomies with a general mortality of between 9 and 10 per cent. Patients dying in this series perished from septic infection and exhaustion through the neglect of attendants in long continued labor.

My personal experience in Cæsarean section has been in fourteen cases. Celiohysterotomy was performed in two, the mother being uninfected before operation. Mothers and children recovered. Celiohysterotomy was performed for tubercular sinus of the hip joint, contracted pelvis, and eclampsia in one case. The child was moribund before the operation, the mother having been in labor twelve hours, and the mother was nearly moribund. The operation was followed by great improvement in the mother, who survived between three and four days. Autopsy showed the uterine wound clean and healing, the uterus aseptic, the cause of death being interstitial nephritis of long standing. I have performed celiohysterectomy upon eight uninfected patients, mothers and children recovering without complications. Celiohysterectomy has been performed upon two infected patients, both mothers dying. In one, repeated efforts at forceps delivery, followed by severe hæmorrhage, had been made, and the patient had been in labor twenty-four hours. The child was dead when the operation was performed. In the other case, the mother was

* Archiv. für Gynækologie, Band. 59, Heft. 2, 1899.

suffering from an infection of the intestinal tract, causing peritonitis and occlusion of the bowel. This case was subjected to thorough autopsy with bacteriological examination of various tissues. The uterine stump was clean and healing in this patient. The child survived.

In a case of eclampsia, in which the mother died as I entered her dwelling, a large child was extracted by post-mortem Cæsarean section. This child survived its mother two weeks. My experience convinces me that the inference drawn from a statistical study of this subject is correct—namely, that in women in good condition, and aseptically before the operation, celiohysterotomy or celiohysterectomy, with intrapelvic treatment of the stump, has an exceedingly low rate of mortality for mother and child, comparing favorably with that of difficult forceps delivery, version, symphysiotomy or induced labor. In women exhausted and infected, the child being dead, when craniotomy is impossible, the complete removal of the septic womb, with its contents, is indicated. In women exhausted and infected, the child is usually so injured by prolonged and difficult labor that it cannot be expected to survive.

In my experience, Cæsarean section has no infant mortality. In my fourteen cases, no child living at the time of operation was lost. In this respect, the operation is far superior to the induction of labor at any period of gestation, which is accompanied by a considerable infant mortality.

250 South Twenty first Street.

A BRIEF CLINICAL REPORT OF THREE CASES OF PERFORATION IN THE ALIMENTARY CANAL

From Cancerous Ulceration and from Gangrene, Consecutive to Thrombotic Occlusion of the Arteries, Involving the Stomach, the Caput-Coli, and the Sigmoid Flexure, with Special Reference to Symptomatology.

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

The following brief histories, with a few reflexions, are here submitted on a topic of great interest to surgeons and practitioners.

The reader is referred to standard works on

intestinal surgery and several recent elaborate contributions, for an extensive review of the literature of the subject.

My three cases were of special interest because of very obscure symptomatology attending them, and the great difficulties in the way of effective treatment, consequent on obscure and late diagnosis.

My first case well illustrated the vague and indefinite symptoms which may attend various abdominal tumors, and how, under many circumstances, nothing less than an exploratory laparotomy will locate the tumor or establish its character.

CANCEROUS PERFORATION OF STOMACH.

CASE I.—*History of Case.*—Patient, female, 29 years old, married; had no children; always enjoyed good health until about ten months before, when symptoms of dyspepsia set in; had a craving for food, but it distressed her until she vomited. With time, the gastric symptoms became more pronounced and she wasted greatly in flesh.

When I saw her she was greatly emaciated, and could tolerate but the smallest quantities of nutrient liquids, as she said she had so much distress that relief only came when she vomited everything she drank. She was greatly emaciated and pale; her pulse was 115 and feeble; there was no fever; had never vomited, or passed blood *per rectum*; had no pain in hypogastrium, but a continued soreness; vomited matter sour, without bile admixture. At the beginning of her illness had her stomach irrigated, but without any material relief following. She was tired of taking medicine, and was desirous of having a surgical operation performed.

Examination of Abdomen.—Abdominal fat had quite disappeared; its walls were patulous, and so atrophied that peristalsis was easily felt with the fingers. In the left hypochondrium, just below the last rib, but inclining forward, a tumor was discovered; it had an area on its long axis of about four inches, and vertically about three inches. It was not nodular to the touch, and was freely movable. Her description of this tumor was of noteworthy interest, as she said its position and volume varied, and that when it became very large she had spells of great distress until it again reduced.

The Problem to Solve.—Now, the family explained that I was called in particularly to inform them of the origin of the tumor and the organ it involved; in other words, they sought a *diagnosis*.

After a critical examination and a careful analysis of the case, I frankly confessed that I was unable to grant their request, and I could only assume, from the history, that it was of a malignant character, and that nothing less than a free incision could decide its origin. Was it gastric? A chemical and microscopical examination should decide this, one might suppose. But it will decide nothing with certainty in many of these cases.

Was there pyloric obstruction from a neoplastic formation? It was my impression that there was; but how about the situation, mobility and varying volume? Or was it a tumor of the transverse colon, of the head of the pancreas, of the spleen, the left lobe of the liver, or retroperitoneal glands?

Well, I sent her to St. Mark's Hospital to further study the case. Here, the case took on some extraordinary changes. Her appetite suddenly improved, and she commenced to retain plenty of nourishing food. On the third day after her admission, I invited a noted physician to examine her, when, to my astonishment, *the tumor had quite completely disappeared.*

The following day it reappeared, but was larger and near the median line.

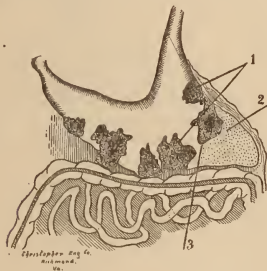


FIG. 1.—Cancerous Proliferation of the Stomach.

- (1) Proliferating excrescences. (2) Diverticulum.
(3) Opening through gastric wall.

One experienced surgeon pronounced it a growth in the pancreas, because she passed great quantities of undigested fats in the feces. A physician of high scientific attainments set the case down as one of tumor of the spleen, because the blood showed a hyperleucocytosis.

Gastrostomy.—Two weeks after entrance to hospital, a laparotomy was performed. Opening the peritoneum over the site of the fullness, there was a free issue of a grumous fluid mixed with undigested food. Here was formed a large diverticulum, communicating with the cavity of the stomach through an opening in

the anterior wall, which freely admitted the tip of the index finger. This pouch was bounded below and on the sides by the gastrocolic omentum; behind, by the stomach itself, and before, by the parietal peritoneum.

There had been a large cancerous perforation in the fundus of the stomach, at the cardiac end, with widespread adhesions protecting the general cavity of the peritoneum. This accessory cavity would fill and empty, alternately, which explained its varying volume and position. The greater part of the gastric walls at the cardiac and greater curvature were the seat of large vegetating cancerous growth. The pylorus was entirely free from stenosis or malignant invasion. The entire cancerous mass was dissected away, and what remained of the healthy gastric walls was united by suture. This procedure was neither difficult, nor attended with the loss of but very little blood. But deep shock followed, and the patient passed away soon after operation.

I have had within the past six months three gastric cases, in one of which, from the symptoms alone, diagnosis was quite easy. The patient was a young man, who was shot through the abdomen; immediately after, he had extreme pain in stomach and free hæmatemesis. By laparotomy it was found that the missile had passed through both walls of the stomach.

In another case, recently operated, a woman of 50, all the symptoms pointed to malignant condition of the pylorus and complete obstruction. Gastric dilatation was most pronounced, she had constant pain in the precordia, had frequently vomited blood-mixed fluids; but there was no tumor. A gastro-enterostomy was performed, when it was found that no part of the stomach itself was involved, but there was an infiltrating growth of the head of the pancreas, which quite completely invaded and closed the duodenum.

CASE 2.—*Perforating Cancer of the Cæcum Simulating Appendicitis.*

The word "appendicitis" is often the refuge of ignorance, or want of definite knowledge of various obscure pathologic conditions within the abdominal cavity.

In this instance, the patient was regarded as suffering from that malady of the perforative type. She was 60 years old, widow, always enjoying good health until a year before, when she became conscious of colicky pains from time to time in her right groin. Along with this, it was noted that she was more or less constipated and was losing flesh. Pain in the right iliac-fossa, of varying intensity, seized her at intervals, when she was advised to have her

appendix out, *l'operation froide*, but she would not consent to it.

Finally, late one night, she was seized with the most agonizing pains over her entire abdomen, with explosions, vomiting, and great exhaustion.

The following day she was operated upon. Judging from the previous history that we had appendicitis to deal with, a large lateral incision was made, just external to the linea-semilunaris and the peritoneal cavity opened, when there was a large escape of gas, feces, pus, and blood clots.

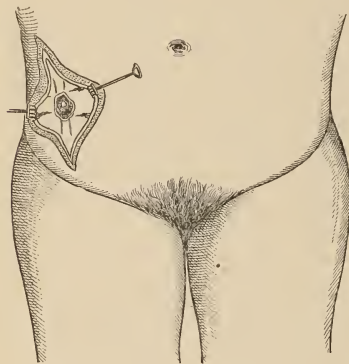


FIG. 2.—Cancerous Perforation of Cæcum.

On washing out the befouled area, the head of the colon was exposed, when a large cancerous perforation of it came into view. This was on the external aspect, just anterior to the peritoneal reflexion.

The invaded part of the colic wall was resected and the breach closed in by the Lambert suture, the peritoneal cavity well irrigated and free drainage provided. The following day general peritonitis carried her away.

The above was another example of malignant disease with an obscure history. Pain in the right loin and groin radiating downward into the pelvis; how many pathological conditions of a widely different character it may simulate in the female? Renal calculi, a floating or suppurating kidney, a psoas abscess, an impaction of feces, a tubercular abscess, a malignant growth, a perityphilitis, appendicitis, a suppurating ovary or tube, etc., one or all, may at times be present. By no means can a diagnosis be always readily made without a most discriminating analysis of symptoms.

CASE 3.—*Thrombotic Occlusion of the Enteric Ramifications of the Vessels of the Sigmoid Flexure of the Colon with Acute Gangrenous Perforation.*

Patient, male, liquor dealer, 44 years old, of vigorous physique and former good health. Left his bed one morning at 11 o'clock. As was his custom after rising, he went to stool, when he was seized with a very severe colicky pain all over the abdomen. Local applications with domestic remedies were actively employed, but without effect; when a physician was sent for. The doctor suspected appendicular trouble; but the patient insisted that if his bowels were opened he would surely have relief. As there was then no evidence of inflammatory trouble, a dose of calomel and jalap were given, and a hypodermic of morphine administered.

The doctor now retired, but was soon sent for again, as very grave symptoms had set in; vomiting had commenced, and the pain had become agonizing. Now, he was given a large enema of olive oil and soapsuds, about two quarts. But it all remained up the bowel. Another was repeated, with the same result. As his condition was becoming critical, an ambulance was sent for, and he was sent to Harlem Hospital. I saw him at 10 o'clock the same night. At this time his condition was desperate. Though fully conscious, his pupils showed evidence of heavy morphine dosage.

Anything like a proper examination of the abdomen was impossible, as it was enormously distended, and moreover was as hard as a brick, everywhere emitting a flat note on percussion. But he complained that the pain commenced in the left iliac fossa, and here it was most acute on light pressure. My diagnosis was either volvulus or perforation of the sigmoid. I was rather inclined to the latter, for the reason that so much fluid had been retained, and there was evidence of its being not in the gut, but the peritoneal cavity.

He was hastily prepared for laparotomy. An incision was made parallel with Poupart's ligament, similar to the one employed in Maydl's operation for colostomy. Immediately on opening the peritoneal cavity a large gush of feces, sweet oil and seeds came through, as much as a gallon. Then the incision was enlarged and the sigmoid sought for. The first loop seized showed the sight of a large gangrenous perforation. It was my intention to fix this in the incision, as an artificial anus, and later resect, but before the befouled material could be irrigated away our patient was dead.

This was indeed a fulminant case of a lesion with a very obscure pathology.

Thrombotic occlusion of the mesenteric vessels and consecutive peritonitis or perforation is no doubt of rare occurrence, but not so rare as we may suppose.

Enderteritis, varix, or thrombosis of the mesenteric vessels does occur in a moderate degree without question. Moreover it is the fundamental etiological factor in many cases of so-called "idiopathic perforation." In typhoid or tubercular perforation, a careful investigation into the finer anatomical ele-

off the patient's only hope. Diagnosis here again was attended with difficulty. An early consultation, with prompt surgical intervention, would have saved this life.

A noteworthy case of this class recently occurred in this city, in the person of a distinguished physician. An eminent surgeon made the diagnosis of appendicitis as the trouble and operated, but no appendix could be found. A few days later the physician died, not of appendicitis, as the autopsy showed, but from "obstruction of the intestine." The local newspapers claimed that the operator,



FIG. 3.—Gangrenous Rupture of Sigmoid Flexure of the Colon.

ments will quite invariably show that the primary lesion is in the mesenteric vessels. And, furthermore, in a considerable number of instances nature discounts the dangers by adhesive inflammation. This type of perforation, if diligently sought for, will generally explain the origin of many of those cases of localized or general peritonitis of obscure origin, ending in obstruction, general sepsis, or death. In this instance the large enemata removed the possibility of adhesive inflammation and cut

and not the disease, was responsible for the melancholy end of the case.

It is unfortunate for the younger members of the profession that operators of large experience do not more frequently publish their failures—for they have plenty of them—as well as their successes, as the present custom of giving only the roseate side of the case often beguiles the unwary into undertakings that are full of perils for even the most experienced. It is time, too, that teachers and authors mixed

more honesty and candor with their erudition and plainly announced the fact that there are numerous pathological conditions within and about the peritoneal lining of the abdomen that can only be diagnosed by the exposure of a free incision.

The newspapers report the failures, the medical journals the successes.

115 West 49th Street.

DIAGNOSIS AND TREATMENT OF PURULENT DISEASE OF THE NASAL ACCESSORY SINUSES.*

By O. A. M. MCKIMMIE, M. D., Washington, D. C.

Purulent discharge from the anterior or posterior nares nearly always indicates disease of one or more of the accessory sinuses.

We divide the accessory cavities of the nose into an anterior series, consisting of the antrum of Highmore, the frontal sinus, and the anterior ethmoidal cells, and a posterior series, consisting of the posterior ethmoidal cells and the sphenoidal sinus.

The lateral wall of the nose is formed by the vertical plate of the superior maxilla, and posteriorly by the vertical plate of the palate bone. The remaining central portion is formed by the lateral body of the ethmoid and mucous membrane.

The body of the ethmoid presents the superior and middle turbinates, the bulla ethmoidalis and the unciform process which gives off several smaller thin processes. Between the superior and the middle turbinates is the superior meatus into which open the posterior ethmoidal cells. The middle meatus is a most important region, for in it we find the openings of the anterior ethmoidal cells and the hiatus semilunaris, which contains the opening into the frontal sinus and the opening leading into Highmore's cavity.

The hiatus semilunaris is a groove curving backward between the unciform process and the ethmoidal bulla; at its upper end is the entrance to the frontal sinus, and at its posterior portion is the natural opening into the maxillary antrum.

The ethmoidal bulla, which is under the middle turbinate, is the largest and lowest of the anterior ethmoidal cells. On it, and looking into the hiatus, we find the openings of the anterior cells of the ethmoid.

In about ten per cent. of all cases, we find

one or more accessory openings into Highmore's cavity. These openings are always behind the natural entrance, and are larger than the normal opening.

The antrum of Highmore is a pyramidal-shaped cavity, whose base is the lateral wall of the nose. It has three sides—facial, orbital, zygomatic. Normally, the cavity reaches as low as the floor of the nose. In some cases, it extends to the middle line between the plates of the palatal process, forming a so called sinus palatinus, or it may extend into the zygomatic process.

On the other hand, the cavity may be smaller than normal.

In rare cases, the cavity is divided by trabeculae, either vertical or horizontal. If there exists a complete partition, dividing the cavity into an inner and an outer space, the inner cavity opens in the natural position, and the outer in the superior meatus, in the neighborhood of the posterior ethmoid cells. When the partition is horizontal, the lower cavity opens in the usual position, and the upper in the superior meatus.

The frontal sinuses vary greatly in size and shape, and are separated by a septum, which is usually approximately vertical. If the septum deviates, it is usually only in its upper portion.

The front wall of this cavity is usually the thickest. The posterior wall, which separates the frontal sinus from the brain cavity, is of varying thickness, and the orbital wall is thin and perforated by several small vessels.

In some cases, the orbital plate bulges downward, thus diminishing the size of the orbit. In other rare cases, an unusually large ethmoidal bulla causes upward bulging of the floor of the frontal sinus.

Occasionally plates of bone connect the bulla and unciform process, thus converting the hiatus into a blind duct. In such cases, the opening into the sinus is found in the same line as the upper end of the hiatus, but higher than its usual position.

Other anomalies are a middle turbinate, which comes so far forward as to form a distinct cavity into which the frontal sinus opens by an unusually large os or fissure, or a middle turbinate which curves downward so far that the opening of the frontal sinus is displaced upward, so as to be in the superior meatus.

Sometimes the two frontal sinuses communicate by openings in the septum.

The half cells along the margin of the ethmoidal notch of the frontal bone form the upper portion of the highest ethmoidal cells,

* Read at a meeting of the Medical and Surgical Society of the District of Columbia, October 1, 1900.

which occasionally communicate with the frontal sinus.

The ethmoidal bulla and superior and middle turbinates are formed by "plates of origin" coming from the cribriform and orbital plates of the ethmoid. These plates of origin have joining them secondary plates of bone, and the spaces thus formed are the ethmoidal cells.

The sphenoidal sinus is divided into two cavities by a septum, which, passing the anterior wall, forms the ethmoidal crest and rostrum, and articulates with the perpendicular plate of the ethmoid and the vomer.

The roof of the sinus is formed by the sella turcica and clinoid processes; the lateral walls by the carotid or cavernous grooves; and the posterior wall by the spongy substance of the body of the bone. The floor of the cavity is thick, and forms part of the roof of the nasopharynx. The anterior wall, which is very thin, has two large openings separated by the ethmoidal crest and partly closed by thin plates of bone attached to the vomer.

Over all this is the mucous membrane, having a small opening on either side, which leads into the sinus at its uppermost portion.

The optic nerves and sixth pair are in close relation to the sphenoidal sinus. Congenital fissures between the brain cavity and the sphenoidal sinus sometimes exist, and occasionally the posterior cells of the ethmoid communicate with the cavity of the sphenoid.

The opening of the sphenoidal sinus is at its upper part, and somewhat towards the body of the ethmoid, so that it is in the recessus sphenoidal, and not in the superior meatus, as usually stated.

When pus is found in the anterior portion of the nose, it must be determined whether it is produced by the turbinate mucous membrane or not. When pus is found in the middle meatus, running down over the inferior turbinate, no pus appearing in the olfactory fissure, and mucous membrane suppuration having been excluded, it is certain that we have disease of one or more of the anterior series of accessory cavities, and we proceed to examine them in the following order: First, Highmore's cavity; next, the frontal sinus; and last, the anterior ethmoidal cells.

In examination of the antrum of Highmore, cleansing the nose thoroughly, examine for pus in the middle meatus at the posterior end of the hiatus semilunaris. It must be remembered that the opening of Highmore's cavity is near its top, and no discharge can take place until the pus reaches the level of the opening unless the patient assumes a posi-

tion which will cause the pus to lie over the natural or accessory openings.

The next diagnostic measure is to wash out the cavity if possible through a suitable canula; if this is not satisfactory, by exploratory puncture. The best point for puncture is under the inferior turbinate, about the juncture of the anterior and middle thirds, where the bone is thinnest. Either a stout hollow needle or trocar and canula can be used, and should be inserted as near the attachment of the inferior turbinate bone as possible—that is, the needle should be directed backward, outward and slightly upward. It is much safer to make the puncture in the inferior meatus than in the middle meatus, because of the danger of entering the orbital cavity if the nasal wall is concave instead of vertical. The puncture should be made with a slight boring motion, and without much force.

When the needle has perforated the bone, it should be moved slightly so as to see whether its end has not come into or through the external wall of the cavity. Before using fluid to wash out the cavity, air should be injected.

If the needle be in the antrum, the air will escape through the nose; but if it has perforated the external wall, and entered the soft tissues, an emphysema will be produced.

To obtain the contents of the antrum, we wash it out with sterilized water, normal salt solution, or boric acid solution. If pus, either fluid or caseated, be present, it will be forced out by the solution. Aspiration of the sinuses is not advisable, because it causes a congested condition of the lining mucous membrane and consequent pain. Cocaine anesthesia is sufficient.

The existence of suppuration of the frontal sinus being suspected, a long very flexible nasal probe bent at a right angle for its last 2 or 2½ cm., is passed under the anterior end of the middle turbinate and into the hiatus semilunaris, which it follows into the frontal sinus. If we succeed with the probe, we next use a flexible canula, bent in the same manner as the probe, and wash out the sinus.

Very frequently frontal and antrum suppuration are combined, the discharge from a diseased frontal sinus passing downward and backward along the hiatus semilunaris and into the antrum through the natural or accessory openings. When it is impossible to enter the frontal sinus by reason of the obstruction caused by the operculum, we should remove the anterior end of the middle turbinate.

A negative result in washing out the frontal

sinus does not necessarily mean that there is no production of pus in it. The examination is best made after the patient has been lying down for some time. For this reason, among others, it is best not to make an exploratory puncture of the antrum and wash out the frontal sinus at the same sitting.

If the examinations of the antrum and frontal sinus are both negative, we must remove the anterior half of the middle turbinate and sound and wash out the ethmoid cells. The probe and canula for this purpose should be bent very much as for the frontal sinus, but should be turned toward the orbital plate of the ethmoid during introduction.

When we have a tumor in the middle meatus, we at once suspect disease of the ethmoid. Such a tumor may be—(a) congenital enlargement of the ethmoidal bulla, in which case it is usually bilateral; (b) a middle turbinate which contains a sinus; (c) so called cystic degeneration of the middle turbinate; (d) empyema of the bulla; (e) partial empyema of the ethmoid, causing distension of the middle turbinate; (f) total empyema of the ethmoid; (g) very rarely solid tumor, involving ethmoid and orbit.

When we find pus in the olfactory fissure or superior meatus, or crusts and pus in the nasopharynx, or on posterior or lateral walls of the pharynx, we must look for disease of the sphenoidal sinus or posterior ethmoidal cells, or for some anomaly of the other sinuses. In the normal nose it is not possible to see the sphenoid or the superior turbinate, as the olfactory fissure is not wide enough and the middle turbinate is in the way. In atrophic noses, both the regions are often visible. Unless the nose be in an atrophic condition, we must remove the middle turbinate in order to examine the sphenoidal sinus and posterior ethmoidal cells.

The opening of the sphenoidal sinus lies high in the olfactory fissure, and in order to reach it the sound or canula must pass in a line from the anterior spine of the superior maxilla across the middle point of the margin of the middle turbinate and into the olfactory fissure for a distance of seven and a half centimetres or more.

Pus in the superior meatus or olfactory fissures may indicate—(a) sphenoidal empyema; (b) empyema of the posterior ethmoidal cells; (c) mucous membrane suppuration; (d) empyema of the frontal sinus, with anomalous opening; (e) empyema of divided Highmore's cavity, with opening in superior meatus; (f) pseudo-empyema, caused by retention of secretion in

olfactory fissure by a hypertrophied middle turbinate.

The sound or canula for the sphenoidal cavity should be bent at the end slightly downward and outward.

I have said nothing so far about trans-illumination as a diagnostic procedure, because I do not consider its indications reliable. For example, if we have a cavity with unusually thick walls, or a contracted cavity, we often find a shadow just as dense as when the cavity is filled with purulent matter. I have frequently seen trans illumination indicate an empyema and exploratory puncture prove the indication false. I always use trans illumination in examining suspected cases, but value it chiefly for what it does *not* show. Exploratory puncture in the case of Highmore's cavity and the use of the canula in the other sinuses are much more to be depended upon.

The one symptom common to all open empyemas of the nasal accessory sinuses is the discharge of pus from either the anterior or posterior nares, or from both. Pain is present only in acute cases or in closed empyemas, or when the patient's position favors retention of the pus and consequent nerve ending pressure. When pain is present, it does not always indicate the location of the disease. Headache is more frequent than sharp pain. Pain described as being behind the eyeballs or in the back of the head is a frequent symptom of sphenoidal empyema. Toothache is a frequent, but not constant, symptom of disease in the antrum of Highmore. Neuralgia, more or less frequent, is common to all the accessory sinus suppurations. When the pus has a bad smell which is perceptible to the patient, the disease is usually a chronic empyema of the maxillary antrum of long standing, and the odor is caused by decomposition of the retained and thickened pus masses. To state briefly the subjective symptoms of maxillary empyema, we have: Pain (not constant), discharge of pus, stoppage of the nose from swelling of the middle and inferior turbinates (not constant), nose bleed (not constant), and eczema of the entrance to the nasal chamber.

Examination may reveal, in addition to a pus covered middle meatus and inferior turbinate, a hypertrophy of the middle and inferior turbinates and polyps, blocking the middle meatus. Further, in some cases, we find the cheek somewhat swollen and the teeth painful to gentle percussion. Occasionally troublesome cough, or even asthma, is a reflex condition whose cause is a suppurating maxillary sinus.

The subjective symptoms of frontal sinus

empyema are much the same as those of supuration in the maxillary sinus—pain (not necessarily localized over the affected sinus), purulent discharge from middle meatus, nose bleed, stoppage of the nose, and an irritated condition of the nasal entrance. In frontal cases the pain or headache is usually worst at night, because the recumbent position favors the retention of the discharge and consequent nerve pressure. If the hiatus semilunaris is not closed or obstructed, the discharge is quite free during the early part of the day, and then the patient is not annoyed much until the next morning.

Acute purulent inflammation of the frontal sinus manifests itself by severe frontal pain, which may be constant or neuralgic in character; tenderness of the orbital plate of the frontal to pressure, and the presence of pus in the middle meatus.

In cases of closed empyema of the frontal sinus, we find, in addition to the extreme pain and headache, ptosis and œlema of the upper eyelid, and, in cases of long standing, bulging downward of the thin orbital plate of the frontal bone and defective movement of the eye when an attempt is made to look upward. Pressure applied to the orbital plate of the frontal causes severe pain and a sensation of crepitation, which has been compared to the feeling experienced when the side of an empty tin box is pressed on.

In disease of the anterior ethmoid cells, we have all the subjective symptoms common to supuration in the frontal sinus and antrum of Highmore, and, in addition, disturbance of the sense of smell and secondary disturbances of the throat and larynx. A positive diagnosis must be made by exclusion, and is often difficult. Closed empyema of the ethmoid causes bulging either towards the septum or towards the eye. The latter condition causes limitation in the inward movement of the eye and the appearance of a mass likely to be called an ivory exostosis. For this condition the oculist is much more likely to be consulted than is the rhinologist, and may make an erroneous diagnosis unless he be familiar with nasal work.

In diseases of the sphenoidal sinus and posterior ethmoidal labyrinth, the patient frequently complains of pain just back of the eyes, and that pus runs into the naso-pharynx. Examination reveals pus in the olfactory fissures or superior meatus, and pus in naso-pharynx and crusts lower down. (This condition must be differentiated from Thomsen's disease or fissure of Luschka's tonsil, which

presents the same pharyngeal condition.) The diagnosis must be made by excluding all other conditions and investigation with probe and canula of the sphenoidal cavity and posterior ethmoid cells, taking away the middle turbinate if necessary. The sphenoidal cavity is more easily emptied when the patient leans his head forward. When the sphenoid can be seen, the use of a Politzer bag, after thorough cleansing of the nose, will force out the contents of the sphenoidal sinus and aid us to make a diagnosis.

In closed empyema of the sphenoid, we have disturbances of vision, and often cerebral pressure symptoms supervene.

Patients with sphenoidal disease are apt to present marked melancholia and various reflex nervous phenomena.

If after cleansing the nose a tamponade of cotton be placed in the superior meatus and allowed to remain a short time, its posterior end will be clean when it is removed if there is no pus coming from the sphenoid.

In concluding my remarks on symptoms and diagnosis, let me emphasize the truth that diagnosis must be based more on the findings of the probe and canula than on any subjective symptoms, and that the various cavities must in turn be explored. Especially should we remember that finding pus in one cavity should not cause us to conclude that it is the only one involved, for we frequently find frontal sinus and antrum supuration combined, and even complicated by the co-existence of pus in the anterior ethmoid cells. Further, sphenoidal empyema and posterior ethmoid supuration may co-exist.

Treatment of any of the nasal accessory sinuses may be conservative or operative, and each case must be "a law unto itself." The conservative treatment of the antrum of Highmore consists of washing out through the natural or accessory opening with various bland antiseptic lotions. In the vast majority of cases this does very little good. Of operative procedures, we have three, which I will mention in the order of their relative value—first, the method of Küster; second, the method of Cooper; and third, the Mikulicz-Krause operation.

Küster's method consists in entering the antrum through the canine fossa, and it is the only method applicable to all cases. After cutting through the mucous membrane at the line where the cheek joins the membrane covering the upper jaw, and elevating a mucoperiosteal flap, an opening is made with a burr or trephine, and enlarged if necessary to per-

mit thorough scraping of the cavity if there is much granulation tissue present.

Through such an opening actual inspection of the lining of the cavity may be used, and such local applications made to individual spots as may be necessary.

After this operation there is marked swelling of the cheek for from three to five days. Some operators take away nearly the whole of the facial wall of the cavity and use the elevated flap of the mucous membrane to line the cavity.

The after treatment consists in making a tamponade of iodoform gauze for five or six days; after that syringing as often as necessary to keep the cavity clean, with antiseptic solutions; morning and evening is often enough in most cases.

After the swelling of the face has gone down, a soft or hard rubber plug should be made, and the patient caused to wear it so as to prevent too rapid healing of the opening, which should not be allowed to close as long as there is any purulent secretion.

One should wait two, three, or even four weeks after suppuration has ceased before finally removing the rubber plug. The tamponade should not be used for more than a week, for it tends to excite excessive granulation.

It is often necessary to touch granulations within the antrum with nitrate of silver or trichloroacetic acid.

For cleansing the cavity, normal salt solution, or three per cent. boric acid solution, are good, or diluted peroxide of hydrogen may be used. Five per cent. protargol solution also diminishes pus production.

The best known operation for antrum disease is that of Cooper, which consists in making an opening through the alveolar process in the socket of the second bicuspid or first molar, which has already been extracted.

This operation is contra indicated in patients having a high arched palate, in those in whom the external wall of the nose curves outward instead of being approximately perpendicular, and especially is it contra indicated in those having a very large and deep canine fossa.

In the first two conditions the attempt to reach the antrum is apt to result in getting into the inferior meatus through the floor of the nose, and in the third condition into the mouth underneath the cheek.

This operation is done with a drill or burr, and the after treatment is the same as in Küster's operation.

The Mikulicz Krause operation has little to recommend it. It is done with a slightly

curved trocar and canula four to five centimeters in diameter through the same spot at which exploratory puncture is performed. The opening tends to grow up rapidly, and when the cavity is to be washed out a canula with a blunt obturator is used to enter the cavity, and after the obturator is withdrawn the syringe is attached.

The conservative treatment of frontal sinus suppuration consists in washing out the cavity with antiseptic and astringent solutions. Acute cases sometimes get well after being treated by simple painting of the anterior end of the middle turbinate and hiatus semilunaris with a solution of cocaine followed by a watery solution of extract of supra renal capsule. The shrinking of the tissues brought about by this treatment is frequently sufficient to allow free drainage and consequent spontaneous healing. When this simple procedure is not sufficient, washing out the sinus must be resorted to, and if the hiatus cannot be entered the anterior end of the middle turbinate must be removed.

The most convenient instrument for this removal is the snare, which may also be used for total extirpation of the middle turbinate when necessary.

When syringing does not effect a cure within a reasonable time, the only safe operation is opening through the frontal or fronto-orbital wall of the cavity. The operation of boring into the sinus intra nasally is a thoroughly unsafe procedure and should not be attempted.

The incision which leaves the least noticeable scar, and at the same time permits of perfect access to either frontal or orbital wall of the sinus, is that advised by Dr. J. H. Bryan; it is a modification of the Luc Ogston method. The incision is located in the eyebrow, or at its lower edge, and prolonged towards the root of the nose, and after healing is scarcely visible.

After the skin incision is completed, the periosteum should be carefully incised and elevated, and the facial, or fronto orbital wall trephined. Then the cavity should be cleansed and freed from granulations, and the opening into the nose through the infundibulum re-established.

The after treatment should be as in antrum cases, tamponade for 4 or 5 days, and syringing with antiseptic solutions.

It is especially important to see that the opening into the nose heals in such a way as to remain a permanent channel before allowing the external wound to heal. Tamponades may be removed through the nose.

Cases treated in this way frequently heal in from three to four weeks.

When we find disease of the ethmoid cells, we should make an attempt at cure by syringing. It is not always possible, in fact it is often extremely difficult, to introduce a canula into any of the natural openings into the ethmoid, and we are compelled to open the ethmoid and use the probe and curette. No force should be used in scraping the ethmoid, for fear of entering the orbit, which is separated from the domain of the rhinologist by an exceedingly thin plate of bone. When scraping towards the orbit, the spoon must be used very gently, so that we have little more than the sensation of touching the tissues. Various forceps for cutting out portions of the ethmoid have been devised. The best instruments, of which I have knowledge for operations on the ethmoid are the hooks, spoons, and double curette forceps of Dr. M. Hajek, Docent, in the University of Vienna.

The after treatment consists in cleansing the remains of the ethmoid cells and regulating the growth of granulation tissue so as to promote healing.

In those cases of empyema of the ethmoid, which have ruptured outward, or produced orbital abscess, the disease must be treated by opening from without, establishing a free communication with the nose, and packing and draining after removal of all diseased bone and granulation tissue.

It is scarcely necessary to say that in order to reach the posterior ethmoid cells the middle turbinate must be removed.

In treatment of disease of the sphenoidal cavity, conservative treatment should be given a faithful trial before any surgical procedure is attempted. Normal salt solution, or three per cent. boric acid solution, is the safest fluid to employ in washing out the cavity of the sphenoid. The injection should be made slowly and without pressure, for fear of forcing fluid into the cranial cavity through the fissures, which sometimes exist. If after a few weeks this simple treatment does not cause satisfactory progress, we may inject two or three drops of a two per cent. solution of nitrate of silver at intervals of four to six days.

Later, if necessary, we open the anterior wall with a hook, or hook knife, and take away the flaps thus formed with cutting forceps. The access to the cavity gained in this way enables us to use the curette, or make such applications as are needed to the diseased membrane directly. The cavity may be packed with gauze for a few days after opening. This packing should be applied lightly.

In the sphenoid the curette must be used with

exceeding care, and the roof and sloping lateral walls, especially, must be very gently handled, for fear of causing meningitis.

The after treatment is the same as for the other cavities.

We frequently find polyps complicating diseases of the accessory sinus, and it is an open question whether polyps cause some cases of empyema of the sinus, or are themselves the results of empyema. Some writers have gone so far as to say that all polyps are the result of sinus disease. Certainly this statement is at variance with my own experience, and with that of many of my professional friends.

In some cases of ethmoidal and sphenoidal suppuration we find ozæna, and some writers, notably Grunwald, state all cases of ozæna are due to disease of one or more of the nasal accessory sinuses. This statement is not satisfactorily proved as yet.

It will, perhaps, be well to dwell for a moment upon the danger of being misled as to the extent of disease by the finding of pus in one cavity. For example, finding pus in the antrum of Highmore does not prove that it is the only sinus involved, or that it is the real seat of the disease, for pus may be generated in the frontal sinus and flow down the hiatus semilunaris and into the antrum, which serves merely as a reservoir. Furthermore, we find frontal sinus and anterior ethmoidal suppuration associated, and posterior ethmoidal and sphenoidal cavities involved together.

The diagnosis and treatment of diseases of the nasal accessory sinuses require accurate anatomical knowledge, a hand trained to the careful use of the nasal probe, and last, but by no means least, a large fund of patience, for, in many cases, the diagnosis can be made only after much careful observation.

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Proceedings of Societies, etc.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON ORTHOPEDIC SURGERY.

(Meeting of November 16, 1900.)

Dr. A. B. Judson (1 Madison Ave.), Chairman.

Fracture of the Femur at Birth.

Dr. T. H. Myers presented a baby one month old under treatment for fracture of the femur just below the trochanter minor. The child was the second of twins, and presented by the breech. The forceps failing, a hook had been used and caused the fracture, with the very unusual displacement of the lower end of the upper fragment backwards in spite of the tendency of the psoas and iliacus to pull it forward. The next day the child was in great distress. There was extensive ecchymosis at the seat of the fracture, $\frac{3}{8}$ inch shortening, œdema of the limb and eversion of the foot, and, on any slight motion, the muscles attached to the anterior superior spine were thrown into a marked spasm, which drew the lower fragment forward. A plaster of Paris jacket was applied, in which was incorporated a steel bar, $\frac{3}{8}$ by $\frac{1}{2}$ inch, extending from the angle of the scapula to the toes, and bent at a right angle at the buttocks and the heel. Traction was made, and eversion overcome by adhesive plaster applied to the limb and fastened to the steel foot piece. The plaster of Paris enclosing the pelvis provided secure counter-traction. A light plaster of Paris bandage secured the limb to the splint, and held back the upper end of the lower fragment. A fenestrum permitted the dressing of the cord. The child fell asleep at once on this application, which made after attendance easy, and promoted the comfort and general health of the patient. No displacement. Shortening $\frac{1}{8}$ inch.

Dr. V. P. Gibney said that fixation had been secured in an admirable manner. He asked why the limb had been flexed.

Dr. Myers said that he had in that way sought to relax the psoas and iliacus muscles, in order to reduce the unusual displacement. He had also seen a directly lateral displacement in a case of fracture of the neck of the femur, probably caused by traction with the hook.

Dr. S. A. Twinch related the case of a child whose right femur had been broken at the junction of the middle and upper thirds in a difficult labor. The next day the limb was

cedematous and almost black. He had put the limb up in a plaster of Paris spica, with the thigh flexed nearly at a right angle and the leg somewhat flexed. Eighteen days later the dressing was removed, and the bone was found united in good position but with considerable callus. He recalled a recently reported case of the same kind, in which a good result followed retention in place for three weeks of a starch spica bandage. The patient had been examined when 20 years old, and it had been impossible to tell which leg had been broken.

Dr. G. R. Elliott said that the mechanical problem was how to secure apposition and fixation, a problem well solved by the use of a steel band and plaster of Paris, but capable of solution by easier methods, as by the use of adhesive plaster.

Dr. A. B. Judson said that fractures in infancy usually united with great readiness, and but little ultimate deformity.

Dr. H. L. Taylor said that when the femur was broken in so young a child, deformity was not an uncommon result, which he thought could not follow the method exhibited.

Dr. M. G. Campbell, of Atlanta, Ga., commended the skill and carefulness with which the baby had been treated, which were in marked contrast with the too-prevalent idea that nothing of importance could be done for one so young. Before pain had been relieved and muscular spasm overcome, rest had been impossible and feeding difficult, two things on which the welfare of a baby absolutely depended.

Dr. Myers said that a common method of placing the child in bed on its back and suspending the legs vertically made nursing difficult, and did not control the position and secure immobilization so well as had been done in his patient, who lived at home and was conveniently carried to the hospital for attendance.

Incipient Hip Disease.

Dr. A. B. Judson presented a girl 7 years of age with symptoms of disease of the left hip of twelve weeks' duration. There had been lameness and pain in the knee, the latter so severe that the child had to be lifted very carefully. Rheumatism was excluded. Night cries had followed unusual exercise in the daytime. Pain and lameness had been inconstant, recurring after intervals in which the child was apparently entirely well. General condition excellent. A diagnosis of hip disease had been made, in consultation with the family physi-

cian, on the above history, and the following signs, which were observed October 25, 1900: Fullness of the left groin and flattening of the left natis, the left gluteal fold more shallow than the right, left thigh and leg $\frac{1}{2}$ inch, and $\frac{1}{4}$ inch less in circumference than the right, and limitation of extreme motion in every direction with reflex muscular action. Limitation of motion was not found at the second examination, but reappeared at a later date. On presentation the child walked when the splint was off with no defect in her gait. When she was examined slight limitation of motion and reflex spasm were found by different observers on attempting extreme flexion, extension, abduction, rotation, and abduction with the thigh flexed at a right angle. An ischiatic crutch had been applied November 15, to be worn in the daytime with a high sole on the well foot, directly to relieve the limb from the labor of locomotion and affected bone from bearing the weight of the body, and ultimately to permit resolution of the inflammation by natural processes. Prognosis: absorption or incarceration of the focus in the cancellous tissue and recovery, after one year or two years, without deformity or any trace of disability.

Dr. Taylor and *Dr. Myers* recognized the presence of some of the signs of hip disease, and thought that a positive diagnosis required further observation.

Dr. Gibney said that after the reported and present examinations, he would give the patient the benefit of the doubt, and consider the case as an incipient one, and if changes occurred requiring more drastic measures he would seek very seriously to overcome the reflex spasm by immobilizing or putting the parts at rest. If the perineal crutch could be relied on to give the hip rest enough, so that resolution would take place, however small the focus or wherever located, the treatment was perfectly justifiable. He appreciated the importance of protection from weight and concussion, but thought that an apparatus which allowed pressure of the toe on the ground did not give enough protection to the joints, so far as reflex muscular spasm was concerned. He questioned whether it did not add to the reflex spasm to have the patient stepping on the toe and ball of the foot.

Dr. Judson said that the ischiatic crutch, as commonly worn, allowed the anterior part of the foot to reach the ground. The toe could be entirely removed from the ground by using a longer crutch and a higher sole, but this would lessen the ability of the patient to walk. He thought there was an important difference

between concussion transmitted from the heel through a straight bony column to the affected joint, and the same modified in transmission by the interposition and action of the ankle joint controlled by the muscles of the calf.

Dr. Gibney thought that protection of the joint was not so important as relief obtained by preventing reflex spasm.

Dr. Elliott questioned whether the form of apparatus worn by the patient was sufficient in a patient having a good deal of reflex spasm.

Dr. Taylor questioned whether in a case presenting well marked symptoms it would not be better to apply a splint with adhesive plaster to be worn day and night than to use an ischiatic crutch to be removed at night.

Dr. Judson said he had lost faith, if he ever had any, in the effect of apparatus designed to elongate contracted muscles or to arrest or prevent reflex action by a direct mechanical pull. Indirectly these important objects were gained by arresting the functions of the diseased joint, thus permitting abatement and resolution of the inflammatory action, which was the incitement of reflex muscular action. The latter ceased as soon as arrest of function brought about resolution. The two chief functions of the hip joint were motion and weight bearing, and that the latter, carrying with it concussion, was more important as a factor in pathology and treatment than the former. The ischiatic crutch did not so thoroughly remove the weight of the body as putting the patient to bed, but the other advantages were obvious. It practically put the limb to bed and let the patient run about and go to school. In the painful periods of hip disease the traction splint, combining the protection of the crutch with traction by adhesive plaster, was indispensable for the relief of pain by fixation.

Convalescent White Swelling of the Knee.

Dr. Judson presented a boy 7 years of age slowly convalescing under mechanical treatment for white swelling of the left knee. A year ago the patient's general condition was most unfavorable, and locally there was sinuses surrounding the knee; great swelling and the usual evidences of a disintegrating joint. His condition and the method of his treatment were described when he was presented to the section on October 20, 1899 (see *Virginia Medical Semi-Monthly*, January 26, 1900, pp. 626-627), and the opinion was expressed that it was a case in which operative surgery should be practiced in order to save life. Continued reliance, however, had been placed on the reparative natural processes assisted by mechani-

cal treatment. In spite of the most unfortunate and discouraging environment, improvement had been marked generally and locally. The tumor was very much reduced, and firm scars had taken the place of nearly all the sinuses. A year ago the child was emaciated and distressed, but, on examination, he was found to be well nourished and comfortable. Treatment would be continued by a fixative brace, worn day and night, and an ischiatic crutch, worn only in the day time. Prognosis was still in favor of a useful limb, of good length, with no flexion and no deformity, except a slight and unimportant degree of subluxation.

Dr. Elliott said that some of the swelling might be gotten rid of by systematic compression and drainage and removal of the tight band above the knee.

Dr. Judson said that the tumor of white swelling of the knee disappeared with the other signs and symptoms, which yielded in due time to natural repair and restoration, assisted by treatment. What appeared to be a tight band was that part of the fixative apparatus which made pressure from before backward near the joint in opposition to the counter pressure made by the ends of the brace from behind forward at the extreme upper part of the thigh and lower part of the leg. There was no constriction or interference with circulation or nutrition at any point, as no part of the brace was allowed to touch the posterior surface of the limb near the joint. The apparatus was a simple lever, and any other arrangement of it would destroy the leverage, which was relied on to arrest motion and reduce the flexion.

Dr. Taylor said that this result reminded him, by contrast, of the many patients he had seen with limbs disastrously shortened and deformed as the result of excision—an operation which interfered with the growing epiphyses, leading frequently to shortening of 6 to 8 inches. He recalled an instance of this operation in which the result was complete dislocation of the tibia backwards and a flail joint.

Dr. Gibney said that the best surgical practice omitted excision of the knee in children. He saw too many patients coming for the correction of deformity and almost hopeless disability, the results of excision. To save life amputation was required in certain cases, but never excision in a child. He advocated a country branch to a hospital, open the year around, where children could be on a farm and have simply nurses and a physician or

two to look out for them and do very few operations.

Dr. Judson said that the admirable plan thus outlined was too purely expectant. He would add thorough and painstaking mechanical treatment, which, no less than good food and wholesome surroundings, reinforced the processes of recovery in growing children.

Dr. Myers said that general surgeons should agree with orthopaedic practitioners in interdicting excision of the knee in children. He had kept a boy under strict observation for 6 years after his knee had recovered to prevent excision for deformity until he attained his growth. He returned from a vacation, however, to find that the patient had been sent to a general hospital, where excision had been done at once, with recurrence of extreme flexion with lateral deviation and the certainty of more shortening with further growth.

Cases of Funnel Chest.

Dr. Taylor reported the case of a girl 6 years of age, seen in September, 1900, with a remarkable congenital depression at the lower end of the sternum, an instance of typical funnel chest of moderate degree. There was no evidence of rickets, and the child's health was good. She was the fifth child in a family of seven. Her mother had the same deformity, but knew of no other cases in the family. This condition was usually attended with some displacement of the heart, but without impairment of circulation or respiration. Persons thus deformed had made fair athletes and soldiers.

Fatal Case of Abscess in Cervico-Dorsal Pott's Disease.

Dr. Gibney exhibited a specimen from a patient affected with Pott's disease with deformity. A girl 5 years of age had been treated as an out patient by a head support for two and a half years. The appearance of an abscess over the spinous processes of the last cervical and first and second dorsal vertebrae made it difficult to adjust the support properly, and the child became an in-patient. Aspiration gave only partial reduction of the tumor, and a sinus was established by an incision, after which the child was going about the ward with the head support comfortably readjusted. In the afternoon of November 8, 1900, cyanosis appeared, was relieved when the patient was put in bed, but recurred during the night, when death seemed imminent. On November 9, a tumor was found in the outer portion of the left cervical triangle, with deep fluctuation. Pressure did not increase the flow from the sinus, but added to dyspnoea. Traction

by the weight and pulley failed to give relief. Attempts at exploration of the pharynx increased cyanosis. Under ether (3 drams) an incision, 2 inches in length, along the sternocleidomastoid exposed the carotid and a needle procured cheesy pus. With the finger between the carotid and œsophagus, a second sac was ruptured, with the evacuation of 4 ounces of pus and some bone detritus. A drainage tube was inserted. Respiration became easier. Temperature 104.4 degrees in the afternoon. November 10 and 11, the patient slept fairly well at night, but with a good deal of coughing and had recurrences of difficult breathing, and cyanosis in the day time. The temperature fell to 100 degrees. After sleeping the early part of the night, the patient died suddenly on November 12 at 3:30 A. M. Autopsy in the afternoon showed the recent pleuritic adhesions, with normal lungs and abdominal viscera. The two abscesses did not communicate with each other directly. Cavities in the vertebral bodies communicated with the sac of the second abscess, which extended along the anterior and lateral aspects of the vertebrae and downwards behind the pleura and almost surrounded the œsophagus. The pleural cavity was not invaded. There had been no paralysis. The cord was found to be pretty good in consistency all the way up. He had seen no less than six children die unexpectedly in the night with abscesses arising in this location from carious vertebrae. Autopsies had not made clear the cause of death.

Dr. Myers referred to the case (related at the meeting of March 18, 1898,) of a boy 7 years of age affected with vertebral disease in this location, and an abscess discharging in the posterior triangle, whose temperature, on repeated trials, rose when the boy was up and fell when his lying down facilitated the drainage of the abscess.

CLINICAL SOCIETY OF MARYLAND.

Meeting of Friday, December 7, 1900; the President, Dr. W. J. Todd, in the chair; Dr. H. O. Reik (5 W. Preston street, Baltimore), Secretary.

Cases of Sporadic Cretinism.

Dr. H. Barton Jacobs exhibited the child which he brought before this Society nearly a year ago, to show the result of treatment. She was then a child six years old, born in this country, of Russian parentage. She did not begin to cut teeth until four years of age, had

never walked at all nor talked, and could not stand, though she could sit up. She had some difficulty in breathing; the skin was always very dry, and she took no interest in things about her. In a note made on April 2d, Dr. Fletcher states her condition to be about as follows: "The child is very small for her age, hair rather dry, but has not to any extent fallen out. The lips are slightly thickened and the tongue protrudes from the mouth. The subcutaneous tissue is fairly abundant, and over the arms are a number of folds with deep fissures between them. She has some degree of intelligence, but takes no interest in objects offered her. There is no definite lordosis. The anterior fontanelle is not yet closed, and is still of considerable size."

The patient was immediately put upon thyroid extract. The photographs presented show the remarkable changes that have taken place. The child, however, is the best picture of all to night. During the summer, she went to the Wilson Sanitarium for a time and then was taken home, and evidently the thyroid was stopped. We have not a definite record of how long she omitted to take it, but she came back on the 22d of September, and the note made at that time says: "Face rather stupid in expression, and she does not pay attention to what is said." She was immediately put on small doses of thyroid again, and on the 16th of October, three weeks later, the record states that she had improved very much. Since then, she has been constantly on the thyroid, and is constantly improving. The hair is soft and moist, the skin in good condition, she talks, walks, runs, and is altogether bright and active.

CASE 2.—Unfortunately, the history of this case has been mislaid. The patient was a boy eight years old, of Russian parentage, but also a Baltimorean. He did not stay under observation but a few days, as his parents took him away, and all track of him has been lost.

CASE 3.—The photograph of this case, taken at six months of age, shows that children at that age do not necessarily begin to show the cretinoid changes. But at nine months of age, this child commenced to show some dullness, and the facial expression gradually changed to that of the typical cretinoid aspect. The tongue became enlarged and hung out of the mouth. The child did not learn to talk, and could neither stand nor walk. While in the hospital, the child developed some nasal trouble and a purulent discharge appeared both from the nose and from the ears. Drs. Warfield and Reik saw the patient, and the

latter reported finding a double perforation of the tympanic membranes and a purulent otitis media. The alae nasi were broad, the lips thick, the tongue protruding; the hair harsh, skin dry, and the abdomen very prominent. Thyroid treatment was instituted, and within three weeks there was very decided improvement.

CASE 4.—This case was brought to the dispensary by Drs. Sherwood and Welch; and I am going to ask Mr. Kaufman, one of our students, to tell us something of its history, as he has kept the notes of the case.

Mr. Kaufman: This child is now 23 months old. The mother thinks the child did very well up to eight months of age, when it was found that she was not able to sit up very well. The family physician was consulted, but he advised that she would probably outgrow that condition. An eczema then developed on the face, the child was taken to the dispensary in South Baltimore, where Drs. Sherwood and Welch made the diagnosis of sporadic cretinism, and knowing that Dr. Osler was interested in such cases, brought it to the Hopkins. The anterior fontanelles were wide open, the nose flat, lips thickened, and the tongue protruding, with some tendency to drooping. The hair and skin were quite dry to the touch, the abdomen quite markedly enlarged, and the umbilicus prominent. The limbs were well formed, but stubby and stout. Dr. Osler thought he could also detect a depression on each side of the trachea, which might indicate the diminished size or even the absence of the thyroid gland.

The baby was started on a grain of the thyroid extract three times daily, and after two months' treatment began to show marked improvement. After a time, the dose was increased a quarter grain each week. Within four months she developed all her teeth, and she can now stand alone very well and is beginning to talk.

Dr. Jacobs: You see the lesson is clear. I have brought the subject up again for that reason, and the importance of learning it is to make the diagnosis early. Three of our cases had reached the age of from six to eight years without treatment in spite of all the talk that has been presented on the subject of sporadic cretinism and thyroid extract; and this would seem to show that we have not yet, as a body of physicians, learned to recognize the disease. Happily, this last infant, within a few months after the first symptoms were noticed, fell under the observation of Drs. Sherwood and Welch, who immediately recognized the condition, and the outlook for that baby is re-

markably good, for with the continuous use of thyroid extract, I see no reason why metabolism should not take place and the child develop promptly. In fact, dentition has already begun—only a few months after the proper period—and that shows how well nutrition is taking place. These cases cannot be too often brought to the notice of the profession, because we are not yet, as a profession, prepared to recognize the disease properly.

DISCUSSION.

Dr. I. E. Atkinson: I want to speak of a single case where I was able to put the child on treatment within six months of its birth, and where the effect of the thyroid was very remarkable. The trouble began with intense jaundice and evidences of malnutrition. The jaundice was very persistent, and as the child grew older it became flabby, the tongue protruded from its mouth, and it had all the appearances of cretinism. It has been on daily treatment with thyroid extract ever since, and has developed marvelously. It has now none of the appearances of a cretin, and though it is somewhat undeveloped intellectually, is able to go about, is growing finely, and is a triumphant example of the value of early treatment of cretinism by thyroid extract.

Microtia, Polyotia and Anophthalmus.

CASE 1.—*Dr. H. O. Reik* presented the case. This little patient has a very unusual combination of anatomical defects. The child is five months old, of Russian parentage, but born in Baltimore. It is the youngest of seven children, all of whom are in good health and of perfectly normal development. Neither of the patients, nor any of their relatives, so far as I have been able to learn, have any marked physical defects. The child itself is of full size, perfectly healthy, and shows no other defects than those pertaining to the eyes and ears. You will observe that the right eye is of normal appearance except for a small dermoid growth in the conjunctiva external to the cornea. The right auricle is of fairly good shape but rather large, and there is no external auditory canal; only a blind cul de sac, about 6 to 8 mm. in depth beyond the meatus. In front of the tragus is a supernumerary auricle, poorly developed and of about one-third the size of the normal auricle.

The left side of the face shows a much poorer development. The eyelids are closed almost completely, there being but a slight aperture at the internal canthus, through which we are unable to detect any evidence of

an eyeball. In view of the study of similar cases, however, which have come to autopsy, it is very likely that there is a rudimentary eye in this socket. In place of the left ear we have only a small, shriveled and distorted bit of cartilage that bears very little resemblance to the usual auricle. On this side there is no suggestion of a canal, not even a depression; and on the cheek is a small nipple-like process, probably another rudimentary auricle.

The important question to the parents, of course, is that of treatment. I have advised them that the extra auricles may be removed, but beyond that I am not inclined to think favorably of surgical intervention. The child evidently hears very well, for she is beginning to talk, but effort to establish external auditory canals would probably not be successful. In many of these cases, aside from the difficulty of securing and maintaining a canal, it has been found that the structures of the middle and internal ear are also defective. In this case, I am rather inclined to believe that the internal ear is normal, as is evidenced by the child's ability to hear so well. That might well be so, in as much as the internal and external ears are of different development. The auricle, external auditory canal, and middle ear all develop from the first branchial cleft, while the internal ear has a separate and distinct developmental centre of its own.

Congenital Aural Fistula.

CASE 2.—*Dr. Reik*, exhibiting another patient, said that there is nothing rare or unusual about this case except its family history. Just in front of the auricle, above the tragus, is the small opening of an aural fistula which occasionally, on pressure, can be made to discharge a drop or two of milky fluid, but which is for the most part dry. The mother and grandmother of this individual and her daughter have all shown the same peculiarity—a fistula in front of the right auricle; but none of the male members of the family have been so marked. To be able to trace such an anomaly through four generations is rather unusual. Such defects are supposed to be due to incomplete closure of the branchial cleft in the development of the auricle.

Results of a Mastoid Operation.

CASE 3—*Dr. Reik*, exhibiting still another patient, remarked: I wish to call attention to this case simply to show the beautiful results that may be obtained from the use of the blood clot method in mastoid operations. The case was one of acute mastoiditis following grip, and in which there was not very much de-

struction of the mastoid process. On opening into the antrum a small quantity of pus was found, and it was discovered that the necrosis was limited to the antrum and one or two small neighboring cells. Thoroughly cleansing the cavity by curettement, the space was allowed to fill with a blood clot and the external wound was closed tightly. In five days the dressings were removed, and on the seventh day the patient left the hospital. Nine months have elapsed since the operation, and at present the linear scar is almost invisible and there is only a very slight depression over the site of the antrum.

The good cosmetic effect is, of course, not the only advantage of this operation. For instance, the average time required for healing when such a wound as this is packed and allowed to granulate, is probably between two and three weeks; whereas this patient was able to leave the hospital perfectly well in seven days. I reported two other cases last winter with equally good results.

Epithelioma of the Larynx.

Dr. J. Frank Crouch (presenting the patient), remarked that a laryngoscopic examination of this patient showed a growth about 2 mm. square on the right chord. The left chord was thickened, hyperæmic and covered with small nodules, looking very much like the ordinary trachoma of the chord. The diagnosis of an original tumor of the chord was easily made, but its character was in doubt, as it lay between an ordinary benign papilloma, tuberculosis, gumma of the larynx and malignant growth. I decided to remove a piece of it for microscopic examination, although I knew that objections to that method had recently been made. The specimen was sent to *Dr. Potter*, and some sections were later submitted to *Dr. Barker*, both of whom pronounced it carcinomatous. In spite of this I instituted a vigorous anti syphilitic treatment, which was continued for three or four weeks; but, no improvement occurring, the advisability of an operation was placed before the patient. It was strongly urged, but positively declined. She left the city for a time, but has returned at intervals. Some time during the Summer she began to improve, took on considerable flesh, and her voice became better, although it is now somewhat hoarse. The growth has continued, however, and now occupies almost the entire right vocal chord. The left chord is congested and somewhat roughened, but the disease there has not advanced as rapidly as on the other side. She has no pain, and suffers only from the hoarseness.

There are several things about this case of unusual interest. She has had the growth now for nearly two years, and still there is no glandular involvement, so far as I can make out. Of course, that is not unusual, for as long as the growth remains limited to the larynx, there is not apt to be much involvement of the glands. The improvement in physical condition, too, is not unknown, for some cases have been reported in which there seems even to have been a recession of the growth; that has been particularly noticed in patients taking anti-syphilitic treatment. Such treatment was given in this case on account of the dictum of Morell McKenzie that all cases of malignant trouble of the larynx should certainly be subjected to such treatment before operation, because cases have been time and again reported in which a positive diagnosis of epithelioma has been proven false by vigorous anti-syphilitic treatment.

In regard to operative measures, I believe that endo laryngeal treatment is now out of vogue, and it is generally agreed that it may do harm. A partial laryngectomy has been in some cases followed by a return after some years. Total laryngectomy has been done frequently within recent years, but the results have not been very encouraging so far. In a list of cases compiled some years ago by Powers and White, it was shown that 25 per cent. died as the result of the operation, and of those that survived about 50 per cent. had recurrences within the first year, and only 10 per cent. survived beyond three or four years. It has now been suggested, and I think with excellent reason, that in all these cases of epitheliomatous, trouble in the larynx taken early, the operation had best be an entire removal of the larynx together with the glands of the neck, for so far as I have been able to learn about the cases done in this country within the last few years, nearly all have been followed by a recurrence in the site of the scar or in the glands of the neck.

DISCUSSION.

Dr. Lee Cohen: I would like to say a word or two in reference to Dr. Crouch's remarks about involvement of the glands. In one case that I saw in Berlin, when the total extirpation was done, only one or two glands could be felt at all, or found during the operation; but some time afterwards there appeared an infiltration of the cervical region and of the esophagus. I saw also one case of partial extirpation, in which, after three and a half years, there had been a recurrence of the trouble on the other

side, and that half of the larynx had to be removed. An artificial larynx had to be supplied, and with that, the patient, an old man, got on very nicely.

The Outlook this Winter for the Treatment of Pneumonia.

After reviewing carefully the nature of the disease and the various methods of treatment which have been suggested from time to time, and considering in detail the limitations of each method, Dr. Thomas R. Brown concluded as follows: What then is the prospect for the treatment of pneumonia this winter? Certainly a consideration of the best articles by the best men in this country and Germany, teaches us that in our present state of knowledge the best results can be obtained by careful diet, nursing and hygiene, and by the systematic use of hydratic measures during the course of the disease—the cold sponges and the cold packs seeming to be more practical than the full tub in most cases. There should be very little use of drugs of any sort except where the heart requires it; then some stimulants, of which the best seem to be alcohol and strychnine, may be used, or perhaps a dose or two of morphia may be given to allay pleuritic pain, if the ice bag does not furnish relief. To these must be added the use of saline infusions as a cardiac tonic and the use of various inhalations, with or without oxygen, to allay bronchial irritation, while great care should be expended on the disinfection of pneumonic sputum.

While there is nothing radical or striking in this, it at least calls attention to the four-fold tendency of the work in this line during the past year, viz., first, the growing tendency in favor of hydro therapeutic measures; second, against the systematic use of drugs of any kind; third, the greater attention to prophylactic measures; and fourth, the holding out of a greater semblance of hope that in the near future an effective method for directly controlling the toxemia may be obtained by the use of an antitoxic serum.

DISCUSSION.

Dr. Jacobs: I would like to ask Dr. Brown if he found from any source anything about the nature of the pneumococcus as to whether it is a toxin-secreting germ that might eventually, perhaps, have developed against an antitoxine. I have a dim recollection of having heard Dr. Welch say that the germ itself was unlike the tetanus bacillus and other germs in that it did not secrete toxine against which antitoxine would likely be developed.

Dr. I. E. Atkinson: This an extremely able

and attractive paper that Dr. Brown has presented, and it offers so many points for discussion that it will be difficult to give any one the attention I should like to in the brief time allotted for discussion. In the first place, the statistics in regard to the use of antitoxic serum, so far as I have observed them, are utterly valueless, in that the results are given without any statement concerning the ages of the patients. Now, if you give any of us 20 children with lobar pneumonia to treat, I dare say we will all have 100 per cent. of recoveries. With the reported cases of adults treated, however, we should want some information about the age and conditions of the patient, and especially as to his habits in relation to the use of alcohol. My experience with the serum is limited to three cases, all of which were bad ones, and treatment was not given in the early stage. The only appreciable effect noticed, and it was Pana's serum, was that there was a diminution of the temperature, but all three cases died; and, what was somewhat remarkable, was that in every case after a few doses of the serum there was complete failure on the part of the heart. Now, of course, the heart fails rapidly in pneumonia, and it would perhaps be unfair in these cases to attribute it to the antitoxine.

In regard to the use of oxygen, if one waits until the patient is about to die, it is practically useless; but if in the treatment of croupous pneumonia one begins with oxygen in the beginning, I am satisfied that excellent results may be obtained, and in the past few years it has been my constant habit to begin its use early.

One thing we have to remember is that we have no specific remedy for pneumonia; and another thing is, that there are no drugs that can be depended upon to do any specific thing, as Dr. Brown has said. I have no doubt that many of the drugs, especially the expectorants that seem to be so popular with physicians, upset the stomach, cause depression, and do much harm. I think it is a great mistake for us to try to antagonize the disease by drugs, for all of our remedies for this disease are given upon preconceived theories, and not as the result of any practical demonstration. It is a great mistake to fill these patients with drugs. The use of cold water is, I think, extremely good, although I have not used it often enough to justify my speaking with any degree of positiveness. No one should speak of his results, perhaps, without trying it in 30 or 40 cases, for his results might differ in different years and with different series of

cases. I know, however, that we secure great relief from the use of hydrotherapy, and this is especially noticeable in the relief given to children, who, after a cold bath, fall asleep and rest quietly for several hours, thus presenting a striking contrast to the tossing and crying that existed previous to the bath. Whilst it is difficult now to claim that the use of cold water is a curative agent in this disease, I think it is certainly an extremely valuable agent, and we can only hope now for an antitoxic serum, and make the course of the disease as easy as possible by doing such things as will facilitate affairs and not antagonize the disease.

Dr. Wm. Osler: I can add nothing to this very able and satisfactory presentation of the subject. It is not one that, at this season of the year, I like to speak of, although perhaps this is the season at which I am most optimistic. From the first of December every year I am greeted the appearance on the blackboard in the Johns Hopkins Hospital of a sad spectacle. I have put on this board, from the day the first case of pneumonia comes in, a line showing its progress, and a red line under that indicates how they go out, and my pessimism grows deeper and deeper as April approaches. I may forget about it before the beginning of the next October, and even begin to feel a little more hopeful; so that my pessimism is now at its lowest point, but optimism is hardly the proper word to be used, even at this stage.

We have gotten rid of the high mortality rate in diphtheria, in typhoid, in scarlet fever, and measles; in fact, all of the eruptive fevers together, combined with their complications, do not kill as many people annually as pneumonia alone. There are fewer mistakes in the mortality records of pneumonia than in any other disease; it kills promptly and quickly. What we are to do against it is the question. I am convinced of one thing, and I have put it in operation this year—that in the rigid, thorough and systematic hydratic treatment we have the best grounds for hope of a slight reduction in the mortality of this disease. I have given orders this year that all pneumonia cases shall be treated by hydrotherapeutic measures; not those we have been using for ten years' past. I have used those measures heretofore that gave the very best mortality record according to the statistics collected by Dr. May; but my pneumonia statistics are equally as remarkable as his. All of the cases have been treated very faithfully with ice bags, and my mortality statistics are almost the same to the very

figures, viz: 25 per cent. of the cases died. Now, there are plenty of people who have a lower mortality rate than that in private practice. Some may have not more than 7 to 10 per cent., but the hospital cases usually show a higher rate.

I rather hesitate to tub all cases, whereas I think we can give effective sponging to practically all. The cold sponge should be thoroughly given, and it is not very far behind the full cold tub in its general unpleasantness and good effects.

Another measure which I think is really helpful, and which very often helps to support and tide over a weak heart, is the use of saline infusions. I think we have, in a number of instances, seen lives saved by this means.

As to oxygen, I am just a little bit doubtful, and when I am called in consultation and find the oxygen cylinder in the room, my barometer goes away down and I am ready to throw up the sponge.

I have a strong conviction that we have not studied pneumonia sufficiently in the past; during the last four or five years we have been working over these cases at the Hopkins very hard, and we are getting a very satisfactory lot of statistics in regard to the differences in cases of this disease. It is a disease that the individual physician must study, and he should study carefully each individual case; for in no disease is he repaid to a greater extent for the careful painstaking study devoted to it. What we need most to-day is the careful study of a large number of cases seen in private practice, where better opportunities exist for seeing and observing them.

Dr. Brown: I should just like to say in regard to the point raised by Dr. Jacobs that I have not seen any definite statements concerning the isolation of a pneumo-toxine.

As Dr. Atkinson said, the published reports of the failures and successes of the different serums have lost a great deal of their value because they were rather indefinite. I simply mentioned these reports because they were the only ones that I could collect on this subject. The four cases reported in the *Maryland Medical Journal* in the March number, I think, were certainly treated simultaneously with the appearance of the crisis for the serum did not have an effect on the pulse rate and temperature; but, of course, four cases are practically nothing, and the result may have been simply chance, although these four cases were all severe ones occurring in adults.

Society adjourned.

Book Notices.

Pathology and Morbid Anatomy. By T. HENRY GREEN, M. D., F. R. C. P., Physician and Special Lecturer on Clinical Medicine at Charing Cross Hospital, etc. *Revised and Enlarged* by H. MONTAGUE MURRAY, M. D., F. R. C. P., Physician to Out-Patients and Lecturer on Pathology and Morbid Anatomy at Charing Cross Hospital, etc. *Ninth American, Revised from Ninth English Edition*, by WALTER MARTIN, M. D., Assistant Demonstrator of Anatomy, College of Physicians and Surgeons, Columbia University, etc. *With 4 Colored Plates and 359 Illustrations.* Lea Brothers & Co. Philadelphia and New York. 1900. Cloth. 8vo. Pp. 585. \$2.50 net.

Green's Pathology and Morbid Anatomy has maintained the position, both in England and America, of being the standard text-book and authority on the subjects of which it treats; and this *ninth edition*—so thoroughly revised and edited by both the English and American editors—cannot fail to hold the rank its excellencies have won for it. The American edition, indeed, is a better book than the English; for it contains all of the latest English edition, and, besides, it has complete chapters on *Malaria and on the Blood*, and has a constantly useful chapter on “the preparation and staining of tissues for microscopic study.” The profusion of illustrations is a great help to the beginner as well as to the practitioner—whose studies years ago did not lead him into the minutiae that are now expected to be understood by the medical college graduates as soon as he receives the fourth year class. The additions and revisions in this ninth edition are so numerous, and perfect, and up to date, that former editions do not possess the merit once ascribed to the earlier editions.

Practical Treatise on Genito-Urinary and Venereal Diseases and Syphilis By ROBERT W. TAYLOR, A. M., M. D., Clinical Professor of Venereal Diseases at College of Physicians and Surgeons (Columbia University), New York, etc. *Second Edition. Thoroughly Revised. With 138 Illustrations and 27 Plates in Colors in Monotone.* Lea Brothers & Co. New York and Philadelphia. 1900. 8vo. Pp. 722. Cloth. \$6 net.

This is, in our opinion, the best, all-around, up to date, practical text-book on venereal diseases. Very little that one is apt to meet with in venereal practice is omitted. The chapter on the treatment of gonorrhœa is excellent. In the list of local applications to persistently ulcerating and chronic chancroids, xeriform should have

been given a very prominent place, although we find no mention of this drug. Descriptions of conditions are all good; and where pictures can help, they are freely used—either as cuts, photo-engravings, colored plates, etc. But the book is by no means limited to the consideration of venereal diseases and syphilis. The part given to *genito-urinary* diseases that are not venereal is all good as a text book for the college student, as also as the guide-book for the general practitioner, who invariably has to deal with venereal and genito-urinary troubles. The book is neatly issued by the justly popular publishers.

The Care of the Consumptive. By CHAS. FOX GARDNER, M. D., Non-Resident Fellow of New York Academy of Medicine, etc. G. P. Putnam's Sons, New York and London. 1900. Cloth. 12mo. Pp. 182.

We find that this is "a consideration of the scientific use of natural therapeutic agencies in the prevention and cure of consumption; together with a chapter on Colorado as a resort for invalids." The author gives, in a clear and practical way, the rules that should govern the consumptive "in the use of fresh air, sunlight, food, rest and exercise"—as these are the most efficient in action and durable in the effect of any curative methods applied for tubercular disease of the lungs. He in no way attempts to supplant medical advice. In fact, "the consumptive who is without the careful and constant supervision of a physician is like a ship adrift on the wide ocean without captain, sails or rudder." We are greatly pleased with the book, which should be in the hands of every nurse for tuberculous patients. Even the intelligent patient can gain great help by adopting the teachings laid down.

Modern Medicine. By JULIUS L. SALINGER, M. D., Demonstrator of Clinical Medicine, Jefferson Medical College, Philadelphia, etc., and FREDERICK J. KALTEYER, M. D., Assistant Demonstrator of Clinical Medicine, Jefferson Medical College; Hæmatologist to Jefferson Medical College Hospital, etc. *Illustrated.* Philadelphia and London. W. B. Saunders & Co. 1900. Cloth. 8vo. Pp. 801. \$4 net.

This book strikes out on a new line, and has an excellent plan. It is an effort on the part of the authors to combine in one volume, as far as possible, the essentials of such specialties as physical diagnosis, bacteriology, examinations of the gastric contents, the urine, the blood, the feces, etc., as applied to clinical medicine. Symptomatology and semeiology, physical diagnosis, clinical bacteriology, and

laboratory methods in general, occupy about 170 pages. A careful examination and understanding of these matters are the great helps in diagnosis. Then are taken up in regular order the infectious diseases, 150 pages, diseases of the circulation, of the respiratory organs, of the digestive tract, of the kidneys, constitutional diseases, diseases of the blood and of the ductless glands, of the nervous system, and of the muscles; intoxications and sunstroke; and finally, diseases due to animal parasites. A very full *Index* concludes the book. It is wonderful how much the authors have included in their work. This is a valuable work for the practitioner—not because it is exhaustive of any of the subjects treated, but because it brings to his immediate assistance such essentials as are useful at the bedside. It will prove a great help to the student as well—especially to house physicians in hospitals, to dispensary doctors, and to family physicians.

Practice of Medicine. By JAMES TYSON, M. D., Professor of Medicine in the University of Pennsylvania; Physician to the Philadelphia Hospital, etc. *Second Edition. Thoroughly Revised, and, in Parts, Rewritten. With 127 Illustrations, Including Colored Plates.* Philadelphia: P. Blakiston's Son & Co. 1900. Large 8vo. Pp. 1222. Cloth. \$5.50.

This is in fact "a text book for practitioners and students, with special reference to diagnosis and treatment," that has become deservedly popular with the profession, and assumes high rank among the standard authorities. While revisions of the first edition, issued in 1896, are noticeable throughout, most of the changes will be found in the chapters on infectious diseases, and those on nervous diseases. While the author is thoroughly progressive in all things that are proven, he is properly conservative in holding fast to what is good in practice. The so called "Woodbridge treatment of typhoid fever" does not find support in the results of trials of it, even under Dr. Woodbridge's own direction. The mortality under that treatment appears to have been 10.5 per cent., whereas there was a death rate of only 9. per cent among the cases treated by other methods. Thistle, of Toronto, modifies the "Woodbridge treatment" with better results—getting a mortality of only 5. per cent. The facts referred to in this notice are recorded on pages 51 and 52 of the book under notice. No book on the "Practice of Medicine" is a better text-book for students nor a better guide book for practitioners. The work is well issued in clear type, and the illustrations throughout are well selected and well executed.

Eye, Ear, Nose and Throat—Manual for Students and Practitioners. By WM. LINCOLN BALLENGER, M. D., Assistant Professor of Otolology, Rhinology and Laryngology, College of Medicine of University of Illinois, etc., and A. G. WIPPERN, M. D., Professor of Ophthalmology and Otology, Chicago Eye, Ear, Nose and Throat College, etc. Series edited by BERN B. GALLAUDET, M. D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York, etc. *Illustrated with 150 Engravings and 6 Colored Plates.* Lea Brothers & Co. Philadelphia and New York 1900. Red Cloth. Large 12mo. Pp. 511.

This is one of the sixteen volumes composing *Lea's Series of Pocket Text Books*, which Series is nearly finished. These sixteen volumes, it is intended, shall present a complete epitome of the subjects necessary in the study of medicine, surgery, etc. To bring out originality of discovery, or lengthened discussions of disputed matters, are not the purposes of the *Series*. But in a clear, succinct and reliable manner, these books bring out the essentials of the different branches of medicine. So that they are good for either the beginner or the practitioner. The volume under notice is an excellent sample of the whole series. Here, within the compass of about 500 pages, we find a full and reliable *exposé* of four distinct specialties. Illustrations are appropos, and well drawn—a study of which materially help the text. Examination of this book will prove its value to the profession.

Editorial.

Ophthalmological and Otolological Section—Richmond Academy of Medicine and Surgery.

There was a meeting of the most prominent eye, ear and throat specialists of Richmond on December 31, 1900, at the offices of Dr. Jos. A. White, which resulted in the formation of the above mentioned organization.

It was decided to have meetings once a month except July, August and September. The early part of each session is to be devoted to business matters, reading and discussion of papers, etc. The latter part of the evening is to be given up to social entertainment. Each place of meeting for the time being will be determined by invitation of its members, and the host of each occasion will be chairman. Dr. W. F. Mercer was elected Secretary.

As the membership includes some of the best in the land along their especial line of work, we expect this Association to be nothing less than a great success.

The Tri State Medical Association of the Carolinas and Virginia.

This Association will meet at the Jefferson Hotel, Richmond, Va., February 26, 1901. We desire to call the attention of the profession in the States of North and South Carolina and Virginia to the importance of this Association in promoting fraternal relations between the members of the profession, and the great value to them of the proceedings, and their helpfulness in the practical every day work of the individual doctor. Nor is there any conflict between this Association and the State societies, as seems to be the impression with some. Membership in the State societies is a prerequisite to membership in this Association, and the tendency, therefore, is to strengthen these societies rather than to, in any way, antagonize them. We hope, therefore, that members of the profession in these three States will take an earnest interest in the Tri State Association, and especially that the members of the profession in Richmond, as well as the State at large, will join the Association, and see to it that we outdo the warmth and cordiality of the receptions given the Association in North and South Carolina. Show your interest by attending the meeting and contributing a paper on some practical clinical subject—sending the title to the Secretary, Dr. J. N. Upshur, 210 W. Grace Street, Richmond, Va., at as early a date as possible, so that the program for the meeting may be made up.

Interesting Instruction in Advertisements.

A series of the Abbott Alkaloidal Company's illustrated advertisements commences in this and some twenty five other leading medical journals, showing "Medical Methods—Old and New." When completed, this series will comprise a pictorial history of medicine from the first records in ancient Egypt to the latest developments in modern therapeutics. It promises to be about the most interesting, enterprising, and expensive advertising which has ever appeared in the medical press. Chapter I of this series appears in the advertising pages of this journal, and it is well worth while looking it up.

The Antikamnia Calendar for 1901,

Recently received, is the last of the four "Skeleton Sketches" of the "Original Crusius Water Colors," and mark the termination of this series of the Antikamnia Calendar. For the next year, the Antikamnia Chemical Co. has in view a new and artistic idea with which to greet their medical friends.

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Original Communications.

SPECTACLES—THEIR USE AND ABUSE.*

By JOSEPH A. WHITE, 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 American Laryngological, Rhinological and Otological Society, Tri-State Medical Association, Medical Society of West Virginia, etc., etc.

You will pardon me for bringing before you such an apparently insignificant subject for discussion as spectacles, but I am satisfied that a few remarks on the use and abuse of articles of such general utility cannot be entirely out of place.

They are sold in every optical and jewelry shop in the land, and in many dry goods, notion and drug establishments. They are traded in as articles of commerce, instead of being handled as scientific aids to correct defects or failings of an important sense. The proper adaptation of glasses is frequently one of the most difficult problems that confronts the trained and experienced ophthalmic surgeon. The amount of damage done to vision by the vicious and indiscriminate use of glasses without a proper scientific examination of the eyes can hardly be estimated. Even the best equipped opticians fail so often in prescribing the proper lenses that most of them recognize the fact that the adaptation of glasses is something more than the mere adjustment of a mechanical appliance to a defective optical apparatus. If every pair of eyes were healthy, if the accommodation in all was the same, if the muscles that move them were properly adjusted, so that there could be no lack of muscle balance, then skilled opticians could prescribe glasses as well as the ophthalmic surgeon. But when we remember that we have to consider not only the refractive error in an optical instrument, but also the defects of the muscles that move it

* Prepared for the Medical Society of Virginia during its Thirtieth Annual Session, held at Charlottesville, Va., October 23-25, 1900.

about, the amount of accommodative power that each eye possesses, the pathological alterations in its refractive media and coats, as well as the special constitutional troubles and peculiarities of the individual, you can easily see that a complex problem is presented that can be satisfactorily solved only by those trained to a proper understanding of all these various elements.

Such cases are more especially among young people who have refractive troubles with their attendant complications during the periods of life when the accommodation has to be carefully considered in adjusting glasses. After the accommodation has failed, and the time has arrived when all perfectly healthy and normal eyes have to submit to the inexorable decree of nature, and wear convex glasses for close work of any kind, the skilled optician can give suitable spectacles as well as any ophthalmic surgeon. It is then merely the adjustment of a mechanical aid to a failing optical apparatus. Even then it is the part of wisdom to consult the ophthalmic surgeon instead of the optician, and most persons who do so find that the small additional expense is a good investment. It is a rare thing in these days for any one to consult a druggist even for the slightest ailment—formerly, it was a common practice—now nearly every one goes to a physician, gets his advice, and takes the prescription to the druggist. The optician stands in the same relation to the ophthalmic surgeon that the druggist does to the physician. Why not adopt the same rule in regard to glasses that is followed in regard to medicine? Are eyes of less importance than other organs, that we should expose them to the dangers resulting from improperly adjusted spectacles, any more than we would tamper with our general health by taking medicine prescribed by incompetent persons?

Spectacles do good or harm, during the active stage of the accommodation, according as they are right or wrong, and it is during this period of life that even the skilled optician sig-

nally fails in their proper adjustment. In other words, the optician is nearly always wrong in the glasses he gives people under forty years of age, although, as above stated, he may be and frequently is absolutely correct in persons over that age, provided they have healthy and normal eyes. Now, if the optician is liable to such errors, what can you expect of the mass of jewellers and peripatetic spectacle vendors who sell to any one who will buy, man, woman or child? Fully nine-tenths of these people get the wrong glass, and take great risks accordingly.

The majority of people buy spectacles in this way from a spirit of economy, a poor and some times a very expensive economy, entailing, as it often does, discomfort and annoyance, frequently temporarily damaged eyes, and occasionally serious and permanent eye disease. The honest and honorable optician, as a rule, will not prescribe spectacles except in simple cases and where he can get normal vision with the correcting glass, but this is not true of all dealers in spectacles.

Even with a strict adherence to this rule, grievous errors are made in giving glasses to the nearsighted—in putting concave glasses on persons with spasm of the accommodation; and in correcting refractive errors when the two eyes show a decided difference. It is in such cases, as well as in those with latent far sight and astigmatism, that the relation of the accommodation and the convergence, and the actual availability of the accommodation in each individual has to be carefully considered in prescribing spectacles, a consideration entirely outside of the domain of the optician, and utterly removed from the ken of other spectacle dealers.

But errors in adjusting glasses are not confined to the spectacle dealers or the optician. The trained ophthalmic surgeon, with all his advantages, goes astray as well. This is due to several reasons. In some, it is lack of experience in dealing with the rarer and more difficult cases—in others, it is due to carelessness, begotten of over-confidence in their means of examination whether the ophthalmoscope, retinoscope, refractometer, ophthalmometer, or what not, and failing to verify such examination by patient work with the trial case after using a mydriatic—and lastly, because of failure to carefully consider each individual's accommodative power when correcting latent refractive errors revealed by the mydriatic. But whilst the most competent ophthalmologist is liable to a mistake at times, he will not make a misfit in glasses once where an optician

would make it dozens of times, and the ordinary dealer in spectacles hundreds of times, because, as a physician and surgeon, he is able to avoid the sources of error that lead the others astray.

People seek spectacles for different reasons, and might therefore be divided into classes, as follows:

1st. Those that do not see well at a distance, due either to nearsight, farsight, astigmatism, or to defective perception.

2nd. Those that either see well at a distance, or think they do, but want glasses for reading, or for working at any fine work, because of advancing age, or farsight, or astigmatism.

3rd. Those that see fairly well, both for distant and near vision, but who cannot keep up close work without discomfort and pain.

4th. Those who do not see well either for distance or near work, due to high grade farsight, mixed astigmatism, defects in the refractive media, etc., etc.

Now, those who do not see well at a distance are, one and all, supposed by the public to be *nearsighted*, as it is called, and when they call upon a dealer in spectacles, either choose their own glasses or such as the dealer finds gives them serviceable distant vision, whether the glass is concave or convex, whether spherical or cylindrical.

Many of these cases, however, get glasses calculated to do harm and not good. In the first class, those who are really nearsighted (*myopia*) frequently get lenses which are more or less too strong, and which are calculated to increase their optical defect; and even when they have apparently the right glass, as far as vision goes, it may be that, on account of the condition of the bottom of the eye from disease which so often accompanies nearsight, the full correcting glass should not be worn.

So also, those who are only *apparently* nearsighted, due to contraction or spasm of the accommodative muscle, are liable to have the apparent nearsight made a permanent defect, by the adjustment of concave glasses when they ought to be wearing convex lenses, in order to force a relaxation of the spasm.

Nothing requires more experience and judgment than the fitting of glasses to nearsighted persons, especially in the young, as nearsighted eyes are nearly always more or less diseased, and this diseased condition must be carefully considered in prescribing lenses. Some can wear the full correction of their optical defect, but many cannot do so without peril to the eyes and danger of increasing the trouble. None should ever have a glass stronger than the one

which just neutralizes the optical error, and yet it is easy to give a glass too strong, if the only reliance in choosing it is the patient's statements, as would be the case with dealers in spectacles.

Cases of spasm of accommodation or apparent nearsight cannot be distinguished from those with real nearsight by opticians and spectacle dealers, because of their inability to use the ophthalmoscope, on the one hand, and their prohibition to use mydriatics (which would be practicing medicine) on the other, and hence they must of necessity get the wrong glass.

In the second class, the optician runs less risk of giving improper glasses, especially among those whose trouble is advancing age, but only those with farsight and astigmatism that is clearly manifested and easily corrected, stand a chance of receiving the proper glasses, the correctness of which depends mainly on their own answers. When most of the trouble is latent, or the individual lacks quick intelligence, the optician signally fails in fitting appropriate spectacles.

In the third class, very few get the correct glass from an optician, and never from the usual spectacle dealer.

As for the fourth class—I have never seen one with the proper lens, unless it was adjusted by an experienced ophthalmic surgeon.

Notwithstanding these facts, we see advertisements from jewelers and so called opticians, offering their services to the public in adjusting spectacles, and sometimes with the statement, a most flattering unctio to their souls, that if they can't do it correctly and satisfactorily, it can't be done at all—another instance of "where ignorance is bliss 'tis folly to be wise." As the law does not allow them to charge for the examination, they also advertise "examination free," and the dupes who fall into the net pay for both examination and spectacles in an increased charge for the glasses. These remarks, however, do not apply to the better class of skilled opticians.

I am frequently asked why it is that spectacles are worn so much more now than they were some years ago, and many persons think that the eyes of this generation are not as good as those of former generations. There are probably two good reasons for the greater demand for spectacles in these days. One is, that scientific investigation has thrown such light upon refractive troubles that we are enabled now to correct defects of eyes that some years back went uncorrected, because of our ignorance regarding them; the other, that the

present day school and college curriculum, and the incessant clerical work of many of the various vocations of cultured life, puts a greater tax on eyes, which either produces a diseased condition, resulting in nearsightedness, or painful vision, due to refractive errors, which under former conditions would have given no trouble. In other words, as higher education becomes more general, more and more people need spectacles for the correction of refractive errors to enable them to prosecute their studies. It is not so long ago when many a young man had to give up his ambition to obtain a college degree or study a profession, because his eyes were unequal to the task, and was advised to go to farming, or some similar occupation, because it was not known how to give him the artificial aid to enable him to continue his studies.

There are, it is true, large numbers of persons in the world to-day with refractive errors, who do not need glasses, because either their occupation puts no extra demand upon their eyes, or because good health and a strong elastic accommodation enables them to overcome the defect without suffering any inconvenience from the effort. Nature, therefore, compensates for optical defects in many persons, but all are not so fortunate, and need glasses if the defect brings about any unpleasant or distressing symptoms, and, strange to say, decided refractive errors often give no trouble, whilst the slightest defect sometimes disbars a person from use of the eyes, especially low grades of astigmatism, which escape notice, because both near and distant vision are perfect.

It frequently happens that people require spectacles temporarily, when the accommodation fails to meet nature's demand upon it for correction of an optical error, just as a temporarily enfeebled leg may require the aid of a crutch. This may be due to unusual tax on the eyes, or to lowered vitality from sickness. When the cause is corrected, and the accommodation is restored to its usual availability, the spectacles may be dispensed with. The accommodative power differs in different persons, just as physical endurance or intellectual ability. Individual appearance is no criterion of its power, as in a big, robust man it may be weak, and in a delicate looking woman, strong and elastic.

The strength of the accommodation must, therefore, always be taken into consideration in adjusting spectacles, as I have before mentioned.

The methods of determining refractive errors

vary. The commonest and oldest way is by using an optometer, a ruler with a lens of a fixed focus at one end, and a sliding holder for a card of fine type, by means of which the lens is calculated + or - as the card is read inside or beyond the focus of the lens, a method open to many objections and very inaccurate. Then come the trial case of lenses and test cards, which will give fairly accurate results when dealing with intelligent people, provided there is no disease of the eye, no spasm of the accommodation, and no latent trouble.

These are the methods used by opticians and jewelers, to which may be added the ophthalmometer and the refractometer for the few who have learned to use them. Both, however, are open to objections. The former gives only the *corneal* astigmatism, approximating both the amount and the axis, and whilst the latter is supposed to do more, inasmuch as it claims also to give the amount of the near or far sight, it is absolutely valueless except with persons of intelligence, and hence very little superior to the test case, which also depends on the patient's replies for accuracy. Whilst the ophthalmic surgeon makes use of all these appliances, his main reliance is the ophthalmometer and the ophthalmoscope or retinoscope (the shadow test), which the optician *never* uses, the results of which must be confirmed by the trial case.

Moreover, no examination for refractive trouble is complete in persons under forty-five years of age without the use of a mydriatic, and this also is entirely confined to the ophthalmic surgeon.

Having determined the refractive condition, we are often confronted by the problem of deciding how much of the error to correct, for many persons cannot wear the glass that entirely corrects the defect. This has to be decided by the nature and amount of the trouble, the presence or absence of disease, the condition of the accommodation, and sometimes by the kind of work the individual is engaged in. You can see, therefore, that very few should use spectacles any more than they should take medicine without proper advice, and that in doing so they take chances of damaging an important sense.

Many persons approaching middle life think they should put off wearing glasses as long as possible, under the impression that the longer they do so, the better it is for their eyes. This is a fallacy, as it is evident glasses should be worn as soon as needed, in order to sustain and preserve the accommodative power, and

glasses are needed just as soon as reading fine print becomes irksome at night. By doing without them at this time the accommodation is overtaxed, and breaks down more rapidly, necessitating ultimately wearing glasses of higher power than is ordinarily required at the same age in others. At the same time care should be exercised that in getting the first glasses they should not be too strong, as too much help to the accommodation will bring about greater relaxation and an earlier resort to stronger lenses.

Again, it is not at all uncommon for parents who take their children to the ophthalmic surgeon, because their vision is defective, or they suffer from some eye trouble, to request that everything should be done except to put glasses on them, because glasses are so unbecoming, or because if they once begin to wear them they might have to do so all their lives.

Now, many of the eye troubles of children, such as inflammation of the eyelids, congestion about the eyeballs, discomfort in studying lessons, etc., are due to uncorrected optical errors, and therefore the preface of the parents that glasses are to be avoided is a foolish request, if the children are to be benefitted, although it is sometimes a difficult task to convince them of this fact. The objection that glasses once put on must be worn always only holds good in cases that have such an amount of refractive trouble as to cause bad vision, and even then it is a question of good vision with glasses, or poor vision without, which is merely a matter of personal taste. The cases with good vision, but with inflammatory troubles of the eye, or discomfort in eye work, may or not require glasses all the time. Some will need them constantly until the annoying symptoms disappear, and until their physical condition is such that the accommodation can overcome the defect without discomfort to them; others will need them only when at work, and not in the interim. In fact, each case is a law unto itself, and is to be decided on its merits, often after most careful study and repeated examinations.

It is easy to understand, therefore, why refractive troubles belong as much to the domain of the physician and surgeon, as deformities of the limbs and spine.

200 E. Franklin Street.

TUBERCULOSIS OF THE PERITONEUM.*

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There is no more extraordinary fact in surgery, than that a simple laparotomy will effect a permanent cure in a large proportion of cases of tuberculous peritonitis. The literature on this subject is comparatively recent; the earliest English monograph was by Van de Warker, of Syracuse, in 1887.

In 1890, König gave an analyzed tabulation of 131 cases. About the same time, Osler gave the subject special attention, and to him seems to be due the credit of making the first histological study of the process of healing after abdominal incision. He found fibrous tissue holding in its meshes a few giant cells and tubercle bacilli.

In November, 1890, Parker Syms, of New York, read a paper before the N. Y. Surgical Society on "The Influence of Laparotomy upon Tuberculosis of the Peritoneum."

In 1898, Parker Syms (*Med. Rec.*, April 2, 1898), and B. B. Davis, of Omaha (*Jour. Am. Med. Ass.*, 1898, xxxi.), wrote excellent articles on this subject, and to them the writer is largely indebted for the information contained in this paper.

The literature prior to this time consisted of reports of cases in which laparotomy had been performed, because of errors in diagnosis, or as a means of making diagnosis, and in which cure had resulted by accident. Now, the literature is full of reports of cases in which the operation has been made as a recognized method of treatment. There are many theories as to why an abdominal section should cure such an extensive and fatal disease.

1. It is claimed to be due to chemical disinfectants.

2. To drainage.

3. Exposure of the abdominal cavity to air and sunlight.

4. To the altered blood circulation, due to the removal of ascitic fluid.

5. By the introduction of bacteria, a toxalbumen is produced, which is fatal to the tubercle bacilli.

6. A traumatism is produced by the opening of the abdomen, and handling of the organs, which establishes a fibrinous peritonitis, result-

ing in encapsulation of the tubercle bacilli and their arrest.

7. Cure is due to the advent of leucocytes, and is the result of phagocytosis.

8. That a physiological change in the peritoneum is produced by a mere opening into the abdominal cavity, which makes it cease to be a proper soil for the culture of the tubercle bacilli.

No one of these theories has been positively demonstrated to be true, and some of them can be summarily disposed of.

Cure does not depend upon the use of anti-septics, as in a long series of cases in which no such agents were employed, there was a much higher percentage of cures than in a series of cases in which they were used.

It is not due to drainage, as patients do better without it than with it. It is not due to sunlight and air. We would hardly hope to cure a tuberculous joint by these agents, then why should we expect it in the peritoneum. It is not brought about by the relief of pressure on withdrawal of ascitic fluid, and consequent improvement of the blood circulation, as is shown in cases where fluid has been withdrawn without benefitting the patient, and in which subsequent incision has resulted in cure.

We must remember that we really have no analogy to this phenomenon in other parts of the body, and it is, therefore, difficult to either prove or disprove the other theories.

Lawson Tait thought that opening the abdomen produced a change in the physiological character of the peritoneum, which rendered it able to overcome and destroy the tubercle bacilli.

Pichini made a microscopic study of the peritoneal tissue from a cured case, and concluded that after operation the tubercle underwent a connective tissue transformation.

Riva also found a growth of connective tissue, but observed that the process of transformation, instead of advancing from the periphery toward the center, had its beginning in the centre of the tubercle.

Kischewsky was the first to experiment with the lower animals, and concluded that disappearance of the tubercle was due to leucocytic infiltration, followed by an active development of connective tissue.

Up to this time (1894), observers agreed in the belief that healing of the peritoneal tubercle was due to a fibrous transformation of the cellular elements to sclerosis.

The most important work in opposition to

*Read before the Medical Society, of D. C.

this commonly accepted theory was done by Gatti, of Turin. He studied carefully the development and decadence of the tubercle, and divided its life into three stages, viz:

1. *Fibrous stage*, which includes histologically the miliary tubercle, the diffuse and the first beginning of the nodular form.

2. *The mixed fibrous and caseous stage*, which makes the transformation from the fibrous to the caseous tubercle.

3. *The caseous stage*, after this transformation has been completed.

It has been proven by Gatti's numerous experiments upon guinea pigs, rabbits and dogs, that if the operation is performed before the fibrous tubercle has reached its full development, it is without effect. To demonstrate this, abdominal sections were made at all stages, from a few days to many months after inoculation. The tubercles in process of healing were examined at every stage, from twenty-four hours after operation until complete repair had occurred. He found during the first week after operation, that an amount of reddish, serous fluid exudes into the free peritoneal cavity, and gradually diminishes in quantity from the first to the seventh day. The first to the third days showed the peritoneum slightly reddened, the third to the seventh days showed the tuberculous tissue slightly increased in volume. The vascular congestion was very slight, and restricted to the periphery of the tubercles, and to the normal peritoneum between them. The connective tissue showed no changes, its cellular elements being in the same ratio as before; and above all, there was no proliferation of the fibro blasts. The round cells were neither more numerous, nor changed in appearance. Epithelioid cells were unchanged, and the phagocytosis no greater than before. Twelve days after operation, beginning hydropic degeneration of the epithelioid cells was observed, drops and rings of fluid occurring in the cells. The entire protoplasm was here and there changed into a fluid, containing the floating nucleus. No increase of fibro blasts was present. The tubercle bacilli were somewhat more numerous, phagocytosis was not increased. Gatti further asserts that connective tissue proliferation after laparotomy seldom occurs, and only to a limited extent, and that it is not occasioned by the operation.

"In general," he says, "it may be absolutely observed that the increase in the stroma goes hand in hand with the development of the tubercle. If the tubercle is really influenced by the laparotomy and the specific irritation which has occasioned the development of the

epithelioid, lymphoid, and endothelial and connective tissue cells is arrested, or diminished, so is the further growth of all these kind of cells at the same time checked."

Gatti shows that as the epithelioid cells degenerate and the fluid is absorbed, vacuoles are formed, and the surrounding zone of connective tissue simply presses in to fill the space occupied by the vacuoles. By the time the epithelioid cells have undergone hydropic degeneration, all tubercle bacilli have disappeared from the tubercle. The conclusion is reached, that healing is not brought about by connective tissue growth, and this error was made by the examination of cases that had fully healed. Connective tissue masses were found, and the conclusion formed that healing occurred by pressure upon the specific elements of the tubercle by proliferating connective tissue. Only by examining animals at all stages after the operation can the process of healing be correctly studied.

Gatti's theory, therefore, is, that the serum of the blood poured out after a laparotomy has antitoxic action, and being brought into close contact for several days with the invading tubercle by antitoxic action inhibits the growth or destroys the tubercle bacilli.

In proof of this theory, Gatti calls attention to the fact that if a laparotomy is done too early, before fibrous tubercle has completely formed, the operation is not instrumental in curing the disease, because serum of the blood has not attained sufficient antitoxic strength to inhibit the growth of the germ; whereas, a secondary operation after the maturity of the fibrous tubercle is followed by eradication of the disease. In further proof of the antitoxin theory, it has been suggested that a less favorable result when drainage is used, is due to the removal of the antitoxin from the abdominal cavity, which thus being drained away prevents specific action on the tuberculous lesions.

Hildebrandt (*Munch. Med. Woch.*, 1898), performed a series of operations on healthy animals, and on animals in which he had produced tuberculous peritonitis, and came to the following conclusion:

The operation is followed by temporary arterial hyperæmia, most marked in the serous sheath of the small intestine, less marked in the large intestine, and least noticeable in the stomach and the parietal peritoneum. This is followed by a venous hyperæmia, lasting from four to seven days in a healthy animal, and longer in a tuberculous one. There is some paresis of the intestine. The amount of im-

provement which follows operation seems to be directly in proportion to the amount of venous hyperemia which is caused, and this venous hyperemia is a phenomenon of inflammation due to the action of air upon the peritoneum.

Nannotti and Baciocchi think that operation sets up an inflammatory reaction of the peritoneum, increase of its absorbing power, phagocytosis, degeneration of the cellular elements, connective tissue growth, and vascularization of tuberculous nodules, with successive fibrous transformation.

Stehogoleff attributes the curative effect to a combination of traumatism of the peritoneum, thermic influence, penetration of air into the abdominal cavity, and perhaps action of light, causing irritation, followed by an inflammatory deposit.

R. T. Morris concludes, from experiments, that recovery after operation occurs because putrefactive bacteria produce a toxalbumen in the peritoneal fluid which is fatal to the tubercle bacilli. The reason it is more effective in the peritoneum than the knee joint and elsewhere, is because of the exceeding abundance of the lymphatics of the peritoneum, bringing toxic agents which are absorbed into close contact with the bacilli.

McBurney thinks that the only change which could produce any effect upon operation is the change in the vascular supply of the diseased tissue. Pressure being relieved, the tissue receives a larger supply of fresh blood.

Abbe (R.) (*Med. Rec.*, N. Y., 1899), reports two remarkable cures, the result of simple incision and flushing of the peritoneal cavity with saline solution. He attributes the good result to an acute engorgement of the tuberculous nodules, followed by rapid development of the bacilli with a fibrous investment, thus destroying the vitality of the tubercles and engendering a retrograde metamorphosis of the neoplastic tissue.

Weir believes that the engorgement of the tuberculous nodules and their subsequent disappearance, is partly attributable to damage done to the peritoneal surface by opening the abdomen. This was the common factor in all relief procedures, whether incision or injection was resorted to.

Caillé (Augustus) thinks that the brief exposure to the air or sunlight of a portion of the accessible infected area, is apparently the starting point of a reparative process in cases that have resisted other therapeutic efforts.

Of all the theories mentioned, the antitoxin

theory of Gatti seems to be the most rational, although the Scottish verdict of "not proven" obtains. It is very possible, however, that the good results secured may be due to a combination of several of the causes described.

DIAGNOSIS.

Clinically, we recognize two varieties of this disease—viz.: 1. With ascites. 2. Without ascites (*i. e.*, fibrous or ulcerous).

Pathologically, according to Adilbert's classification, there are three varieties: 1. Ascitic. 2. Fibrous (fibrino-plastic). 3. Ulcerous (caseous or suppurative). The diagnosis is made chiefly by exclusion, as in tuberculous disease of other serous membranes, but the family and personal history may be of some importance.

It is of the subacute or chronic variety when it comes into the hands of the surgeon, for local treatment cannot be of service in the presence of a general, acute, miliary tuberclosis.

If the affection of the membrane be primary, the tubercle bacilli floating in the blood having been arrested in the vessels of the membrane itself, and there developed, we may have a simple ascites of slow development, without rise of temperature or any serious disturbance of the general health. Under these conditions, we can only make a diagnosis before an exploratory incision by excluding the usual causes of ascites, such as diseases of the liver and kidneys, chronic valvular affections of the heart, and malignant tumors of the peritoneum and viscera. On abdominal section, exit is given to a clear, straw-colored fluid, sometimes sanguinolent, and the serous surfaces are found to be studded with white or yellow tubercles, which may be massed in tumors of considerable size. If very large, these masses may sometimes be felt by bimanual palpation per rectum or per vaginam, and may simulate many different growths.

If the peritoneal fluid be localized by pre-existing adhesions, there will be a great resemblance to any of the solid or fluid growths peculiar to the locality. If confined to the epigastric, or hypochondriac regions, it may resemble hydatid cysts, cysts of the pancreas, enlarged gall bladder, hydrosalpinx, or pyonephrosis. If the lower half of the abdomen alone be involved, we might suspect pregnancy, ovarian tumor, hydrosalpinx, pyosalpinx, or pelvic abscess. Tuberculous ulceration of the stomach, small intestine, appendix, colon, or mesenteric glands may involve the peritoneum by direct extension, or cause peritonitis by perforation. The Fallopian tube is sometimes the

primary focus. Osler estimates that the tube is involved in from thirty to forty per cent. of the cases of tuberculous peritonitis, which probably explains the greater frequency of the disease in the female. It will usually be very difficult to differentiate without a celiotomy.

TREATMENT.

As we have a surgical disease to deal with, the treatment should be surgical, and not medical.

It is important, however, to pay great attention to the diet and hygienic surroundings, and build up the general health by the judicious use of tonics, etc.

A simple laparotomy made rapidly, but with great care, on account of the liability of intestinal and other adhesions, without irrigation or medication of the abdominal cavity, promises the best result. In the great majority of cases, after evacuation of the fluid, the wound should be sutured without flushing or drainage. If drainage is necessary, either a tube or gauze may be employed. The incision should be large enough to explore the abdominal cavity; when hydrops exists, the cavity should be evacuated; when there is an encysted mass, the adhesions should be separated, and the cavity sponged out, provided it will not cause too much tearing and bleeding. When possible, the original focus of the disease should be removed, as when the female pelvic organs or the vermiform appendix is the site.

Mortality.—The mortality from the operation is less than three per cent. Marked improvement occurs in about eighty per cent., and a permanent cure is effected in about fifty per cent. of all cases operated upon.

CONCLUSIONS.

From this *résumé* of the literature on this subject, we draw the following conclusions:

1. Tuberculous peritonitis is a surgical disease, and should be treated surgically and not medically, for the simple reason that when treated medically they die, and when treated surgically a cure is effected in a large proportion of cases and marked improvement follows in all.

2. The proper treatment is a laparotomy, rapidly and carefully performed.

3. Danger from operation is very slight, the mortality being less than 3 per cent.

4. Of the many theories advanced to account for the cure in these cases, the antitoxin theory of Gatti seems to be the most rational. It is not unlikely, however, that the good re-

sults obtained are due to a combination of several of the various causes assigned.

5. Sepsis is not apt to occur on account of the pathological changes that have taken place in the peritoneum.

6. Tuberculous infection of the wound does not occur.

7. Antiseptics are useless, and drainage should not be employed if it can be avoided, as it is likely to leave a permanent fistula.

8. Most of the deaths after the operation have been due to a general tuberculosis, or tuberculosis of some other organ.

9. The successful treatment of this disease depends upon the diagnostic ability, good judgment, technic and skill of the man behind the knife.

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1730 Connecticut Ave.

REPORT OF A CASE OF PYLORECTOMY FOR CARCINOMA.

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Captain W., patient of Dr. D. T. Tayloe, of Washington, North Carolina, was admitted to St. Luke's Hospital, October 23, 1900, and gave the following history: He was forty-four years of age, came of healthy family, and until recently had been singularly free from illness. Eighteen months ago he began to suffer from indigestion, and slowly to lose flesh and strength. Three months ago he discovered a small, hard, freely movable lump in the upper part of his abdomen, which had been variously diagnosed by different doctors as an aortic aneurism, a movable kidney, and a "growth in the bowels." His tongue was coated, his

breath foul, and his bowels distended with gas. Food taken into the stomach would remain undigested for hours and then be vomited. His weight had been reduced from 160 to 112 pounds. There had never been pain, hematemesis or cachexia. An examination of the stomach contents showed an entire absence of hydrochloric acid and the presence of lactic acid, and his urine contained large quantities of indican.

A diagnosis of carcinoma of the pylorus was made. The patient was made fully acquainted with the nature of his trouble, and an operation advised as a desperate but only chance for relief. To this he consented.

Preparatory treatment was instituted for a few days, and consisted in the restriction of the diet to predigested nitrogenous food, the regular and systematic lavage of the stomach and the administration of small and repeated doses of calomel to empty the bowels and produce relative intestinal antiseptis.

The operation was done on the afternoon of October 30th. A five-inch median incision was made, and the pyloric end of the stomach and the duodenum delivered through the wound. Adhesions were slight, and the mesenteric and post-peritoneal glands not enlarged. The malignant growth could be accurately outlined, and was found to begin in the pyloric valve and extend some three and a half to four inches in the walls of the stomach. An elastic constrictor, in the shape of a cathe-

ter, was tied around the duodenum two inches below the mass, and another around the stomach about its middle to control hemorrhage, and the omental attachments between these two provisional ligatures tied in sections and divided. The diseased portion of the stomach was then excised, care being taken to cut through apparently healthy tissue at least one inch from the neoplasm. The divided end of the stomach was then united from above downward with three rows of silk sutures, until only an opening was left at the inferior angle equal in size to the lumen of the cut end of the duodenum. An anastomosis was then effected between the two by means of a Murphy button. The elastic constrictors were removed, and as no bleeding followed, the toilet of the peritoneum was made and the abdominal incision closed without drainage. Time of operation, an hour and twenty minutes. Macroscopical and microscopical appearance of the specimen removed are shown by the accompanying illustrations.

The patient reacted well and made an uninterrupted convalescence, his temperature at no time reaching 100° F. For the first three days he was fed by nutritive enemata, and his thirst relieved by high rectal injections of saline solution. On the fourth day he was given buttermilk by mouth. His bowels were kept open from the first by mercurials and salines. The button was passed on the eleventh day, and solid food was permitted shortly after-



Reduced photograph of specimen removed.

wards. His tongue cleaned, his appetite became good, and he gained nineteen pounds in weight while at the hospital.

In a letter received from him, dated December 15th, a little over six weeks after the operation was performed, he says, "I am improving very fast. I weighed last Saturday and weighed

bacilli, whether a tumor be detected or not, there is ground for strong suspicion of cancer, and we should advise an exploratory operation at once, which can do practically no harm to the patient, and if removal of the diseased tissue be practicable, may be the means of saving life."



Micro-photograph of tis-ue.

140 pounds; I have just weighed to-day, and weigh 148 pounds. I am feeling fine; appetite good; sleep well; bowels regular, and act every day of their own accord. I can take enough food to satisfy me by eating three times a day. I can eat very near as much now as I could before I was sick. I am getting strong rapidly."

Dr. A. L. Gray, of Richmond, in the *Virginia Medical Semi-Monthly* for November 9th, 1900, reports a case of cancer of the stomach in which an early diagnosis was made, but owing to the patient's unwillingness to submit to an operation, surgical intervention was delayed until, when the abdomen was finally opened, the case was found inoperable. In commenting on the case, Dr. Gray says: "When we have obstinate gastric trouble, particularly of the fermentative type, with even slight pain in the epigastric region, progressive emaciation, and probably beginning cachexia, we should examine as soon as possible the contents of the stomach after one of the test meals. If we find the absence of hydrochloric acid and the presence of lactic acid and Boaz Oppler's

Dr. H. O. Walker, of Detroit, in reporting a recent successful case of pylorotomy for carcinoma (*Journal American Medical Association* for April 21st, 1900,) sums up the subject strongly and tersely when he says: "The consensus of opinion regarding the surgical treatment of cancer of the stomach has been that of laudation, condemnation, and criticism, according to the experience and results of the operator. The causes of death following this operation are shock, exhaustion and sepsis, largely due in the first two instances to the condition of the patient at the time of the operation; in the latter, to the faulty technique in most cases. The mortality record has slowly improved. Ewald, who condemned the operation, has a death record of 75 per cent., while Maydl, in a recent report of 25 cases operated on, states that 16 per cent. died from the operation, 28 per cent. from recurrence, and 56 per cent. are still living. Of this number, one operated on August 27, 1890, still lives. This good showing is undoubtedly due to better technique, earlier recognition of the presence of cancer, judicious selection of cases, and experience."

REPORT OF THE MATERNITY SERVICE OF COLUMBIA HOSPITAL,

With Remarks Upon the Morbidity of the Puerperium.*

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With a view of lessening the morbidity of the puerperium and preventing the spread of septic infection in the maternity service at the Columbia Hospital, for several years we have, from time to time, adopted measures which, in our judgment, would assist in the attainment of these ends.

As more than *fifty per cent.* of the cases treated are admitted in labor, many of them having been previously examined by ignorant midwives and others, being the subjects of criminal abortion, it was first determined to isolate this class during the first days of the puerperium. No vaginal examinations were made unless the labor was prolonged or operative interference required. Owing to the limited facilities for the care of the patient, this plan was found to be impracticable, and had to be abandoned. We then conceived the idea of making bacteriological examinations of the lochia removed from the uterus by means of the Doderlein tube on the second day after labor, in order to determine if the presence of any known pathogenic bacteria might be associated with any continued rise of temperature. The result of this investigation was given in a paper read before this Society in February, 1898. It showed that the morbidity could be accounted for in many ways, and that a not infrequent cause was due to contamination from the vulva in making vaginal examination. Since then great care is exercised in this regard, and more recently finger cots and rubber gloves are being used as an additional precautionary measure.

The following is the routine at present in force: On admission, the patient is given a general bath, and street clothes are exchanged for hospital garments. A preliminary examination of the urine is made, and then the total amount passed in twenty-four hours is saved for subsequent analysis. These analyses are made at least once a week in waiting cases, or oftener if required. As soon as practicable after admission, a general examination to de-

termine the presentation, condition of the pelvis, and various organs, is made. With the advent of labor, the patient is given a warm bath, bowels are moved by enema, and the vulva is thoroughly scrubbed, using antiseptic soap and afterwards bathed with a 1:1000 bichloride, or two per cent. carbolic solution and a vulva pad of bichloride applied. After the delivery of the child, patient is allowed to rest twenty or thirty minutes, the nurse meanwhile carefully kneading the uterus. If, at the end of this time, the placenta is not expelled spontaneously, it is expressed by Crede's method. Douches are only used under the following conditions: In case of hemorrhages which are not readily controlled by ergotole and kneading; macerated fetus; manual extraction of the placenta, and instrumental delivery. Lacerations of the perineum receive prompt attention. In normal cases, the temperature and pulse are taken morning and evening, and due attention is given to the condition of the bowels and bladder. The lochial pads are renewed every four hours. If the puerperium is normal, the patient is allowed to sit up in bed on the eighth day and get out of bed on the ninth, and is discharged from the fourteenth to the twenty-first day.

If the temperature rises above 101, and does not yield promptly to general measures, and points to involvement of the genital tract, a culture is taken from the uterus, the cavity thoroughly explored and followed by intra-uterine douche. If it proves to be a case of sapremia, the douches are repeated if necessary. In streptococcus infection, however, no further local treatment is given. Our experience with gonorrhoeal infection would seem to show that douches, more particularly intra-uterine during the early days of the puerperium, tend to favor the spread of the disease.

From July 1st, 1899, to September 30, 1900, 318 cases were treated; 176—or 55 per cent.—were admitted in labor; 233 were primiparæ, and 85 were multiparæ. There were 278 cephalic presentations, 23 breach, and 3 transverse, 5 abortions and 9 threatened abortions.

The following operations were performed:

Forceps, superior strait.....	7
Forceps, inferior strait.....	4
Perineorrhaphy.....	59
Episiotomy.....	1
Podalic version.....	5

Maternal Mortality 2 (⅔ of 1 Per Cent.).

1st. Eclampsia, puerperal (admitted in coma), died twelve hours after admission.

* Read before the Medical and Surgical Society of the District of Columbia, Nov. 1, 1900.

2nd. Post-partal uremia and intermittent fever.

Infantile Mortality 25.

Asphyxia, accidental.....	1
Asphyxia, neonatorum.....	2
Congenital syphilis.....	1
Cerebral hemorrhage.....	1
Atelectasis.....	4
Premature births.....	15
Purpura hemorrhagica.....	1

Still Births 26.

Eclampsia.....	1
Pressure on cord.....	2
Placenta prævia.....	3
Syphilis.....	3
Unknown.....	17

I have arbitrarily taken 100 degrees to represent the limit of normal cases, all above being credited under the head of morbidity. Of the 318 cases, 180 vaginal examinations were made during or after labor, and 138 were not examined. Of those that were examined, forty—or twenty-two per cent.—had a rise of temperature above 100 degrees. Of those not examined, there were twenty-six—or nineteen per cent.—above normal. It is seen, therefore, that the morbidity is less in the cases not examined. This will be more apparent if we compare the results obtained in each of the classes by a careful clinical, bacteriological and microscopical examination.

EXAMINED—ABOVE 100.

Streptococcus endometritis.....	2
Sapremia.....	15
Gonorrhœa.....	2
Eclampsia, gonorrhœal, and endometritis and pneumonia.....	1
Influenza.....	2
Intermittent fever and nephritis.....	1
Pneumonia, lobar.....	1
Mastitis.....	6
Tuberculosis, pulmonary.....	1
Constipation.....	2
Gonorrhœal rheumatism.....	1
Unknown.....	6
Total.....	40

NOT EXAMINED—ABOVE 100.

Sapremia.....	7
Gonorrhœa.....	1
Typhoid fever.....	2
Mastitis.....	5
Constipation.....	6
Unknown.....	5
Total.....	26

From the above table it will be seen that the morbidity is dependent upon a number of general diseases, as well as septic infection of the genital tract; and further, that the latter is double the number of cases examined over those not examined.

In a number of instances the sapremia followed abortions, and in others it was due to contamination through vulvo-vaginal wounds.

It also occurred in two cases of prolonged labor, one due to hydramnios and inertia of the uterus, requiring the use of forceps to effect delivery. In the other, symphyseotomy was performed on account of exostosis of the second sacral vertebra. All of these cases responded to local treatment.

Each of the cases of streptococcus infection had a chill on the second day after labor, followed by a rise of temperature to 103. In one, the temperature dropped to normal on the third day after the chill, and varied between 98 and 100 until the ninth day. Vaginal examination showed that drainage from the uterus was incomplete. An intra-uterine douche of salt solution was given, and immediately followed by a chill lasting twenty minutes, the subsequent rise of temperature 104 $\frac{6}{10}$ and pulse 148. Forty-eight hours after, temperature had again dropped to normal, and remained so. In the other case, temperature was normal on the sixth day. Both cases discharged at the end of three weeks. Condition excellent.

The history of the typhoid cases showed that they began about a week before labor. Clinical diagnosis was confirmed in both cases by Widal reaction. Treatment general, and cold baths to reduce temperature. Condition on discharge, excellent.

All of the malarial cases responded promptly to quinine. It will be observed that the percentage is far below that usually given as a complication of the puerperal state. Many of the so-called malarial cases are really sapremia, and as it is the custom with many to administer douches as a routine measure, and give quinine to reduce temperature, it is easy to understand how, in the absence of blood examination, this mistake could be made.

The first case of pneumonia developed on the twelfth day after delivery. Crisis occurred on the eighth day. Convalescence rapid and uninterrupted. The second case was of septic origin. This patient had convulsions during labor, requiring instrumental delivery, and during the puerperium suffered with gonorrhœal cystitis and endometritis. Her illness was severe and protracted, and she had to be confined to bed for two months. She left the

hospital, ten weeks after confinement, very much improved.

A number of the cases of mastitis occurred in women in whom children were still-born, and were due to over-secretion and engorgement, and not to infection. None of the cases suppurated, and all yielded to massage, purgation, and local measures.

In addition to the diseases enumerated in the morbidity report, there were three cases of placenta prævia, two cases of eclampsia, and two cases of threatened eclampsia. All of the cases of placenta prævia were admitted in labor, and gave history of previous bleeding. In one, the placenta protruded partially through the external os, with the left shoulder engaged in the cervix and acting as a tampon. No fetal heart sounds. The child was delivered by version. The second was of the marginal variety L. O. A. No fetal heart sound, version to L. S. A. Hemorrhage profuse, patient stood loss of blood remarkably well. The third was of the complete variety L. O. A. No fetal heart sound. Placenta was forcibly detached from one side, and version performed. All of the mothers recovered.

Both of the cases of threatened eclampsia yielded to free purgation, salt solution by rectum and milk diet. Labors were normal, and condition of mother and children excellent on leaving the hospital.

The first case of eclampsia was admitted in a state of coma. Had two convulsions shortly after admission; cervix undilated. Treatment consisted of morphia, veratrum viride and calomel. The patient never regained consciousness, and succumbed to oedema of the lungs fourteen hours after admission. The second was a postpartal case, and was admitted in labor. Child was born half hour after admission; following morning patient complained of headache, which was thought to be due to overindulgence of alcoholics before admission; capsicum and sodium bromide given. About 1 P. M., the patient was seized with convulsions, followed by coma; second occurred at 3:30, and the third and last at 5:30. Treatment consisted of hot air baths, salt solution subcutaneously and by rectum, and morphia hypodermically; convalescence uninterrupted.

From the foregoing brief report, it will be seen that our treatment is along the line suggested by the recent developments in bacteriology. Since the uterus and vagina are, as a rule, sterile, and that the giving of antiseptic douches tends to diminish the inherent bactericidal influence of the vaginal secretion,

local treatment as a routine measure is unnecessary, and may indeed become harmful. On the other hand, since it has been proven that the vulva is rarely sterile, and that many of the cases of infection can be traced to this source, our custom is to render as aseptic as possible the external genitalia, and in making vaginal examinations to separate the labia so as to avoid contact with the examining finger as far as possible.

Since we have discarded the routine douches before and after labor, and directed our attention to the thorough disinfecting of the genitals, hands of the physician, nurses, dressings, and the employment of rubber gloves, we have observed a marked decrease in morbidity.

In conclusion, we desire to express our thanks to Drs. White, Yount and Mason, of the Resident Staff, whose careful and efficient service has contributed in a great measure to the excellent results obtained.

2426 Pennsylvania Ave.

TWO CASES OF AMBLYOPIA FOLLOWING THE USE OF JAMAICA GINGER.

By JOHN DÜNN, M. D., Richmond, Va.,

Professor of Otology and Laryngology, and Associate Professor of ophthalmology in University College of Medicine, Richmond, Va.

CASE I.—Mr. C., aged 19; seen December, 1898. He gave the following history: In August he "gotten on a spree," and "to sober up" he had "drunk two bottles of Jamaica ginger and some essence of lemon." About thirty-six hours later, after a period he does not know how long, in which he experienced more or less confusion of vision, he became "stone blind." His vision gradually returned, growing better for some weeks, and then coming to a stand-still. There had been no improvement for about two weeks prior to the time at which he consulted me. Examination of his eyes at this time revealed the following conditions: Pupils much dilated, but respond to light and accommodation. Vision, O. D. = $\frac{1}{10}$; O. S. = $\frac{1}{15}$. Color sense, as tested by wools, unimpaired, even the most delicate differences being appreciated. Fields of vision, as in the diagrams, which show concentric contraction, greater on the temporal side, and relatively greater for red than for green.

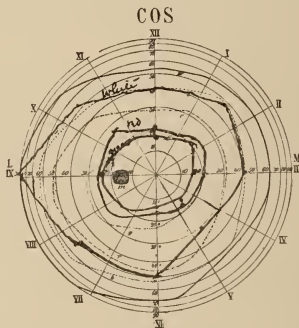
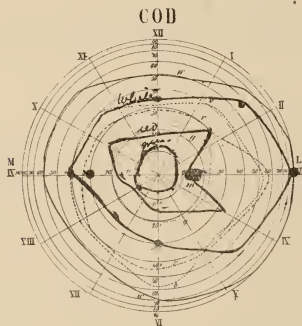
Optic Discs.—O. D., white, marked atrophy; retinal arteries irregular in outline and much contracted. (No note was made of the condition of the veins.) No photophobia. O. S. disc; whitish, atrophy but less marked than in O. D.

Arteries show considerable contraction. Media normal. Refraction, $+\frac{2}{3}$ D. O. D. and O. S.; vision, however, not improved by correction of this error. Patient had visited several physicians, all of whom had advised use of strychnine, which had been taken without any appreciable result.

CASE II.—Mr. H., aged 39. Addicted to hard drinking for years. On July 16th and 17th, 1899, to "sober up," he drank four bottles of essence of Jamaica ginger and "some paragoric." On the 17th, he became violently nauseated; on the 18th, his nausea continued, and he had prolonged vomiting spells; his sight began to be impaired, and in a few hours he was "stone blind." This blindness lasted four days, when his sight began to return, and gradually grew better for ten days, after which time there was no further improvement. When I saw him, September 19th, 1899, the following conditions existed: Pupils abnormally dilated, but not so much so as in Case I; they respond both to light and in accommodation. Vision, O. D., $=\frac{8}{200}$ (!); O. S., $=\frac{8}{200}$ (!). Color sense, much impaired. In no part of the fields for either eye can he discriminate between the colors of small objects. For instance, the red

irregularity of outline, especially distinct in the smaller branches. Media normal. Refraction, $+\frac{1}{2}$ D. Strychnine and the iodide of potash tried without effect. A letter received in January, 1900, states that his vision is still further impaired.

Up to the present, so far as I know, the only recorded cases of Jamaica ginger amblyopia are one by Thompson, of Philadelphia, *Ophthalmic Record*, November, 1897, and six by Hiram Woods, Jr., *Ophthalmic Record*, February, 1899. In all of Wood's cases, and in the two above reported, the patients became temporarily totally blind—this complete blindness coming on at from twelve hours to four days after the use of Jamaica ginger. In all of these cases vision returned to a varying degree, in two of them, to become finally totally extinguished. In none was the restoration of vision complete. In five of the seven cases, the blindness was preceded by nausea and vomiting; in the other two cases, the same condition would probably have been found to have existed had a full history been obtained. As a rule, a short period of dimness of vision preceded the state of total blindness. Of Wood's six cases, the fundus in Case I was first examined one month



disc used with the perimeter appears everywhere black, and the green white. With the woollens his efforts to select the reds results in his handing you purple, cherry red, light green, and the browns, while to the green pile he adds every shade of green, blue and brown. The larger the mass of color the more clearly is the color perceived. For instance, a green field is still green; a ripe watermelon, when opened, is still red. *Fields of vision.* There is no diminution for white. *Optic discs.* White, but not completely atrophic. *Both arteries and veins show considerable contraction and*

after blindness supervened, and "gray atrophy of both nerves, no cupping of the discs," is reported; Case II was seen nine months after the attack. "Discs slightly pallid; arteries shrunken in calibre, veins normal, fundus otherwise normal." Case III was seen one month after the attack. "No alteration of the retinal vessels, nerves possibly a little pallid." Case IV seen five days after the attack. "Ophthalmoscopic appearances absolutely negative." When seen, however, four months later, "both nerves are atrophied." Case V was seen three

days after blindness came on. "Possibly a low grade of neuritis." Eight days later, the "discs are choked," ninety days later, still "the discs are atrophic." (This is the most interesting of the reported cases, the fundus having been seen early and the changes therein noted.) Case VI was seen thirty days after the attack. "Both nerves were atrophic, with haziness about the edges," showing a subsiding inflammation.

My two cases were seen, one four, the other two months after the attack. In both there was optic atrophy, with changes in the diameter of the retinal vessels. The history of these cases of Jamaica ginger blindness would seem, then, to be as follows: Attack begins with nausea and vomiting, which are followed after a varying length of time, "twelve to forty-eight hours" (Woods), by total blindness. This blindness is preceded by dimness of vision. At this time there are no visible changes in the fundus. As a rule, the vision after a few days is partially restored. Neuritis may be demonstrable in the fundus after the fifth or sixth day (this time, of course, varies from case to case), the neuritis goes on to atrophy, varying also in degree. The vision, after months, seems rather to grow worse than better, and suggests nerve fibre degeneration.

The pupils, where the blindness is not absolute, responds directly, consensually and in accommodation. The field of vision has nothing absolutely characteristic; there may be more or less concentric contraction for white, with a central scotoma, or, as in my second case, where the tube was reduced to $\frac{8}{2000}$, there could be demonstrated no contraction of the field for white.

Again, the color tests are inconclusive. In one of my cases the color sense was preserved intact, so far as the woollens could decide. In the other this sense was much affected. Thompson considers the lesion a retro-bulbar neuritis, and due to the alcohol in the Jamaica ginger. The explanation of how the retro-bulbar neuritis is brought about is, however, as Woods says, not clear, and were the lesion due solely to alcohol, we should meet frequently with similar cases among the alcoholics who do not use Jamaica ginger. This we do not do, and we are forced to conclude that in the above cases Jamaica ginger played an important part in bringing on the loss of vision. While in the cases we have accurate accounts of the appearances in the fundus, as seen after atrophy has set in, we have no satisfactory detailed description of the changes in the fundus, visible during the first

few days after blindness occurs; nor has in any case the microscope had its say as to what the changes really are.

Postscript.—Case I was seen again September 6th, 1900. V. O. D. = $\frac{1}{200}$. O. S. = $\frac{1}{30}$. No further demonstrable changes in the fundus.

THE PHYSICIANS' HOME—ITS ORGANIZATION, LOCATION, AND PROSPECTS.

By JOHN S. HARRIS, M. D., Minor Hill, Tenn.

The medical profession has now before it one of the grandest, noblest, and most elevating enterprises, namely, the physicians' home, which has ever engaged the minds of American practitioners. Nothing so wide in its scope, so broad in its principles, so charitable in its nature, and so rich in blessings has ever before come up, of such importance, as this institution—the physicians' home—an American home for the aged physicians, the debilitated physicians, and the destitute physicians. But to define it clearer: It is a home or retreat for the aged, superannuated doctors, where they can go, breathe the pure air, raise fruits, vegetables, orchards, poultry, climb mountains, look for minerals, fish in the streams, talk of days gone by, etc., and not a sanitarium for treatment. It is also a home for the absolutely destitute of our fraternity, should there be any to apply, satisfactory proof having been given of same.

My first idea, as the originator of this home move, was a sanitarium in connection with it, but that is too confusing; besides it would be very expensive to maintain a staff of resident physicians. The balmy breeze of the pure, salubrious atmosphere, good sanitary quarters, hygiene, and good water, is treatment sufficient for the aged, upon whose economy medicine acts poorly; it is rest and recreation, a change of surroundings they need, and not medicine, except in an acute stage.

Now, to come to the point, what we want, is what we need, and that is about one hundred acres farming land for fruits, vegetables, orchards, vineyards, poultry-yards, dairying, etc., and a commodious building, consisting of about two hundred rooms. This will require an expenditure of about \$250,000.

Now, as to the fund and how raised: Those who have read my former articles in *Virginia Medical Semi-Monthly* will see that it is to be raised by subscriptions and donations. Say, each physician in the United States give according to his ability, or if one-half subscribe

five dollars each, and from fifty cents to one dollar annually to defray expenses, this will erect and maintain this home and farm.

This enterprise has been before the American medical fraternity about six months, during which time it has received many expressions from various parts of the United States. On giving, they talk of giving according to their ability, which is the correct way; no man or committee should say what each and every one should give.

In September I appointed a committee on location, consisting of E. F. Williams, M. D., De Pere, Wis.; J. M. Hole, M. D., Salem, Ohio; Cam Anderson, M. D., Holston Bridge, Va.; Douglas Hayes, M. D., Tracy City, Tenn.; and Chalmers A. Parker, M. D., Fort Worth, Tex. They, after careful study of the geographical division, climate, access, cost of living, etc., placed the situation in the mountains of East Tennessee, settling as the future spot upon which to erect this (the first medical home of the age) institution at Bristol, Tenn.-Va., a mountainous twin city of about twenty thousand inhabitants on the Tennessee and Virginia line, midway between New York city and New Orleans.

I visited this point December 21st, meeting representatives of the committee and other physicians, at which time and place we effected a temporary organization, electing for President G. M. Peavler, M. D., Bristol, Tenn.; for Vice-Presidents, Drs. C. A. Abernathy, Pulaski, Tenn.; Chalmers A. Parker, Fort Worth, Tex.; F. M. Prince, Bessemer, Ala.; A. Goecelon, Lewiston, Me.; J. W. Smithwick, La Grange, N. C.; J. C. Anderson, Holston Bridge, Va.; Secretary, N. H. Reeve, M. D., Bristol, Tenn.; Corresponding Secretary, John S. Harris, M. D., Minor Hill, Tenn.; Treasurer, John C. Anderson, President National Bank of Bristol, Bristol, Tenn.

On my visit to Bristol, I observed the mountain scenery, which is picturesque. Bristol is situated rather in a valley, free from malaria, where all the necessities of life can be had cheap. As to the longevity of life in the mountains, Ex Gov. Bob Taylor can inform you. Any amount of land can be procured in this region at a small cost, with the beginning of this, the noblest enterprise known to medical history, a new century misplaces the old and should stimulate us to make this one of the revolutionizing steps in the circle of our great and glorious profession. No institution could have a broader field of usefulness than this.

A great many ask how is this home to be maintained? First, I have only to state that it is only, on my part, for the interest of this great and good move that I labor so untiringly; that I have a living at home, but, as the originator of this enterprise, having conceived the idea and worked hard to put it before the American medical fraternity, I feel free to speak on all problematical questions pertaining to this matter. Now, as being first to originate the move, I further feel that I have the honor and liberty to say that on Dedication Day we are going to dedicate this home to the American Medical Association, to the various State and county medical societies and to the regular ethical medical profession of the United States. There will be an American Medical Association as long as there is a medical profession, and there will be various medical societies—(State divisions), municipal and county. They are the backbone of our grand fraternity. No profession as important as the medical profession could well survive without well organized medical societies. Therefore, we respectfully dedicate this home to the American Medical Association, and to the various State and county societies. Of course, there are regular ethic members of the profession out of the societies who are eligible to become members, but perhaps it is inaccessible to them to join, so we desire those in our home family—many, many, poor country physicians and aged ones who cannot go to the meetings—they are as welcome as any to enter this home enterprise.

Now, in a nut-shell, we say donate to this home fund according to your ability or desire and your pro rata of the expense annually you pay to your secretary of county or State medical society, and they (collecting in this way through U. S. annually), can forward to the treasurer. That's the plan to maintain this home.

New Orleans Polyclinic.

Physicians will find the Polyclinic an excellent means for posting themselves upon modern progress in all branches of medicine and surgery. The specialties are fully taught, particularly laboratory work. Fourteenth annual session opens November 12, 1900. For further information, address Dr. Isadore Dyer, Secretary New Orleans Polyclinic, New Orleans, La.

Correspondence.

Illegal Practitioners and Quacks in Virginia.

To the Medical Profession of Virginia:

At a meeting in Charlottesville, Va., October 23, 1900, the Medical Society of Virginia gave the Medical Examining Board a fund to be used in prosecuting illegal practitioners and quacks in Virginia. The Medical Examining Board appointed Dr. R. W. Martin and myself a committee to take general supervision of this work—each member of the Board agreeing to look after the illegals in his congressional district. We realize we have a difficult task before us, and to accomplish anything we must have the co-operation of the entire medical profession. It will be your duty not only to report parties practicing illegally when such is the case, but also you must be willing, if necessary, to attend as a witness and help your Commonwealth attorney secure evidence necessary for conviction. Unless you can do these things, it will be almost useless to report the case to us, for from past experience we know the attorneys for the Commonwealth will do their duty when necessary evidence is secured to prosecute, but they have no way of knowing who is practicing illegally, and they have but little time to look up sufficient evidence. We will do our best, and with your help we will hope to accomplish a great deal for the good of our profession.

Respectfully,

R. S. MARTIN,

Sec'y Med. Ex. Board of Virginia.

Stuart, Va., Jan. 16, 1901.

Laxative Antikamnia and Quinine Tablets.

At this day, when gripe or influenza, with its general discomfort and great debility, etc., is so widespread, and attended with more or less constipation, the laxative antikamnia and quinine tablet will prove generally useful. Each tablet contains:

Cascarin	gr. $\frac{1}{2}$.
Alvin.....	.....
Ext. belladonna.....	.....
Podophyllin	aa gr. $\frac{3}{4}$.
Quinia bisulph.....	gr. $\frac{1}{4}$.
Antikamnia	gr. 3.

To reduce fever, quiet pain and at the same time administer a gentle laxative and a tonic is, in short, to accomplish a great deal in the way of treatment of this sneaky epidemic disease.

Proceedings of Societies, etc.

VIRGINIA STATE BOARD OF MEDICAL EXAMINERS.

The regular fall meeting of the Medical Examining Board of Virginia met in Richmond at Murphy's Hotel, December 17th, 1900, at 9 P. M.

The Board was called to order by Dr. R. W. Martin, of Lynchburg, President.

On roll-call by the Secretary, Dr. R. S. Martin, of Stuart, the following other members were found to be present: Drs. H. M. Nash, Norfolk; R. M. Slaughter, Theological Seminary; Samuel Lyle, Lynchburg; W. L. Robinson, Danville; W. B. Robinson, Tappahannock; O. C. Wright, Jarratt's; J. E. Warriner, Brook Hill; C. W. Rodgers, Staunton; E. T. Brady, Abingdon; E. C. Williams (Homœopath), Hot Springs.

Minutes of the last meeting were read and adopted.

Questions on Anatomy, Histology, Pathology and Bacteriology, Obstetrics and Gynecology, Surgery, Materia Medica and Therapeutics, Hygiene and Medical Jurisprudence, Chemistry, and Homœopathic questions on Materia Medica and Therapeutics were read and adopted.

Dr. R. M. Slaughter introduced the following resolution, which was adopted:

Resolved, That those second year applicants, who, at the examination held in Lynchburg, June, 1900, took the whole examination, be allowed credit for such primary branches on which they made 75 per cent.: provided, they show the certificates from their colleges that they have passed on such branches.

The order for examinations was as follows:

Tuesday.—Anatomy, Obstetrics and Gynecology and Surgery.

Wednesday.—Materia Medica and Therapeutics, Hygiene and Medical Jurisprudence, Histology, Pathology and Bacteriology.

Thursday.—Physiology, Chemistry and Practice.

Minutes of the called meeting held in Charlottesville, Va., were read and adopted.

The President appointed Drs. W. B. Robinson, O. C. Wright, and J. E. Warriner, a committee to examine all applicants who are required to take the examination orally.

Dr. A. S. Priddy, of Keysville, member from the State at large, rendered valuable service in the examination hall assisting other examiners and conducting the examination on Physiology in the absence of Dr. Robert Randolph.

It was agreed that the next meeting of the Board be held at Staunton, Va., June 24-25-26-27, 1901.

Questions on Physiology were adopted.

The President made the following changes in the Sections:

Dr. C. W. Rodgers to examine on Anatomy.

Dr. W. L. Robinson to examine on Gynæcology.

Dr. A. S. Priddy to examine on Hygiene and Medical Jurisprudence.

Sections not mentioned to remain as before.

Drs. R. W. Martin and R. S. Martin, being President and Secretary of the Board, were relieved from duty as examiners.

SECTION ON MATERIA MEDICA.

Dr. W. B. Robinson, Tappahannock, Examiner.

Ques. 1. (a) Give the physiological action of the mineral acids. (b) What is the liquor ferri subsulphatis? (c) By what channels is iron eliminated?

Ques. 2. (a) Give the physiological effects of phosphorus in toxic doses. (b) Give the preparations of potassium. (c) Point out the effect of these salts on the reaction of the urine and the differences in result due to the period of administration.

Ques. 3. (a) Give the physiological effects of digitalis on the heart. (b) What is atropia? (c) Give physiological action of hyoscyamus.

Ques. 4. Give dose of the following medicines: 1—Acidum muriaticum dilutum. 2—Tinctura ferri chloridi. 3—Syrupus calcii lacto phosphatis. 4—Potassii bromidum. 5—Tinctura belladonnæ. 6—Extractum hyoscyami fluidum. 7—Extractum cannabis indicæ. 8—Extractum gelsemii fluidum. 9—Extractum veratri viridis fluidum.

Ques. 5. (a) Explain how the physiological effects of morphia and atropia when administered together are modified by the reciprocal influence exerted upon each other. (b) Give the antagonists and incompatibles with aconite. (c) Give the synergists to cinchona.

SECTION ON PRACTICE OF MEDICINE.

Dr. E. T. Brady, Chairman and Regular Examiner.

Dr. E. C. Williams, Homœopathic Examiner.

Ques. 1. Describe an epileptic seizure. Differentiate it from—(a) A uræmic con-

vulsion. (b) An apoplectic convulsion.

(c) Hysterical convulsion.

Ques. 2. Give causes, prognosis, and treatment of chorea.

Ques. 3. (a) Name and describe the appearance of the three most common varieties of intestinal worms. (b) What clinical symptoms indicate their presence? (c) Give treatment for two varieties.

Ques. 4. Define the following terms: (a) Aphasia. (b) Pyemia. (c) Leucocythemia. (d) Cheyne-Stokes respiration. (e) Hæmaturia.

Ques. 5. Give causes, symptoms, and treatment of arthritis-deformans, or rheumatoid arthritis.

Ques. 6. What are urinary tube-casts? Describe the common varieties. What clinical significance attaches to their presence?

Answer all questions in regular order. Number each answer. Make your meaning clear, but do so as concisely as possible. Write out and sign your pledge.

SECTION ON CHEMISTRY.

Dr. O. C. Wright, Jarratt's, Va., Examiner.

Ques. 1. (a) What is matter, and in what three different conditions does it exist? (b) Give the characteristic properties of each condition. (c) What are crystals, and what are amorphous, dimorphous and polymorphous substances?

Ques. 2. (a) How does carbon occur in nature? (b) How many different allotropic modifications of carbon exist? Give example of each. (c) Give physical properties of carbon dioxide, and tell how it is formed.

Ques. 3. (a) Write the chemical formula for nitrate of silver. (b) How is nitrate of silver made? (c) What is the chemical antidote for nitrate of silver? Show by chemical equations what reaction takes place.

Ques. 4. (a) Give the chemical formula and physical properties of mercurous chloride. (b) Of mercuric chloride. (c) Of mercurous iodide.

Ques. 5. (a) What is organic chemistry? (b) What elements do organic compounds contain? (c) Give their general properties.

Ques. 6. (a) What are alcohols, and how are they found in nature? (b) What are aldehydes, and how are they formed? (c) What are ethers?

- Ques. 7.* (a) Mention the principal points to be considered in the analysis of urine. (b) Describe the murexid test. (c) Give a reliable test for blood in urine.
- Ques. 8.* (a) Describe the diazo-reaction. (b) In what disease is it of diagnostic and prognostic importance? (c) Is the reaction ever present in any other diseases?

Answer only six of the above blocks including the seventh. Pledge.

SECTION ON PHYSIOLOGY.

Dr. Robt. C. Randolph, Boyce, Va. Examiner.

- Ques. 1.* (a) Define metabolism. (b) What products result from the changes that take place in the liver cells during life? (c) Give physical characteristics and functions of bile.
- Ques. 2.* (a) What are the physical characteristics of normal urine, and what amount does the average male secrete in 24 hours? (b) What is the per cent. of solids in normal urine, and what are the chief organic constituents? (c) What are the most important abnormal constituents in urine?
- Ques. 3.* (a) What is meant by the terms tidal, complementary, reserve and residual air? (b) What are the points of difference between expired and inspired air? (c) What changes does the blood in the pulmonary artery undergo in its passage through the lungs?
- Ques. 4.* (a) Upon what does the force and frequency of the contractions of the heart depend? (b) What events correspond in point of time with the first sound of the heart? (c) Which are the three most important intrinsic cardiac ganglia?
- Ques. 5.* (a) Name the centres found in the spinal cord. (b) What would be the effect upon respiration of cutting the vagus upon one side? (c) Locate the respiratory centre.
- Ques. 6.* (a) What bodies give fibres to form the optic tract? (b) What are the two branches of the 8th cranial nerve, and what are the functions of each? (c) What is the function of the 11th cranial nerve?

SECTION ON HISTOLOGY, PATHOLOGY AND BACTERIOLOGY.

R. M. Slaughter, M. D., Theological Seminary, Examiner.

- Ques. 1.* (a) Give the histological classification

of the following tissues: bone, muscle, free surface of mucous membrane, and the lining of serous cavities. (b) Describe the two modes of termination of nerve fibres.

- Ques. 2.* (a) Are bacteria classed as flora, or fauna? (b) Name the three general groups of bacteria as based on morphological characteristics. (c) Define the terms chromogenic, zymogenic, and pathogenic as applied to bacteria. (d) Describe the streptococcus pyogenes (*i. e.*, give its morphology and pathogenicity).
- Ques. 3.* Describe the microscopic characteristics of miliary tubercle.
- Ques. 4.* (a) What tissues are most commonly affected with fibrinous inflammation? (b) Mention a typical example of fibrinous inflammation. (c) In the stage of "red hepatization," what is the character (physical) of the exudate, and of what elements is it composed?
- Ques. 5.* (a) Name the connective tissue tumors. (b) Which are malignant and which benign? (c) What are leiomyomata, and in what organ are these tumors generally found?
- Ques. 6.* (a) What is acute infectious cholecystitis? (b) Give its causation and pathological anatomy.
- Ques. 7.* (a) Give the normal proportion of leucocytes to red blood corpuscles. (b) In what disease of the blood are the leucocytes increased in proportion. (c) What are poikilocytes, normoblasts and megaloblasts?
- Ques. 8.* Give the histology of an hepatic lobule.
Answer six blocks, including the second.

SECTION ON ANATOMY.

W. L. Robinson, M. D., Danville, Examiner.

- Ques. 1.* Describe the astragalus and its ligaments.
- Ques. 2.* Describe the female bladder, its relations, anatomy, where ureters enter; follow ureters in their relations to pelvic organs, and note dangers in vaginal surgery.
- Ques. 3.* Give origin, exit from cranium, and branches of the pneumogastric nerve.
- Ques. 4.* Give origin, relations in its route, and branches of the facial artery.
- Ques. 5.* Name in order the muscles of the forearm.
- Ques. 6.* Give anatomy of the kidney.
- Ques. 7.* Describe the diaphragm, name openings in it, and how they are formed.

SECTION ON TOXICOLOGY AND MEDICO-LEGAL JURISPRUDENCE.

R. S. Martin, M. D., Stuart, Va., Examiner.

- Ques. 1. a.* How would you distinguish between feigned and real insanity? *b.* Define the terms dipsomania, pyromania, and kleptomania.
- Ques. 2. a.* What are ptomaines? In what substance would you expect to find tyrotoxin? *b.* Give a reliable test for blood stains.
- Ques. 3. a.* In case of suspected infanticide how would you determine whether the child was alive or dead when born? *b.* What organ is said to resist putrefaction the longest?
- Ques. 4. a.* State difference in character of the testimony of an ordinary witness and that of a medical expert. *b.* How could you distinguish between wounds made before and after death?
- Ques. 5. a.* Give symptoms of acute poisoning by tartar emetic—the antidote, and post mortem appearances. *b.* Give symptoms and treatment of opium poisoning.

SECTION ON HYGIENE.

R. W. Martin, M. D., Lynchburg, Examiner.

- Ques. 1. a.* In making a qualitative test of water, what impurities should be sought for? *b.* Give the sources of wholesome, suspicious, and dangerous water.
- Ques. 2. a.* What is the distinction between sewer-air and sewer-gas? *b.* What gives sewer-gas its peculiar foetid smell?
- Ques. 3.* Name the principal methods of physical training, and tell how systematic training (physical) affects health and longevity.
- Ques. 4. a.* What is the duty of the State to persons imprisoned on account of crime? *b.* What diseases are most frequent among prisoners?
- Ques. 5. a.* What are the advantages of calf-vaccine over humanized lymph? *b.* State emphatically the best methods of arresting an outbreak of small-pox.

SECTION ON OBSTETRICS.

Dr. H. M. Nash, Norfolk, Chairman; Dr. C. W. Rodgers, Staunton, and Dr. M. R. Allen (Homœopath), Examiners.

- Ques. 1.* At what period does retroversion of the pregnant uterus usually occur? The symptoms, prognosis and treat-

ment in both the uncomplicated and complicated varieties.

- Ques. 2.* Give the symptoms and prophylaxis of threatened abortion.
- Ques. 3.* Define placenta prævia, giving its treatment.
- Ques. 4.* Etiology and treatment of puerperal eclampsia, referring to the latest views as to causation.
- Ques. 5.* Give the indications of versions, cephalic and podalic. How performed.

SECTION ON GYNECOLOGY.

Dr. C. W. Rodgers, Staunton, and Dr. M. R. Allen (Homœopath), Norfolk, Examiner.

- Ques. 1.* Describe the bimanual examination of the pelvic organs, noting the abnormal conditions it may elucidate.
- Ques. 2.* Describe Trendelenburg's position, giving its advantages in abdominal and pelvic operations.
- Ques. 3.* Define menorrhagia and metrorrhagia, giving the cases and treatment of these conditions.
- Ques. 4.* Name the affections causing hemorrhage after the menopause, giving the prognosis in each case.
- Ques. 5.* Name the various organs and tissues that may be involved in an attack of pelvic inflammation; giving their relative importance and possible terminations.

SECTION ON SURGERY.

Dr. Sam'l Lile, Lynchburg, Va., and Dr. M. R. Allen (Homœopath), Norfolk, Va., Examiners.

- Ques. 1.* Name the different forms or classes of gangrene, and give causes of each.
- Ques. 2.* Give definition, symptoms, prognosis, prophylaxis and treatment of shock.
- Ques. 3. (a)* Differentiate chancre and chancreoid, and give treatment of both.
(b) Differentiate syphilitic and tubercular osseous lesions.
- Ques. 4.* Define lipoma, fibroma, osteoma, myoma, papilloma, adenoma, sarcoma and carcinoma, and classify as to malignancy.
- Ques. 5.* Give causes and differential diagnosis of concussion and compression.
- Ques. 6.* Give causes, symptoms and treatment of cystitis.
- Ques. 7.* Define phimosis, paraphimosis, orchitis, mastitis and salpingitis.
- Ques. 8.* When is resection of elbow indicated? and describe the operation.

SECTION ON THERAPEUTICS.

Dr. J. E. Warriner, Brook Hill, Va., Examiner.

Answer any four blocks.

Block 1. (a) What are the chief uses of water internally, and how much should be taken in twenty-four hours?

- (b) Name three drugs excreted by the mammary gland, and which may affect the nursing infant.
- (c) Give chief foods derived from milk, and state if milk is a complete economic food for adults; and why?
- (d) What conditions regulate the necessary amount of food?

Block 2. (a) Give synonyms of nitroglycerin, and state why it and amyl nitrite are useful in angina pectoris.

- (b) At what stage of cardiac lesions is digitalis useful; and why?
- (c) What are some conditions requiring food by rectum?
- (d) Give full instructions for use of nutrient enemata.

Block 3. (a) Give the chemical antidote for the following: Strychnine, opium, corrosive sublimate, arsenic, nitrate of silver, digitalis, acetate of lead and carbonic acid.

- (b) Define the following, and give example of each, with the dose: Emetic, hydragogue purgative, diuretic, diaphoretic, anaphrodisiac.
- (c) Give dose of comp. syr. squill, and name its most active ingredient.
- (d) Classify—Aspidium, podophyllin, salol, nitrous ether, aconite.

Block 4. (a) What should be the location, and why, of vesicants, in the treatment of diseases of the eye, of pleurodynia, of abdominal neuralgia?

- (b) What are the therapeutic indications in the treatment of burns?
- (c) What is normal saline solution, and what are its therapeutic uses?
- (d) What therapeutic measures are useful in general anasarca?

Block 5. (a) Give therapy of arsenic.

- (b) In what stage of skin diseases should arsenic be given?
- (c) Is it safer to use locally, a weak or strong preparation of arsenic; and why?
- (d) Name the medicinal and dietetic agents to be avoided in chronic diseases of the skin.

SECTION ON THERAPEUTICS.

Homœopathic Questions.

Dr. E. C. Williams (Homœopath), Examiner, Hot Springs, Va.

Answer four blocks only.

1. (a) Differentiate between belladonna and mercurius biniodide in a case of tonsillitis.

- (b) Give the principal uses of baptisia.
- (c) Give indications for the use of calcarea carbonica in menorrhagia.
- (d) Mention five remedies of especial use in lithæmia.

2. (a) Give indications for the use of lachesis in ulcers.

- (b) Differentiate between apis and rhus in erysipelas.
- (c) Give the principal uses of kreosote.
- (d) Give the treatment of a case of arsenic poisoning.

3. (a) Differentiate between ipecac and veratrum album in a case of cholera infantum.

- (b) Give the indications for arsenicum in acute nephritis.

- (c) What are the principal uses of conium, and to whom is it especially adapted?
- (d) Mention four remedies of especial use in pleurodynia.

4. (a) What are the principal uses of lilium tigrinum and of magnesia carbonica?

- (b) Mention four remedies of especial use in pustular eruptions.
- (c) Differentiate between sepia and pulsatilla in a case of leucorrhœa.
- (d) Give the indications for the use of chelidonium in jaundice.

5. (a) Give the principal uses of apocynum and of phytolacca.

- (b) Mention two remedies of especial use in varicose conditions, and give indications for each.
- (c) In a case of whooping-cough, what symptoms would cause you to give belladonna and what ipecac?
- (d) Give the indications for colocynth in sciatica.

SECTION ON MATERIA MEDICA.

Homœopathic Questions.

Dr. E. C. Williams, (Homœopath), Examiner, Hot Springs, Virginia.

Answer four blocks only.

Ques. 1. (a) Give (1) the mental symptoms of ignatia, and (2) differentiate them from those of pulsatilla.

- (b) Give four characteristics of iodium.
- Ques. 2. (a) Give the physiological action of digitalis.
- (b) Describe the stools of rheum and of silica.
- Ques. 3. (a) What is the principal indication for the use of (1) cantharis, (2) apis, (3) antimonium crudum, (4) allium cepa and (5) collinsonia?
- (b) Differentiate the morning diarrhoeas of (1) aloes, (2) natrum sulphuricum, (3) podophyllum, and (4) sulphur.

- Ques. 4. (a) Give the physiological action of aconite.
- (b) Give (1) the eye symptoms euphrasia, (2) the heart symptoms of convallaria, (3) the laryngeal symptoms of causticum, and (4) the urinary symptoms of berberis.
- Ques. 5. (a) Describe a case of phosphorus poisoning.
- (b) Give five leading characteristics of (1) nux vomica and (2) sulphur.

Nos. of examination papers.	LIST OF INSTITUTIONS Whose Graduates were Rejected by the Medical Examining Board of Va., at its Regular Fall Meeting, December 17-20, 1900. 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 Percentage	REMARKS.
	COLLEGE OF GRADUATION.												
42	University of the South.....	87	60	75	77	60	71	68	82	65	645	71+	
7	Medical College of Virginia.....	75	46	41	63	45	80	74 $\frac{1}{2}$	70	55	565 $\frac{1}{2}$	62+	
10	University of Richmond.....	71	84	32	58	75	42	54	85	50	551	61+	
15	Maryland Medical College.....	87	62	49	71	65	81	69	68	75	627	69+	
23	University of Virginia.....	88	80	45	86	90	62	72 $\frac{1}{2}$	83	50	656 $\frac{1}{2}$	72+	
31	Johns Hopkins University.....	82 $\frac{1}{2}$	75	50	78	45	80	82 $\frac{1}{2}$	72	55	620	68+	
32	University College of Medicine.....	81	57	52	65	55	75	63 $\frac{1}{2}$	70	63	628 $\frac{1}{2}$	68+	
46	Non-Graduate.....												

INSTITUTIONS REPRESENTED BY APPLICANTS WHO CAME BEFORE THE MEDICAL EXAMINING BOARD OF VIRGINIA, FALL SESSION AT RICHMOND, VA., December 17-20, 1900.	Total Number of Applicants from each College.	Total Number of Applicants Licensed from each College.	Total Number of Applicants Rejected from each College.	With- drawals.	Partial Examina- tion
Medical College of Virginia, Richmond, Va.....	4	3	1		
University of Virginia, Charlottesville, Va.....	1	10	1		
University College of Medicine, Richmond, Va.....	5	4	1		
University of Maryland.....	4	4			
University of Baltimore.....	1	1			
University of Georgetown.....	2	1	1		
University of Pennsylvania.....	1	1			
Vanderbilt University.....	1	2			
University of the South.....	2	2	1		
Hospital Medical College, Louisville, Ky.....	3	1			
Jefferson Medical College.....	3	3			
Southern Homeopathic.....	1	1			
Tennessee Medical College.....	1	1			
Maryland Medical College.....	1		1		
Leonard Medical College.....	2	2			
Columbian University.....	1	1			
New York University and Cornell.....	1	1			
Johns Hopkins University.....	1	1			
University of Tennessee.....	1	1			
Non-Graduates taking second examination.....	2	1	1		
Non Graduates taking partial examination.....	14			1	13
College Unknown.....	1	1			

INSTITUTIONS REPRESENTED BY THE APPLICANTS

BEFORE THE

MEDICAL EXAMINING BOARD OF VIRGINIA,

FROM THE ORGANIZATION OF THE BOARD, JANUARY 1, 1883.

TO DECEMBER 30, 1900.

	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.	Income Withdrawn.
Medical College of Virginia.....	268	222	40	19	8	3	1	1	.....	.....	.....	6
University of Virginia—Medical Department.....	211	7	7	10	1	.....	.....	.....	.....	.....	.....	.....
University of College of Medicine, Baltimore.....	16	161	10	10	1	.....	.....	.....	.....	.....	.....	.....
Baltimore Medical College and University Col. of Medicine, Richmond	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
College of Physicians and Surgeons, Baltimore.....	155	96	33	4	3	2	1	.....	.....	.....	.....	.....
University of Maryland.....	139	124	33	4	2	2	1	.....	.....	.....	.....	.....
Baltimore Medical College.....	10	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Baltimore University.....	10	10	2	2	.....	.....	.....	.....	.....	.....	.....	.....
Washington University, Baltimore (Extinct).....	2	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
National Medical College, Washington, D. C.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
University of Georgetown, D. C.....	3	1	1	1	.....	.....	.....	.....	.....	.....	.....	.....
Howard University, Medical Department, Washington, D. C.....	21	6	20	2	2	1	.....	.....	.....	.....	.....	.....
University of Maryland and Baltimore Medical College.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Georgetown College, Washington, D. C.....	4	3	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jefferson Medical College.....	4	13	3	1	1	1	.....	.....	.....	.....	.....	.....
University of Pennsylvania.....	23	20	3	1	.....	.....	.....	.....	.....	.....	.....	.....
Medico Chirurgical College of Philadelphia.....	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Medical College of Philadelphia.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Woman's Medical College of Pennsylvania.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hahnemann Medical College and Hospital (Homoeopathic) Philadelphia.....	8	5	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
University of the City of New York, Medical Department.....	29	18	11	1	1	.....	.....	.....	.....	.....	.....	.....
University of New York.....	3	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
University of Virginia and New York.....	3	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bellevue Hospital Medical College, New York.....	20	19	1	1	.....	.....	.....	.....	.....	.....	.....	.....
University of Virginia and Bellevue Hospital Medical College.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
College of Physicians and Surgeons, New York.....	15	13	1	2	.....	.....	.....	.....	.....	.....	.....	.....
Geneva Medical College, New York (Extinct).....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
College of Physicians and Surgeons, New York.....	4	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Long Island College Hospital, Brooklyn.....	4	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Yale Medical School, New Haven.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
University of Vermont, Burlington.....	4	2	2	1	.....	.....	.....	.....	.....	.....	.....	.....
Marshall Medical College, Cincinnati.....	3	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Columbus Medical College.....	3	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Homoeopathic Hospital College, Cleveland.....	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pulte Medical College, Cincinnati (Homoeopathic).....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Louisville Medical College.....	1	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
University of Louisville, Medical Department.....	16	11	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kentucky School of Medicine, Louisville.....	9	8	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hospital Medical College, Louisville.....	13	10	3	1	.....	.....	.....	.....	.....	.....	.....	.....
Marshall University, Nashville.....	13	11	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
University of Tennessee, Nashville.....	3	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
University of the South, Sewanee, Tenn.....	5	1	4	3	.....	.....	.....	.....	.....	.....	.....	.....
Leonard Medical College, Raleigh (Colored).....	28	17	10	5	3	2	.....	.....	.....	.....	.....	.....
Medical College of State of South Carolina, Charleston.....	3	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Southern Medical College, Atlanta.....	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Atlanta Medical College.....	4	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tulane University, Medical Department, New Orleans.....	3	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
University of Louisiana (probably Tulane University).....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Medical College of St. Louis.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Louis Medical College, Missouri.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Detroit Medical College, Michigan.....	3	2	1	1	.....	.....	.....	.....	.....	.....	.....	.....
University of Michigan, Medical Department, Ann Arbor.....	5	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Michigan College of Medicine and Surgery, Detroit.....	3	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chicago Homoeopathic Medical College.....	1	3	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hahnemann Medical College and Hospital, Chicago.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
University of Heidelberg, Germany.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. George's Hospital, London.....	2	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Georgetown University.....	4	2	1	1	.....	.....	.....	.....	.....	.....	.....	.....
King College, London.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
N. Y. University and Cornell.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
H. P. Hopkins University.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tennessee Medical College, Knoxville.....	5	2	3	2	2	1	1	.....	.....	.....	.....	.....
Chatanooga Medical College.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Western Reserve Medical College, Cleveland.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rush Medical College, Chicago.....	2	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
National University of Ohio.....	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Eclectic School, Cincinnati.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cincinnati Medical College.....	2	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Southern Homoeopathic Medical College, Baltimore.....	7	4	3	2	.....	.....	.....	.....	.....	.....	.....	.....
Woman's Medical College, Chicago.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Columbian College.....	8	6	2	1	1	.....	.....	.....	.....	.....	.....	.....
Jefferson Medical College, Phila., and Baltimore Medical College.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Harvard Medical College.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Central Tennessee College.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Woman's Medical College, Cincinnati.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Northwestern University, Chicago.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
College of Surgeons, London.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
College of Surgeons, London.....	7	4	1	2	.....	.....	.....	.....	.....	.....	.....	.....
Columbian University, D. C.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Starling Medical College, Ohio.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Benjamin Medical College.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
McHARRY College, Nashville, Tenn.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Albany Medical College.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Orleans School of Medicine.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
University of Vermont and Bellevue Medical College.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Missouri Medical College.....	4	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Howard Medical and Michigan Col.....	4	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Washington University, St. Louis.....	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Maryland Medical College.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Non-Graduates.....	213	65	133	11	14	5	.....	.....	.....	.....	.....	8
Non-Graduates taking partial examinations.....	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Totals.....	1,641	1,157	426	85	60	18	21	2	2	1	.....	80

ALPHABETICALLY ARRANGED LIST OF APPLICANTS FOR LICENSE TO PRACTICE MEDICINE, SURGERY, ETC., WHO PASSED SATISFACTORY EXAMINATIONS BEFORE THE MEDICAL EXAMINING BOARD OF VIRGINIA, AT RICHMOND, DECEMBER 17-20, 1900.

- Armstrong, Glasgow, Lexington, Va., N. Y. Univ. and Cornell, 1898.
- Barlow, C. H., Portsmouth, Va., Univ. of Va., 1900.
- Bullitt, Jas. B., Jr., Univ. of Va., Univ. of Va., 1897.
- Balliet, Calvin J., Lehigh, Pa., Jeff. Med. Col., 1897.
- Branscomb, E. L., Richmond, Va., Non-graduate.
- Bachman, Jas S., Bristol, Tenn., Vanderbilt Univ., 1890.
- Clements, D. O., Ordinary, Va., Univ. of Balt., 1897.
- Capahart, P. W., Kittrell N. C., Univ. of Georgetown, 1898.
- Coumbe, Arthur G., Clifton, Va., Univ. of Penn., 1893.
- Coburn, A. G., Narrows, Va., Univ. of Tenn., 1893.
- Davis, Eugene, Charlottesville, Va., Univ. of Va., 1899.
- Dulaney, Nat W., Bristol, Tenn., Tenn. Med. Col., 1893.
- Ferry, E. L. W., Chatham, Va., Med. Col. of Va., 1900.
- Fisher, Howard, Washington, D. C., Jeff. Med. Col., 1895.
- Gunn, Henry L., Meadeville, Va., Med. Col. of Va., 1899.
- Griffith, G. C., Covington, Va., Univ. of Md., 1898.
- Greene, L. S., Alexandria, Va., Univ. of Va., 1895.
- Hatchett, E. A., Snow Creek, Va., Univ. of the South, 1900.
- Hofman, Van Telburg, Sumter, S. C., Med. Col. of Va., 1898.
- Hutton, T. D., Glade Springs, Va.
- Jennings, J. L., Brosword, Va., Southern Homœopathic, 1900.
- Joyner, C. C., Greenville, N. C., Jeff. Med. Col., 1899.
- Latane, S. P., Baltimore, Md., Univ. of Md., 1897.
- Lippitt, W. H., Pride, Va., Univ. of Md., 1897.
- McGuire, Joseph A., Georcel, Va., Univ. of Va., 1900.
- Mills, J. E., Norfolk, Va., Leonard Med. Col., 1900.
- Main, Russell B., Linden, Va., Colum. Univ., 1900.
- Peters, Lindsay, Baltimore, Md., Univ. of Va., 1896.
- Phillips, W. S., Baltimore, Md., Univ. of Md., 1897.
- Pearson, M. M., Bristol, Tenn., Hosp. Med. Col. Ky., 1889.
- Peavler, G. M., Bristol, Tenn., Hosp. Med. Col. Ky., 1889.
- Quarles, J. J., Bells Cross Roads, Va., Leonard Med. Col., 1900.
- Robertson, H. McGuire, Max Meadows, Va., Univ. of Va., 1900.
- Roller, W. C., Fort Defiance, Va., Univ. of Va., 1899.
- Riddick, S. A., Smithfield, Va., Univ. Col. of Med., 1899.
- Ropp, J. M., Montgomery, Va., Vanderbilt Univ., 1891.
- Smith, J. E., Oceana, Va., Univ. Col. of Med., 1900.
- Smith, J. W. R., Shadwell, Va., Univ. of Va., 1900.
- Schwab, Lester L., Roanoke, Va., Univ. Col. of Med., 1900.
- Sayers, S. R., Jr., Wytheville, Va., Univ. of Va., 1900.
- Smith, C. T., Jr., Washington, D. C., Colum. Univ., 1900.
- Watkins, G. S., Cornwall, N. C., Univ. Col. of Med., 1899.

Vin Mariani.

The St. Louis Medical and Surgical Journal believes that when this coca wine "becomes as well known in this country as it is in Europe it will be adopted as one of the indispensable remedies in the households." It is "essentially the brain and nerve tonic" of those who have talents and use them. The most noted physicians, etc., of Europe have sent the most flattering letters to M. Mariani extolling this product. The unsolicited testimonials from such sources are the best possible evidence of the merits of this preparation.

Book Notices.

Modern Surgery—General and Operative By JOHN CHALMERS DaCOSTA, M. D., Professor of the Principles of Surgery, and of Clinical Surgery, Jefferson Medical College, Philadelphia, etc. *With 495 Illustrations. Third Edition, Revised and Enlarged.* Philadelphia and London: W. B. Saunders & Co. 1900. Cloth. Svo. Pp. 1,117. Cloth, \$5.00; Half Morocco, \$6.00.

DaCosta's surgery, like old wine, improves with age. The first edition was issued in 1894. The author has been frank enough with himself to recognize the justice of certain criticisms which have led him to correct errors or to modify statements which enlarged experience and important advances in surgical science have dictated. Every important chapter or section shows the impress of careful revision, and much new matter has been added so as to bring the work well up to date for the uses of the young practitioner as well as a reliable guide for the more experienced surgeon. Instruments and how to use them, and operations of various kinds are illustrated by cuts, photo-engravings, etc. A number of skiagraphs are introduced to show their value in diagnosis and in determining results of operations, etc. We take great pleasure in commending this either as a text-book for students or as a material help to the surgeon.

American Illustrated Medical Dictionary By W. A. NEWMAN DORLAND, A. M., M. D., Assistant Obstetrician to the University of Pennsylvania Hospital, etc. *With Numerous Illustrations and 24 Colored Plates.* Philadelphia and London. W. B. Saunders & Co. 1900. Svo. Pp. 770. Flexible Leather, \$1.50; same with Thumb Index, \$5.00.

We are told on the title page that this is "a new and complete Dictionary of the terms used in medicine, surgery, dentistry, pharmacy, chemistry, and the kindred branches, with their pronunciation, derivation and definition, including much collateral information of an encyclopedic character;" "together with new and elaborate tables of arteries, muscles, nerves, veins, etc.; of bacilli, bacteria, diplococci, micrococci, streptococci, ptomaines and leucomains, weights and measures; eponymic tables of diseases, operations, signs and symptoms, stains, tests, methods of treatment, etc." Pronunciation, we are told in the preface, has "received the most careful attention;" yet we

find that he gives to the word "finger" an almost unpronounceable pronunciation—that of "*finj ger*." "For convenience of consultation," "all phrases consisting of a noun and its qualifying word have been defined under the principal noun." It seems to us this has been carried a little too far, for at times the "qualifying word" is suggestive of the word desired to be recalled. Probably, when the author comes to issue the second edition, he will recognize the necessity for alphabetically arranging some of the qualifying words. But notwithstanding this criticism, we find in the book so much to commend that we do recommend it to the doctor in need of a reliable office table dictionary.

King's American Dispensary. *New Edition. Entirely Rewritten and Enlarged.* By HARVEY W. FELTER, M. D., Adjunct Professor of Chemistry in the Eclectic Medical Institute, Cincinnati, O.; Co-editor Locke's *Materia Medica and Therapeutics*; Ex-President Ohio State Eclectic Medical Association, etc., and JOHN URI LLOYD, Ph. M., Professor of Chemistry and Pharmacy in the Eclectic Medical Institute, Cincinnati, O.; formerly Professor of Pharmacy in the Cincinnati College of Pharmacy; Ex-President of the American Pharmaceutical Association; Author of the *Chemistry of Medicines; Drugs and Medicines of North America; Etidorpha*, etc. *Two volume editio*, Royal Octavo, containing together 2,284 pages, including complete Indices. Cloth, \$4.50 per volume, post-paid. Sheep, \$5 per volume, post-paid. The Ohio Valley Company, Publishers, Cincinnati, O.

We noticed the first volume on issue in 1898. Now the second volume is at hand. It has been prepared with great care and accuracy, and we must say that it more nearly reaches the ideal of a *Dispensary* than any of those that have been published. While it is especially intended for students and practitioners of the eclectic schools, it is remarkably liberal in its facts—one scarcely being able to detect any differences in it from that which belongs to the regular school, except that it is better, fuller and contains a great deal more of pharmaceutical and therapeutical information. Medicines derived from the mineral kingdom—even mercury and mercurial compounds in their therapeutic bearings—receive fair consideration from the standpoint of the authors, for eclectics at one time decried the use of such agents as remedies in disease. This new edition preserves the important original matter by Prof. King, and in addition, on almost every page will be found important

new matter according to the advances of the eclectic schools. It contains much recent matter not found in other dispensaries. As Volume I treated of all articles that could be expected to be found in a dispensary—alphabetically arranged from A through F, so Volume II treats of all other agents, alphabetically arranged, from G through Z. An Appendix of 62 full pages contains a list of reagents, principal abbreviations occurring in pharmaceutical formulæ, comparison of different thermometric scales, tables of weights and measures, table of proportionate doses at different ages, show colors for druggists' shop windows, etc., etc. The Index for the two volumes occupies about 92 triple columned pages, and it is remarkably good—there being cross references wherever needed.

Text-Book of the Practice of Medicine. By JAMES M. ANDERS, M. D., Ph. D., LL.D., Professor of Practice of Medicine and of Clinical Medicine in Medico-Chirurgical College, Philadelphia, etc. *Illustrated. Fourth Edition, Thoroughly Revised.* Philadelphia and London: W. B. Saunders & Co. 1900. Large 8vo. Pp. 1,292. Cloth, \$5.50; Half Morocco, \$6.50.

The quick demand for this fourth edition after the issue of the third edition in September, 1899, attests the popularity of the work, while the present edition has exactly the same number of pages as the former. But we find a number of changes in the text—some old matter cut out and new matter introduced. The department devoted to diseases of the digestive system has many additions which bring those sections better up to date, and make them more serviceable to the student or practitioner. The chapters on ileocolitis of children, on acute cholecystitis, etc., have been written anew. The subject matter has been rearranged in many parts for the greater convenience of the readers or students. The more modern methods in diagnosis, as also the now recent advances in therapeutics as affecting the diseases that are naturally considered in a work on practice of medicine, have been well brought out. This book will occupy a high position in the esteem of the profession for a long time to come. It is a good practical book—a safe guide for the practitioner, and a good college text-book.

Editorial.

Discovery of Anæsthesia.

Various journals—medical and general scientific—in summing up the advances of the nineteenth century, persist in the claim of discovery of modern surgical anæsthesia by Dr. Morton, or else by Dr. Horace Wells. And yet abundant proofs show that Dr. Crawford W. Long, late of Athens, Ga., antedated every other claimant by two or three years. No one can read that historic paper by the late Dr. J. Marion Sims, of New York, published years ago in the *Virginia Medical Monthly*, without being convinced that the credit of the Discovery of Modern Surgical Anæsthesia by Ether belongs to, and was first used in surgical practice by, Dr. Crawford W. Long, of Georgia. That able and forceful medical historian, George Foy, M. D., F. R. C. S., of Dublin, paid a visit to this country in part to look up this history, and the result of his investigations led him to credit Dr. Long with this great discovery a year or two in advance of any other claimant. Any amount of evidence can be given; and why the error in history should be so constantly repeated by parties who ought to know better is a singular freak. Even so accurate a journal as the *Scientific American* of December 29, 1900, contains the error of not giving the credit due to Dr. Long.

The American Medico-Psychological Association

Will hold its annual meeting (1901) in Milwaukee, Wis., June 11-14. Hotel Pieter—the hall of meeting—has ample accommodations and offers special rates. Those members expecting to present papers should promptly send titles to the Secretary, Dr. C. R. Burr, Oak Grove Hospital, Flint, Mich. The meeting promises to be of unusual interest. Dr. Warren P. Lombard, Professor of Physiology in the University of Michigan, will deliver the Annual Address—on “The Reinforcement and Inhibition of Nervous Processes.”

The Mosquito.

The Palisade Manufacturing Co., Yonkers, N. Y., is mailing to physicians an illustrated folder, showing in sepia the distinctive differences between the *Culex* (non-malarial) and the *Anopheles* (the malarial) mosquito as to how to detect the good insect from the bad. A copy will be mailed to any physician who has not received one. Address “The Palisade Co.,” Yonkers, N. Y.

The Tri-State Medical Association of the Carolinas and Virginia,

Which is to hold its sessions in the hall of the Jefferson Hotel, Richmond, Va., February 26-23, 1901, under the presidency of Dr. C. W. Kollock, of Charleston, S. C., will, we trust, be well attended by the professions of North and South Carolina and Virginia. At this early date in advance of the session, besides the *President's Address* and the Discussion of the Special Subject, *State Medicine*, by Dr. James Evans, of Florence, S. C., Leader, we hear of a number of papers already promised. Dr. Manning Simons, of Charleston, S. C., promises a paper, but has not furnished the Secretary, Dr. John N. Upshur, 210 W. Grace Street, Richmond, Va., with the title. Dr. H. A. Royster, Raleigh, N. C., will present a paper on *Moted Questions in Abdominal Surgery*; Dr. Stuart McGuire, Richmond, Va., will write on *To Cut For, or to Crush Stone of the Urinary Bladder?* Dr. D. A. Kuyk, of Richmond, Va., will have a paper on *The Significance of Running Ears and Treatment by the General Practitioner*. The subject of the paper by Dr. Paul Paquin, of Asheville, N. C., is *Expectoration—its Significance in Diagnosis and Prognosis*. Dr. Van Tellburg Hoffman, Sumpter, S. C., will have a paper on *Have we a New Treatment for General Septic Infections?* Dr. J. Edward Tompkins, Fredericksburg, Va., will write on *Infant Feeding*. Dr. J. N. Upshur, Richmond, Va., promises a paper on *Uterine Reflexes*. Dr. Edward F. Parker, Charleston, S. C., will write on *Tinnitus Aurium*. Dr. Louis F. High, Southern Pines, N. C., will have a paper on *How May We Still Further Reduce the Mortality Rate of Consumption?* Several other papers have been promised, and there is room for a number of other papers still; but their titles should be sent at once to the Secretary, Dr. Upshur, in order that they may be duly assigned space on the printed program, which will be issued early in February.

Psycho Physical Laboratory in the Department of the Interior.

A U. S. Senate amendment to the Sundry Bill, providing for the establishment of a Psycho Physical Laboratory in the Department of the Interior has been introduced. It is intended that this Laboratory be in the Department of the Interior by itself, and not in the Bureau of Education. The National Prison Association, last fall, unanimously adopted a resolution in favor of such a laboratory to study criminals. It is not intended that this new bureau shall be in competition

with other psycho-physical laboratories of the country. Its purpose is to gather sociological, pathological or abdominal data, as found especially in children and criminal paupers and defective classes, and in hospitals. It is further intended to gather more special data with laboratory instruments of precision, and to make such experiments or measurements as are generally considered of value by psycho-physicists and anthropologists. While the field is necessarily a very large one, it is the purpose to study in those parts of it which seem at the time to be productive of the most practical results. The Senate amendment, as above referred to, seems to be a very proper one, and we trust to hear of its adoption.

The New York School of Clinical Medicine

Has opened up a new department of neurology, namely, the study of the neuroses and psychoses of spirit and drug diseases. Dr. T. D. Crothers, of Hartford, Conn., has been elected Professor, and will deliver lectures and give clinical instruction on inebriety from alcohol, opium, cocain, and other narcotics, particularly on the symptomatology, treatment and medico-legal relations. These lectures will begin February 18, 1901, in the lecture room of the college, 328 West 42d street, New York city. This is the first effort to give special systematic instruction in this new field and raise the subject to the level of scientific medicine. We especially congratulate the New York School of Clinical Medicine in securing the services of Dr. Crothers for this important Professorship. His life study, abundant experience (in charge of Walnut Lodge Hospital) and scholarly ability, peculiarly well suit him for this new responsibility.

Mosquito Causes Yellow Fever.

According to an Associated Press dispatch from Havana, dated January 9, 1901, the American Commission under the superintendency of Dr. Reed, which has been making experiments at Quemados as to the propaganda of the yellow fever germ by the mosquito, has obtained extremely satisfactory results. Dr. Reed says the experiments show, beyond a doubt, that there is no contagion from an infected person or from infected clothing, but that the mosquitoes alone are responsible for the spread of the disease.

This matter has been time and again under discussion or conjecture. The report fails to say which species of the mosquito is responsible. Probably, like flies, mosquitoes act as germ carriers.

Railway Surgery in America.

Dr. Clark Bell, of New York, ex-President of the International Medico-Legal Congress of New York, read a paper on this subject before the International Medical Congress, Paris, 1900, which is of great interest. Beginning with the statement that in June, 1893, there were 874,588 persons in the employ of the railways of the United States of America, no human precaution can seemingly prevent railway accidents—injuring or killing both employees and the general travelling public. To minimize the results of such accidents upon people, most of the great railway systems of America have adopted the system of having (1) a chief surgeon for each of the whole systems, with a staff of local surgeons distributed at the most important points on the railway, subject to instant call by telegraph and telephone; and (2) a hospital system for the whole line under charge of a competent house surgeon and assistants, with every modern appliance for surgical or medical relief. Some of the better equipped railways have also hospital relief cars, furnished with every appliance necessary which can quickly reach the scene of an accident. Experience has demonstrated that the saving to the railway which adopts this plan of having a chief surgeon and local staffs and a railway hospital, as compared with the railway that has not done so, in the amounts paid for damage claims, is something enormous. The surgeons of the various roads having a chief surgeon and a medical and surgical staff and hospitals along its line, have, for the most part, organized themselves into associations and societies for the purpose of considering those professional matters which are of most interest to them in their special line of practice. And these associations hold relation with the national and international bodies for their further improvement.

We have had opportunity to witness the beneficial influences of several of the organizations of these railway associations. The Chesapeake and Ohio Railway System, under charge of that able surgeon and genial man, Dr. C. W. P. Brock, of Richmond, Va., as chief surgeon, has a thoroughly equipped surgical department, with hospitals along the line that are models. He was President of the International Association of Railway Surgeons during its session in Galveston, Texas, in 1894. Dr. Wm. B. Outen, of St. Louis, Mo., Chief Surgeon of the Missouri Pacific Railway System, has likewise achieved professional eminence. Dr. Joseph A. Gale, of Roanoke, Va., as Chief Surgeon of the Norfolk and Western Railroad, has

adopted methods for the care of the sick and wounded along his line which have brought his system into deserved credit. And thus we might refer to a number of other lines of railways whose surgeons practically give their professional lives to such work. They are constantly perfecting their departments with credit to themselves and to the railways they represent.

As Dr. Bell says in his paper: "All American railways have not adopted the hospital system, and some have not adopted the chief surgeon and staff system; but it is only a question of time when every American railway will have its chief surgeon and local staff."

Paper on Suprarenal Capsule in Organic Heart Disease.

Dr. Samuel Floersheim, 218 E. Forty-sixth street, New York, N. Y., published a paper on this subject in the *New York Medical Journal*, October 6, 1900, pages 581-5. He proposes to publish a second paper on the use of suprarenal capsule in organic heart disease. To make this second paper as perfect as possible, he asks the readers of this journal to send him reports of their cases, stating (I) the condition of the heart and pulse, as also the pulse rate; (II), the effect on the heart and pulse, as also on the pulse rate, within ten months after the suprarenal powder (three grains) is chewed and swallowed by the patient, without water.

Illegal Practitioner Indicted by Grand Jury.

The grand jury at Newport News, Va., at its session on January 17th, 1901, indicted Dr. Louis Loeb for practising as a physician and surgeon without first securing a certificate from the State Board of Medical Examiners. It is claimed that this man has been practising in Newport News for several years, but has never passed the State Board.

In most of these cases, the alleged doctor usually secures a license before attempting to practice, and ordinarily this license is procured without trouble. Many commissioners of revenue are entirely too lax in their methods as to requirements, etc., before issuing licenses, especially so with those wishing to practice medicine and surgery. Hence, as a first lesson, if it is shown in the above case that the commissioner has been at fault, we trust that he will also be indicted by the grand jury. A trial and conviction with proper fine of two or three of these commissioners, in various portions of the State, will greatly aid in ridding our profession of numerous scamps who do the cause of medicine more harm than good wherever they appear.

We might add that the commissioner of revenue in the city of Richmond has issued licenses without having proper evidence that such and such an applicant has obtained the certificate from the Medical Examining Board of Virginia.

To Clear the Alimentary Tract for Operation.

In the preparation of a patient for a surgical operation, Dr. Chas. W. Oviatt, surgeon to St. Mary's Hospital, Oshkosh, Wis., recommends (*Internat. Jour. Surgery*, August) a daily warm salt bath, followed by friction with a coarse towel for the purpose of getting the skin into the best possible condition for elimination. Clear out the bowels thoroughly by fractional doses of calomel each day, followed by a saline cathartic. "In my hospital work, I have, for several years, been in the habit of using for this purpose 'Abbott's' Saline Laxative, an effervescent preparation of c. p. magnesium sulphate, which affords an ideal method of administering this remedy. Nothing has ever taken the place of magnesium sulphate for thoroughly cleaning out the bowel." The disagreeable taste and nauseating effect of Epsom salts are almost entirely overcome in Abbott's saline laxative—forming, as it does, a refrigerant and not unpleasant drink, not objectionable to delicate stomachs. By its use, following the small doses of calomel, the intestinal canal is thoroughly cleaned out—thus minimizing the possible complication of intestinal toxæmia following the operation. In after-treatment, especially in abdominal cases, Abbott's Saline Laxative is equally efficacious, as it stimulates peristalsis without griping.

Treatment of Bronchitis.

The current number of the *Canadian Journal of Medicine and Surgery* contains an excellent scientific article on the treatment of bronchitis. Various methods of treating this affection are discussed in detail and their merits compared; numerous formulæ of the official drugs of the pharmacopœia are also suggested. There is, however, but one proprietary remedy mentioned as being of sufficient value to merit distinction; this remedy is *Angier's Petroleum Emulsion*. The writer states that it is of specific value in affording prompt relief from the symptoms of inflammation of the respiratory tract. Cough is promptly checked, expectoration made easy and free from effort and the sensations of irritation and inflammation in the chest are almost immediately abolished. Those beneficial effects are noted even in chronic obstinate forms of bronchitis, and may be relied upon to effect a cure.

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Original Communications.

DIAGNOSIS AND TREATMENT OF SOME OF THE ORDINARY FRACTURES, WITH RE- PORT OF CASES.*

By WALLACE NEFF, A. M., M. D., Washington, D. C.,

Formerly Adjunct Professor of Clinical Surgery and Surgical Pathology, Medical College of Ohio (University of Cincinnati); Late Major and Brigade Surgeon U. S. V.; Member of the Southern Surgical and Gynecological Association; Member of the Medical Association of the District of Columbia; Medical Society of the District of Columbia; Medical and Surgical Society of the District of Columbia, etc.

There is no class of injuries that the surgeon is called upon to treat that is so generally unsatisfactory and causes so much worry and trouble as fractures. This is due to the popular impression that bones can be broken with impunity, and not only made as good as they were before, but a great deal better, with or without the co operation of the patient. The proportion of cases followed by perfect repair and perfect function, represents but a small number of those treated. The consequence is, that the large majority of malpractice suits are fracture cases.

If a perfect result is obtained, it is only what is expected, and no special credit is deserved. If there is any deformity or impaired motion, the skill of the surgeon is liable to be questioned. It only requires the injudicious criticism of a physician—an elevation of the eyebrows and a satirical smile are sufficient—to render the patient dissatisfied. A lawyer can readily be found, who, for a contingent fee, will do the rest. It is also worthy of note that it is invariably the class who never pay their doctor's bills who are the plaintiffs in malpractice suits. We have in the X ray a valuable aid in the diagnosis and treatment of fractures, but it has also become a formidable weapon in unscrupulous hands. Skiagraphs have already begun to play a part in suits for alleged malpractice. They are apparently tangible evidence, and something which the average

juryman thinks he can understand without explanation or expert testimony.

The skiagraph may tell only a portion of the truth, or may give a very false impression of the condition, depending entirely upon the plane in which it is taken and the position of the injured member. With the very best result possible, some irregularity would be shown at the seat of fracture. The result is, therefore, misleading, when we consider that the appearance of deformity may be produced in a normal bone and an existing deformity in an injured one may be grossly exaggerated.

It has also been observed that callus in which the lime salts have not yet been deposited, will not show in a skiagraph. A fracture, therefore, in which the provisional callus has formed, may present the appearance of non-union, suggesting the necessity for wiring, which would be found unnecessary if the parts were exposed. A bad skiagraph does not necessarily indicate a bad result, and the X ray should not be relied upon to the exclusion of the ordinary tests in determining the degree of disability. It is gratifying to know "that it has been decided that hereafter the X ray will not be sanctioned by the American Medical Association as a part of expert evidence; and whether or not a limb has been properly set, will be determined by the ability of the patient to use the member" (*Philadelphia Med. Jour.*, Nov. 24, 1900, p. 978.) Notwithstanding this condemnation by so eminent an authority, it is difficult to see how a sharp lawyer can be prevented from using such evidence, surreptitiously or otherwise. It seems to the writer that the best solution of this troublesome question would be to insist upon every patient, or his guardian, signing a release before undertaking his case. Printed blanks could be carried in the emergency bag, stating that the surgeon would give his best skill and attention, but that the patient must accept the result, whatever it might be.

If this were universally adopted, it would put a stop to damage suits, protect the surgeon against professional injury and financial loss, and at the same time secure the co-operation

* Read before the Medical and Surgical Society of the District of Columbia, December 6, 1900.

of the patient in the treatment of his case. And just here it might be well to enter an earnest protest against relying upon the X-ray in the diagnosis of fractures to the exclusion of the tactile sense. Until a portable machine is invented, it can only be used in hospital practice or in private cases that can be transported to the laboratory. It is not available in severe fractures, especially of the leg and hip, where its assistance would be most valuable. It is important, therefore, to employ it as corroborative evidence whenever practicable, but not at the expense of an early recognition of the usual symptoms of fracture confirmed by delicate manipulation.

Mistakes are made in the diagnosis of fracture—

1. Because of the difficulty of recognizing it when present.

2. The difficulty of discovering its absence when it does not exist.

Authorities give us positive signs of fracture, deformity, preternatural mobility, crepitus, etc. In the majority of fractures these symptoms are present, and these fractures are easily diagnosed. The trouble comes when a fracture exists, and these signs are either absent or obscure, and manipulation is painful and harmful. The character of the fracture or the relations of the fragments may be such that free motion is not possible; or the swelling may be so great and pain so intense, as not to admit of much manipulation. It may be near the end of a bone and impacted, so that manipulation sufficient to give mobility would be unjustifiable. For instance, take a fracture of the upper end of the humerus in a fat subject. The usual instructions are to grasp the head of the humerus between the fingers and thumb and take the elbow in the other hand and rotate, and if a fracture exists, crepitus will be felt and the head of the bone will not move with the lower part. This is all right, theoretically, but the fat and swelling prevent recognition. We are told also that if pressure is made with the finger, a line of marked tenderness will be felt; but there is often a large area of tenderness, so it is impossible to determine whether the pain is in the bone or soft parts. If, however, you put one hand on the shoulder and the other under the elbow, and make pressure, if a fracture is present, you will press the broken ends together and cause great pain; if there is no fracture, there will be no pain; hence, this manipulation will settle the diagnosis. The same is true of the *ulna*. A fracture of this bone is usually the result of a blow, and the arm is so swollen as

to render a recognition of preternatural mobility, etc., difficult. If you take the patient's hand in yours and ask him to press against you, he will try to extend his arm, but flinches. It causes pain at the middle of the *ulna*, and the diagnosis is made.

In a *Colles' fracture* you have deformity, but the impaction is so great, that except under an anesthetic, you will not get crepitus, or abnormal mobility, and might not get them even then. If the end of the finger is passed across the back of the wrist, a line of marked tenderness will be found; press the patient's hand towards the elbow, and you will cause pain, this confirms the diagnosis.

Fractures of the leg are usually easily recognized, but if any doubt exists, if the hand is placed on the ball of the foot and the patient presses against it, if a fracture exists there will be sharp pain.

In a *Pott's fracture*, which is caused by forcible eversion and adduction of the foot, seldom by inversion and abduction, there is a separation of the two bones, and a rupture of the tibio fibular ligament, and usually a fracture of the fibula. If you pass your finger down the line of the fibula, you will find a tender point on pressure. Then put the finger on the point where the tibia and fibula come together, and there will be great pain. Then press on the internal malleolus, and you will elicit pain; if not there, a little below it.

These three points of great tenderness are sufficient to make the diagnosis. Under an anesthetic you can get the lateral mobility.

Pain is, therefore, the most reliable symptom when produced by proper manipulation. It cannot be relied upon in children, as they cry from fear, as much as from pain. It is better to use an anesthetic with them.

In *fracture of the neck of the femur* the fractured surfaces glide by each other, so that the leg can be handled without causing any characteristic pain. The diagnosis can be made from the appearance of the leg; utter helplessness, outward rotation, swelling of the upper part of the thigh, etc. This fracture is often undetected, or mistaken for a dislocation. A correct measurement will help to decide it. Stimson's method, and it is the simplest and best, is to draw a tape from one anterior superior spine to the other, then bring a second tape down from the middle of the first, and at right angles to it, and place the legs so that the ankles are equally distant from the second tape, then measure, and if any shortening exists, it will at once be apparent.

Too much manipulation in this fracture

does a great deal of harm. In almost every fracture, a portion of the periosteum remains unturned, forming a bridge, which furnishes the nourishment to the head of the femur. If this bridge is torn by manipulation, repair is impossible, and the patient is condemned to be a cripple in the effort to make a diagnosis.

Hodgson, a hundred years ago, said, "In any case of an injury to an old man or woman, when there is disability of the limb, treat it as a fracture of the neck of the femur." That is good advice to day. If after two or three weeks, it should prove not to be a fracture, no harm has been done, and if it is one, the right course has been pursued from the start.

Injury of the elbow joint is of frequent occurrence, and is always serious, often resulting in loss of function and permanent disability. The diagnosis is usually difficult, owing to the great swelling that rapidly develops, the œdematous condition preventing a recognition of the bony prominences by the tactile sense. There may be fracture alone in the humerus, radius or ulna, or of more than one of them, associated with, or without dislocation. If a dislocation alone is present, it may be recognized by the abnormal rigidity, and should be reduced at once, as delay renders it more difficult and increases the chances of a stiff joint. If certain that fracture alone exists, there is no reason for great hurry, unless the fragments are out of line, as callus does not form at once, and it is better to wait until the swelling subsides before making a positive diagnosis. If, however, the environments are such that an immediate immobile dressing is necessary, the employment of a Martin's bandage will facilitate making a prompt diagnosis. Under an anesthetic, the bandage is applied from the hand to the shoulder, and allowed to remain for ten or fifteen minutes. It is then removed, beginning at the hand, and leaving a few tight turns around the upper arm. It will be found that the swelling has disappeared, and before it returns the diagnosis can be made. If it is a fracture, the fragments can be placed in apposition; and if it is a dislocation, it can be reduced.

Fracture of the metacarpal bone of the thumb is more frequent than any of the other metacarpal bones. The fracture is generally at the base, whereas, in the others it is in the middle. The fracture is frequently unrecognized, being mistaken for sprain, or dislocation. The chief disability associated with this injury is inability to approximate the thumb and index finger, rendering the ordinary use of the hand impossible.

TREATMENT.

The object of every form of treatment is the restoration of function, but a bone that has once been broken can never be restored, so as to leave no evidence of the injury. There may be no visible deformity, and it may not be detected by the touch, but the Röntgen ray will reveal a blemish. The limb may be made strong and serviceable, and practically as good as ever, but unfortunately this is not always possible. It is, therefore, important to warn the patient of the impending dangers and possible complications, and to make a most guarded prognosis. If the fracture is in the vicinity of, or involves a joint, it is always wise to prepare the patient for a stiff joint. If perfect motion is obtained, you will not be censured, and if ankylosis, or loss of function results, due warning has been given, and you cannot be blamed.

Fractures should be regarded as serious and not simple injuries, and if only patients could be made to appreciate this fact, the chances of obtaining a good result would be greatly improved. Fractures should unite in from four to twelve weeks, but even in a healthy subject non-union frequently occurs. In individuals who are poorly nourished, or suffering from tuberculosis, syphilis, rickets, etc., unexpected complications may arise, such as suppuration, necrosis, soft calluses, vicious union and non-union. When non-union does occur, the patient is very likely to blame the surgeon. Operative procedures for non-union are not always successful.

"Out of 656 cases collected by Norris, 223 failed. Of this number, 19 died, and amputation was resorted to in 29 cases" (C. B. Herrick, *Philadelphia Medical Journal*, June 2, 1900, p. 256). "In the Pennsylvania Hospital from 1850-1874, 8,667 fractures of all varieties were treated, and of this number 1,196 died" (*Philadelphia Medical Journal*, June 2, 1900). These statistics show the importance of having a thorough understanding with the patient, of securing his co-operation, and of eliminating every possible chance of blame for an unfavorable result.

If a fracture is seen early, before there is much swelling, its immediate reduction should be attempted, and an immobile dressing applied. If, however, there is so much œdema and extravasation as to render it difficult or dangerous, a temporary dressing should be employed, and heat kept up continuously. An anesthetic should be given if there is much muscular resistance, or great pain; this is espe-

cially necessary with children—a complete relaxation of the muscles being essential to a correct diagnosis and successful reduction. In a *Colles' fracture*, a good result depends upon an immediate and successful reduction. The impaction is great, but with skillful manipulation the fragment will go back into place with a snap, the deformity will disappear, and a bracelet of adhesive plaster, or plaster of Paris, will hold it in place. It is better, however, to use a more substantial dressing outside of a hospital, and particularly with children.

Almost every variety of material has been employed for splints. A molded splint possesses many advantages, as it can be made to adapt itself to all inequalities, and to fit to perfection. Of all the different materials that have been suggested, the plaster of Paris is by far the best. A complete encasement of plaster of Paris is a favorite dressing. It is easy of application, difficult of removal, and often dangerous.

It should be inspected the day after it has been applied. The limb may swell, necessitating its removal, which if not done promptly may cause disaster. This circular dressing in a fracture of the forearm, for example, becomes so tight sometimes as to cut off the blood supply, and while it may not be sufficient to cause gangrene, yet it does diminish the blood supply and the muscles undergo a structural degeneration, the muscular tissue disappears and scar tissue takes its place. The skin is non-resistant and does not indicate the change taking place beneath it. The result is the fingers curl up and stiffen, and the hand is useless. This condition is called "*ischemic contracture*" (Stimson). The plaster of Paris *splint* avoids this danger, and is safer, and in every way superior to the circular bandage, and can be readily adapted to any form of fracture. The splint I employ in a fracture of the forearm, for example, either a *Colles'*, or fracture of the shaft, is made in the following manner: With a tape, measure the distance from a point an inch or two below the elbow to the knuckles, for a posterior splint, and from a corresponding point on the inner surface, to the palm, for an anterior splint. Take a plaster of Paris roller bandage $2\frac{1}{2}$ inches wide, and lay off eight to ten thicknesses for each splint. Then wet in hot water, pad with absorbent cotton, and while an assistant makes traction and keeps the fragments in apposition, place the splints in position, anteriorly and posteriorly; then bind them firmly in place with a crinoline bandage.

This is also applied while wet, the sizing in the crinoline making it adherent. Traction

must be kept up until the splints harden and the crinoline dries. The arm should then be placed on a small pillow, and two or three strips of roller bandage will hold it in position. Hot water bags should then be applied, and the patient kept quiet for twenty four hours, or longer, if necessary. Swelling seldom occurs, but if it should, and the bandage is too tight, the crinoline can be easily cut and the arm inspected. The crinoline can be readily renewed, if the bandage is too loose or too tight, or becomes soiled, without disturbing the splints.

A fracture should always be inspected not later than the end of the first week to see if the fractured ends are in apposition, and, if possible, a skiagraph should be taken. The arm can be worn in a sling, so adjusted as to throw the weight on the elbow, and not make pressure on the forearm. The fingers and thumb, not being included in the dressing, should be exercised to avoid stiffness.

In a *fracture of the humerus*, a long splint should be made, extending from the wrist up the back of the arm, and over the tip of the shoulder. The elbow should be flexed, and a sling so arranged so as to support the arm at the wrist only, and cause no pressure on the elbow, otherwise the fragments would override each other, and the object of the dressing be defeated.

For *fracture of the leg*, take a four-inch plaster roller, and make a posterior splint, extending from the toes along the sole, under the heel, and up the back of the leg to the knee, if the fracture is of the lower third; above the knee, if the fracture is higher up. Then, with a two and a half inch plaster roller, make the lateral splints in one piece, extending from the knee, or above it, on the outer side, under the sole of the foot, and up the leg on the inner surface. These splints are padded, care being taken to protect the malleoli, and bound in place by crinoline bandages, traction being kept up all the time by an assistant. A circular plaster roller can be substituted for the crinoline later, if it is found necessary to have a more substantial dressing when the patient is ready to use crutches.

An *ambulant splint* can be made so that the patient can walk about after the first week. A layer of two inches of cotton is bound under the sole of the foot, and a plaster sole, made of a dozen layers of plaster gauze, is included in the dressing. The foot is flexed, so that the weight comes on the heel. If the fracture is above the lower third, the dressing should go above the knee. The leg is thus suspended

within a plaster case. Better results will be secured if the patient is not allowed to move about until repair has taken place.

In a *Pott's fracture*, a broad posterior splint, extending from the toes to the knee, should be employed. A narrower lateral splint, beginning on the dorsum of the foot, and carried across the outer border, and the sole, and up the inner surface of the leg. A circular girdle is applied above the ankle, and at the upper end of the splints. The whole is then enveloped with crinoline bandages.

No fixed rule can be laid down as to when the splints should be removed, and passive motion and massage employed. Each case is more or less a law unto itself, and depends entirely upon the nature of the fracture. Motion too early, especially in fractures involving joints, such as the elbow, will prevent the fragments from remaining in apposition, and is contrary to the underlying principle in all surgery of giving the suffering member rest. On the other hand, immobility for too long a time will result in ankylosis, and atrophy of the muscles, etc. If, on careful inspection, it is determined that union has taken place, passive motion and judicious massage should be employed, care being taken that it is conducted by some one who understands the proper manipulation of joints after fracture.

REPORT OF CASES.

The following cases illustrate the application of some of the practical points, to which allusion has been made:

CASE I.—Mrs. J., aged 68. Colles' fracture; right arm. Promptly reduced, and dressed with anterior and posterior plaster splints and crinoline bandage. Uninterrupted recovery, with no deformity and perfect motion. Unusually good result, considering age of patient—68.

CASE II.—Case of Dr. Adams. T. W., aged 12. Colles' fracture; left arm. Displacement forwards, instead of backwards. Reduced, plaster splints and crinoline. X ray used a few days later. Startling condition shown, which did not seem possible. Another negative taken the following day, with dressing removed, showed excellent position. Appearance in first negative probably due to plane in which it was taken, or shadow from dressing. This case illustrates admirably how a wrong impression can be given by X-ray. Result, excellent. No deformity, or impairment of function.

CASE III.—L. P. W., aged 16. Referred to me by Dr. Adams. Colles'; right arm. Prompt reduction. Plaster splints and crinoline. Ex-

amined with fluoroscope only; position good. Result, excellent. No visible evidence of fracture.

CASE IV.—D. H., aged 10. Fell out of a tree. Will only refer to arm. Colles'. Right arm. Same dressing, and result as in previous cases.

CASE V.—J. B., aged 9. Case of Dr. Adams. Green-stick fracture, lower third, both bones of left arm. Straightened. Plaster splints and crinoline. Recovery without deformity.

CASE VI.—Same boy, within a month after his discharge, fell and broke both bones of same arm, but not at point of previous fracture. Complete fracture. Plaster splints and crinoline. Perfect result.

CASE VII.—Mrs. W., aged 60. Colles' fracture left arm; also fracture of shaft of radius. Usual dressings. Good result; excellent motion of wrist. Some evidence of fracture in shaft. Discontinued massage prematurely.

CASE VIII.—G. S., aged 7. Case of Dr. Stone, U. S. N. Colles' fracture left wrist. Prompt reduction. Examined with fluoroscope. Showed reduction complete. Good result. No deformity or impaired motion.

CASE IX.—E. B., aged 55. Pott's fracture right leg. Reduced. All plaster dressing used. Excellent result. Good motion.

CASE X.—Mrs. L. D., aged about 35. Fracture both bones left leg, about junction of middle and lower thirds. Reduced under an anæsthetic, with kind assistance of Dr. Stone. Plaster splints and crinoline. Light extension and sand bags. Reckless indifference to consequences, and failure to keep leg quiet necessitated substitution of circular plaster bandage in place of crinoline during first week of treatment. Patient did everything she should not do. At the end of four weeks, dressing removed; union had not occurred. Advised wiring. Refused. Applied new dressing, extending above the knee. Patient could not be kept in bed longer, so was allowed to get up and use crutches. Got in bath tub with plaster dressing; had numerous falls; went street car riding; left nothing undone that she should not do. Warned time and time again that non-union was inevitable, and loss of leg possible. Absolute recklessness, indifference to consequences, and disobedience of orders, and utter lack of appreciation of the efforts of surgeons, or consideration for them during the torrid heat of last summer.

Treatment continued under protest. At the end of another month dressing removed; fracture ununited. Insisted upon patient's going to hospital and having it wired. Absolute re-

fusal by patient. I declined positively to be longer responsible, and decided to get rid of the case in as diplomatic a manner as possible. Put on a new and substantial dressing (the fourth). Posterior and lateral splints with circular plaster bandage extending above the knee.

Result, as predicted from the beginning, non-union.

This was inevitable and unavoidable under the circumstances, and the patient cannot blame any one but herself.

CASE XI.—G. C., aged 45. Case of Dr. Adams. Street-car injury. Scalp wound and compound dislocation of terminal phalanx of right thumb; comminuted fracture of second phalanx. Thumb hanging by a few shreds of skin. Wound full of dirt from street. In a rash moment, I determined to save the thumb. Thoroughly cleansed and stitched in place. After months of perseverance with suppuration and necrosis, requiring frequent curetting, resolution occurred, and a useful thumb is the result. It is a mistake to carry conservatism too far, even when it results favorably. The man ran the risk of losing his hand and arm, and general septic infection, in addition to causing great worry and anxiety, and requiring the greatest possible care and attention for seven or eight months.

CASE XII.—E. S., aged 8. Case of Dr. Stone's. Elbow-joint of right arm. Complete fracture through epiphysal line. Displacement of condyles backwards, inwards, and upwards. The accompanying radiograph—for which I am indebted to my friend, Major Borden, U. S. A.—shows the condition admirably. Comparing it with the radiograph of the other arm, the nature of the injury will at once be appreciated. The contusion and extravasation were so great, associated with considerable constitutional disturbance, that the outlook was most grave, the possibility of an excision or amputation later on suggesting themselves. The arm was straightened as much as possible, and a preliminary dressing in the shape of plaster splints and crinoline applied in a position of extension and supination. Light traction with weight, and hot water bags continuously. The inflammatory symptoms having subsided eight or nine days later, the X-ray was used, resulting in the condition shown in the radiograph. The following day the attempt was made to dress the arm in a semi-flexed position, which I always prefer, especially in the adult, as it provides a much more useful member in the event of a permanently stiff joint. I found it

impossible to keep the condyles in position, so took the risk of dressing it in extension with supination. An uninterrupted recovery followed. At the end of three weeks, the adhesions were broken up under ether. Masseur instructed to flex joint, etc.

Result: Perfect extension, pronation and supination, and flexion almost complete, the difference being only noticeable on comparing the two arms, and due probably to superabundant callus, which will doubtless ultimately be absorbed. A most admirable result for so serious an injury.

CASE XIII.—M. C., aged 20. Student at a prominent University. Fracture at the base of proximal end of the metacarpal bone of the right thumb. The injury was received during a thoroughly up-to-date settlement of a personal difficulty. My patient being challenged, selected 4 ounce gloves. Marquis of Queensbury rules. The encounter resulted in his knocking out his opponent, and receiving the injury shown in the accompanying skiagraph. I did not see the case until ten days or two weeks after the reception of the injury. It had been treated before his arrival here as a dislocation with a wooden splint. The abnormal mobility suggested a fracture, which the X ray revealed. The treatment consisted in extending and abducting the thumb and holding it in this position by means of a palmar and dorsal splint of plaster of Paris, bound in place with a crinoline bandage, extending to the knuckles, leaving the fingers and terminal phalanx of the thumb exposed. This made a very neat and comfortable dressing.

Result: Perfect union, and no impairment of function.

This case served the double purpose of demonstrating how a personal difficulty can be settled in a manner satisfactory to both principals without recourse to the obsolete *code duello* without too great infringement of the law and without bringing distress and pain to the relatives and friends of the contestants, and at the same time providing a most interesting surgical case, admirably illustrating how an obscure fracture can be detected and treated with a result most satisfactory to all concerned.

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HYDROTHERAPY.*

By T. W. KEOWN, A. B., M. D., Baltimore, Md.,
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The subject which I bring before you this evening is one which seems not to be given that recognition among us to which it is justly and reasonably entitled—judging from the experimental work done, the conclusions arrived at, and the beneficial results which have followed the application of water in the hands of such men as Winternitz, Røhrig, Naumann, Vinaj, Schuller, Baruch, etc. Though I have given the subject considerable thought, yet I fear that it will suffer from my inability to put the matter clearly and concisely before you, to show you some of the results of this treatment in the changes of the blood, blood pressure, general muscle tone, the life energy and feeling of well being that is imparted to the patient.

Hydrotherapy means the application of water in disease; that is, water in any of its forms, *vapor, liquid or solid*, internally and externally, not used empirically, but in a manner as scientific and as accurate as one would use any other drug in the *materia medica*.

No one would think of prescribing digitalis and nux vomica without stating a definite preparation and a limited dose. So it is in the application of water; we should always prescribe the kind of bath to be used, the temperature of the same, and the length of time occupied in taking it. One can readily see the lack of care and judgment in ordering a cold bath without stating the temperature when the water in summer may be 65° to 70°, and winter down to 40°—considerable variation according to seasons.

Water possesses many properties which render it a very valuable medicinal agent. Its flexibility is shown by its change from solid to liquid, from liquid to vapor. It has the power of absorbing and transmitting heat, and its fluidity is such that it can be directed against the body in almost any form, as in the needle and shower bath; it can be made to strike the body in any direction from a hose pipe in the form known as the *douche*, and it can exert equal pressure all over the body in the full bath. The amount of pressure in the *douche* form is regulated by means of air or the height of water in the tank, and when so applied, influences the vast network of nerves and blood vessels in the skin, giving a beautiful massage

to each portion, enhanced by a decided tonic reaction when properly managed.

Hydrotherapy is not intended to treat all cases alone; there are other drugs which are useful in disease; both go together, and by their combined use, the physician is enabled to give his patient the full benefit of his professional skill.

We are all aware of the many uses to which water is applied for other than purposes of cleanliness. Examples are numerous. Ice is applied to allay inflammation, externally and internally; to sooth an irritable stomach, the ice cap and ice bag are favorites in every day use; boiling water and steam as sterilizers in our surgical work, subcutaneous injections of salt solutions in hemorrhage and heart failure, warm water irrigations of the genito urinary tract in cystitis, etc.; and alimentary tract in diarrhœa and dysentery, and in cases of nephritis, as a very useful diuretic, increasing the action of the kidneys better than any other drug in the form of a high injection. Hydrotherapy deals with all these forms, but is chiefly concerned by the application to the skin; acting principally through reflex nerve action, its effects are largely due to the degree of heat and to the mechanical irritation kept up during the bath. The effects are observed in the circulation, respiration, temperature, tissue metabolism and secretion.

Circulation.—Cold water, when applied to the skin, at first causes a slight shivering and pallor of the skin, due to a contraction of the coats of the peripheral blood vessels sending the blood onward and producing a collateral hyperæmia with increased blood pressure. This peripheral contraction is followed immediately by dilatation dependent on the mechanical irritation applied to the surface, and due to the excitation of the inhibitory nerves; the collateral hyperæmia stimulates the action of the muscular coats of the vessels beyond the point of irritation, and thus the blood is hurried along with increased volume and force towards the heart; here the effect on the *respiration* shows itself; the respiration, at first shallow and deep, alternately spasmodic in character, soon adjusts itself, becoming deeper and slower; this enables the lungs to influence the circulation, and the ventricular contraction becoming slower and more forcible, adds to the increased blood pressure even when peripheral dilatation has become evident, as is shown by tracings from the sphygmograph. We have then a better circulation, a better respiration, better muscle tone.

*Read before the Baltimore Medical and Surgical Society and Baltimore County Medical Association.

All tissue change and all organic action depend on the amount of arterial blood in circulation; the activity of which enhances secretion and excretion. Following out these thoughts, and observing the bio-chemical changes, we find that there is increased consumption of O and increased elimination of CO₂. The total excretion of N is also increased, showing a better utilization of food, so also with urea and uric acid; the influence of baths on the excretion of N, urea and uric acid is more marked after three or four days than at the beginning.

Where such increased activity is going on in the circulation and respiration, secretion and excretion, there must be a corresponding activity among the cells of the body, and increased tissue change is the result; more work is done by the system, and there is a greater ability to do it.

To test the ability to do work after a cold bath, an instrument is used (ergograph) which registers the so-called fatigue curve. In this case, it is considerably enlarged, and any person who cares to indulge in the cold bath after a day's fatigue will realize the new energy and life that he receives from it. A very noticeable feature of the cold bath on the blood is the change in the quality; the corpuscles are very much increased, the whites two or three times their former number, and the red as much as one half to two million per cubic millimeter; the hæmoglobin is also increased; this lasts for a limited period of time after a single bath, but after a series of baths, the benefits last much longer, and finally become permanent, showing the value in cases of anemia in wasting diseases, cachectic conditions, convalescents, and all those who are in a run down condition.

Warm water acts similarly to cold, producing a contraction of the peripheral vessels, followed by a dilatation, with this difference, that it diminishes muscle tone and lowers arterial tension, while cold increases both. The influence of cold water on temperature is known to every physician, and how often does the restless and weary sufferer obtain a needed rest from it.

The antipyretic action of cold water in health is very limited, but is more marked in disease. As far as the passive application of cold water is concerned, it seems to have very little effect on temperature—only succeeds in chilling the patient and delaying entirely or preventing reaction, and the colder the bath the less influence it has; but if a patient is treated with a moderately cold bath, and kept well rubbed

while in it, the result is more satisfactory—the patient feels better, the pulse has a better tone, the temperature has gone down, reaction has followed. Here it is the mechanical irritation which does good, not so much the degree of cold.

There are very many methods in use which may be carried out in private practice, and others which can be found only in institutions and it is only in institutions properly fitted up with suitable application and well trained attendants to carry out instructions that the full benefits can be derived.

Let me enumerate some of the methods in use, beginning with the simpler and going up to the more intricate:

The Ablution, which consists in the application of water by the hand with gentle friction, not sponging simply, but aiding the stimulation by friction and producing a reaction. This is of value in acute fevers—*anemia*, *chlorosis*, *phthisis*—and may be used as a preparatory step to other forms of bath.

The Half Bath.—The head is first wet, the patient placed in a tub of water up to the hips, with a temperature about 85 degrees; then while friction is applied water is dashed against the chest and abdomen.

The Affusion.—The patient may stand up or lie down, and water is poured over from a bucket or other such vessel. Here the thermic and mechanical effects are combined, acting as a powerful stimulant to cardiac action, respiration, assimilation, and nutrition. It is useful in cases of delirium and unconsciousness, cyanotic condition due to hypostatic congestion, or poor contraction of the coats of the peripheral vessels. Winternitz speaks of its great use in collapse, heat stroke, etc., claiming that it is not the heart so much that is weakened as it is the collapse of the blood vessels.

The sheet bath, said to be excellent in cases of heat stroke and collapse, the drip sheet, the hot pack, the full bath, the hip bath, can all be used intelligently in private practice. The hot pack is used in kidney troubles, relieving the pressure on the kidneys, and getting rid of the fluid in the tissues; these are combined with high irrigation of the colon. The hip bath, also called the Sitz bath, is found to be an excellent one in all cases of diarrhoea, summer complaint of children, pelvic disorders of women, ovarian trouble, menorrhagia, metrorrhagia; by increasing the time in the warm bath it allays the pain of the congestive forms of dysmenorrhœa and inflammation. Of course these are found in institutions, and with trained

attendants it is only reasonable to suppose that the application and results would be very much better.

In institutions there are found other methods than those mentioned, notably the *douche*, in its variety of forms. The *douche* consists chiefly in the use of a piece of hose pipe, with a nozzle of from $\frac{1}{8}$ to 1 inch in diameter, giving a fine or coarse stream of water. This is called the jet *douche*. By placing the finger partly across the lumen of the nozzle we get a fan *douche*; then there is the rain *douche*, or shower bath; and the circular *douche* or needle bath; there is also an ascending *douche*, which strikes the body from below. For the better application of the *douche*, a table is made, shaped somewhat like a box, about four feet high, with a top four feet by three, with stop-cocks marked for the different *douches*; the shower, needle, jet, hot and cold water fitted with thermometers to regulate the degree of heat of the bath. The temperature of the bath can be raised or lowered at will, and the pressure of the jet is regulated by a gauge, so that a pressure of 10, 15, 20, 30 or 40 pounds to the square inch can be obtained. With such arrangements as these you can recognize the immense use to which the *douche* can be applied. One attendant is sufficient. He has but little work to do except direct the jet and regulate it according to directions. It is certainly a therapeutic weapon of great value for good, and can be graded to suit any one from the robust and hearty to the delicate and sensitive.

This form of treatment is very popular in France and America; not so much in Germany. It affords a very liberal range for grading the temperature of the bath 110 to 50 degrees. Its application at lower temperatures should never exceed one minute, and generally varies from 20 to 30 seconds; in fact, the lower the temperature and the shorter the duration, the greater the reaction. It works easily, and is passed rapidly from one part to another in succession. In order to make the skin more sensitive to the action of the *douche*, the patient is often put in the hot air cabinet to warm up, not to perspire, or is given dry pack prior to the application of the *douche*. Some individuals, owing to fear or nervousness, are unable to stand the *douche* at first. These patients have to be educated by other modes of procedure, such as the cold rub or gradually cooled bath, for some time, until they get accustomed to the effect of cold. Generally, though, if the *douche* is given first at a temperature of 95 to 100, and reduced one to two

degrees daily, then it is very well tolerated by even the most sensitive. You must inspire the patient with confidence in the method, and gradually enable him to stand the force of the *douche*.

The *douche* is found to be very effective in cases where there is depreciated nerve tone, lack of energy and muscular power due to poor nutrition, chronic dyspepsia, chronic rheumatism, neurasthenics, enuresis of children, anæmia, chlorosis, menorrhagia, metrorrhagia, and in all forms of ill health due to the effects of fashionable society and its rounds of pleasures, or to the overwork of the diligent business man or untiring student.

In prescribing these baths, we ought always to begin with a mild dose, so to speak, and then gradually increase to suit the requirements of the patient. The temperature, pressure and duration should be strictly regulated, as for example: temperature, 95 to 85 degrees; pressure, 25 pounds; duration, 15 seconds. You can understand readily the great leeway there is in the temperature, but the pressure is something that is better appreciated when seen. A pressure of twenty five pounds from a jet *douche* will redden the skin wherever applied, but one of ten pounds will hardly show a trace. Then, in those people who are emaciated and cachectic, even when the skin has been stimulated previously by hot air, it takes a higher pressure to produce the same or nearly the same effect. The duration is exemplified by putting one hand in cold water (iced water) and immediately withdrawing; soon it reddens, grows warm, and feels quite pleasant. Put the other hand in for five minutes; it pains, grows cyanotic, and takes quite a while for a reaction to occur. You can judge for yourselves of the value now of prescribing accurately and scientifically the temperature, pressure and duration of a *douche* bath.

Baths of sodium chloride and calcium chloride, one per cent. of the former and $\frac{1}{15}$ per cent. of the latter, gradually increased to three times the amount of each, and then made effervescent by the addition of enough soda and hydrochloric acid in proportion, lasting from six to eight minutes, and beginning with a temperature of from 92° to 95°, gradually lowering the temperature and lengthening the duration; this is an artificial Nauheim bath, which when followed by a series of exercises, or Swedish movements, is known as the Schott treatment for weak hearts, hypertrophy and dilatation.

The exercises consist of a series of movements for each limb (made against a slight

resistance), flexions, extensions, abductions, adductions and rotation, with a rest after each one; there must be no breathlessness nor any discomfort; every muscle is brought into play, slowly and systematically.

The effects of the bath and exercises are similar; pulse frequency is diminished, volume and force increased, the area of cardiac dullness is lessened, the apex beat approaches the normal position, indicating improvement in the contractile power of the heart and reduction of the dilatation; each succeeding bath gives a longer time in which this improvement is maintained, until at last it remains so permanently.

Schott's idea is that it is the reflex stimulation which makes the contractions more forcible and complete, and when frequently applied enable hypertrophy to follow and overcome the effect of the valvular lesion or the atonic condition of the heart; it seems probable that it also gives use to a physiological dilatation of the peripheral blood vessels, thereby lessening the resistance to the already weak heart.

The exercises propel the blood onward through the veins; making a transfer of the blood from the venous, to the arterial system, the reverse of what usually occurs in heart disease, it is found to be useful in dilatation after acute diseases, eruptive fevers, typhoid, influenza, pneumonia, rheumatism and gout, in functional and neurotic heart disease, in mitral disease, especially stenosis where compensation is maintained with difficulty, and where digitalis, by increasing the contractility of the right ventricle, might prove harmful; wherever compensatory hypertrophy shows signs of failure, it is plainly indicated, and the treatment, of course, is better undertaken away from home, where the uneventful life, early hours, regular meals, freedom from excitement and care contribute to the success.

These baths are given every day for four or five days, followed by a day of rest, and ought to be continued for four or five weeks; the effervescent baths begin after two weeks of the salt baths.

Dr. Oliver shows that the blood, after the exercise goes to the muscles, the arm, after exercise, displaces a larger volume of water; also shows that the corpuscular elements increase, which he attributes to the absorption of the fluid elements by the muscles and lymphatics; also experiments by Brunton and Tunnicliffe, showing that muscular exercise at first raises and then lowers the blood pressure.

Resisting movements are especially adapted to those of flabby hearts, fatty infiltration and

loss of muscle tone, chlorosis, in commencing heart failure, in chronic valvular disease, with rest from all other exercises, and when digitalis seems not to be able to finish up the case, in atheromatous diseases of the coronary arteries characterized by a degree of plethora, some dyspnea and cardiac pain on exercise.

Schott claims that only two cases of heart disease are contraindicated to this kind of treatment—viz: aneurism, and some, not all, cases of progressive arterio-sclerosis. These baths are also used in other diseases, such as rheumatism and gout, with high arterial tension and secondary heart disturbance.

I am indebted to the following authors for much information:

Baruch, on Hydrotherapy; Baruch, in International Clinics, Vol. II, Series VII; Thayer, in Hopkins Report; Schott, on Baths; Oliver, in Croonian Lectures, London *Lancet*.

1938 Linden Ave.

SUPRA-PUBIC CYSTOTOMY FOR TRAUMATISM, WITH PERINEAL DRAINAGE.*

By J. G. CARPENTER, M. D., Stanford, Ky.

Dr. Willard Parker, of New York city, proved himself a benefactor when he advised and performed median perineal drainage for chronic cystitis in the male. Drs. Sims and Emmett equally blessed humanity when they gave to the world urethra cystotomy in the female. Drs. de Franco, Roussetus, Douglas and Thornhill were the first to do supra-pubic cystotomy. With these illustrious pioneers in surgery to blaze the way in the wilderness of pathology, it is easy for one to follow if he knows anatomy, pathology, and can make proper use of the diagnostic compass, provided he promptly recognizes the one or more things needful to be done, and how to do quickly, at the proper time, under short anesthesia, quick, skillful life saving surgery, with a minimum of shock, under asepsis and perfect hemostasis.

We must not forget that delayed surgery too often means death; that "procrastination is the thief of time"; that prolonged surgery gives a high death rate; that it is the last feather that depresses the beam; that in bladder as well as abdominal, thoracic, and brain surgery, it is the early diagnosis, early preparation of the patient, early surgery in conservative, wise and skillful hands that brings 10, 50

* Prepared for the Tri State Medical Society, Chattanooga, Tenn. The essayist was professionally detained at home until too late to attend the meeting and present paper October 12th, 1900. Read by title.

or 100 fold of recoveries in bladder surgery. Surgery done for examination cures at the 1st, 2nd, 4th, 6th or 12th hours, and brings golden triumphs to the operator.

Again, it is better to operate 18, 24, or 48 hours after injury, and save one life, than be a coward and withhold surgery at a late hour, and lose all cases. While surgeons and specialists in the city condemn and damn general practitioners in the country, I am here to uphold the latter, and sing their praises in anatomic, pathologic, and diagnostic lore and treatment; and their ability to prognosticate the exact surgery to be done by the operator. The wide awake, up-to date country doctor is a giant in his profession, though he be short of stature and minus the avoirdupois of some city brethren. Again, let us remember that conservative, skillful, not ideal surgery, saves life; that *ideal* surgery kills. It is the last straw that breaks the camel's back, and an ounce of prevention is worth more than a four horse load of post-operative treatment, anxiety, and unrest.

Sir Joseph Lister, through antiseptics, deserves more credit for the resuscitation and reintroduction of successful supra pubic cystotomy, as well as other old and neglected operations. Garson and Petersen, by ballooning the rectum in epicystotomy, gave renewed energy and attention to this operation. The great, grand and illustrious Dr. Hunter McGuire has made his name immortal through epicystotomy and the teapot spout drainage in chronic cystitis of old men. Peace and rest to his spirit, love and adoration for his name. At rest with the Great Physician!

November 23d, 1850, Prof. Parker operated at Bellevue Hospital on a case of chronic cystitis in the male. He says the object in view was to open a channel by which the urine could drain off as fast as secreted, and thus afford rest to the bladder—the first essential indication in the treatment of inflammation. (“*Emmett's Principles and Practice of Gynecology*,” 1880, page 744). In 1556, Pierre Franco, or de Franco, first performed the operation of supra pubic cystotomy, but he deserves no credit as its inventor; while Roussetus, its real inventor, never performed it. Roussetus was the greatest physician of his day, possessed of an insight and knowledge which came near to being genius, and yet he states: “However, I do not advise any man to do the like.” Roussetus knew of Franco's operation, and sharply censured him for dissuading others from following in his (de Franco's) footsteps; while he (Roussetus) sensibly combats the generally re-

ceived opinion that wounds of the bladder were necessarily fatal. Finally, he elaborated the operation which he recommended by experimenting on the dead body. And this operation is, to all intents and purposes, the operation as is performed to day.

De Franco's determination was great, his skill remarkable, his success brilliant, his efforts heroic, and a triumph in pioneer surgery; and yet he repudiated his achievement, and lost lustre as an originator. Cheselden gives Douglas the credit of being, if not the inventor, surely the first man that ever practiced supra pubic cystotomy upon living bodies. In February, 1722, Thornhill, of Bristol, Eng., did his first supra pubic cystotomy. “Thornhill was first surgeon to the Bristol Royal Infirmary, 1737, and was the most conspicuous surgeon of his day in Bristol. He was highly prosperous, somewhat of a dandy, almost independent of his profession, a brilliant operator, but apparently careless of his reputation; and following independently the bent of his genius, was clearly somewhat erratic.” One cannot avoid the conclusion that Thornhill was in his own time, and indeed for a century and a quarter, the best exponent of supra pubic cystotomy. (See page 667, *Abdominal Surgery*, Greig Smith). About 1777, Frere Come, or Cosme, a well known enthusiast of Paris, is said to have performed supra pubic cystotomy on nearly one hundred patients, and with almost uninterrupted success.

It would be a surgical sin not to mention the bladder surgery of two distinguished Kentucky country surgeons in connection with supra pubic cystotomy. First, but not least, is Dr. Benjamin Dudley, of Lexington, Ky., who did 225 lithotomies with only three deaths, and without anesthesia. He was not only a great surgeon, but a great physician. He prepared his patients well for operation by rest in bed, free purgation, corn bread and mush, water, milk, the best diuretics, and the free use of soap and warm or hot water baths. He was scrupulously clean in person, morals, and clothes, and kept his patients clean; and in surgery made free use of soap and hot water. In truth, he was really the predecessor of Mr. Lawson Tait and Dr. Joseph Price in aseptic surgery. In 1850, Dr. John Craig, of Stamford, Ky., began his surgical career as an ovariectomist, walking in the surgical footsteps of Dr. Ephraim McDowell, and achieving as great success as he—aided by his country colleagues and medical students in these stupendous operations, done in the village and farmhouse, without hospital antiseptics, but much

cleanliness—asepsis. As a lithotomist, Dr. John Craig was a great success, and the calculi given the writer by his heirs are mementos of his skill as a bladder surgeon. Dr. Samuel D. Gross, Sr., said of him: "He is the greatest surgeon I ever saw on Kentucky soil." In addition to the three supra pubic cystotomies—two for traumatism, and one for urinary infiltration and a number of internal urethrotomies the writer has had personal experience as chief or assistant operator in five lithotomies, with one combined lithotomy—perineal route, and two litholapaxies, with recoveries of the patients.

CASE I.—Supra pubic cystotomy for pistol shot wound, No. 38 calibre. Patient a young man about 23 years old; former health, also family history, good. Gun-shot wound of bladder. Ball entered through sacro sciatic notch, entered the bladder through the right side, one half inch above the base of trigone; wound of exit an inch above the base of trigone left wall. From this point the bullet could not be traced. Dr. St. John Joseph B. Graham, then of Crab Orchard, Ky., but now the successful and distinguished editor of the *Georgia Journal of Medicine and Surgery*, at Savannah, Ga., was the medical attendant, and co operated with me in the operation, rendering valuable service. On being called to see the patient, he catheterized the bladder, and finding bloody urine, advised surgical measures, which we were refused until 18 hours after injury.

When at midnight exploratory supra pubic cystotomy was done, the bladder was washed out with hot boric solution through a metallic catheter, which was also used to elevate the interior bladder wall. The lips of the bladder were fastened by suture to the abdominal wound, and cavity of bladder explored with finger. Light was reflected from a head mirror. The wounds of exit and entrance were found, rubber drainage tubes were inserted into the bullet wounds, and fastened to abdominal wounds for drainage. A number 12 rubber catheter was passed in the urethra for constant drainage, thereby hoping to keep the bladder empty. However, in place of the catheter by urethra drainage, a median perineal urethrotomy should have been made, supplementing the supra-pubic. The bladder drained nicely, urine kept normal, no pus showed itself, the bladder and wounds were washed, irrigated about every six or eight hours with the hot boric solution, and dressed antiseptically. At the sixtieth hour, peritonitis set in, but free purgations with 15 grains of calomel aborted it. Patient seemed to be making a happy

convalescence when tetanus set up on 10th day, and on the 14th day the patient passed into the "great unknown."

Too much praise for faithfulness cannot be said of Dr. Graham for his earnest and skillful attendance in this case. In reviewing the surgical treatment, we had these regrets—viz: we had to do 11th, or rather 13th, hour bladder surgery for traumatism. Secondly, we had to operate in a country farm-house, and at night, had only two lights from bad lamps, and one of these went out when about half through the operation. 3rd.—Had we used median perineal drainage instead of urethral with the supra-pubic cystotomy, we might have had better results. 4th.—There was constant pain in sacro-lumbar region, back pain, numbness and tingling in thighs, legs and feet, the ball having doubtless injured the spine.

Again, we saw the wonderful effects of free purgation by calomel and salts in aborting peritonitis, as described by Mr. Tait.

CASE II.—A man of 45 years had a stricture of the deep urethra. Was operated on by his doctor by internal urethrotomy. Patient had retention of urine, with urinary infiltration, 48 hours after the operation. The essayist was called in consultation to do a secondary operation, which proved to be supra pubic cystotomy with median perineal drainage. The writer had hoped to do conservative, life saving surgery, but was defeated, and had to be satisfied with palliative surgery. Patient succumbed in 48 hours after last operation, but the operation was satisfactory to patient and family, and proved to be a blessing in comfort and freedom from pain, and rest to the parts. The perineum, scrotum, and supra pubic space for three or four inches was distended, swollen, tender to touch, and discolored a bluish black. Upon incision these tissues contained ammoniacal urine, acrid pus, and extensive cellulitis. The perineum, scrotum, and supra pubic space communicated freely with each other. The bladder was drained by large catheter, extending from supra pubic wound through the perineum. The scrotum and supra pubic space were kept properly drained and surgically dressed. The supra pubic cystotomy was done without a staff in bladder, or balloon inflation of rectum. The section was done with a bistoury, two hemostats, two sponges, and tenaculum. The pre vesical fat was dissected with handle of scalpel, the bladder caught with tenaculum, raised and then opened with scalpel cutting towards the symphysis pubis; the lips of bladder were caught with hemostats, then sutured to supra-pubic wound, fixation

catheter placed in epi-pubic wound and bladder through the perineal one, through and through drainage given the parts, wounds antiseptised with hot bichloride, the swelling, distension, and acrid urine removed, and the inflamed parts were given rest.

Conclusions—Bad subjects for operation are those demanding eleventh hour surgery; where there is urinary infiltration, which extends deeply within the triangular ligament, and travels rapidly to the pelvic cellular tissue and hypogastric region, such cases generally prove fatal, especially when operation is delayed. Whereas, urinary infiltration outside of the triangular ligament is superficial, forces its way to the skin of perineum and scrotum, and usually ends in abscess with necrobiosis of skin, or perforation and drainage either in single or multiple fistulous openings.

CASE III.—A strong, vigorous young man was kicked by a horse in the hypogastric region with one foot, the other under and against the symphysis pubis, catching the penis between the bone and foot of horse, and fracturing the urethra at junction of the pendulous and membranous urethra. The laceration was quite extensive by contraction and retraction of the lacerated urethra and traumatic inflammation—the urethra at this point becoming impervious to the passage of urine, and also of catheters or bougies.

Forty-eight hours after the injury, the patient was turned over to Dr. J. F. Peyton, and the writer was called by him to render surgical treatment. The hypogastric region, scrotum, perineum, and upper third of the thighs were tender, tumefied, and highly discolored. The surgical indications were to evacuate bladder to prevent rupture and to ease pain, arrest or prevent urinary infiltration, and arrest traumatic inflammation by through and through drainage, and antiseptise the injured tissues. Combined supra pubic and perineal median cystotomy were done without a staff, and without ballooning the rectum. The epi pubic operation was done as in abdominal section, the prevesical space dissected with handle of scalpel, bladder caught with hemostats guided by finger, the bladder opened with bistoury, the lips of wound sutured to abdominal incision, and a large fenestrated catheter introduced into bladder from above through to the perineum, and fastened. Thus was secured through and through drainage, rest, and antiseptis, and acted like an antiphlogistic to the injured parts. Patient stood operation well, reacted nicely, and made a com-

plete and happy recovery. The temperature never rose over $100\frac{1}{2}$ ° F., pulse never over 100.

About two weeks after operation the urethra was repaired by external urethrotomy, though catheter was kept in urethra until the wound had healed. The supra-pubic wound had also healed, but the perineal wound was kept open for drainage until the wound of the pendulous urethra had healed. Patient was a married man. Since his recovery he finds no difference in the functions of the generative organs except that they have improved by skillful, life saving surgery, and the organs injured have been more prized since the injury than ever before. These operations were done in a farm house without hospitalism, and patient made a complete recovery. Both life and organs were saved and repaired by skillful country surgery, under aseptic and antiseptic precautions, without a trained nurse. Yet, the right kind of a private hospital would be a better place to do surgery than in a farm house or general hospital, where badly trained nurses and incompetent young internes give the after-treatment of wounds, as a rule, and not the surgeon; the latter gives the proper treatment in his private hospital.

Bend, but do not tie, the penis when bladder is distended; cut down, not up, in opening the bladder in supra-pubic cystotomy; feel for knot of urachus, cut below toward neck, as there is then no danger of wounding peritoneum. Since there is danger of over distending an ulcerated, attenuated, or sacculated bladder in supra pubic cystotomy, if necessary to cut up and open the peritoneum, it should be done, and the incision repaired as soon as the pathological condition has been removed.

Epicystotomy should be done to remove calculi, or other foreign bodies, tumors, for stabs, gunshot wounds, rupture of bladder, for drainage of an inflamed bladder, for the passage of urine when the natural channel has become obstructed by stricture, growth or traumatism, and for urinary infiltration combined with or without median perineal external urethrotomy. The question may arise, "Shall epicystotomy or a litholopaxy of Bigelow be resorted to?" The operation of election for stone in the bladder is Bigelow's, but the stone may be too hard to crush, or the crushing process may be attended with danger from the flying sharp fragments, injuring the vesical walls; or to prolong the operation might endanger the patient's life. A stone may be too large to crush by any instrument per urethram. In children it may be impossible to pass in in-

strument of proper size on account of small calibre of the urethra. Again, the size of stone and condition of patient may demand a rapid cutting operation, and epicystotomy would be the operation of election. Furthermore, there may exist in the aged man with a stone, paralysis of the bladder with retention of urine, and sacculation with contraction of bladder and diminution of its size and capacity. In a case like this, the writer used perineal cystotomy as better than epi-cystotomy, on a man 60 years of age, in the year 1885. In another case similar to this, without paralysis of bladder, but in a man 55 years old, who had chronic cystitis and a large calculus with a large perineal abscess of the prostate, left lateral perineal cystotomy, with lithotrity, was done on account of the size and hardness of the stone, to evacuate the abscess and get the best drainage for this case. With a calculus and an hyperplastic prostate and prostatic abscess the question resolves itself, not into Bigelow's operation, but epi cystotomy or perineal lateral cystotomy with crushing.

In children and the adult, and in men even to 55 or 60 years of age, all things being equal, epicystotomy is preferable to perineal, because the latter is too often attended with stricture of urethra, perineal fistula, or sexual impotence. In epicystotomy these sequelae are obviated. Stones of two ounces and over are best removed by the supra-pubic method. Prolonged anaesthesia for crushing and evacuation in the old and enfeebled patients are full of danger, and contra-indicates the Bigelow operation, but gives preference to the supra-pubic method. Besides, large stones, encysted stones, are best removed by the supra pubic route. In doing bladder surgery, let us remember we must do conservative, life saving surgery—that prolonged anaesthesia and prolonged surgery kill the patient.

In bladder surgery, the operation should be one of election, each case being a law unto itself. The mortality between supra pubic and perineal is about equal. The former will meet, in skillful hands, the greatest number of pathological conditions, give more relief to patient and greater success to the surgeon. Again, it can be converted into an abdominal section if the case demands it without loss of time.

For polypos, papilloma, removing hypertrophied lobes of prostate, foreign bodies, drainage in cystitis for urination, when the natural route is obstructed, for cure of perineal fistula that cannot be otherwise cured, the supra pubic is the best, safest and most successful procedure. By it, the bladder cavity can be explored both

by finger and eye, and an operation done at night. The light from the head mirror illuminates the cavity of the bladder beautifully. The expert surgeon will not need a guide in the bladder, nor will the bladder have to be distended, nor the rectum ballooned, to press forward the anterior bladder wall. With one bistoury, two sponges, two hemostats, one tenaculum, one needle and suture—the supra-pubic operation should be done successfully. Other instruments will be needed to meet the various pathological lesions as they arise or exist.

Supra-pubic cystotomy, like abdominal section, should be done for a pathological lesion and its removal, and not as an exploratory measure.

In children, the peritoneal fold never descends below the upper margin of the pubis, and often it rises a few lines higher with a distended bladder. The fold will rise according to the degree of tension, from two to two and a half inches above the pubis, but a space of one and a half inches is sufficient for all practical purposes. It is clear that in children at least there is no difficulty whatever with moderate distension of the bladder in avoiding the peritoneum. (Greig Smith.)

Rectal ballooning does good in the removal of vesical growths by pressing forward and upward the posterior bladder wall. In distension of the bladder, what would be sufficient in one case would be contra-indicated in another, owing to the capacity of the bladder and the diseased condition within. Attenuated at one or more points by over-distension or ulceration predisposes to laceration or perforation from over distension. With a proper fitting soft rubber catheter inserted into the bladder, via the urethra, and the distal end attached to a fountain syringe, the adequate amount of hydrostatic pressure can be used by elevating or lowering the reservoir containing the fluid, each case being a law unto itself. When possible, the urine and bladder should be antisepticed before and after operation.

In most epi-pubic operations, the bold but skillful surgeon will not need the hydrostatic distension of bladder. One must not forget to keep in the median line, and avoid the large veins in the prevesical space, especially those from the dorsum of the penis. It may be necessary to divide transversely the thick fascia forming the linea alba close to the symphysis pubis, and also to divide transversely the recti muscles, if the resistance is so great as to interfere with the rest of operation. By doing this, the space is much enlarged for successful work.

It must be remembered that the peritoneum never passes the urachus, and that it is safe to go as high as this point. It may be felt as a tense cord or knob inserted at the summit of the bladder. Thornhill gave this practical point 150 years ago. The bladder, after it is open, can be held by fixation forceps, or sutured to the wound, as is deemed best by the operator, for further intra-vesical examination with finger tips, or for operation. After the bladder is opened, one or two fingers in the rectum, to lift up the posterior vesical wall, may be of the greatest service. As in abdominal, and pelvic, and brain surgery, hot water forms the surgeon's best agent in bladder surgery. When the bladder is healthy, and the wound aseptic, the bladder wall may be sutured so as to get primary union; but when the bladder tissues are thickened, inflamed, œdematous, or engorged with blood, no attempt should be made at suturing the bladder wound. It may be good surgery to sew the bladder wound to the abdominal one. If primary union cannot be had, we should get aseptic healing by granulation. The wound should be drained or not, and dressed antiseptically, as the case demands, and the patient should be kept scrupulously clean.

In conclusion, every doctor should be a general practitioner ten or fifteen years before becoming a general or special surgeon or specialist; and he should serve not less than six or twelve months' apprenticeship with an able, skillful and illustrious teacher and operator. He should be properly prepared and equipped with surgical armamentaria, to do successful, skillful, life saving surgery in the several lines of specialism.

The essayist is much indebted to Drs. Otis and Greig Smith for valuable information in genito urinary surgery, as also to Drs. Wyeth and Nicholas Senn.

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SOME REMARKS ON THE PRESENT STATUS OF THE PHYSICIAN IN THE UNITED STATES.

By EMIL AMBERG, M. D., Detroit, Mich.

It well becomes every physician to sometimes think of the position he takes in the profession and in the community, and, on the other hand, to consider what position the profession and the community take towards him.

We are aware that in this—our time, at the dawn of a new century, a feeling of discontent is prevailing in the medical profession, and it is the duty of every physician to form an opinion, and to take a decided stand in matters touching upon him as a medical man and as a citizen. It is very difficult, and I think sometimes impossible, to outline a great social problem in its entirety, but we can throw the search light on some factors.

In the *New York Journal of Medicine* of July, 1839, John Watson, M. D., in an article, "A Summary View of the Progress of Medicine in America," says, on page 11: "Our medical colleges, which, at the commencement of the present century, were limited to four, have since increased to nearly thirty, an increase altogether uncalled for, and the effects of which have been rather injurious than beneficial. The 'Free Trade' and 'No Monopoly' principles of Adam Smith, how beneficial soever in commerce, in those branches of industry to which he himself would have applied them, or in those occupations in which man may look directly to a full return of remuneration for his enterprise of labor, have a chilling and unkindly influence upon science. They should never have been extended to our halls of learning, and, least of all, to a class of institutions which in his, as in all countries, require protection and encouragement rather than opposition."

Two great questions are involved in this subject: First, the education of the physician, and, second, the increase in the membership in the medical profession. Both are of vital importance, not only for physicians, but also for the public.

The same author, Watson, says further in his article: "The efforts made by these woodland schools have another evil tendency. The inducements held out by them for individual patronage are diminution in the expenses and in the period of study. Their requirements for graduation are, consequently, not sufficiently elevated, and in this way numbers of

badly educated men are thrown upon the public."

This might have been written with a slight modification to day instead of in 1839. We see that a great progressive country can make a great step backwards concerning some points, for we must regard it as a step backwards if we think of the enormous increase in the number of medical schools, and of their graduates, under existing circumstances.

It is for us to decide whether this practice shall continue. Already voices are heard all over the country condemning the present state of affairs. The public becomes aware of the fact that it did not control sufficiently the institutions from which men are turned out to which their lives are entrusted, and the physicians become more and more alarmed by the fact that we already have one physician to about six hundred inhabitants, and this in our time of better economic and continually improving hygienic conditions.

Let us, for a moment, review the moral side of the question. Dr. Chas. T. McClintock, in a paper before the American Academy of Medicine (see *Bulletin of the American Academy of Medicine*, Vol. IV. No. 2), says: "Probably the most skillful advertisers in the profession are to be found among those sitting in high places—the college professors. On the one hand, professor; on the other, the public. The student, the physician to be, is the go between, and how he does work that student for patients in years to come. One of the favorite methods is to take the latest foreign work on the subject to be taught and give it to the student almost verbatim as 'in my opinion,' 'my experience,' 'I believe'—and it succeeds, as is evidenced by the ever increasing number of medical colleges which do not pay a dollar in salaries, and the clamor for positions on the faculties of our medical schools."

While corresponding on the subject with a prominent member of the profession, I could write the following letter, which the doctor permitted me to publish. It reads in part:

"..... you say: 'I hold that the State ought to provide sufficient funds for the adequate and thorough instruction of all the pupils in every medical institution already legally authorized and for such others as the increase of population may cause to be established under the regulations of the State.'

I still think that this sentence expresses a very dangerous policy, because the stock company medical schools are already legally authorized, and I am sorry to say that after my present opinion, I do not agree with you when

you say: "But although it is true that most of them were such, yet they were commercial undertakings prompted by the highest motives and by the desire on the part of learned and successful men to establish means of instruction in a science and art of which they were exponents."

I envy you for your optimistic view of the matter, although you may be justified in expressing yourself thus from your experiences in New York.

In the first place, I doubt very much that "highest motives" prompt these medical business men. Second, I am not so sure that they are always learned.

Furthermore, you say: "In no proper sense can these colleges be compared with an ordinary business venture such as is involved in the establishment of dry goods and grocery stores."

It appears to me that we have many colleges which are the most contemptible ordinary business ventures, and I regard the motives of a dry goods merchant and a grocery keeper as much higher than the motives of those who, preying on the credulity of the inexperienced masses and of the uncautioned young men, flourish by the process of an entirely unethical and dishonest misrepresentation of the value of their goods which they give in exchange for the cash value they receive from the student and from the public.

If a man sells groceries, he puts the goods before the customer, who knows their value; and if he does not like them, or can get them better and cheaper in another place, he is not obliged to buy them. The goods of a grocery keeper are always open for inspection to every one, cent for cent. It is different with the many private medical schools.

Near-sighted legislatures established laws which give a number of men the privilege to open medical schools. There are usually some proprietors, or a number of managers, who have charge of the firm, and they engage their clerks, respectively, teachers, instructors and demonstrators, to make the combination appear powerful on the outside. Unscrupulous advertising tempts many young men into the nets of those institutions, and once caught, we have the same experience as we have with other societies, religious sects, etc. The eyes of many become blind for the unprejudiced view of the matter.

We know that quacks attract people by personal qualities, which may not be bad in themselves; on the contrary, they may be commendable if viewed by themselves; but if

used for deceiving the public, they are, knowingly or unknowingly, fraudulent.

When we consider that the higher a man stands the less his mistakes are excused, I, for my part, must most decidedly declare that in many instances the higher motives of the so-called professors in medical schools of a certain quality must be doubted very much. Naturally, I do not speak of all medical schools.

Permit me to make two suggestions. First, those institutions which you call "public"—but which I am still obliged to call semi-private—are, undoubtedly, far superior to the private medical institutions—the stock companies. Would it not be well to try to abolish the private medical schools by arousing the professional and also the public sentiments against them, so that a respective law may have more chance of being established?

Second, would it not be a wise step to form a combination of the best semi private, or, as you say, public medical schools, perhaps under the name "Association of the United States Medical Colleges?" If only ten colleges would belong to this, it would mean a great deal for the whole country.

"It would not be impossible, in my mind, to have the graduates of these colleges given the right to practice all over the United States without any further examination. This would, in many ways, in a peaceful manner, open the door for a great many improvements." * * *

That I am not wrong, is proven by the report of the Committee on Colleges and Standards of the Board of Registration in Medicine in Michigan. The committee reported that several colleges were not fulfilling the promises of their catalogues and announcements, and in some instances that a college on paper is one thing, and in reality another. No particulars are given as to the location of these colleges. What shall we think of this? We know that the State of Michigan at present is publicly investigating the Tontine and Debenture companies. Is a medical institution less important?

I understand that in one college young men have been obliged to teach some subjects whilst they are prepared for and more inclined to others. This proves, first, that the faculty has not a sufficiently developed regard for their own college, but runs the same on mere business principles; second, that it stands in the way of the enthusiastic young candidate and practically crushes in the bud the ambition of a young, scientifically inclined man, well aware that the young man will not decline

any position; third, that an injustice is done to the students. On the other hand, it tends to abolish the ideal side of the medical calling and to put forth the mere business part, as the faculty knows well that many a young man will accept any position because any connection with a medical school is a splendid medium of advertising. Happily, the public is becoming more and more aware of the real state of affairs.

In order to illustrate the position of the public towards physicians, I shall confine myself to one point in this paper—viz, the question of medical experts. Some time ago a murder case was tried in Detroit, and each of the opposite parties used about five physicians in order to establish an idea about the legal responsibility of the murderer. What a spectacle for the public. No wonder that one of our best lawyers took occasion to touch upon the weak points in an able paper read before a medical society, and no wonder that a daily paper took occasion to speak editorially of the unreliability of medical expert testimony.

Thus, a daily paper can try to shake the confidence of the people in regard to the medical profession. Is it surprising that people turn to osteopaths and Christian scientists?

It appears to me that the medical profession all over the United States becomes more and more aware that affairs cannot go any longer this way. Fortunately, a start has been made for betterment in the movement aiming at Inter State Reciprocity for the License to Practice Medicine, which movement necessarily includes all questions mentioned. Many local and county societies are taking interest in the question—the Section on State Medicine of the American Medical Association is studying the same. The American Academy of Medicine intends to discuss it; also, the American Institute of Homœopathy and the Eclectic Medical Association of the United States are enthusiastic on the subject, and, what is another important factor, the National Confederation of State Medical Licensing and Examining Boards intends to devote its attention to the subject. In order to strengthen the movement, a larger number of physicians should support the same. They are entitled to join the Confederation according to its constitution, which reads in part:

"Article III, Section 2. Physicians not members of an examining or licensing board, may, upon application to the Council, be nominated by it to the Confederation and be elected to membership by a two-thirds vote of the members present at any meeting.

"Section 3. The members shall have equal rights and privileges except in voting for the rulings."

When, in 1839, Dr. Watson pointed out the weak conditions concerning medical schools, he did not dream that things would in general be worse sixty years afterwards—worse, if we consider the progress along other lines.

I do not intend to reflect in any way on the character of men who are connected with the medical schools and who act in good faith. I do, however, accuse the system which is generally in vogue, as a bad one.

Upon the entrance into a new century, our minds turn backwards to the accomplishments in the last century, and, by necessity, turn to the future with the question on our lips, "What will the new century bring?" It naturally will bring us what we deserve. The various sides of the relation of the medical men to one another and to the public, have been talked over rather sufficiently, it seems to me. What we need is action. If only all of the 125,000, or more, physicians in our country would have the courage of their conviction, we could hope that much might be accomplished in the near future. A little less secrecy and a little more interest on the part of the profession, will soon bring about a state of affairs which will be more satisfactory.

102 Miami Ave.

CHROMIC ACID USED AS A CAUTERANT, FOLLOWED BY TOXIC ACTION *

By JOHN W. SHAW, M. D., Washington, D. C.

For many years specialists have been in the habit of employing chromic acid in preference to all other cauterants in obstinate cases of recurrent vegetations upon the genitals.

These papillary outgrowths, although they have no truly specific character, and are not, of necessity, connected with any form of venereal disease, are yet extremely persistent, and frequently return after having been burned with such powerful cauterants as nitric acid or glacial acetic acid.

Although often associated with various forms of venereal ulcer, they are simply manifestations of accompanying local irritation, and have no true dependence upon the specific poisons of these diseases.

They are sometimes found in young persons in whom there has been no possible venereal

infection, and are frequently met with during pregnancy, when the physiological congestion of the female genitals favors their development.

Anatomically, they are merely papillary outgrowths, occurring upon a basis of connective tissue, and covered by an extensive mucous layer, the horny layer of the skin being frequently absent; for this reason they are usually covered with a moist readily decomposable secretion, which is apt to become extremely offensive. They take their origin so deeply in the derm that ordinary cauterants do not reach or destroy them. For this reason chromic acid has been for years, in these cases, the favorite application in the hands of most venereal specialists.

My attention was called during last month to the case of a young woman who was apparently in the best of health.

She had a mass of vegetations of this character, covering the labia majora, extending upward toward the pubes, and downward toward the anus.

These had been variously treated, and had constantly recurred. The usual application of chromic acid solution, of the strength of one hundred grains to the ounce of water, was used, after first carefully protecting the surrounding parts with tampons of cotton soaked in carbolyzed oil. Less than a half ounce of the acid solution was applied by means of a tuft of absorbent cotton.

After coming from under the anæsthetic, which was about four o'clock in the afternoon, she complained of great pain in the vulva. I thought nothing of this, and left. About ten o'clock P. M., I was called to see her again; found rapid pulse, nausea and great thirst. I attributed her symptoms to the ether which had been given, and left after assuring the family she would be all right. I was next summoned at four A. M., and at this time found her condition alarming. She was very restless, and frequently called for water, which was immediately vomited; face pale, extremities cold, skin covered with profuse perspiration, and expressed fear of approaching death. Intellect remained intact.

I then decided that I had to deal with a case of chromic acid poisoning, and used very active stimulating treatment.

The dressings were removed, and the vagina douched, for fear some of the acid solution may have entered in spite of my care, but the mucous membranes showed no evidence of this.

To sum it up, she remained in this extreme

* Read before the Medical and Surgical Society of the District of Columbia, Dec. 6, 1900.

condition for about thirty-six hours, after which she gradually returned to her normal state; and, after two weeks, was able to leave her room.

Upon looking up the literature on the subject, I find the ordinary text-books upon venereal disease mention chromic acid as one of the most active and efficient cauterants in these cases; but no statement or word of caution other than its local effects. A few of the therapeutics mention that death has been produced by local applications of the acid.

A few years ago, Dr. J. Wm. White, of Philadelphia, reported a case similar to this one, but with more disastrous results. He states his patient was a healthy girl. Twenty seven hours from the time of the application of the acid she died of chromic acid poisoning. He used the same strength solution (one hundred grains to the ounce).

Dr. John Marshall made a chemical analysis and reported as follows: The kidney tissue and liver tissue both contained chromium, most likely as sodium chromate—a substance poisonous in doses of from one to three grains. The chromic acid was absorbed and entered into combination with the sodium of the sodium carbonate of the blood, to form sodium chromate.

This is the most probable explanation of what occurred.

The question which I am unable to decide is, Shall I use this well known remedy should a similar case present itself?

CONGENITAL DISLOCATION OF THE SHOULDER,

With Report of Cases and Method of Treatment.*

By DANIEL W. MARSTON, M. D., New York, N. Y.,

Instructor Orthopedic Surgery, New York Post-Graduate School and Hospital; Visiting Surgeon, Daisy Field's Hospital for Crippled Children, etc.

After relating the history of the subject and crediting the first reported case operated upon to Dr. Phelps, of New York, Dr. Marston described the symptoms, in his own cases at least, as being characteristic.

The position of the arms in each case was alike. The affected arm hung at the side of the body, well rotated inward. The elbow was a little flexed. The forearm was pronated so

that the palm faced backward and outward and the wrist and fingers were flexed. The flexion and abduction of the arm was probably occasioned by the impinging of the head of the humerus beneath and against the spinous process of the scapular in the glenoid cavity. The rotation of the whole arm inward was due to habitual use of the limb in this unnatural position, to the anatomical relations of the parts, and to the contraction of the pectoralis major muscle.

Dr. Marston says: In the treatment of these shoulders, it should be the aim of the surgeon to reduce the deformity and to secure a useful joint. The means employed may be mechanical and operative.

Reduction should be attempted in each case under three years of age. If manipulation was not successful, he directed to "make an incision along the posterior border of the deltoid muscle, curving it downward. This gives a flap which readily exposes the head of the bone. The capsule is then incised. The head of the bone will be found under the spine of the scapula. It will be necessary to cut away two thirds of the head of the bone, or down to the epiphyseal line. The bone should be rounded off, like the original head, and then slipped into the glenoid cavity. The entire new articulation which has been formed by the head of the bone is next excised with a chisel or sharp spoon. The redundant capsule is then cut away and the capsule stitched with catgut."

All of this series of cases reported upon were dressed with the elbow well back. This is a mistake, for none of the cases have been able to raise the arm quite to the perpendicular. In subsequent cases, the arm will be dressed with the elbow well back and with the arm at a right angle with the body, so as to secure this motion, which is the only one that these patients have missed.

Dr. Marston showed pictures of a baby with obstetrical paralysis. He exhibited it in this connection to show the almost exact similarity of the position of the paralyzed limb and of the arms in the cases of congenital dislocation of the shoulder. In these cases, he said, no operative measure is indicated. In his opinion, at least 15 per cent. of the cases of so called obstetrical paralysis can be proven instances of congenital dislocation and greatly benefitted by the operation I have described.

The prognosis in this dislocation, he stated, is even better than in congenital dislocations of the hip.

The number of cases thus far reported, as

* An original abstract of the paper read before the Ninety-fifth Annual Meeting of the New York State Medical Society, in Albany, N. Y., January 30, 1901.

operated upon, with the names of the respective surgeons, was stated as being—

Phelps, since April, 1895.—Four cases.

Eve, since August, 1895.—One case.

Küster.—One case. Fatal result.

Stimpson.—One.

Post.—One. 1881.

Gerster.—One.

Schede.—One.

Stone.—One. 1896.

In closing, the speaker summarized as follows:

I. It is of the utmost importance to differentiate between cases of dislocation and true obstetrical paralysis.

II. The treatment of the former condition is immediate reduction; manipulation if possible; otherwise operative.

III. Every infant should be carefully examined at birth, for it is at this time that reduction is easiest performed.

IV. From the fact that a fracture of the glenoid cavity was found in three of Dr. Phelps' cases, and that the history of nearly all cases shows difficult labor, I am led to believe these cases are not of paralytic origin, but are due to traction, made in the axilla by the finger or vectis. Paralysis may be coincident, but it cannot be a primary factor in causing dislocation posteriorly.

V. The prognosis of the operative treatment is excellent. The earlier the operation the more hopeful the outlook.

VI. Like congenital dislocation of the hip, these cases of the shoulder are little benefited by mechanical treatment.

THE LOCATION OF A SIX-PENNY WIRE NAIL IN THE LEFT BRONCHIAL TUBE,

Six Months After Its Inception, by Use of the X-Ray, and Its Successful Removal.*

By SAMUEL LILE, M. D., Lynchburg, Va.,

Surgeon to St. Andrew's Home; Surgeon-in Charge, Lynchburg City Hospital; Surgeon Southern Railway, etc.

The object of this paper is to call attention to the importance of the X-ray in locating foreign bodies in the air passages and œsophagus, and to suggest the possibility of removing them under the ray—thus seeing every step of the operation, rather than probing for them with only the sense of touch as a guide. This

will best be done by reporting a case recently operated on in St. Andrew's Home (our private hospital).

D. W., a boy, two and a half years old, was brought into the hospital on September 21, 1900, suff'ring greatly from dyspnoea, as well as pain. His mother stated that the trouble began in March, when he swallowed a nail, at which time he became very blue and came near choking to death. This was followed by loud breathing, pain in the region of the heart, and frequent paroxysms of cough, so severe that in each death seemed imminent. He had lost in weight, and apparently had grown none in height. He would play around on the floor for a few minutes, begin coughing, run to his mother with his hand over his heart and say, "Hurt, hurt." He had never slept more than one half hour at any time since the nail was swallowed.

Physical examination showed a well-formed child, moderately well grown for his age, breathing loud, quick and labored, not unlike that of a child with croup; both lungs gave mucous and sibilant râles in abundance, though worse in the left.

On September 22, 1900, six months after the accident, assisted by my friends, Drs. Rawley W. Martin, Sr. and Jr., the child was subjected to the X ray, when the nail could be readily seen. The head of the nail rested against the base or lower cartilage of the left bronchial tube; the point, which could be seen to bob up and down when the child would cough, was apparently under the junction of the fourth rib with the sternum. While looking at the nail, the thought occurred to me, how easy it would be to pass a pair of forceps down inside of the trachea, into the tube, watch its every movement, even to grasping the nail and removing it. I felt, if this could be done—and I saw no reason why it could not—that after making the incision in the trachea I could see every movement, instead of relying solely on the sense of touch, if otherwise attempted.

To demonstrate the idea as nearly as possible, I procured a board five feet long, sixteen inches wide and one inch thick, and placed each end on a chair; on this I placed a boy nine years old; beneath the board I placed the Crook's tube, turned on the ray, and under the light passed a pair of forceps down between the boy's body and the fluoroscope; it could be seen more distinctly than the nail had been.

Being encouraged by this crude demonstration, I determined to attempt the removal of the nail in this way. Accordingly, on Monday, September 24, 1900, assisted by my part-

* Prepared for the Medical Society of Virginia during its Thirty-first Annual Session held in Charlottesville, Va., October 23-25, 1900.

ner, Dr. A. W. Terrell, and my friends, Drs. R. W. Martin, Sr. and Jr., and Dr. W. H. Du-laney, the operation was done.

Each end of the board above described was placed on a table, one end elevated about eight inches, so that the child's body would be on an inclined plane, the head being towards the lower end, thus having gravity to aid in the removal of any offending material, such as blood, etc. The child was placed on the board, in the usual position for tracheotomy, which operation was quickly done, the opening being about an inch in length, and made just below the cricoid cartilage. The room was immediately darkened and the X ray turned on—much to my horror and disgust, the rays were deflected, and no glow could be gotten in the tube; this being due to the moisture in the room—it having been heated to 85° F., by allowing steam to escape, the condensation of which had wet all of the electric apparatus, and the sparks flew in every direction; lack of thought on my part thus prevented a positive demonstration of the idea suggested. Had I heated the room with dry hot air instead of steam, I have no doubt of its having been successful.

There was no alternative save to proceed to locate and remove the nail by the sense of touch. A former view with the X ray enabled me to know that it was in the left bronchial tube; consequently, a probe was bent and gently passed through the tracheal opening down into the tube. It was almost impossible to locate the nail—it being partly encysted. The probe would slip over a ridge, but give no metallic touch, the difficulty being to determine whether the ridge was the encysted nail or one of the cartilaginous rings of the tube. Finally, curved forceps were gently passed along the probe; reaching the prominence, it was gently pinched, then the forceps were withdrawn, showing within its grasp mucous membrane with particles of iron rust; several pinchings of this kind were done, when at last the probe gave the distinct metallic feel; the forceps were again passed, and after several attempts, seized and brought out a rusty six-penny wire nail.

A tracheotomy tube was at once inserted, the wound dressed, and patient put to bed. The air in the room was kept moist, and the temperature at 85° F. The tube was removed in twenty-four hours. The child made an un-interrupted recovery.

I have seen no literature on the removal of foreign bodies under the X-ray.

Proceedings of Societies, etc.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON ORTHOPÆDIC SURGERY.

Meeting of December 21, 1900.

Dr. A. B. Judson, 1 Madison Ave., Chairman.

Re Position of the Congenitally Dislocated Hip.

Dr. L. W. Ely, in a recent visit to Vienna, said he had spent some time in observing the practice of Lorenz, who was receiving cases of congenital dislocation of the hip from all parts of Europe. The cutting of tendons and instrumental traction were rarely seen. When the head of the bone had been replaced with suitable force and manipulation, the reduction was maintained by a most elaborately applied plaster of Paris spica, which did not include the trunk and extended below only to the knee. The patient was then sent home to stay several months. The results were good, and sometimes so brilliant as to justify the enthusiasm of the operator, who believed that when a knowledge of the operation was widely spread, reduction would be made at such an early age as to almost preclude the possibility of a failure. The remarkable statistics of successes which had been published, had their origin partly in enthusiasm and partly in the undoubted excellence of a method applied with requisite technique.

Dr. H. L. Taylor reported that the experience of Calot in his hospitals at Berck, on the channel coast of France, had showed that the bloodless reduction of congenital dislocation of the hip was applicable in children up to eight years of age, or later in exceptional cases. Active treatment covered from six to twenty-two weeks, and included two or three weeks' traction with a weight of from ten to twenty pounds, and at the operation the application of a force of 300 pounds for ten minutes to bring the head of the bone down to or below the acetabulum. When the retaining apparatus was removed, massage and training in walking completed the treatment. Patients had recovered without the trace of a limp. He had practically given up the open method. The correct attitude obtained by cutting would be at the expense of limitation of motion or ankylosis, which might be properly sought by this method in certain cases in which replacement was impossible.

Dr. R. H. Sayre had seen Lorenz operate last

year in Paris at the Redard clinic. The patient, a child of about eight years of age, was moderately disabled by a single dislocation of the hip. The thigh was made to form an angle of perhaps twenty degrees posterior to the plane of the body. A great deal of force was employed for this, and in turning the limb in various directions. The head of the femur could be heard as it popped around on the ilium, in what must have been a mass of lacerated tissues. The spica, which was nearly two inches thick where the strain came, included two loose strings for subsequent use in scratching the skin and keeping it clean. The head did not assume a permanent residence in the acetabulum. It was said that it would do so after the child had walked about for a year or two in the spica, a question which would have to be answered in due time.

Dr. C. H. Jaeger had recently spent six weeks at Vienna, and reported that the treatment of congenital dislocation at the Lorenz clinic was exclusively by the bloodless method. Double cases were treated singly. The results were very favorable. The spica was applied with great care. Only a thin layer of cotton padding was used. The plaster bandage was applied very snugly, the thigh only being enclosed, and a narrow strip going about the pelvis. This left the knee and ankle free, and also the whole spinal column. The limb being thus fixed in extension and abduction, the patient soon learned to walk without crutches and with (in single cases) a high sole on the sick foot. It was most interesting to see a child with double dislocation, with both legs strongly abducted, spread eagle fashion, walking beautifully, hopping with one leg, then the other without a stick or help of any kind. Lorenz was accustomed to lay great weight on having the parents of the patient extend the knee many times daily, to prevent contracture. In opposition to these views, Hoffa strongly advocated the open method.

Dr. W. R. Townsend said that Hoffa had stated in very positive terms that none other than the bloody operation could be of any use. An American authority also had reported that in a large number of open operations only two or three had exposed an acetabulum in which it was possible to place the head. The views and practice of Lorenz, however, were those of one whose experience with the open operation had been greater than that of all other operators combined. In one of the dissections reported by *Dr. E. H. Bradford* the capsule had been found pushed in front of the head of the

bone in such a manner that a perfect reduction could not be made. This had led to the suggestion that in some cases the open operation might be modified by slitting the capsule, instead of gouging or boring the bone, which might lead to ankylosis or limited motion.

Dr. Jaeger thought that Hoffa was dissatisfied with the bloodless procedure, partly because of the position in which he fixed the limb after reduction of the deformity. He applied the spica with the limb in extension and strong inward rotation, which could not afford a very firm hold for the femoral head in the acetabulum. In this position it was probable that relaxation would occur during the application of the bandage or on the first attempt at walking.

Dr. T. H. Myers said that those American surgeons who, after trying both methods, favored the opening of the joint in every case, were at variance with Lorenz. In his own experience, which had been considerable, he had not yet opened a joint believing that the bloodless method should be tried first. It secured some perfect results, and in the results which were not perfect the head was placed anterior to or above the acetabulum which was better than to leave it on the dorsum.

Dr. G. R. Elliott had passed several weeks with Lorenz, in 1896, and had seen him operate many times by the non-cutting method, having already begun to discredit the cutting operation, which he had done so much to perfect. There could be no possible doubt of the good results obtained. He had seen many instances and had repeated them in his own practice. Success lay in the thoroughness of the procedure and in the perfection of the technique. (1) The head of the bone should be brought down to the level of the acetabulum. (2) It should be lifted over the posterior edge of the acetabulum. (3) Abduction should be extreme, even posterior to the mid plane of the body. (4) The plaster bandage should be pressed posteriorly against the joint to keep the reduced head from slipping backward. Great force was often required but neglect of any point would leave the head of the femur resting on the posterior acetabular edge to be dislocated as soon as the bandage was removed. Lack of success would be due to want of technique leading to imperfect reduction. Thorough padding was necessary beneath the bandage. Blood had appeared in the urine of a patient operated on by him last week. The child had been laid face downward to facilitate fortifying the splint posteriorly, and the soft plaster bandage had pressed

against the abdomen and hardened. Cutting the bandage relieved pressure and the blood disappeared.

Sea-Air for Tubercular and Rickety Patients.

Dr. Taylor, in his review of the treatment at Berck, said that Calot was an enthusiastic advocate of sea-air for patients affected with external or peripheral tubercular lesions, those of the skin, glands, bones and joints. He rejected phosphorus in the treatment of rickets, prescribing intestinal antiseptics and a diet mainly of milk and eggs. Many of his patients were kept recumbent. He affirmed that rickety deformities would disappear during a sojourn at the seaside.

Dr. Sayre had listened to Calot as he described the advantages of seaside treatment. His interest in the subject was shared by others of his countrymen, whose native enthusiasm perhaps lent a too rose-colored light to their views.

Dr. Taylor had been impressed with the picturesque quality of Calot's writings. His zeal often broke through the conventional boundaries of scientific composition. The reader was entertained and delighted but not necessarily convinced.

Treatment of Pott's Disease.

Dr. Ely said that Lorenz used a corset, composed of perforated strips of celluloid, metal bands and canvas. It laced in front and was probably sufficiently comfortable but could not be said to "splint the spine."

Dr. Taylor said that although Calot declared that neither braces, plaster-jackets nor corsets could prevent or arrest the deformity, all of his patients wore the plaster jacket after submission to manual pressure directed against the kyphos. In certain cases ablation of spinous processes without invasion of the tubercular territory was recommended in order to facilitate correction and avoid sores from pressure of the jacket. The use of suspension, the amount of manual pressure and the degree of lordosis to be enforced were points to be settled for each case. Severe pressure and all traumatism were to be carefully avoided, in marked contrast with the violent proceedings which called attention to the name of Calot in 1896, when he was claiming uniformly brilliant results from the outlay of all his strength on the kyphos supplemented with cuneiform resections in obstinate cases.

Dr. Sayre said that Calot's recent methods, as he had heard him describe them, varied but little from those of Dr. L. A. Sayre when he introduced suspension and plaster-of-Paris

jackets. Calot had, however, secured a distinct advantage in extending the jacket up to the chin instead of stopping at the top of the sternum, thus promoting lordosis even of the lumbar spine and gaining a leverage over the entire spine, which was impossible when the upper part of the vertebral column was free

Treatment of Joint Diseases.

Dr. Ely said that at the Lorenz clinic joint diseases generally were treated by retention in plaster-of-Paris. The spica for hip disease usually had an iron stirrup running down from the bottom to take up the weight of the body.

Dr. Jaeger said that Lorenz taught that traction *per se* did no good in hip disease except as it caused fixation, and that fixation alone was necessary, as the inflamed joint could well bear the weight of the body so long as there was no rubbing of the joint surfaces.

Dr. Taylor said that Calot very justly believed that a stiff joint in a good position was better than a movable joint in a bad position. It was his practice to reduce the deformity by force and retain the improvement with a plaster spica. Complete ankylosis in a bad position required subcutaneous osteotomy of the femoral neck.

Treatment of Abscesses of Joints.

Dr. Jaeger had noticed fewer abscesses in patients affected with hip disease at Vienna than in patients of the same kind in America, which was not easy to explain except by climatic differences, as the poor there were poorer and their nourishment probably worse than in this country.

Dr. Taylor said that Calot forbade incision, curetting and excision in Potts' and hip disease unless the joint or abscess was infected or a sequestrum was found. He took the ground that patients affected with these diseases practically always got well under closed treatment and always died under the open treatment. Abscesses were to be treated by roborant drugs, a full diet, correct hygiene and rest. A cold abscess might be aspirated through healthy tissue and medicated by injections. By repeated aspirations, and the application of compresses and bandages, openings which seemed inevitable might be averted, and in from four to eight weeks the abscess would disappear without a scar and with healing of the bone in most cases. It was interesting to note that he had (1) in Calot a surgeon of ten years' active experience, formerly an advocate of scraping, incisions and excisions, with the reputation of

having done eighty excisions of the hip, who was now aggressively opposed to the operative treatment of diseases of the joints; and (2) in Lorenz a surgeon of great experience in the cutting treatment of congenital dislocation of the hip, who had given it up in favor of a bloodless method. The coincidence and the contrast between the recent past and the present were quite impressive.

Lateral Curvature from Division of the Spinal Accessory Nerve.

Dr. R. A. Hibbs related a case as follows: A girl 14 years old had glands removed from the left side of the neck six months before she was first seen a few days ago. There was spinal curvature toward the right with drooping of the left shoulder, paralysis and atrophy of the trapezius and marked disability of the left arm. The patient declined an operation for uniting the ends of the spinal accessory nerve, which had evidently been severed at the point where it pierced the sterno cleido mastoid muscle.

Dr. Myers recalled the case of a similar patient, 15 years of age, whom he had been observing for three or four years. He saw her eighteen months after the paralysis, and considerable permanent atrophy of the muscles of the shoulder had set in. There was spinal curvature toward the opposite side, which did not go on to be extreme, and was easily controlled.

Fracture of Cervical Vertebrae.

Dr. Sayre related the case of a man who was carried home unconscious after a fall on the head and neck about two months ago. On regaining consciousness, there was paralysis of the extremities, bladder and rectum, in which there was slow improvement after two days. As every attempt to walk increased his symptoms, he was kept in bed several weeks. A diagnosis of fracture and dislocation of the fifth and sixth cervical vertebrae was made on his history, the flexion of the head, the absence of motion of the head and neck, difficulty in swallowing, and the disability of the left upper extremity. The diagnosis was confirmed by skiagraphs, of which it had been necessary to take several from different points of view. One of the negatives was taken after fastening a bandage tightly over one shoulder and under the opposite armpit, so as to make a gulch, in which one edge of the plate had been forced so far as it would go. The skiagraphs and a brace were exhibited. The latter consisted of a leather and steel collar attached to posterior

steel rods and a pelvis belt. The head and neck would be thus fixed until consolidation was assured, the brace being capable of easy modification from time to time, as the patient improved. He recalled an almost exact counterpart, in a case which occurred several years ago, in which the application of a jacket and jury-mast had been followed by disappearance of the paralysis.

Pneumatic Perineal Straps.

Dr. Myers exhibited rubber tubes ten inches long and one and a quarter inches in diameter, designed to take the place of the ordinary perineal straps. Smaller sizes were also made. Each tube was provided with a removable cover of Canton flannel and a valve for inflation by a bicycle pump. The straps were not elastic. They were expensive, but very durable. The pressure made by them was equalized automatically, and that made them especially comfortable for older children and adults, whose weight made perineal support difficult.

"Kugloids"

Are gelatin capsules of about four grains size each, named after the author of the formula (*Kugler*, of Paris, in 1899), containing half grain of chemically pure glycerophosphate of quinine, dissolved in true benzoate of creasote and eucalyptol. The pure salt, *glycerophosphate of quinine*, is a remarkable nerve tonic, a protoplasmic regenerator, and an antifebrifuge which does not cause deafness, nor do patients become inured to its effects. *Benzoate of creasote*—a new combination of benzoic acid with beechwood creasote—is a tasteless, odorless, colorless liquid; non irritating to the stomach, through which it passes unchanged into the intestines, where it is acted upon by the biliary and pancreatic secretions, and absorbed in the blood. It does not afterwards irritate the kidneys. Pure *eucalyptol* favorably influences catarrhal secretions. *Kugloids* give very remarkable results in febrile tuberculosis (according to *Dr. Ed. Gros*, of Paris). They should be given in doses of 10 or 12 a day—one *kugloid* at a time. It causes night sweats of tuberculosis to disappear.

Book Notices.

Pocket Text-Book of Obstetrics By DAVID J. EVANS, M. D., Lecturer on Obstetrics and Diseases of Infancy in McGill University Faculty of Medicine, Montreal. In one handsome 12mo. volume of 409 pages, with 149 illustrations, partly in colors. Cloth, \$1.75 net; full flexible leather, \$2.25 net. *Lea's Series of Pocket Text-Books.* Edited by BERN B. GALLAUDET, M. D. Lea Brothers & Co.: Philadelphia and New York.

This number of "Lea's Series of Pocket Text Books," intended as a "Manual for Students and Practitioners," is written in the simplest style, and the points are plainly taught. The illustrations (149 wood engravings) fill the gap where word description is insufficient. The book is admirably well adapted to the uses of the student during his lecture course, and to the hurried needs of the doctor, to refresh his memory as to the normal processes and as to how to proceed in cases of malformation, etc. It is remarkable how much of information is contained in this little manual. Beside normal labor, and the dystocia, most of the diseases that afflict the puerperal woman are described and good lines of treatment are given. It is a good book.

Text-Book on Pathology. By ALFRED STENGEL, M. D., Professor of Clinical Medicine in University of Pennsylvania; Physician to the Philadelphia Hospital, etc. *With 372 Illustrations. Third Edition, Revised.* Philadelphia and London: W. B. Saunders & Co. 1900. 8vo. Pp. 873. Cloth, \$5; Half Morocco, \$6.

"Stengel's Pathology" has become standard authority. The two former editions were everywhere received as the desired work on clinical pathology. This *third edition* has simply been brought up to date—some amplifications having been made to the section on pathogenic pathology. Nothing especially is given of the pathology of the skin and organs of special sense. The sections on neuropathology in this third edition have been revised by Dr. Joseph Sailer. The whole work, as now presented, is the book for the practitioner of either medicine or surgery—dealing with the subject in hand from a thoroughly practical standpoint. The double column index of thirty pages is a great help to ready reference to items in the pages. The illustrations are all apropos, well drawn, and neatly printed. In fact, the book is issued in excellent style, remarkably free of the need of "errata."

Hand-Book of the Diseases of the Eye and their Treatment. By HENRY R. SWANZY, A. M., M. B., F. R. C. S. I., Examiner in Ophthalmology to the University of Dublin, etc. *Seventh Edition. With 165 Illustrations.* Philadelphia: P. Blakiston's Son & Co. 1900. Small 8vo. Pp. 607. Cloth, \$2.50, net.

The fact that a foreign book on the eye has an American demand for the seventh edition is evidence of the popularity of this *Hand-book.* In this edition are included: "An account of Dr. Mackenzie Davidson's method of employing the Röntgen rays for the detection and localization of foreign bodies within the eye; a description of Mr. Mules' operation for ptosis, and three tables * * * which give the actions and relative values of the various mydriatics, myotics and local anesthetics used in ophthalmology." The popularity of this work is evidently due to the plain, practical descriptions of methods for examination, diagnosis and treatment. For instance, in the descriptions of skiagraphing the eye, the methods are stated so clearly in text and illustrations that even the novice who follows out the directions given can make a satisfactory examination. There is no surprise, therefore, after examining the book, that it is in such demand. It is one of those publications that should be in the hands of the general practitioner who has not a competent ophthalmologist in his community.

Pocket Medical Formulary. By WM. M. POWELL, M. D., Author of "Essentials of Diseases of Children," Member of the Philadelphia Pathological Society, etc. *Sixth Edition. Thoroughly Revised. With an Appendix containing Posological Table; Formule and Doses for Hypodermic Medication; Poisons and Their Antidotes; Diameters of the Female Pelvis and Fetal Head; Obstetrical Table; Diet List for Various Diseases; Materials and Drugs Used in Antiseptic Surgery; Treatment of Asphyxia from Drowning; Surgical Remembrancer; Tables of Incompatibles; Eruptive Fevers; Weights and Measures, etc.* Philadelphia: W. B. Saunders & Co. 1900. Flexible Leather, Flap and Pocket. 12mo. Pp. 305. \$2 net.

For ready reference, this *pocket formulary* should prove of great value to the busy general practitioner, either in the country or city. The various sections of the book are up-to-date, and as there are a number of blank pages inter-leaved throughout, it would be an easy matter to add from time to time special items, certain pet prescriptions, etc., as they happen to appeal to the fancy of the individual doctor. As an evidence of its popularity, this is the sixth edition published since September, 1891. This little work has been fully revised and thoroughly corrected, and some two hundred new and valuable formulæ added.

Refraction, and How to Refract. By JAMES THORINGTON, A. M., M. D., Professor of Diseases of the Eye, Philadelphia Polyclinic and College for Graduates in Medicine, etc. *Second Edition. Two Hundred Illustrations, Thirteen of which are Colored.* Philadelphia: P. Blakiston's Son & Co. 1900. Small 8vo. Pp. 301. Cloth, \$1.50 net.

Just a year after the first edition was published, late in 1899, a second edition was called for—indicating a demand that is rare and very complimentary to a book in the specialty of ophthalmology. One element of its popularity is evidently due to its plainness of description—the book being especially intended for those practitioners and students who may have a limited knowledge of mathematics, and who, therefore, cannot readily appreciate such classic treatises as that of Donders. The present edition is very nearly a reprint of the first edition—some changes in phraseology to make the sentences more lucid having been made. It is an excellent book for the student and general practitioner who has to adjust glasses, etc.

Manual of Hygiene and Sanitation. By SENECA EGBERT, A. M., M. D., Professor of Hygiene, and Dean of Medico Chirurgical College of Philadelphia, etc. *Second Edition. Enlarged and Thoroughly Revised. Illustrated with 77 Engravings.* Lea Brothers & Co., Philadelphia and New York. 1900. Cloth. 12mo. Pp. 435. \$2.25 net.

This *Manual* is standard authority. It has been carefully written and systematically arranged. It devotes a number of its pages to military hygiene and sanitation, and such subjects are becoming of daily increasing interest, as long as the United States authorities show their present disposition to add to its territorial possessions—necessitating the presence of the military. State troops, also, are being from time to time needed, and the lessons of this book are admirably well adapted to their use when in camp, or on special duty. The *Manual* is also a good text book for students. For the physician it would be difficult to find a book of its size that would be a better guide for his purposes. Perhaps there are some points stated by Dr. Egbert that are debatable—as, for instance, the over weaning to the idea that a disease corresponding to what the profession at large believes to be such a hybrid association as really to demand a name as if it were an entity. We are much pleased with this book, and most cordially commend it to the favorable consideration of any in need of a guide book on hygiene and sanitation.

International Clinics. *A Quarterly of Clinical Lectures and Especially Prepared Articles on Medicine, etc.* Edited by HENRY W. CATTELL, A. M., M. D., Philadelphia. *With the Collaboration of Leading Members of the Medical Profession Throughout the World.* Vol. III. *Tenth Series. 1900.* Philadelphia: J. B. Lippincott Co. 1900. 8vo. Pp. 301. Cloth, \$2 per volume; Half leather, \$2.25. *By Subscription Only.*

These volumes are of exceeding great value to the practitioner. Each one contains a number of clinical lectures by eminent authorities, thoroughly revised by the authors themselves, and overhauled by the collaborator of the book. Each article, in the form of a clinical lecture, enables the author to speak especially of those points that are of every day use to the *practitioner*. The subjects treated refer to Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pædiatrics, Pathology, Dermatology, Diseases of Eye, Ear, Nose, and Throat. Other topics of interest to students and practitioners are discussed. Sometimes monographs are to be found. In this volume there is one on *The Scientific Modification of Milk*, by Dr. Thompson S. Westcott, Instructor in Diseases of Children, University of Pennsylvania, which is a most valuable contribution. The collaborators of the series are Drs. John B. Murphy, Chicago; Alexander D. Blackader, Montreal; H. C. Wood, Philadelphia; T. M. Rotch, Boston; E. Landolt, Paris; Thomas G. Morton and Charles H. Reed, Philadelphia. There are regular correspondents to the series in Montreal, London, Paris, Leipzig, and Vienna.

Students' Edition, a Practical Treatise of Materia Medica and Therapeutics, with Special Reference to the Clinical Application of Drugs. By JOHN V. SHOEMAKER, M. D., LL.D., Professor of Materia Medica, Pharmacology, Therapeutics and Clinical Medicine, and Clinical Professor of Diseases of the Skin in the Medico-Chirurgical College of Philadelphia; Physician to the Medico-Chirurgical Hospital, etc. *Fifth Edition. Thoroughly Revised.* 6½ x 9½ inches. Pages vii—770. Extra Cloth, \$4, net; Sheep, \$4 75, net. F. A. Davis Company, Publishers, Philadelphia. 1900.

This "Students' Edition" is a new departure. In it "nothing is included beyond the description of those drugs and preparations which are official in the pharmacopœias of the United States and Great Britain, together with some of their chemical modifications." The doses are all given in the decimal terms, together with their equivalents in the English system. This latter feature is all right. But we confess that we cannot favor the first part of the plan. A *practical* treatise on *materia medica* and *therapeutics*—whether for student

or practitioner—should at least mention the prominent new remedies from the chemical laboratory and from the vegetable or any other kingdom—giving their doses, uses, etc. Everybody expects the young graduate in medicine to carry home with him something new. In looking over the general index, we find that the word antipyrin is not indexed. Of course, this can be corrected. It is several times mentioned in the article on phenacetin, etc., as also in the clinical index. If the author had chosen to issue a condensed or abridged issue of the larger or physicians' edition, it would have had a better effect. We make no complaint against what is in this book. In deed, what it contains is excellent, and good enough for any one. It is only with reference to the form of limitation that we object. The antitoxins are not discussed—a great error of omission, in our opinion. What would be thought of the graduate who had not been told of diphtheritic antitoxin, etc.?

Manual of Materia Medica and Pharmacology.

Comprising all Organic and Inorganic Drugs which are and have been official in the *United States Pharmacopœia*, together with important Allied Species and Useful Synthetics. For Students of Medicine, Druggists, Pharmacists and Physicians. By DAVID M. R. CULBRETH, M. D., Professor of Botany, Materia Medica and Pharmacognosy in the Maryland College of Pharmacy, Baltimore. New (Second) Edition. In one Octavo Volume of 881 pages, with 464 Illustrations. Cloth, \$4 50, net. Lea Brothers & Co., Publishers, Philadelphia and New York. 1900.

The basal plan of this *Manual* is to "associate as nearly together as possible those substances, organic and inorganic, which have a common or allied origin, allowing those next related to follow in regular order, the basal or parental source thus being kept paramount." Animal drugs are considered in the order of natural historic relationship of the animals from which they are obtained. It is especially as a text-book for the pharmacy student and druggist that this *Manual* has its highest merit. The medical properties and uses of the various drugs are, for the most part, stated—not discussed in any detail. However, a fuller statement of the physiological action of the leading drugs is given. For the practical medical botanist, this book has special claims. The profusion of illustrations furnish a great help to the student. The *Manual* contains an immense deal of information—always clearly, but comprehensively stated—that is of every day service. The latest of approved remedies,

the incompatibilities of leading drugs and their synergists, a comprehensive account of poisons and combatting methods, a chapter on prescription writing, etc., are among the features that increase the popularity of this work.

Therapeutics: Its Principles and Practice. By

HORATIO C. WOOD, M. D., L. L. D., Professor of Materia Medica and Therapeutics, and Clinical Professor of Diseases of the Nervous System, in the University of Pennsylvania; Member of the National Academy of Science. etc. *Eleventh Edition. Remodelled and in Greater Part Rewritten.* By HORATIO C. WOOD, and HORATIO C. WOOD, JR., M. D., Demonstrator in Pharmacodynamics, in the University of Pennsylvania. Philadelphia and London: J. B. Lippincott Company. 1900. 8vo. Pp. xxxiii—883. Cloth, \$6.

This standard work, in its eleventh edition, both as a student's text book and as a treatise in the office of the scientific, busy physician, well sustains the splendid reputation long since made by the publication of former editions. In the preparation of this volume, the author has associated with himself his son, Dr. Horatio C. Wood, Jr. Together they have carefully gone over the whole subject, retaining many of the old features, though it will be found, on the whole, to be so different from its predecessors as properly to be considered a new book. The idea has been to present a new view of the entire subject of therapeutics, and to present it in the most attractive form possible. The drugs are grouped for study according to their physiological action—a practical method of teaching which we believe was first presented by this author. Naturally in a book as large as the one under consideration, a few omissions and errors will creep in. We are somewhat surprised to note how imperfect are the instructions as to the administration of so important an agent as chloroform for general anesthesia. Under the heading of administration of general anesthetics, on page 113, we read: "In Europe various inhalers are employed for the administration of chloroform; but in this country they are rarely, if ever, used. *A napkin or a few folds of surgical gauze may be laid over the nostrils and mouth, and the chloroform dropped upon this.*" This is practically all that the student is told concerning his procedure in giving chloroform, with the one exception in which he is also instructed to give a plenty of air. With the teaching above referred to, it is a wonder this God send to suffering humanity has not hurried many to the "Land of the blessed."

Editorial.

The Legislature of Virginia,

Now in extra session, as we understand it, does not propose to take up any medical subject. Hence the various measures proposed by the Medical Society of Virginia during its session in Charlottesville last October will have to lie over until next winter, when the regular biennial session of the Legislature will convene.

The Tri-State Medical Association of the Carolinas and Virginia

Will hold its regular annual session in this city February 26-28, 1901. The meetings will be at "The Jefferson," where special arrangements will be made for the entertainment of guests. A number of good papers are promised in addition to those named in our January issue. Dr. John N. Upshur, Richmond, who is also Secretary and Treasurer of the organization, is Chairman of the Local Committee of Arrangements, and it may therefore be expected that his systematic methods will result in a well arranged programme. Dr. Kollock, of South Carolina, who is President, writes encouragingly of the proposed attendance from that State. North Carolina, being nearer geographically to our city, will of course be well represented, and we may safely count on the Virginia members to be present and take an active part in the entertainment of their guests from the Carolinas.

Dr. J. R. Gildersleeve, of Tazewell, Va.,

President of the Medical Society of Virginia, has been in this city for two or more weeks looking after the interests of the Society. Unfortunately, for the past few days he has been indisposed by sickness of a gripal character. The Society made no mistake in selecting him as its President, for he is indefatigable in his efforts in its every behalf.

Richmond Academy of Medicine and Surgery.

Under the Presidency of Dr. Stuart McGuire, a new life is being infused into this organization, which meets the second and fourth Tuesday nights of each month at "The Jefferson." The earlier meetings of the year are being taken up with a symposium on *the liver*—its anatomy, physiology, diseases, etc. Doctors able to discriminate and to present their parts of the subject in a competent manner have been appointed as leaders. When this matter has been thoroughly ventilated, *the kidney* will be taken up in the same systematic manner. Each

symposium will be made as practical as possible. So that when all the papers are in, it may be expected that a useful series of articles will be the result. Of course each paper will be open to discussion. The subjects have been so arranged that it will require six or eight meetings to complete them. Regular physicians and surgeons who may be visiting the city may find it of interest to themselves to attend the meetings of the Academy, which begin about 8:30 P. M.

The Virginia State Board of Health.

Under the new laws which became operative in January, 1901, the seven physicians composing this Board met in Richmond during the latter part of January for organization. Dr. Rawley W. Martin, of Lynchburg, was elected President for the term of four years; and Dr. Paulus A. Irving, Richmond, was re-elected Secretary. The other five members of the Board for the four years ending December, 1904, are: Drs. V. G. Culpeper, Portsmouth; Lewis E. Harvie, Danville; J. T. Graham, Wytheville; J. H. Neff, Harrisonburg, and Landon B. Edwards, Richmond. Under the new law, the seven members are nominated by the Medical Society of Virginia to the Governor of the State for commission. If, for any reason, he should decline to issue commission to any of those nominated, then the Society has to nominate one or more to fill the vacancy. After the Board is organized, then in the event of a vacancy by death, resignation, or otherwise, the Board itself has power to fill the vacancy. Greater powers have been granted the Board by the new law, and plans are being perfected for its greater usefulness to the profession and people.

Assistant Surgeons in Uncle Sam's Navy Scarce.

It is understood that the medical corps of the navy is experiencing considerable trouble in securing young physicians who are willing to accept appointments as assistant surgeons. As soon as the applicants learn of the prospects for advancement, they prefer to enter the service of the army, where there is promise of a brighter future. An assistant surgeon in the navy is a lieutenant in the junior grade.

There are at present fifteen vacancies in the corps, and two more will occur during the year by the retirement of Medical Director W. K. Schofield, senior officer of the medical corps, and Medical Director J. G. Ayers. Surgeon-General Van Reypen says it is impossible to lower the standard, and in order to get efficient men it will be necessary for Congress to offer better inducements than exist at present.

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Original Communications.

ACUTE AND CHRONIC BRIGHT'S DISEASE: Symptoms, Etiology, Treatment, Etc.

By FREDERICK HORNER, M. D., Marshall, Virginia,
Past Assistant Surgeon, U. S. Navy.

Granular degeneration of the kidney was first described by Dr. Bright, of London, in 1827. As described by Drs. Bright, Christison and Gregory, of Great Britain, and MM. Solon and Kayer, of France, the essential features of the disease appear to be a morbid deposit in the substance of the kidney, attended with atrophy of the healthy structure, the presence of albumen and of casts in the urine, and excess of its specific gravity in its acute stage, and very low specific gravity, polyuria and subnormal percentage of urea in chronic interstitial nephritis, along with a temperature of from 101° to 105° .

The onset is marked by slight fever, pallor and puffiness of the face, and pain in the back. At first there may be suppression of the urine. More commonly, according to Dr. William Osler (*Principles and Practice of Medicine*), the urine is scanty, and contains blood, albumen and tube casts; the complaint, unless arrested by appropriate and prompt treatment, slowly advances. Organic diseases of the heart and lungs previously existing or developed, or habits of inebriety, worry and exposure during the progress of the complaint, aggravate the danger and render a fatal termination almost certain.

According to Prout, the specific gravity of healthy urine is from 1.015 to 1.025. Solon makes such from 1.020 to 1.024. In this complaint it is diminished to 1.003; though not uniformly albuminous, it is always much less than in the acute disease.

There is rapid diminution of the coloring matter of the blood in connection with the state of the urine, the red corpuscles are some-

times reduced to one third of their healthy proportion under the direct influence of the disease alone, the complexion acquiring before death a yellowish-white and almost cadaveric hue. Along with symptoms of dropsy and scanty albuminous urine, and a specific gravity steadily below that of health and the evidence in lumbar pains, there is no longer room for doubt. Cardiac and hepatic diseases are frequent associates of Bright's disease. Of one hundred cases recorded there were only twenty-seven in which no cardiac trouble could be detected, and in fifty-two instances the heart was in a state of hypertrophy. In eighteen cases there was valvular disease. Hepatic affection developed under these circumstances, usually dominated cirrhosis, very greatly increases the danger. Coma, due to accumulation of urea in the blood, may be considered as the regular termination of a fatal case of Bright's disease, along with total suppression of the urine, apoplexy, convulsions or delirium. In an excellent monograph by Dr. Geddings, of Charleston, S. C., the author declares Malpighian corpuscles were contracted, and in a condition of sclerosis, the granulations varying from the size of a millet seed to that of a small pea, leading to the inference that the essential character of the disease may be considered to be a morbid deposit in the substance of the kidney, attended by an abolition of function, with atrophy of the healthy structure of the gland, the presence of albuminuria, diminished specific gravity of the urine, an altered state of the blood and dropsical effusion, and the symptoms resulting from such pathological changes are those of acute nephritis, general ill-health, dyspnoea, palpitations of the heart, frequent micturition, impaired vision and slight fever. In the chronic stage of parenchymatous nephritis, the specific gravity of the urine is greatly diminished, falling from 1.010 to 1.005, with an excess of albumen and deficiency of urea. The albumen, which in healthy blood is 65 in 1 000, in this stage is reduced to 16 parts. The urine, which amounts

in health to 40 ounces in 24 hours, averages only 12 to 16 ounces. Charcot, on examination of the urine with the microscope, found the changes to be localized in the convoluted tubes.

Etiology.—Prof. Osler affirms that "chronic Bright's disease follows the acute nephritis of cold, scarlet fever, or pregnancy, and that beer and alcohol often lead to this form of nephritis. Males are more liable to it than females. Its morbid anatomy presents the *large white* kidney of Wilks, in which the organ is enlarged, and the capsule is thin and the surface white. There is a period of failing health, loss of strength and dropsical effusion." E. H. Bartley, M. D., in his treatise on "Clinical Chemistry," adds that in cases of chronic interstitial nephritis, there are also presented proofs of the existence of sclerotic or cirrhotic kidney, and also the amyloid or waxy kidney, conditions of disease incurable, and beyond the reach of medicine to stay the fatal issue. When the urine is tested by heat or nitric acid, if the water thus examined be deeply imbued with albumen, the presumption is strong that the kidney disease is in progress, and when that disease is confirmed, another remarkable change is found to have taken place in the urine, viz.: its specific gravity is very low, as low as 1.003 to 1.004, in contrast with the specific gravity of healthy urine, as stated by Dr. Prout. The urine contains albumen, and is deficient in urea, according to M. Solon, and is detained in the blood, which, not being duly purified through the functions of the kidneys, is spoiled for its purpose of nutrition. Herein lies the secret of the secondary affections which belong to Bright's disease, and of its great fatality—whether or not from complications of scarlatina, conditions of pregnancy, or of chronic alcoholism—the body is poisoned in detail by the retention of its own excrements. Prof. I. Clarence Webster, M. D., in a late article published in the *Journal of the A. M. Asso.*, mentions that of all the organs the most frequent structural alterations due to pregnancy are found in the kidneys, and are connected with changes not only in the kidneys, but in the liver, spleen, and other parts inductive of albuminuria. When uremia occurs, the patient may die from kidney failure, and the fœtus may die as a result of toxic material in the system, hemorrhages into the placenta, or separation of the placenta. Hofmeier states that the fœtus died in twenty out of twenty-three cases of nephritis, as a result of the accumulation of toxic material in the system,

and that this was an important cause of a premature expulsion.

Treatment.—The patient should be put to bed and restricted to a pure milk diet for a time—until the amount of albumin begins to diminish. The kidneys are allowed to rest. After six or more weeks, he can be given a mixed diet—fresh meats, fruits, and daily use of either Buffalo Lithia or Poland water. Professor Osler recommends aperients, a daily tepid bath, and friction—the better when performed by a trained masseur or trained nurse; alcohol to be strictly prohibited; meat allowed only once a day, and care in food and drink, since the observance of such rule is the most important element in the treatment of acute Bright's disease. When signs of cardiac dilatation occur, the breath is short, the urine scanty and albuminous, and local dropsy exists, citrate of potash (ʒjss dissolved in a quart of water), in the quantity of a wineglassful, may be given three or four times daily, and occasionally at night, a three grain pill of blue mass—digitalis in ten minim doses *ter in die*; strychnia tablets, $\frac{1}{60}$ or $\frac{1}{40}$ grain, may be used with benefit. For the uremic convulsions, if violent, chloroform inhalations may be used; suppositories of morphia for the relief of restlessness. If there is uremic coma and uremic convulsions threaten, twelve or even twenty ounces of blood should be removed. Fothergill (*Hand-Book of Treatment*), when albumen is present in the urine, recommends citrate of potash freely administered, and the milk diet to be strictly carried out. Dr. W. H. Broadbent, of London Fever Hospital, advises mercury in limited doses to contribute to the disappearance of the albumen, and Basham's mixture when the disease is due to chronic alcoholism. He adds, that obstructions to the circulation in the portal veins produces an arrest of the circulation in the kidneys. As an anodyne at night, bromide potash and tincture hyoscyamus, with camphor to relieve vesical irritability, are to be preferred. Prevention, in the person of the inebriate, of the cause, would be more certainly attained by heeding the warning of the sacred writer to practice total abstinence from intoxicants and to escape the penalty of their abuse—to "be driven from the sons of men, and to have a heart like the beasts."—Dan. v : 21.

The value of venesection should never be ignored in cases where symptoms of epileptiform spasms were manifested in childhood, and in adult life when Bright's disease exists and apoplexy threatens. Prompt and copious bleeding

will often save the patient's life. The writer has time and again saved life by the use of the lancet under such circumstances, and also in cases of pregnant women with symptoms of eclampsia, thereby saving also the life of the fœtus. When signs of albuminuria are presented in the latter stage of pregnancy, citrate of potash administered every morning, 5ij in a tumbler of water, is most highly commended, and to be continued for six weeks before the confinement. Tolmatschiff records his success in the administration of $\frac{1}{4}$ or $\frac{1}{2}$ grain doses of strychnin twice daily after meals for a period of six or ten weeks, to relieve atonic constipation, and to avert feeble uterine contractions—*Reveu de Therap. Med. Chir. Gaz.*

The profession agrees upon the importance of having a patient with Bright's disease in charge of a trained nurse, to insure day and night the most watchful care, and the strict and often hourly administration of medicines prescribed, and to furnish a written statement to the physician of the pulse, the temperature and respiration, and to be equal to all critical emergencies which may arise, and to prepare the patient's food.

OUR CONDUCT DURING LABOR.

By ELMER SOTHORON, M. D., Washington, D. C.

In the management of labors, much judgment and caution are required that a simple and natural case may not be converted into a laborious and dangerous one. Ill-directed measures will always have penalties attached to them; and it is only by taking a proper view of the nature of the labor that it can be conducted to a happy issue. There is no one circumstance that so largely and certainly contributes to divert nature from her proper course as the persuasion that art can always benefit her. Unfortunately for the interest of humanity, it requires more knowledge not to be officious than falls to the share of many of those who pretend to practice midwifery. It is a vulgar prejudice that great and constant benefit can be derived from the agency of the physician, especially during the active state of pain, and this feeling is but too often encouraged by the ignorant and designing to the injury of the patient and to the disgrace of the profession.

When all things are doing well, the active duties of the physician are limited indeed. Where the contrary exists he is positively useful; but to discriminate between the two

conditions, it requires a thorough knowledge in what a healthy labor consists, and this can only be known with certainty by him who is well grounded in the principles of his profession, and who has enjoyed at least a well-directed experience.

To conduct a labor with safety, the physician should be well acquainted with its phenomena, the order or succession of them; be able to decide when certain of them are wanting, or when others are in excess; to estimate the relative or positive importance of such; the force or effect of each pain; the necessity of preserving or waiting the waters; the degree of resistance the os uteri or external parts may offer; the situation of the former as regards the presenting part the certainty of the presentation; mode of rectifying any error of presentation in proper time; the capability of doing this with the greatest advantage to the patient and to the infant, and "though last, not least," in importance, he should be able to pursue a firm, candid, and feeling conduct throughout the whole scene; that he may not be betrayed into indiscretion by the overweening anxiety of the friends of the patient; that he may not lose the important moment to act, from an apprehension that blame may attach upon the disclosure of its necessity; and that the sufferer may derive every advantage his kindness and sympathy can afford.

That physician is but little used to the exercise of the social virtues, who is ignorant of the influence a kind and feeling conduct has upon his suffering patient. To her it almost atones for the want of skill or experience, and to deprive her of it, is withholding a right for which nothing can compensate.

She is entitled to all the consolation a well-grounded assurance of a happy termination of her sufferings can afford, and this must be offered to her from time to time that she may profit by its encouraging influence, yet she must not be betrayed into false hopes by an ill judged promise of a speedy issue, when the period, from the very nature of the case, must be remote. Nothing, perhaps, is so destructive to confidence as ill requited promises of this kind, nothing so sickening to the heart as "hope deferred."

We, especially, should be very sparing of promises; for it requires long experience to make them with any kind of certainty; and until we possess this they should be evasively given, that sad disappointments may not ensue. For a woman will support herself with much firmness, where relief is believed to be certain, though it may be distant, while she would flag

under the failure of the often-repeated promises of speedy relief. Her mind should be kept as free from anxiety as the nature of her situation will permit, therefore no conversation should be indulged in that might for an instant excite her apprehensions; conversation should be cheerful, and free from the idle discussions of danger in similar situations, and it must be as void of levity as of gloom.

It may be proper to suggest a few cautions that, in my humble opinion, may be important to all well-meaning physicians. Let all communications to the patient of a delicate nature be conducted through the medium of a third person; the nurse, when present, should always be that person; in her absence, an elderly friend. Let her declare the circumstances which lead you to believe it would be important, such as the length of time the patient has been in pain, the force and frequency of the same, and above all, the necessity of ascertaining the progress of the labor, and the nature of the presentation.

Endeavor, by a general and well chosen conversation, to divert the patient's mind as much as possible from the purpose of your visit, when your services are not immediately needed. When your presence is not absolutely necessary in the sick-room, be as little in it as will be consistent with your duty; by this you remove restraint, and abridge to appearance the period of your watching.

If, after you have made your examination, you should be importuned for your opinion of the nature of the presentation and the duration of the labor, do not commit yourself by any positive declaration, unless you are certain of the first, and pretty sure of the later.

Before you proceed to the examination, let your patient be placed, with the most scrupulous regard to delicacy, as the slightest exposure is never necessary—refraining from using any unnecessary force in your examination.

So much for the regulation of the conduct of the physician in his intercourse with his patient; but it is also important that we lay down some general rules by which he and the patient shall be governed during the progress of the labor.

The patient should be forbidden everything which shall have a tendency to excite the system; she should be prohibited wine or any other liquor, unless the same is indicated as a stimulant. She should be directed to keep as quiet as possible, and the preposterous custom of obliging her to walk the floor continuously, with a view to increase the pains, should

positively be forbidden. By such unwarranted advice, we only hasten exhaustion, and force her to give up strength which should be retained for the second stage of labor.

When the patient is about to be placed for labor, we should withdraw and leave this arrangement to the nurse. While the nurse is preparing the bed and patient, we can be making every effort to render our hands and arms as aseptic as possible by using plenty of soap, hot water, and nail-brush, afterwards immersing them in a $\frac{1}{1000}$ bichloride solution—and this should be done previous to each and every examination. When we return to the lying in chamber, we should find our patient prepared just as carefully as we prepared our hands and arms. The external parts, the inner surface of thighs and abdomen, should be cleansed thoroughly. Inquiry should be made about the state of bowels; costiveness should be removed by an enema. Her dress should be such as to require no alteration after delivery; therefore, her linen should be so placed as to be out of danger of becoming soiled from the discharges; her petticoat should be without shoulder-straps, that it may be easily removed, and a bed gown should protect the upper part of her body.

The bed should be so arranged as to preserve it with certainty from the discharges. Nothing is more sickening to the patient than to know that she is lying upon blood-stained bed linen. For this purpose, a good thick blanket, folded several times and placed beneath the under sheet, at the part of bed on which our patient will permanently lie; a sheet as often folded should be placed over the under sheet, so as to correspond with the blanket below; on this she will be placed after delivery. A temporary or delivery pad should consist of an old blanket, lined with rubber, covered with a small folded sheet. She should be covered entirely, except her head; if in winter, by a blanket; if in summer, a sheet will be sufficient. I always direct the nurse to cover the genitals with a hot bichloride gauze pad, $\frac{1}{1000}$ solution, to be removed as soon as soiled or it begins to cool. We know how easy it is for the vaginal walls, in their thin and abnormal condition, to become impacted from without, and if the surgeon is justifiable in protecting his wound with an antiseptic dressing to prevent infection, I certainly think it is the duty of the accoucher to do likewise.

When we are about to make an examination, choose the time of a pain for this purpose and proceed to it with the most rigid observance of delicacy. It is well to observe that

the chair in which we are about to sit, should be so placed that our right arm should be next to the patient, otherwise our position will be inconvenient and fatiguing. After we have ascertained the exact position of the child and condition of the mother's pelvis in reference to its formation, and if labor is progressing, we should assure her and her family of the fact. Nothing is more comforting to them than such assurance from the physician. Your assurance of a natural labor, based upon this examination, is received with the greatest encouragement. It encourages her to endure more pain, feeling that the same will soon be over. It drives away that demon—"superstition"—that has been existing at the expense of our patient's cheerfulness, and kept alive by the antiquated tales of meddling neighbors and would-be friends.

Do not remain with the patient longer than the state of the labor may make it necessary; that is, if it be not well advanced, time should be given for its further progress; but from time to time, it is well to ascertain its condition, but beware of officious and unnecessary touching, for by frequent and incautious touching, the glands are overstimulated—yea, sometimes becoming inflamed. In this case, the secretions cease and the parts become tender and swollen, especially the os uteri, should it not be fully dilated. Nature's barrier is broken down, thereby allowing an entrance for septic infection; our patient becomes restless, and enjoys no calm in the intervals of the pains; fever is excited, headache, thirst, and a hot skin follow. The patient begins to lose confidence in you; she feels that you have been examining her so often that she has obtained no relief from her suffering condition.

The disturbance excited throughout the system when the vaginal surface becomes inflamed, distinctly shows the important rôle this mucous secretion performs, in the economy of labor; it demonstrates that it is instituted for a much higher purpose than merely to lubricate the parts. Let us beware, then, how we interrupt its formation by rude and uncalled for handling.

Should the pains be efferent, and the os uteri well dilated and the membranes entire, let them be ruptured by the pressure of the finger against them, or by cutting them with the nail of the introduced finger. I am well aware that this direction is very far from being in conformity with the opinion of writers on this subject, but I am certain I have not adopted this plan upon slight grounds, or proposed it because it might agree with precon-

ceived notions. In directing it, I am certain that experience is altogether in its favor; and it should be done for the following reasons:

First. When the mouth of the uterus is completely dilated, the membranes have performed every duty they can perform.

Second. That very often the advancement of the presenting part is retarded by the strength of the membranes, and the labor much protracted by it.

Third. That very frequently the pains are increased both in force and frequency, and the labor much abridged by it.

Fourth. It gives much greater security to our patient after delivery, by permitting the tonic contraction to take place before it is accomplished, and thus insuring a more speedy delivery of the placenta and also very much lessening the risk of hæmorrhage.

When the head is emerging from under the arch of the pubes, the perineal tumor should be carefully supported by placing the palm of the right hand, with a folded towel interposed against it, and retained there until the presenting part is freed from the vulva.

By this simple procedure, and the exercise of a little caution on the part of the accoucher, such as making counter pressure when necessary, until we are satisfied that the perineum is relaxed sufficiently to allow the presenting part to glide easily over the same without forcing the perineum to give way, I believe we can often prevent laceration.

Artificial rotation of the head should not, under any circumstances, be resorted to under the pretense of hastening the delivery of the shoulders. If the condition of the child will permit, and in almost all cases it will, let nature do the rotation, for, in my opinion, the speedy delivery of the shoulders by grasping the head, making forcible rotation and traction, is the cause of more complete laceration of the perineum than have been attributed to it.

We should guard the thin and weakened perineum just as diligently during the passage of the shoulders as we did in the exit of the head, for all methods of preserving the perineum aim at one thing, and that is to relieve it of as much pressure as possible, either by counter-pressure, forcing the occiput or presenting part to occupy the arch of pubes as close as possible, or to guard against forcible exit.

After we have separated the child from its mother, it should be given to the nurse and removed from the bedside. Our next duty is to deliver the placenta; but before this is attempted, we should first ascertain the condition

of the uterus by examining it through the parietes of the abdomen. This examination will discover this organ in one of two conditions—namely, contracted or not contracted. If the first, the placenta may be delivered, provided it be loose in the vagina, by tightening the cord with the left hand and tracing it with the forefinger of the right to the placenta, which is to be hooked with the introduced finger, and gently drawn downward and backward with the other hand until it begins to pass through the vulva. We should then grasp it with both hands, give it several twirls, to twist the membranes, that they may be entirely withdrawn from the uterus. If, on the contrary, after waiting a reasonable time, we find a non-contracting uterus, with an adherent or retained placenta within its cavity, we should resort to Crede's method of placental expression, but ever remembering that great force is never necessary to carry out this ideal method.

When the placenta is delivered, it should be placed in a basin, and carefully examined, to see if any portion of the same is missing, for we all know the sequelæ of a retained portion of the placenta.

After a short wait, the abdomen should again be examined; should the uterus be well contracted, which is easily determined by its hardness and size, we should entertain every reasonable hope that everything has gone on well so far; but should the uterus be flaccid, brisk friction with the open hand, or Crede's method, will nearly always force the same to contract. At this moment, perhaps, there may be a sudden discharge of coagula from the vagina, accompanied by some pain, which very frequently alarms our patient, but we should assure her that the discharge is natural, and that it is proof that the uterus is contracting.

This friction should be kept up until the uterus becomes hard and appears to be disposed to retire within the pelvic cavity.

After carefully noting the general condition of our patient, and finding the same to be good, we now should assure her that her suffering is over, and by careful obedience to the advice from her physician and nurse, her recovery will soon be complete.

In closing, gentlemen, let me say, we should remember that in no function of the human system does nature try to perform her duty more perfectly than in the birth of an offspring. It should be a natural, physiological act, and if only for this reason alone, I claim it is a time in each woman's life when nothing should interfere with us in bringing her mind and body to that normal state which is so necessary

for nature's guide. Call it a serious time of life with every woman if you wish, for so many parturient women have previously lived such artificial lives that natural physiological tendencies have long ceased to be the functions of the different organs of their bodies.

1921 I Street N. W.

NOTES ON EPIDEMIC INFLUENZA*.

By G. W. DRAKE, M. D., Hollins, Va.

Recently Professor of Physiology in Chattanooga Medical College; Ex-President Tennessee State Medical Society; Resident Physician Hollins Institute, Va., etc.

This paper is offered merely as containing a few synoptical observations on *epidemic influenza*, which is now pandemic in our country.

The *etiology of influenza* was for a long time a perplexing problem. Dr. Watson, in a lecture at King's College, London, February 4, 1837, discussing the cause of epidemic influenza, offered the hypothesis of "some organic principle which has its definite periods of growth and decay;" and said to his class: "All this is sheer hypothesis, but it is as good a hypothesis as I am able to offer you. You must be content to conceive of it as being possibly the true one, until a better shall be proposed."

Fifty five years later, in 1892, Pfeiffer demonstrated the truth of Watson's hypothesis in the discovery of the so-called *influenzal bacillus*. It is said to be the smallest of the rod bacteria, is non-motile, and easily destroyed while outside of the body. A one per cent. solution of carbolic acid, or a one to one thousand sublimate solution will readily destroy it. This bacillus of Pfeiffer is easily killed by drying, and cannot withstand a temperature of 60° C. beyond a few minutes. It has been found in the sputum and in the nasal secretions in considerable numbers; also in the pericardium and endocardium, and occasionally in the blood and in other localities.

Influenza is more numerous named than any other disease recorded in the annals of medicine; and it is also one of the oldest in history. It may be interesting here to mention some of the names employed to designate the malady. In the time of President Jackson, his opponents called the disease "*Jackson's itch*," and Tyler's opponents called it "*the Tyler grippé*." The Russians called it "*Chinese catarrah*," the Germans often call it "*the Russian pest*," the Italians named it "*the German disease*," the French called it "*the Italian fever*,"

* Read before the Roanoke, Va., Medical Society, February 6, 1901.

and "*Spanish catarrh*." These various designations coupled with the names of political opponents or rival nations are significant of the widespread prevalence of the malady. *La grippe* is not the only French name. Others are "*la generale*," "*petite pest*," "*petit courrier*," "*grenade*," "*follette ioquette*," and beside "*blitz katarrh*" (lightning catarrh) the Germans employ the terms, *schafshurtine*, "sheep cough," "*huckher zirp*" (crowing), and "*mode feber*" (fashionable fever). Among the many names of graphic suggestiveness, *Modefeber*, or fashionable fever, is the only one suggestive of gentility. All the rest are bad names. The name most commonly used by the English is *influenza*—a term invented in the seventeenth century by the Italians, who attributed the disease to the influence of certain plants.

It is not known what telluric, atmospheric or barometric conditions are most favorable for the occurrence of epidemic influenza. Whatever the conditions, they seem to be such as are not favorable to the propagation of other diseases, with the possible exception of small-pox. The invasion of influenza is usually at a time of comparative good health, and the right of way is clear for it.

Small-pox and grippe are more prevalent in this county than ever before. That there is any causal significance in the concomitance of these two diseases your essayist is not prepared to prove, but submits the question to the medical profession for investigation. Along this line, it is a suggestive incident that vaccination is alleged to be an efficient agent in the prevention of grippe. Goldsmith, about ten years ago, made the following report on "Immunity through Vaccination": "About New Year's day, 1890, a lady suffering from influenza landed in Madeira and disseminated the disease in a short time. Two months previously there had been an epidemic of small-pox, and numerous vaccinations and re-vaccinations were performed. Now, it so happened that all those who were successfully vaccinated—112 all told—remained free from the influenza. Of 93 who were vaccinated unsuccessfully only 15 took sick."

There is a good opportunity for making observations as to the correctness of Goldsmith's claims of immunity through vaccination while the two diseases are so prevalent.

As to the occurrence and distribution of influenza, the following extract from a report made by A. C. Abbott is interesting: "Influenza appears usually in an epidemic form, having its origin in some one locality or another, and travelling with great rapidity, often

as a true pandemic, over the major part of the earth's surface. According to Hirsch, the first trustworthy literary records of the disease date from the early part of the twelfth century. Between 1173 and 1874 it made its appearance on eighty-six different occasions. Its first recorded occurrence in the United States was in Massachusetts in the summer of 1627; since that time it has visited this country with varying degrees of severity twenty-two times. The last pandemic, that of 1889-90, appears to have originated in Central Asia, and to have spread thence to Russia, Germany, France, England, and finally to North America."

During this pandemic, it came to Chattanooga, where I first saw and felt it, and it is needless to add, that I shall never forget it.

Grippe is produced by the action of the toxin of the bacillus of influenza on the nerve centres and their peripheral endings. The symptoms depend upon what centres are most affected. The symptom complex of grippe includes the symptoms of almost every other disease known to the medical profession. It is an apish disease.

It manifests itself in a great variety of types which it is proper to designate by the use of the adjective referring to the cause, as *grippal* intermittent, remittent and continued fevers; *grippal* pharyngitis, laryngitis, bronchitis, pulmonitis, gastro enteritis, appendicitis, neuritis, meningitis, cerebritis, etc. In some cases the sensory centres are most affected, especially those of pain and the various neuralgias predominate—frontal, supra-orbital, facial, etc. In a few cases the intellectual cortical centres of the brain receive the brunt of the disease, and various insanities result. In other cases the vaso-motor, cardiac and respiratory centres in the medulla oblongata receive the spite of the toxin, and consequential symptoms of derangement of the circulation, abnormality of the heart's action, etc.

I have had grip three times and in three different forms—nasopharyngeal, neuromuscular, and neurasthenic types. In all three cases debility was marked and out of proportion to the other symptoms—a characteristic sign of nearly all forms of grip.

If called upon to group the most salient symptoms of grip, your essayist would name the following: Sudden onset, chilliness, flushings of heat and rapid rise of temperature, weakness disproportionate to any apparent cause; and, coupled with these, the usual morbid processes in the parts affected. With such symptoms and the epidemic in town, there is little room for doubt as to the diagnosis.

Dr. Glentworth R. Butler, of Brooklyn, N. Y., in an interesting paper setting forth "The Clinical Picture of Epidemic Influenza," has this to say:

"Fever is almost always present, but is extremely variable, ranging from 100° to 105° F. and continuing with irregular remissions for from one to ten days. Recurring chills, with high intermittent fevers, closely simulating malarial fever of the same type, are not very uncommon; but a blood examination shows the absence of the plasmodium."

The epidemic of grip at Hollins just ended presented several types of the disease—nasopharyngeal, laryngeal, bronchial rheumatoid, and various neuralgic. The most common subjective symptoms were fever, headache, general aching, and great weakness. There were, all told, about 100 cases, and fortunately all have recovered. There have been no serious sequelæ—a few persistent coughs, earaches, and, as noted in other schools for young ladies, labial herpes is not uncommon.

In the differential diagnosis of grip, Dr. Butler, of Brooklyn, and Dr. Manges, of New York, attach much importance to the presence of fine subcrepitant râles at the base of the lungs posteriorly. Dr. Manges claims that it is a sure diagnostic sign of the grip in an early stage.

Without pressing the subject further, we will close with a few suggestions as to treatment. No specific has yet been discovered for the grip—no bactericide for the bacillus while in the body, and no antitoxin for the toxin. The disease is self limited, and will run its course in from two to ten days. Recovery is the rule. Mortality is reckoned at from $\frac{1}{2}$ to 2 per cent. The most frequent cause of death is a severe complicating pneumonia. The guiding principle of treatment should be "individualize your patient and generalize your treatment."

Dr. William H. Thompson, in a paper before the New York Academy of Medicine, said:

"One of the most important things to remember in connection with the treatment of grip is that the person attacked should at once go to bed and remain there until well on the road to recovery; indeed, rest in bed alone will carry many cases successfully through the disease."

The thing to do is to treat the pathological conditions of the patient already developed, and prevent, as far as possible, the complications most likely to supervene. The aged require to be watched carefully with an eye especially directed to the degenerative changes

natural to old age. Supporting treatment is of paramount importance in order to counteract the tendency of the grip, to lessen the vitality and accelerate decay. In such cases, there is nothing better than quinine* and strychnine administered from start to finish. Indeed, quinine is a very important adjunct to all remedies employed in the treatment of most cases in the old and young. Quinine is as useful in grip as in malaria, if not more so. It is usually administered by the writer in conjunction with other drugs, as gelsemium, aconite, belladonna, and, where pain is a distressing symptom, with a compound acetanilid tablet, containing $3\frac{1}{2}$ grs. acetanilid, $\frac{1}{2}$ gr. caffeine citrate, $\frac{1}{2}$ minin, fl. ext. gelsemium, with 1 gr. sodium bicarbonate. His rule is to use little or no morphine, believing, with Professor Reynold Webb Wilcox, that "the interference with nutrition and damming up of the excretion would certainly leave the patient in a worse condition than would the pain." For the nose and throat symptoms sprays are used, one of the favorites being Mulford's blendenin compound. Local applications of iodine are made over the region of Adam's apple and the supra-clavicular space for laryngeal bronchial irritation. Diet should play an important part in the treatment. A fluid nutritious food is essential, and should be given with systematic regularity. One of the best of these foods is liquid peptonoids.

With this general outline of treatment, making occasional additions and subtractions to suit individual cases and changing conditions, the large majority of cases of grip may be conducted to a successful issue.

The nearest to routine treatment adopted by the writer during the late epidemic at Hollins was as follows: As soon as the diagnosis was made, begin with a 3 gr. tablet of quinine and a tablet composed of $3\frac{1}{2}$ grs. acetanilid, $\frac{1}{2}$ gr. caffeine citrate, $\frac{1}{2}$ min. fl. ext. gelsemium, 1 gr. sodium bicarbonate, one of each every two hours during the day. No medicine at night except in a few cases a safe hypnotic when needed—such as a compound of potassium bromide, chloral, tr. hyoscyamus, and tr. cannabis indica. This treatment was continued until the beginning of convalescence, and then a $\frac{1}{4}$ gr

* According to Ditmar Finkler, of Bonn, quinine occupies a front rank. Out of eighty of his patients treated with quinine, only three made their appearance at the Dispensary a second time, while of those treated with other drugs nearly one half re-appeared twice, or more frequently. *The Medical News of Philadelphia*, the same journal, says: "The favorable action of this drug has been observed by Dujardin-Beaumez, Teissier, Carriere, Pritram, and others."

gr. strychnia phosphate tablet was administered three times a day for three or four days, or longer if weakness continued.

When the cough has persisted in persons subject to attacks of bronchitis, Mulford's wild cherry and morrhualine cordial (often with a drop of tincture of creosote added to each tablespoonful dose) has proved very beneficial.

THE REMOVAL OF PELVIC INFLAMMATORY MASSES

By the Abdomen After Bisection of the Uterus.*

By HOWARD A. KELLY, M. D., Baltimore, Md.

I pointed out but recently (Johns Hopkins Hospital Bulletin, 1900, XI, p. 56, and *Amer. Jour. Obstet.*, 1900, XLII, August,) the great advantages which accrue from the bisection of the myomatous uterus in an abdominal enucleation in certain complicated cases. I now desire to call your attention to the great value of a similar operation in certain cases of pelvic inflammatory diseases.

In the ordinary cases of pelvic inflammatory diseases, the ovaries are innocently and only accidentally involved in the inflammatory process, and, as a rule, one or both can be saved, even though it is necessary to sacrifice the uterine tubes. If one ovary is saved, the uterus must also be saved, as by doing this we conserve the function of menstruation as well as the internal secretion of the ovary.

Where the ovaries are seriously involved in the disease—where they are converted into abscess sacs or into hematomata, or where they are so densely and intimately involved with the pelvic inflammation that it is utterly useless to attempt to save them—the removal of the diseased organs should be effected, together with the uterus, whenever it is possible, in this way: by freeing the tube and the ovary on the least adherent side first, and then, after tying off the broad ligament and pushing down the bladder, and securing the uterine artery, the most difficult side is easily reached and enucleated, by cutting across the cervix and exposing the opposite uterine vessels and ligating them. The uterus is then pulled up until the round ligament is caught and divided. At this point, the operation may follow one or two courses, according to the difficulties encount-

ered. In the first place, if, after dividing the uterus and pulling it up, the remaining tube and ovary can be readily enucleated by peeling them out from below upwards by working with the fingers in the lower and anterior part of the pelvis, just opened up by the detachment of the uterus, then the enucleation may be concluded by removing all the structures *en masse*. In the second place, if the tube and ovary on the far side are densely adherent and offer any serious difficulties in the enucleation, then I would clamp off the uterus at the cornu and remove it with one tube and ovary, and leave the more difficult side to be dissected out after emptying the pelvis, securing all the advantages of increased space and light.

It is my desire now to describe a method of enucleation through an abdominal incision which is applicable to a class of cases still more difficult than those just referred to. Let us suppose, for example, a case in which there are pelvic abscesses on both sides densely adherent to all the surrounding structures, including the uterus; we will also suppose that the uterus itself is almost or quite buried in a mass of adhesions. In such a case, the plan I have just described in detail is scarcely applicable, inasmuch as there is no easier side to begin on to start the enucleation, for both sides present the utmost difficulties.

Now, in such a case, the method of a continuous transverse enucleation does actually afford us, it is true, a great advantage over the older method of going down on both sides, for the simple reason that the enucleation of the farther side is always easier in this way, even though the difficulties of the first side are just the same after either method.

If, now, I could devise any method by which the enucleation of both tubes and ovaries could be effected from below upwards, it is manifest that a great advantage would be gained.

The vaginal hysterectomists have thus far had a decided advantage over those of us who prefer to operate above the symphysis, in the greater facility of the enucleation of adherent structures, when they are attacked in a direction from the pelvic floor upwards. I am now about to describe a method by which this decided advantage is secured and combined with the other great advantages of the abdominal route, that of increased room, and increased facilities of handling, abundant illumination, as well as the detection of various complicating conditions.

The steps of the methods are these: If the uterus is buried out of view, the bladder is first

* Abstract of an address delivered before the Southern Surgical and Gynecological Association, held at Atlanta, Ga., November 13, 1900.

separated from the rectum and the fundus found. Then, if there are any large abscesses, adherent cysts, or hematmata, they are evacuated by aspiration or puncture, and the rest of the abdominal cavity is well packed off from the pelvis.

The right and left cornua uteri are each seized by a pair of museau forceps and lifted up, the uterus is now incised in the median line in an antero-posterior direction, and as the uterus is bisected, its cornua are pulled up and drawn apart. With a third pair of forceps the uterus is grasped on one side on its cut surface, as far down in the angle as possible, including the anterior and posterior walls. The museau forceps of the same side is then released and used for grasping the corresponding point on the opposite cut surface, when the remaining museau forceps is removed. In this way two forceps are in constant use at the lowest point. I commonly apply them three or four times. As the uterus is pulled up and the halves are averted, it is further bisected down into the cervix, or, if the operator desires to do a pan-hysterectomy, all the way down into the vagina. The uterine canal must be followed, if necessary using a grooved director. The museau forceps are now made to grasp the uterus well down in the cervical portion, if it is to be a supra-vaginal amputation, and the cervix is bisected on one side. As soon as it is divided and the uterine and vaginal ends begin to pull apart, the under surface of the uterine end is caught with a pair of forceps and pulled up, and the uterine vessels, which can now be plainly seen, are clamped or tied. As the uterus is pulled still further up, the round ligament is exposed and clamped, then finally a clamp is applied between the cornu of the bisected uterus and the tubo-ovarian mass, and one half of the uterus is removed.

The opposite half of the uterus is also taken away in the same manner. The pelvis now contains nothing but rectum and bladder, with right and left tubo-ovarian masses plastered to the sides of the pelvis, affording abundant room for investigation of their attachments as well as for deliberate and skillful dissection; the wide exposure of the cellular area over the inferior median and anterior surface of the masses, offers the best possible avenue for beginning their detachment and enucleation.

The operator will sometimes find, on completing the bisection of the uterus, that he can just as well take out each tube and ovary, together with its corresponding half of the uterus, reserving for the still more difficult cases, or for a most difficult side, the separate enuclea-

tion of the tube and ovary after removal of the uterus.

The operation which I have just described is not recommended to a beginner in surgery; the surgeon who undertakes it must be calm and deliberate, and must bear in mind at each step the anatomical relations of the structures.

The most critical point is the bisection of the cervix and controlling the uterine vessels; if the cervix is slowly and cautiously severed with a steady traction on the uterus under perfect control there is no danger of seeing the organ suddenly tearing out with rupture of the uterine vessels and frightful hemorrhage. As the divided cervix is pulled apart, the uterine vessels are beautifully exposed and easily caught, only a clumsy operator will plunge his needle or a pair of forceps deep down into the tissues and clamp a ureter. By cutting up the cervix so as to leave a sliver on each side the uterine vessels can be caught at a higher level than that of the division of the cervix.

If the uterus is densely adherent to the rectum all the way up to the fundus, a modification of this plan of operating may be followed; the anterior face of the uterus may be bisected and the cervix divided horizontally, and the uterine vessels caught; then the rest of the uterus may be carefully divided up its posterior surface in a direction from the cervix towards the fundus. The relations to the rectum are examined as the division is made, and at any point where it seems necessary a piece of the uterine tissue may be left adherent to the bowel. After the bisection the rest of the enucleation is effected, as described above.

1418 *Eutaw Place.*

A HANDY DEVICE IN THE TREATMENT OF OPIUM NARCOSIS.

By W. H. LYNE, M. D., Someiset, Va.

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I wish to call attention of the medical profession to a means always "at hand" in the treatment of coma incident to poisonous doses of opium or morphine, which enables the attendant physician, at least from the standpoint of the laity, to appear less brutal, and often save a patient from any marks of violence, as bruising, arising from flagellation with the often used wet towel.

All text-books condemn flagellation, which I most heartily endorse; but it often becomes necessary to use it in a modified way, particu-

larly in the absence of the sanctioned electric battery, which every physician does not possess, or if so, in many instances, is either out of fix or out of place. I have never seen in print this method advocated nor have I heard of its being used prior to my suggestion, in 1896, while in the Richmond City Ambulance Service.

To enter into a discussion of the "rationale," I would first say that if one is observant of a hypodermatic injection of morphine or dose per orem, he notices an itching or tickling sensation about the nose and mouth; the same being manifested by the drowsy or asleep patient rubbing his face now and then. This, as we all know, is a physiologic action of the drug. Tickling or itching are both nervous manifestations, and though not the same, for all intents and purposes, when either is present to a marked degree, sleep is more or less disturbed, if not entirely abandoned.

Take, for instance, how, when pesky flies promenade during sleep the realm of infant smiles, or of more mature life, the wince, the fidget, the movement to shoo fly, a semi-conscious act.

Look at the constant irritation produced by scratching, when asleep, in eczema, scabies, etc. How impossible sleep, in exaggerated pruritus ani, vulvæ vel scroti!

We all know the efficacy, much to our discomfort and annoyance, when in the bliss of our second or third morning nap to have our helpmeet or room-mate interrupt abruptly the possibility of realizing or enjoying the sensation of a millionaire (alas! only in sleep), when she or he throws the cover off and digs into our sides with both hands, in anything but mirth inspiring tickling. Have you noticed or experienced how mad or angered one gets under these circumstances?

My friends, I have practiced *tickling* during the sleep of opium in poisonous doses. It acts like a charm, not only awakening, but angering nearly to the point of fighting. My advice, however, is to stop short just this side and give it in broken doses *pro re nata*. If it be a woman, so much the better, because of their delicate nervous poise making them better subjects; and I care not how degraded her morals, if she think her person threatened or any liberties taken, defence will come in the supreme effort of resistance.

Of course, I do not claim that tickling is Gabriel's trumpet, which awakes the dead, or even those in which reflexes are entirely lost. I do not refer to the abolition of pain reflex,

for we must ever remember that opium is the "pain-killer."

Further, I claim that this method of tickling has a very wide range of application, on account of the big percentage of ticklish persons. I do not dwell on the recognized methods of treating opium poisoning, which are well known to junior students of medicine; but always *treat the patient*.

To summarize the advantages of tickling:

- (1) The doctor has it handy.
- (2) Wide range of application.
- (3) Simplicity.
- (4) Leaves no marks of violence.
- (5) Efficacy.

SAFETY PIN IN THE LARYNX--REMOVAL BY TRACHEOTOMY*.

By WALTER A. WELLS, M. D., Washington, D. C.

Throat and Ear Surgeon, Garfield Hospital; Demonstrator of Laryngology, Georgetown Medical College.

In the case which I shall here briefly relate, the operation of tracheotomy having been resorted to only after a thorough and persistent attempt to remove a safety pin from the larynx *per vias naturales*—unsuccessful for reasons which will be mentioned hereafter—the question of its justifiability, I think, will hardly be raised.

Very often, no doubt, tracheotomy has been done unnecessarily, only because present laryngeal methods of examination and operation were not first exhausted. In the present case this cannot be said.

The patient first applied for treatment at the general surgical service of Garfield Hospital, and Dr. Von Kessellaer, at that time on duty, having failed with such means of examination as were at his command to detect any evidence of the presence of the pin, supposed to have been swallowed, referred the patient to the Department of Laryngology. Upon careful laryngoscopic examination one extremity of the pin could be seen between the cords, and though not a favorable subject for endolaryngeal operation, a patient and persistent attempt was made at once to remove it in this way, and again upon the following day.

The patient, Lizzie D., a colored girl, age 13 years, and a resident of Mt. Pleasant, was admitted to Garfield Hospital July 6, 1900. The only history obtainable was her own state-

* Read before the Medical Society of the District of Columbia, January 23, 1901.

ment that eight days previously an open safety pin, which she put in her mouth while dressing, had slipped down her throat. She had a distinct sensation of the presence of the pin in the larynx, but it caused no other pain than a little sticking in the act of swallowing.

The voice was reduced to whispering; the function of the larynx was not otherwise affected. In fact, the patient was remarkably free from subjective symptoms, and exhibited none of the anxiety which might be expected in the case of the presence of such a foreign body in one's windpipe.

As stated, the laryngeal image revealed the presence of the pin. One end was seen between the posterior half of the vocal cords, projecting perhaps about one-eighth of an inch above them. That end not presenting the hood-like appearance generally seen where the point is fastened, I believed at the time that if the pin were open, as claimed, its point must be directed downward.

It was this hypothesis which led me to make such persistent efforts at extraction by endolaryngeal methods. But when I found that though the pin was firmly seized and drawn upon it presented so great a resistance, I gave up further attempts, and decided upon extralaryngeal procedure.

Assisted by Dr. Griffith, I operated Sunday, July 8th, under chloroform. Two rings of the trachea and the cricoid cartilage were cut through, the operation being therefore properly a tracheo-laryngotomy.

The pin was seen and found to be open as claimed, but placed with its point *upward*, and not downward as originally suspected, which accounts for the failure of endolaryngeal operation. It was about one and one-fourth inches in length. In comparing it with those ordinarily seen, a slight difference will be observed in the form of construction. It is not made

by laryngoscopic examination with not more than one-eighth inch of the pin showing above the cords.

This matter of construction, though ordinarily a non-essential feature of a safety pin, in the case of its lodgment in the larynx comes to possess considerable importance.

Seeing that the end directed upward did not have the capped or hooded form, I assumed that the point must be directed downward, and that if the pin were open, no great obstacle would be opposed to its extraction. It was for this reason I persisted in my unsuccessful efforts at withdrawal a longer time than I should have otherwise done.

There was considerable tracheal oozing during operation, the thorough checking of which necessitated the patient being under anæsthetic about one and a half hours. A tracheotomy tube was introduced, and the wound sutured below.

After-treatment consisted in the use of warm moist gauze over the tube; the frequent change of dressings; occasional changing of tube; presence of medicated steam in the room; liquid diet. Temperature rose to 102° during the evening of the operation, but after that it never rose above 100°.

There was considerable cough and mucous discharge at first, and sometimes nausea and distaste for food, but these symptoms subsided in a couple of days, and the patient gained rapidly.

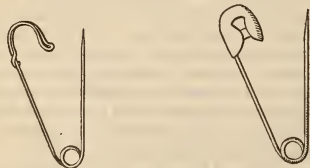
The tube was permanently removed on the fourth day after operation, and the wound allowed to heal by granulation. After two or three days the voice was regained, and the patient was discharged July 28th.

The features of this case which may be thought especially worthy of attention are—

1st. The length of time (ten days) that the foreign body existed in the larynx with such slight and unimportant symptoms.

2nd. The fact of the early and complete recovery of the voice, notwithstanding the pin had been so long in the larynx; that it was an open pin, and must have lacerated the membrane in the attempt to remove by intralaryngeal method, and notwithstanding the extent of the external operation (cricoid cartilage having been cut through).

3rd. The unusual construction of the safety pin, it not having the hooded form at the end, made for the fastening of the pin, as generally seen, which led to misconception of the position of the pin in the larynx.



Pin removed from larynx
(actual size).

Usual form of safety-pin,
showing hooded end.

with a little cap or hood for fastening and protecting the point of the pin.

There is, it is true, a difference between the two ends, but not such as could be made out

Proceedings of Societies, etc.

THE CLINICAL SOCIETY OF MARYLAND.

The meeting of January 4, 1901, was called to order by the President, Dr. W. J. Todd, in the chair; Dr. H. O. Reik (5 W. Preston street, Baltimore), Secretary.

Under head of *Exhibition of Cases*, Dr. E. J. Bernstein made the following reports:

Retinitis Proliferans.

CASE 1.—Up to four months ago this boy had perfect vision in each eye. He was preparing a lesson for school, when suddenly the sight of the right eye became blurred. Four or five days later, when I saw him, the right eye was divergent, and its vision reduced to simple light perception. The other eye was still in perfect condition. In making an ophthalmoscopic examination I saw, coming out from the optic disc, a peculiar membrane, on which I could trace a blood vessel, and the idea struck me that it was a persistent hyaloid artery. In the other eye I found exactly the same condition, and taking the boy to another oculist for consultation, he agreed with me that it was a case of persistent hyaloid artery. I should say, however, that he was placed under the disadvantage of having seen the case very hurriedly, and I found later that we were both mistaken.

There are only about thirty-five cases of this affection recorded, and it is very singular that nearly all have occurred in very young persons, and nearly always after some form of trauma or a hemorrhage into the eye. Some cases have been supposed to occur after symptoms that resembled those of albuminuric retinitis.

Such a case, which afterwards developed into a distinct form of retinitis proliferans, is reported in the July number of the *Centralblatt für Augenheilkunde*. The disease has been recognized since 1864, when Mackenzie first described the case. I have a very beautiful picture here of a case that was seen by Dr. De Schweinitz. (Exhibiting illustration.)

A curious thing about these cases is that the membrane, when first forming, nearly always starts about the optic disc. Michel says it is nearly always due to diabetes or lues, hereditary or acquired. Others have claimed that it occurs idiopathically or as the result of traumatism. The membrane formation is always accompanied by the production of new vessels, the rupture of which leads to frequent hemor-

rhages into the eye. The hemorrhagic condition can be seen in this boy's left eye.

The ages of the patients in the reported cases range from eight to fifty-two years, but eighteen of the thirty-five cases were between fifteen and twenty years old. Thirty of these cases occurred in males and five in females.

Weeks had the good fortune to examine a recent case, and shows in his very interesting report the manner in which the new-formed membrane appears and the kind of cells that compose it. He believes it is due to some interference with the circulation that results in a fibrous degeneration of the retina and walls of the arteries.

Mastoid Operation for Chronic Suppurative Otitis Media.

CASE 2.—This boy had a great number of polyps in his ear, that continuously reformed after removal, and he always had a discharge of foul-smelling pus. His hearing was reduced to loud sounds, when spoken close to the ear. Since the operation, which was performed three weeks ago, he hears very much better.

I performed the radical operation, closing up the mastoid wound and making flaps from the cartilaginous wall. His temperature never rose above 99.4, and that only on the day of the first dressing. He can now hear whispered sounds at a distance of two metres.

This operation is performed for the cure of persistent otorrhœas, which do not yield after five or six months of conscientious treatment. I would not go as far as one gentleman with whom I spoke on the subject, who said that whenever he had polyps to deal with he would rather do a mastoid operation than to simply remove the polyps.

Papilloma of the Larynx.

Dr. W. T. Watson exhibited the following:

CASE 1.—This little patient, four years and one-half old, has "suffered many things at the hands of many physicians." His life has, probably, been saved four times through surgical procedures. I saw him first when an infant of nine months. He had then a history of ailing for three months, whining, refusing nourishment, and sleeping very little. He had been taken to the Johns Hopkins Hospital Dispensary, where his case was diagnosed as one of meningitis. Believing that he was about to die, his mother had his photograph taken at this time, a copy of which I shall pass around, as it will give you an idea of his debilitated condition at that time.

Noticing that his usual attitude was that shown in the picture, with his left ear resting

upon his hand, I sent him to Dr. Reik, who found an inflammatory condition of the left tympanic membrane, and performed a paracentesis. That night the baby slept well, and the following day it commenced taking nourishment, and from that time went on to complete recovery. The mother thought the change was brought about by the fresh air, which the baby received on its trip to the doctor's office, although it had received quite as much air on its former visits to the hospital.

In November, 1898, when a little over two years of age, and a plump and hearty boy, he was taken suddenly ill with vomiting and high fever. The vomiting continued from Sunday noon until the following Tuesday morning, and as he was then vomiting fecal matter he was taken to the Hopkins Hospital. Preparatory to operation for intestinal obstruction, he was given large hypodermic injections of normal salt solution. His pulse rallied under this treatment, and by the time he was ready for operation, the necessity for it had vanished. He stopped vomiting, took nourishment, and went on to recovery.

When about twenty months old his voice became husky, and ever afterward his crying and laughing could not be heard from one room to another. He had occasional attacks of dyspnoea, lasting at times all night, but seldom had any trouble in the day time. In March, 1899, when he was two years and eight months old, I examined the vestibule of the larynx with my index finger, and discovered what I thought was a small papilloma. About six weeks later I was called to see him about midnight, found him suffering from great dyspnoea, which necessitated immediate intubation. A large quantity of mucus was coughed up and the child went to sleep. During the intubation a piece of the papilloma was coughed up, and I have placed a section of this under the microscope for your examination. It was evident that the child had at the time an acute catarrhal condition of the larynx in addition to his papilloma. Fourteen days later I removed the tube, but his condition was such that it had to be re-inserted at once. During this operation I must have wounded the tissues, for he developed considerable temperature (103) the next day, the tissues over the thyroid cartilage became red and swollen, and finally an abscess in the median line had to be opened. The tube was again removed on June 2d, but was immediately returned. Four hours later, however, the tube was coughed out and never returned.

The child did well for a while, but the dyspnoea gradually recurred, and about a month later I sent him to Dr. Cushing, at the Hopkins, who did a tracheotomy. The canula, which he inserted about a year and one half ago, the child still wears. On two occasions I have, under chloroform, curetted his larynx with my finger and brought away small pieces of the warty growth. I had not seen him for six or eight months, until New Year's day, when I found him much improved. When the finger is placed over the opening in the canula he can breathe fairly well through his mouth, and his father tells me that when he wishes to emphasize what he has to say he will occasionally put his finger over the opening himself.

Nephritis in a Young Girl.

CASE 2.—This girl, of sixteen years, was, as a child, exceptionally free from disease; one attack of measles at four, and an urticarial rash, following vaccination at six, constituting her complete inventory.

About three years ago, when treating her for continuous headaches, I was led to examine her urine, and discovered the presence of a large amount of albumen, but no casts. I ordered her from school, and advised plenty of fresh air and milk. For medicine, I gave her Basham's mixture, and when she tired of this, ordered Blaud's pills, which she has taken almost continuously ever since. Her symptoms disappeared shortly, and but for the occasional examination of the urine, which always contained albumen, no one would have suspected that she had any trouble. If, however, she were allowed to stop taking Blaud's pills, or were put upon the organic preparations of iron, her headaches promptly returned. Her hemoglobin has always been sub normal, and is now about 85 per cent.

On the 6th of July, 1899, she complained of acute abdominal pain, which was followed the next day by an attack of dysentery, and on the 8th I saw her and diagnosed the trouble as appendicitis. She was operated upon by Dr. Cushing the following day, and the wound healed nicely, but the dysentery remained a serious complication for about ten days.

Just prior to operation the amount of albumen in the urine was greatly increased, but during convalescence it became very much less. About a year and a half ago her menses made their appearance, and have continued regularly ever since. This last fall, for the first time, her legs became œdematous, and they have so continued up to the present. Her face is also more or less œdematous, and on one occasion her

neck was so swollen as to make swallowing troublesome.

During the three years this malady has existed she has always slept well, possessed a good appetite, had only one or two attacks of nausea, has been bright and cheerful, and has thoroughly enjoyed life. Her being out to-night is no exception to the rule, for she goes out to a friend's nearly every evening, returning home about ten o'clock. Dr. Reik has made an ophthalmoscopic examination of her eyes, and finds no evidence of retinal changes. Her kidneys are both palpable, the right one at the level of the umbilicus, and the left one just below the costal margin.

DISCUSSION.

Dr. H. O. Reik: Dr. Watson's first case affords a very good illustration of the necessity for examining the ears of infants with obscure febrile troubles. When Dr. Watson informed me that he would speak of this case to-night I looked up the record of my examination and found the case history to be as follows: The child was brought to my office April 25th, 1897, and the mother stated that she had noticed about three months previously that the child would throw his head to one side and hold it so even while asleep, and that when awake he would hold his hand almost constantly to the side of his head. This action had been especially noticeable during the three weeks previous to this visit. He did not sleep more than a half hour consecutively day or night. There was no stomach or bowel complaint, no vomiting, and no evidence of paralysis. The right ear was normal but the left showed a deeply inflamed tympanic membrane with marked bulging in the lower anterior quadrant, and the apex of this bulging area was of a yellowish color. The membrane was incised at this point and a free hemorrhage followed the escape of a few drops of pus. On the following day the mother reported that the child had slept all night, the first time for many weeks, and appeared to be much brighter.

It seems rather strange that an examination of the ear was not made earlier in this case, especially in view of the fact that the child continually intimated that the ear was the seat of trouble. I do not mean to say that we should depend upon such patients giving leading information, for it is well known that many infants suffer with acute otitis without at any time holding their hands to their ears, still when such a symptom is present it should surely emphasize the necessity for an examination.

That many of these cases should simulate meningitis is easily explained. It is to be remembered that at birth the tympanic membrane really forms a part of the base of the skull, and that often in early childhood an open fissure, the squamo-petrosal, remains in the roof of the tympanum, through which the dura mater may come in contact with the mucous membrane lining the middle ear.

Dr. John R. Winslow: These cases of papilloma in children are very puzzling and very unsatisfactory. They are very difficult to remove, and being removed, it is exceedingly difficult under any plan of treatment to prevent them from recurring. They are usually of multiple variety, very diffuse, and recur in spite of any treatment we follow out. Being given a case of papilloma in a young child, we should first exhaust every means of attempting its removal through the natural orifice, and failing in this, we are governed entirely by the urgency of the symptoms. If urgent, a tracheotomy should be performed at once; but if not, we should endeavor to postpone the treatment until the child is older and the removal made easier.

Dr. Watson has already taken the best and most efficient step towards the cure of this condition by putting the larynx at rest by a tracheotomy. In regard to further treatment, I think a spray of absolute alcohol, either alone, or containing in solution 5 or 10 per cent. of salicylic acid, would be a great aid both in destroying the growths and in preventing recurrence.

Dr. Watson: I would like to ask Dr. Winslow if he would regard the fact that this papilloma is made up of squamous epithelium as proving that it arises from the vocal cords. I ask the question for this reason: Two or three years ago I had a patient with a papilloma springing from the lower under surface of the epiglottis, which turned out to be composed of one half squamous and one half columnar epithelium, and on referring to my anatomy I found that it sprung from just the juncture of the squamous and the columnar epithelial tissues. In this case I thought the nature of the cells might indicate that it came from the vocal cords.

Dr. Winslow: I should certainly take that to be the case from presumptive evidence. If it were possible to make a laryngoscopic examination, the question might be determined more satisfactorily.

Operation for Jacksonian Epilepsy.

Dr. H. M. Thomas reported the following case:

I wish to relate the details of a case that was operated on to-day at the Hopkins Hospital and which has been to me a most interesting case. The patient was a man of 45, who lived in the country, and though complaining of epileptic attacks, had never consulted a physician. He had been a fairly healthy man, though never robust, had never used alcohol, did not smoke, and had never been exposed to venereal contagion. About fifteen years ago, in the spring of the year and towards the close of his day's work in the field, he suddenly became unable to speak and felt that his right hand was weak. He walked home, and for two or three days had great difficulty in speaking, and his hand felt numb. He continued his business though, of overseeing his farm. After several months he had a convulsion. He did consult a doctor at that time, was put upon bromides and recovered. About a year following the first attack, while in the field, his right leg became paralyzed and he had to be carried home. He recovered from the paralysis, but began to have peculiar attacks at first infrequent, but within the last year several a week. They come on him in one of two ways; first, loosing the power of speech, then a twitching in the right side of the face, the hand becomes numb and then the paralysis passes up the arm and down the leg; or second, it may begin with a twitching in the face and the loss of speech comes later. He has learned that by taking chloroform he can cut the attacks short. If allowed to persist, and a severe attack comes on, it lasts from a minute to a minute and one-half without any loss of consciousness. He is very much upset by such an attack, and at times loses the knowledge of having a hand; that is, without looking at it, he would not know that he had it. After the attack is over he cannot speak or use the hand for about half an hour.

Upon examination, his cerebral nerves are found to be normal—there is no headache or pain—and the only paralysis is an impaired movement in the side of the face. He closes the eyes, lifts the eyebrows and both lids well, but cannot draw the mouth to the right side. The movements of the arm are perfect, though somewhat weak, and he has muscular atrophy of the first interosseous muscle. His grip is fairly strong, but not as strong as on the left side. He can use his right hand, but dislikes to do so, preferring to button his coat, etc., with his left hand. All the reflexes are exaggerated on both sides, but more so on the right.

The diagnosis of typical Jacksonian epilep-

sy is as clear as it could possibly be, and it seemed pretty clear that the lesion that produced it was a stationary one. We thought possibly there was some sort of vascular trouble that occurred fifteen years ago, but there was no etiologic factor in support of that explanation. Then we considered its being a stationary growth in the brain, and this appealed to me particularly because of a case we had, which had lasted eight years before there was much paralysis, and in which we did not find a growth at the operation, but discovered it later by microscopic examination. The position of the lesion seemed pretty clear also, as the most objective symptom was the paralysis of the mouth.

In the last work of localization Dr. Halsted did on the brain of the orang-outang, he found an area in the ascending frontal convolution, which governs that movement exactly. It was easy, then, to imagine a lesion in that vicinity that would account for the other symptoms also. We told the patient the nature of the trouble and the possibilities of finding it by operation. He was anxious to have the operation performed, and it was done to-day by Dr. Finney.

He made a large bone flap, exposing an area that showed the fissure of Rolando and part of the ascending parietal convolution, and gave us the area above referred to as the centre of the field. It required about twenty minutes to expose the brain, the bone being very thick, and nothing being found on the dura, we slit it up, but the cortex was perfectly free, so far as we could see. The veins of the pia mater were a little congested, but that was all. I tried to stimulate the cortex by the faradic current, but failed probably because the apparatus was not right, and partly because I was not willing to push the matter very far. He has recovered from the operation in so far as coming out of ether is concerned.

The case is interesting because, in my experience, I have never seen or read of a case that presented a more typical picture. That there is a lesion there is absolutely certain, but I think now it is certain that it is subcortical. If so, it may be a lesion corresponding to the tumor found in the case reported in the *Journal of Experimental Medicine* for 1897, Vol. II. In that operation, nothing was seen at all, and nothing was found at autopsy, so we thought there had been a mistaken diagnosis, but microscopic examination revealed a neuroglioma in the motor cortex.

Just one other point I want to bring up, and that is that the muscular atrophy seen in this

case is also present in the case we reported. Muscular atrophy of the character seen here does not occur usually with cerebral lesions, but it does occur at times, and seems to occur from some lesion either in or near the pyramidal tract and causing an irritation of the tract without actual destruction.

I present this case as one of the illustrations of how very discouraging brain surgery is. We no longer operate for epilepsy as such, and the reason we operated here was that we believed there was a definite lesion that might be removed; it was only a chance, and that chance was not sufficient to do any good. I would not be surprised, however, if that patient goes along for a year without any convulsions. We often find that for some reason or other there is a cessation of convulsions after such an operation, possibly because of a change in the circulation. The last case of the kind I had operated upon has had no return of the trouble for nine months, and he thinks we are very unreasonable because we will not operate on his brain to remove his paralysis.

DISCUSSION.

Dr. Randolph Winslow: Why not take out the centre that governs this area?

Dr. Thomas: That has been done, but the trouble is that you leave a scar, and there is just as much reason to suppose that it will act as a focal lesion as that the original disease did.

Dr. A. L. Hodgdon: I think we are all very much indebted to Dr. Thomas for this report, as this is one of the forms of epilepsy that can be relieved or even cured if taken in its incipency. The great trouble in these cases is that they are not taken early enough, and after a while what is known as habit epilepsy forms. We notice something similar to that in malarial paroxysms, where sometimes after the system is thoroughly rid of the organism, we find the paroxysms or chills still continuing.

I would like to ask Dr. Thomas if that portion of the second frontal convolution, where the head centre exists, was exposed at this operation to determine whether there was any lesion there? and again, whether it was considered that there might be any other lesion than a tumor present? I would like to know, too, if the attempt was made to stimulate the cortex with the galvanic current.

Dr. Robert Reuling: The case presents certain very interesting features, as Dr. Thomas has pointed out, and one of the main ones is the muscular atrophy. In a work recently published in Nothnagel's series, one finds how very rare muscular atrophy is in connection

with cerebral cases; only sixteen cases have so far been reported, I believe.

Last year, I had the pleasure of reporting a case to this Society that showed very marked muscular atrophy with intracranial lesion, and the case was remarkable in that the atrophy was a very extreme one ten days after the onset of the disease. With this atrophy, there was complete loss of sensation on the affected side. So far as I could tell from the course of the symptoms, I came to the conclusion that the lesion was in the posterior third of the internal capsule. Physiologists have agreed now that this portion of the capsule contains the sensory fibres, while the anterior two thirds contains the motor fibres, so that any lesion of the posterior third would cause a complete hemianæsthesia, and it is just those cases with sensory disturbances that are associated with muscular atrophy. You remember that Dr. Thomas' case presented sensory disturbances, but I believe his case is more subcortical, and does not involve the internal capsule itself.

Dr. Thomas: It is not easy to know, when looking at a brain exposed for operation, just what convolutions you have exposed. In this case, we believed we had exposed the fissure of Rolando, just at its edge, and a space of about two inches beyond that. We also passed a blunt director around it until we could see the other side of the fissure of Sylvius. No lesion was noted anywhere. All the centres above and anterior to the ascending frontal are very indefinite, and most of the centres for the head are in the ascending frontal convolution.

I do not know any condition of the cortex that will respond to interrupted galvanism that will not respond to faradism. I used a strong faradic current—so strong that it was painful when applied to the tongue before the electrodes were sterilized. I would be glad to be informed about the galvanic stimulation of the cortex.

A Case of Atrophic Entropion from Trachoma, with Operation.

Dr. Hiram Woods reported the case, as follows:

I want to show two patients with rather interesting conditions. They are different stages of the same disease—trachoma.

The first patient, a man, came to the hospital five or six weeks ago, with a bad right eye. He stated that the eye had been painful for twelve days only. He does not speak English, but from his interpreter, I understand that he had some eye trouble some years ago, and the appearance of the eye made that history rather

important. He had a very œdematous conjunctiva, some muco-purulent discharge, and on the conjunctival surface of the upper lid one could see typical granules of trachoma. The upper half of the cornea was vascular and extremely thick. It was hard to realize how all that could have occurred within the space of ten or twelve days. Below the vascular area, there were two or three small corneal ulcers. He was treated on the theory that his trouble was an acute trachoma; the lids were kept clean with sterilized water, and a 10 grain solution of nitrate of silver was applied twice a day with the most gratifying results, so far as treatment is concerned. If it is a case of acute trachoma, it will probably continue to improve and get well, but if it is simply a relapse of chronic trachoma, as it appears to be clinically, he will probably not get much better than he is now.

CASE 2.—This man came from West Virginia last September with a condition of cicatricial cornea and atrophied conjunctiva, especially of the lower lid. He had entropion of both upper lids and of the left lower lid, the lashes lying in contact with the cornea, and his vision was reduced to bare ability to move about. The first thing to be done was to try to get his lids into proper position, and under the influence of ether, I performed upon both upper lids what is known as Green's operation. There are a number of these operations for entropion, but all things considered, this one is the most satisfactory. For the lower lid, on account of the atrophic condition of the conjunctiva, I performed a different operation—one that I believe was suggested by Hotz. The results, as you see, have been very satisfactory.

The meeting of *January 18th, 1901*, was held at the University of Maryland Hospital, upon the invitation of the Faculty of that institution—the President, Dr. W. J. Todd, in the chair.

Dr. T. A. Ashby reported

A Case of Splenectomy.

The patient was a young woman 23 years of age, who was brought to the hospital from Virginia on the 4th of May, 1900. She had been in good health until the week previous. Her family and previous personal histories were good. She had suffered a severe chill, followed by a fever, and her family physician found a large mass in the pelvis which he took to be an inflammatory tumor. After a consul-

tation, they concluded that the case required immediate operation and sent the patient to the hospital.

I saw her in the evening, and found this large pelvic mass quite boggy, and feeling much like a pus tumor. I prepared for an abdominal section the following day. After chloroform had been administered, the tumor was found to be movable in the pelvis, but it could not be pushed out of the pelvis. I was inclined then to change my diagnosis for one of fibroid growth with a pedicle, or an ovarian tumor, as it no longer felt like a pus tumor. On making my incision, however, I found it to be a large dislocated spleen, which had become incarcerated. There was some difficulty in getting the spleen out of the pelvis, and the only thing I could do was to amputate it. It measured about seven inches in its longest diameter, and between three and four inches in other meridians—in other words, about three times the normal size of the spleen. Just prior to the operation, her temperature was 104, but on the following morning it had dropped to 101.2, and during that day reached normal. On the following morning, it had risen again, and from that time on she had a very peculiar temperature, ranging from normal to 106. It would fall with every sponge-bath, but would immediately rise again. There was no history of malaria or typhoid, although the blood was very carefully examined, and it was impossible to account for the fever. About a week after the operation, however, we succeeded in getting a Widal reaction, and from that time on she followed the typical course of typhoid with an unusual rise and fall of temperature. Whether the removal of the spleen had some influence upon the course of the typhoid that produced such a peculiar temperature chart, I am not able to say. It is held by some authorities, I believe, that the spleen has same influence of a protective nature against typhoid; perhaps its removal had some effect upon the fever. The patient remained in the hospital four or five weeks, and then returned home perfectly well. She has now gained some twenty pounds in weight, and seems entirely well. The removal of the spleen has had no prejudicial effect.

After her return home, five other members of her family passed through attacks of typhoid fever and one sister died. Her case was the first development in the family, and she must have been in the initial stage of that disease when she came to the hospital. It was probably this that led to the diagnosis of an inflam-

matory tumor. It is well known now that the spleen is not an organ essential to life, and that it can be removed without danger.

DISCUSSION.

Dr. Thayer: There are some points of a great deal of interest in this remarkable case. I should like to ask whether the spleen was very soft, or whether it presented the appearance usual in acute infections. I should think this must have been a case of the very beginning of typhoid; and if the spleen was not soft, but like that of an acute infection, it might well explain the acute onset of pelvic symptoms.

Dr. Ashby: I am of the opinion that the spleen had been down in the pelvis for a long time. It was quite soft, and like that seen in typical malarial fever. Probably the onset of the typhoid caused the rise of temperature which led her physician to assume the existence of an inflammatory tumor, and the examination showing the presence of a large, soft tumor that might possibly contain pus led me to make an exploratory incision. I opened the abdomen for diagnosis, but expected to remove an ovarian tumor or pus sac.

Under head of *Exhibition of Surgical Cases*, *Dr. L. McLane Tiffany* exhibited a patient having—

Dislocation of the Astragalus.

The first case I have the honor of showing is interesting simply because of its rapid recovery and of the method adopted to reduce the dislocation. It was a dislocated astragalus that came into the hospital a very few minutes after the accident. He is a large man, weighing 250 pounds and he jumped from his wagon alighting upon his foot which was turned. He came in with the right foot turned very much inwards, and the ankle represented on the inner side by a dimple, while the outer side was excessively prominent. Strong extension was made on the front of the foot, so as to open the mortice wide, and the astragalus was pressed back as the assistant brought up the front of the foot. The bone went into place easily, and now, after ten days, he has apparently an extremely good ankle joint. The ecchymotic condition of the skin is where the outer portion of the articular surface of the astragalus made pressure. The skin was very tightly stretched over it, and looked as if the bone might cut through.

It so happens that I have been fortunate enough to have three cases of this dislocation in a very short time, and all were corrected in the same way.

Dr. T. C. Gilchrist exhibited a patient:

Case of Molluscum Contagiosum.

I have the privilege of showing a case of rare disease of the skin. It is probably more common in children than adults. This child came into the hospital showing the lesions upon the face and body. The swollen areas usually present a small opening at the summit, and on squeezing them, a firm cheesy substance exudes. They have been likened, by *Jonathan Hutchinson*, to drops of wax on the skin. I have seen a fair number of cases of this disease, and the worse ones have been cases occurring in medical men in this city. On section, the lesions present an appearance similar to sebaceous gland structures, but they have no relation to these glands, as they begin in the epidermis and extend inwards. The disease has been demonstrated to be contagious, and it can be reproduced artificially, as has been proven by *Bulkley*, of New York, although the parasites have not been demonstrated as yet. The lesions sometimes become inflamed, and may undergo pus formation, but this is due to infection. The disease is not dangerous, but it is something of a nuisance.

Dr. Randolph Winslow exhibited patients:

Nephrectomy.

This lady is twenty-eight years old, and entered the hospital July 10, 1900. She had malaria four years ago, but it only lasted a short time. For two years past she has been having pain in the right side and back, and at times the attacks were very severe. Her appetite was good at all times, and there was no vomiting. The pain was aggravated by exercise, and at times it remained very persistent, running from the lumbar region down the right thigh.

A tumor could be felt on the right side, which gave no pain on palpation. She was quite anemic, and the impression I gained at the time was that she was suffering with a malignant tumor of the kidney. That organ was, therefore, removed, and the large cavity left in the abdomen partly packed with gauze. The tumor is here for observation. It was filled with pus, and there were five calculi, some of considerable size, in the calices of the kidney.

Goitre.

The next two cases are of a different character. This lady first went to the Presbyterian Eye and Ear Hospital for treatment of a large swelling in the neck. She was injected there with some solutions—I do not know what—

but the growth got worse instead of better. These photographs will show her condition both from a front and side view.

Dr. J. R. Winslow: The injections given at the hospital were of 10 per cent. iodoform emulsion.

Dr. Randolph Winslow: The patient was considerably incommoded by the tumor—in fact, was unable to attend to her duties, and I removed the tumor about the 21st of July. It was a large cyst, containing perhaps a pint or more of fluid. About one-half the thyroid gland was left in position.

CASE 2.—This young woman is a more recent case that is not quite well yet. Since three years of age, she has had a lump in her neck, and the photographs passing round show the condition very well—a very marked enlargement of the thyroid region along the sterno cleido-mastoid muscle. The tumor was comparatively hard, and when cut down upon was found to consist wholly of glandular tissue with cysts here and there in its substance. The operation was quite a difficult one, being very bloody, and I left a piece of the right side, in order to give her some thyroid tissue. The wound was sutured with catgut and is almost entirely healed now.

Fracture of the Patella.

This patient had a fall of thirty feet, and came into the hospital with a swelling about the knee and a large amount of exudate in the joint. I opened the joint by a transverse incision and turned out a large mass of clots from the cellular tissue about the knee and from the joint itself. The patella, which was broken into three pieces, was then wired. Dressings were not removed for five weeks, and then the sutures were taken out. You can examine him freely, and you will find the patella quite united. The motions are not as free as I would like, but perhaps in the course of time they will improve.

Fracture of the Patella.

This second man came in just before Christmas with a transverse fracture of the patella. He was discovered to have a large amount of albumen in the urine, and I was afraid to place him under general anæsthesia, so Schleich's solution of cocaine were injected into the tissues and a part of the procedure was painless, but part of it he had to bear. He did so bravely, and I wired the patella, which is now firmly united.

Fracture of the Clavicle.

This man had a fractured clavicle, which was treated at another hospital, and he came

in here later because of a very considerable deformity. My friend, Dr. Jay, wired the clavicle, and, as you see, with a most excellent result.

DISCUSSION.

Dr. Blake: These are extremely interesting cases. In operating upon the patella, which I think is the proper thing always to do, if you get satisfactory bony union, I think there is no operation in which there is required a more absolutely thorough asepsis. In the past two or three years, I have ceased to wire the patella. The reason we do not get bony union in fracture of the patella, is that we practically never have a simple fracture, but always have laceration of the tissue about it at different angles from that of the bone, and these fragments drop down between the fragments of the bone, so that we have resulting not a true bony union, but a ligamentous union. It is only in rare instances that we get bony union. I have come to believe that fracture of the patella is not different from fracture of any other bone, and that if the fragments of bone are brought together and all intervening tissue removed, they will unite just as well as fracture of the radius, femur or any other bones.

My rule, then, is never to make a transverse incision, but always a semi-lunar incision, cutting from one side of the knee below the tibia and dissecting back a flap, I expose the fracture, and then, with absolutely sterile forceps, I draw up all fragments of broken tissue hanging over the ends of the bone and clip them off with sterile scissors. I never allow my fingers, or anything that is in the least calculated to convey germs to the knee joint, to touch the area, for it is the largest bone joint in the body and the most easily infected. I have the assistants hold the bones together, then, without allowing their fingers to come near the fractured surfaces of the bones, and with a needle I penetrate the structures immediately above the fracture in the proximal end and carry it over to the distal end and bring the fragments of bone together with silk wormgut, placing from three to five of these stitches. If there is extravasation of blood and fluid into the joint, I wash it out with absolutely sterile water. After that has been done, and the fractured ends brought together, I close the flap over it and stitch it from below; and I have several cases operated upon in this way that show perfect union and perfect motion of the joint. I cannot recall a single case where the bones have been wired where there has been perfect motion of the joint.

Dr. Johnston: I am very conservative in my

operations upon the patella. In simple fracture I think that nine cases out of ten require no operation. We get a result that is practically as good as that following operation, without any danger of infection, and that is an important point in the consideration of this problem. What difference does it make to the patient if there is a quarter of an inch between the bones, provided there is a good, strong ligamentous band between them and nothing to start up further trouble at any time? The proof that these cases are as serviceable as the others is shown in this, that when such a patella is broken a second time it does not break in the fibrous structure but in some other part of the bone, and so the ligamentous union is stronger than a bony union would be. A shining example of the value of that form of treatment was shown recently when it was selected for use upon the Prince of Wales. He had his patella broken, and he had probably the best advice to be obtained in England, and they did not operate upon him. He is getting about now at the same rate and gait he had previously.

Dr. Branham: The point Dr. Blake made about the cause of failure of union is a very good one. Macewen called attention to the fact that this want of union was due to the loose tissue coming up between the fragments, and I think the gentlemen who operate on these cases will find that it is the loose, fatty tissue from under the patella and not any tissue that might come down from above.

Dr. Martin: I have had some little experience in patella work, having had eight cases of patella fractures that came to operation, and I have used the method of freely opening the joint, in some by transverse incision, and in others by longitudinal ones. In all I wired the patella, and in all I have gotten good results. In all the joint was freely opened, the fragments separated, the joints cleaned out, and the tissue that has been spoken of was removed. I have found no difficulty in getting them together, and have no cause to regret the wiring. I think beyond question it is the operation to give the patient the best results.

Some of these cases have been standing the test for four or five years, and they have perfect flexion and extension which such patients do not have if left without operation.

Nephrectomy Under Spinal Aesthesia, with Pathological Specimen.

Dr. Frank Martin reported the following: The case, briefly stated, is as follows: A woman of 34 was brought to me during the

summer with a movable, painful kidney. It was cut down upon and the method of packing used to fix the kidney in position, hoping that the mobility of the kidney was the cause of most of her discomfort. She recovered from the operation and went home, but the painful condition did not subside, and she was brought back in November still suffering a great deal of pain over this kidney. It was then decided to remove the kidney, and as her condition did not warrant the use of a general anæsthetic, the new method of sub arachnoid cocainization was employed. She had no difficulty following the operation, and secured a very fair result. The cocaine was placed in the sub-arachnoid space between the fourth and fifth lumbar vertebrae, and 15 minims of a 2 per cent. solution was used. She bore the operation well, having some nausea but no vomiting. The respirations went up to 60 per minute before the close of the operation, and the pulse also ranged a little high. The gratifying part of it was that the patient made a most excellent recovery without any urinary suppression. The only unpleasant after effect was a very decided headache for two or three days. The vomiting that has been spoken of in the reports of most of the cases in which cocaine has been used in this way was not present.

I used the method again to day in a hernia case with very good results. Towards the end of this operation, which lasted over two hours, sensation returned, and the patient suffered some pain. He was, however, an old alcoholic, not a good subject for general anæsthesia, and neuro regional anæsthesia was out of the question, because of the great distortion produced by the tumor.

DISCUSSION.

Dr. Stokes: Concerning this kidney tumor, I would simply say that it is one of great interest, and, I think, of great rarity. The specimen really consists of a tumor of the adrenal glands, and the kidney was simply compressed, the tumor having grown down and caused a cup-like depression of the kidney substance. Such tumors have been studied by Dr. Cullen, who described the main features of them in the March number of the Hopkins Bulletin for 1895. The tissue seems to be embryonic, and in this case appears to have degenerated into a sarcomatous mass. In regard to the microscopic structure of the tumor it is very difficult to say just what it is. Dr. Cullen says that some consider it to be a carcinomata, or some, sarcomata, and others, endotheliomata. I have so far only made a hasty examination, and it

seems to me the tumor grows from the cells around the capillary spaces; surrounding these blood spaces you find little tufts of cells growing out from the perithelial spaces which suggests that it may be a perithelial angiosarcoma.

Dr. Young: Dr. Martin's report was very interesting to me because of a case with which he kindly assisted me. It was that of a man of 77 who had an enlarged prostate and a stone in the bladder. He had considerable arteriosclerosis, and just the week before we had lost a case under ether from uræmia. We injected 20 minims of a 2 per cent. cocaine solution into the cord. We first did a Bertini operation and then crushed the stone in the bladder, but unfortunately that was a mistake, for the bladder filled with blood and the stone fragments could not be easily removed. At the end of the hour required for the operation the anæsthesia had worn out and the operation was continued with some pain. The anæsthesia did not last more than 35 minutes in that case.

It seems to me from the reports I have read that this anæsthesia differs very greatly in different persons, lasting only fifteen or twenty minutes on some people and from two to three hours on some others. This may be due to some idiosyncrasy towards the cocaine. It seems to me pretty well established that the method has a wide field of application in old kidney disease, or with arteriosclerosis. My patient had considerable trouble after the operation, particularly with nausea, which followed within four or five hours. He was also very nervous and sleepless, but made a very good recovery.

I was so disturbed about its nervous effects, that in a subsequent case of stone in the bladder, I operated under eucaïne locally, and succeeded in crushing nineteen stones at one sitting. In cases where shock may be a source of danger, then the local use of eucaïne in the bladder may be serviceable.

Dr. Gross: I have used this method of anæsthesia, in one case injecting twenty minims of a two per cent. cocaine solution. The anæsthesia did not begin for thirty minutes, and lasted for about one hour and a half. Ordinary sensation was not impaired, and the patient could tell the difference between hot and cold water poured into the wound, but he was perfectly insensible to pain, and conversed during the operation. He went to bed in good shape, but during the night was seized with violent pains in the head and along the spinal column. He suffered with violent vomiting and these intense pains throughout the night, but the next day was in good shape again.

Case of Gall Stone with Pernicious Anæmia.

Dr. J. Holmes Smith (per Dr. Holland), reported the following:

Pernicious anæmia in the colored race is extremely rare. Cabot, of Boston, has seen but one case, and I can find no other recorded. Our patient is a girl, about twenty years of age, with a good family history. She is one of fourteen children, thirteen living, and her twin brother has always been strong and healthy, while she has always been delicate. In the summer of 1893 she had an attack of colic, that was afterwards proven to be due to gallstones. Dr. Wm. Eareckson, of Elk Ridge, diagnosed the case, and after treating her for a while, she improved and passed from his care. She came to this hospital last May, in a condition of marked jaundice with a marked anæmia. She had palpitation of the heart on the slightest exercise, and had a basic murmur, and also one at the apex. Dr. Smith performed a celiotomy, about the first of June, removing a small gall-stone, which had evidently acted as a ball-valve to produce occasional distension with attacks of colic. There was no pus, although she had quite a marked leucocytosis, running as high as 36,000 before the operation, and her temperature, had been irregular. The lowest count of red cells was 1,200,000, and the hæmoglobin was thirty five per cent. The highest count showed a little over 1,200,000, with a hæmoglobin of fifty five per cent. The color index was a little over one. Notwithstanding she had all the symptoms of pernicious anæmia, she stood two laparotomies, the second being for what was supposed to be a collection of pus about the gall bladder. No pus was found, and her recovery was uneventful. Her condition now is somewhat better than it was when she left the hospital in September.

The case is particularly interesting in the light of a recent theory brought forth by Dana to account for the condition of pernicious anæmia, because of the teratological facts in this case, wherein it is shown that all the vitality that belonged to her seems to have gone to the twin brother. Her stomach contents were examined and found perfectly normal, and though the stools were repeatedly examined, nothing was found to indicate the presence of parasites or an undue number of intestinal bacteria. Dana claims that there is something about the blood which shows a lack of vitality and produces the disease, that the cells may obtain their full growth but at the same time not live their full life history. An examination of the blood this evening shows

about the same condition that existed last August, 1,700,000 red cells with forty-five per cent. of hæmoglobin and abundant nucleated red cells. In making a differential count I found with 100 leucocytes over 100 nucleated red cells, and think there must have been over 25,000 nucleated red cells to the cubic millimeter.

The largest number Cabot reports is 7,000. The majority of them are normo-blasts, but that depends somewhat upon the classification you use.

DISCUSSION.

Dr. Hirsh: This is the third case of pernicious anemia that has been in the hospital during the past year, but the other two cases were thoroughly typical. In regard to the leucocytosis, it was very decided in this case, running up at one time, I think, to 82,000. As a general thing it does not exist in pernicious anemia. The large number of normo-blasts present in the count was also very remarkable.

Dr. Marden: I would like to ask Dr. Holland whether there was any possibility for his being mistaken about the nucleated red blood corpuscles in the specimen. May not some of those have been stained leucocytes? In staining blood if you use an excessive amount of eosine you may get some leucocytes to take up the stain, and under the oil emersion lens leucocytes oftentimes seem to show a cell wall.

Dr. Thayer: This is a most interesting case. In regard to the question of pernicious anemia I do not remember ever to have seen a case that might be called typical, but I have seen several cases of very grave anemia in that race, and I think one was fatal.

It is important to consider just what we mean by pernicious anemia. There is a certain class of cases occurring without apparent cause, and showing the characteristic blood changes, which may be called typical pernicious anemia. They show a blood in which the individual red corpuscle has a high color index, the leucocytes are diminished or normal in number and show characteristic changes in their differential proportions, namely, a relatively large number of mononuclear varieties, and the nucleated red cells are present, but not, as a rule, in very great numbers, and a considerable proportion of those nucleated red cells are the megaloblasts of Ehrlich. I think the important cell is a large one, considerably larger than the normal red cell, with a palely staining nucleus. These large usually ovoid cells with palely staining nuclei are very unusual, except

in true pernicious anemia. I use this last term as referring to that class of cases, and yet there are a considerable number of grave and even fatal anemias that do not come definitely into that group, though they may, perhaps, deserve just as well to be called pernicious anemia as those we describe as typical.

In regard to the number of nucleated red cells in this case, I have never seen but one case that could approach the description given. That case was reported by Stockton, two years ago, in which the number was something like this, and I saw a case in 1892 that was studied by Barker, and we counted fifteen nucleated red corpuscles in one field, all normo-blasts. At one time, just before death, the condition was like that of lymphatic leucemia.

Dr. Holland: In reply to Dr. Marden I would say that I think it was hardly possible to make a mistake as to the nucleated corpuscles. It was possible to distinguish with any stain the outline of the protoplasm of the red cell surrounding the nucleus from the outline of the lymphocytes.

Dr. A. D. Atkinson exhibited:

A Medical Case for Diagnosis.

This case has puzzled us for a diagnosis. He is a worker in bronzes, forty years of age, and has used alcohol more or less freely. His present illness began last June with abdominal swelling occurring after meals, and the patient attributed it to indigestion. Gradually, however, this swelling increased in size until it assumed pretty large proportions when admitted to the hospital fifty-one days ago. Examination showed nothing abnormal about the heart and lungs. Fluid drawn from the peritoneal cavity was deeply bile stained. Examination of the abdomen showed a mass in the right upper zone, extending from the right costal margin well over to the left side. His blood count on entrance showed 4,500,000 red cells, but subsequent counts have shown a gradual diminution to 2,500,000, with 13,000 leucocytes. The abdomen has gradually become larger, and he has been aspirated twice, but the fluid is collecting again very rapidly. One of the main symptoms has been pain in the epigastrium.

We have thought that perhaps it is one of those cases of gall stones with malignant complications. About a month ago, we had the stools examined, and found fat in them. He has been rapidly losing flesh. In view of the work done by Opie at the Hopkins Laboratory, we may consider whether or not this is a case of gall stones in or about the diverticulum

and the septum of the duct with fat necrosis taking place as the result in the peritoneal cavity. There is, of course, no way to prove this except by abdominal section, and the patient is too weak to permit anything of that kind. There is a well marked arterio-sclerosis and phlebo-sclerosis. His jaundice has cleared up very markedly, and we think the size of the liver has decreased. In day-light his color is now almost that of an individual with Addison's disease.

Upon motion of Dr. Gardner, the Clinical Society extended a vote of thanks to the Faculty of the University of Maryland for the very interesting program presented, and upon invitation of the Faculty, the Society then adjourned to the *Sun* parlor, where they were tendered a smoker.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON ORTHOPÆDIC SURGERY.

Meeting of January 18, 1901.

Dr. George R. Elliott, M. D., 48 E. 26th St., Chairman.

Round Spine of Adolescence.

Dr. Homer Gibney presented a girl *æt.* 17 years, with a round back or posterior curve of adolescence, of which he exhibited a tracing. He had applied the plaster jacket she now wore, only a few hours before, by placing her in the recumbent position, the body resting upon two uprights—one under the pelvis and the other under the point of greatest prominence of the back. Her head and shoulders were allowed to sag backwards and downwards. The position maintained, which caused the patient some suffering, was a marked over correction. Another jacket would be applied later. The patient did not bear the operation well, on account of cardiac complication.

Dr. Henry Ling Taylor said he had not understood what diagnosis had been made, but the girl seemed unusually tall for the age assigned, and asked if the possibility of gigantism had been considered, as a marked round back was common in such conditions.

Dr. Royal Whitman said he was familiar with the history of the patient. She had some cardiac disease, was rickety, overgrown and badly nourished. He considered her condition merely the round spine of adolescence partly due to her height and heart weakness, and called attention to the patient showing lack of ordinary intelligence.

Dr. George R. Elliott asked Dr. Gibney how much force in pounds he had used to correct the deformity.

Dr. Gibney replied that little force, beyond gravity, was used, the sagging of the body between the supports appeared to give the necessary extension.

Dr. W. R. Townsend said that he had put up a case of spondylose rhizomelique last week in a much straightened position, followed by a feeling of relief to the patient.

Dr. Taylor remarked that Kietley had described anterior crutches to hold the shoulders back, which would seem to answer the purpose of epaulettes as used in this jacket, without their disadvantages.

Epicondylar Fracture of the Elbow.

Dr. Homer Gibney presented a small boy who had sustained a fracture of the elbow three months previously. The fracture was above the condyle. When the patient presented himself at the hospital the elbow was fixed at an angle of 105 degrees, with but little movement. The joint was cut down upon by Dr. V. P. Gibney and the detached fragment sutured into place.

Dr. V. P. Gibney said the epicondyle and nearly the entire condyle had been displaced, interfering with motion. He had cut down upon the joint and separated it with an osteotome, cleaned off the site of the fragment and pushed it down, suturing with kangaroo tendon; he then put the arm in a straight position, left it for four or five weeks, and then allowed active motion. Passive motion was not employed.

Dr. T. Halstead Meyers commented upon the excellent result, and remarked that children were often allowed to go on with fracture at the elbow united in poor position, in the belief that they would outgrow the disability in great degree, which was true, but it was better to correct the deformity entirely, even resorting to open operation when necessary. He called attention to Dr. Lloyd's excellent reports.

Coxa Vara.

Dr. Townsend presented a boy *æt.* 14, with the history that three years ago, without apparent cause, began to limp, and noticed that one leg was a little shorter than the other. The condition increased, and he has had some pain. There was one inch of actual shortening. Radiographs were shown. He diagnosed coxa vara of the ordinary type. He said there were two points to note: one, good

flexion and extension with little adduction; the other, the smaller size of the limb.

Dr. Townsend showed another skiagraph of a patient, in which he had made the diagnosis some time ago of coxa vara. In this case, under observation for three years, there had been a progressive shortening of about one-eighth to one-quarter inch each year, now amounting to three quarters of an inch.

Dr. Whitman called attention to the importance of the limitation of motion, that although the patient still retained ten per cent of abduction, there was an apparent shortening of two inches. This shortening and consequent disability was due to the limitation of abduction. This deformity might be overcome, after preliminary stretching of the contracted muscles, by a cuneiform osteotomy at the base of the trochanter, which would re-establish the angle of the neck, and thus relieve the strain upon it. He advised this operation in *Dr. Townsend's* patient, though the best results were to be looked for in younger patients, or at an earlier stage of the deformity.

Dr. Elliott asked *Dr. Whitman* how large a wedge of bone he would remove.

Dr. Whitman suggested cutting a paper model of the bone, as shown in the skiagraph, and measuring on that the size of wedge to be cut out; he thought one with a base of three-quarters of one inch would be sufficient in the patient under discussion.

Dr. Elliott asked if the length of the limb would be much increased.

Dr. Whitman replied that the actual increase in length would be slight, possibly one-half inch; the important point was that there would be no apparent shortening, because there would be complete relief of the limitation of motion, which caused the apparent shortening.

Dr. Townsend said he had performed the operation referred to by *Dr. Whitman* in two cases, with good results, and saw no reason why it should not be done in this case. In one patient, however, a little girl *æt.* 7 years, who had slight coxa vara, he applied a traction splint, and did not see in this particular case why it was not as good as the osteotomy advised by *Dr. Whitman*. He thought apparatus worn for a few years would give good results in mild cases.

Dr. Meyers agreed with *Dr. Townsend* that it would be better in the beginning of these cases to use some sort of supporting apparatus that would not need baudage or plaster, thus avoiding pressure atrophy. He thought the Campbell brace especially adapted for such

cases. It removed part or all of the body weight, and was inconspicuous.

Dr. V. P. Gibney asked just what the Campbell brace was.

Dr. Meyers illustrated it by a drawing, showing it extending to the hip.

Dr. Gibney asked if the Campbell brace had always extended to the hip, as drawn by *Dr. Meyers*.

Dr. Meyers said that it had for the last eighteen years.

Dr. Taylor said that this brace reminded him of the Dow's brace, which was valuable when it was desirable to use a perineal crutch and allow motion at the knee. He cited cases, which had done well under the use of the hip splint, but could not give final results, as the patients had not returned after treatment was discontinued. He had recently seen a case of coxa vara in consultation, when four out of six surgeons consulted were in favor of the splint treatment.

Dr. Whitman did not favor the use of apparatus as a routine treatment, believing that after its discontinuance the distortion was likely to increase. The nutrition of the parts was likely to be lessened rather than increased by the use of braces. He had been disappointed in the final effect, in cases in which apparatus had been used. Finally, braces could not rectify the deformity, at best would but relieve the symptoms and check progress. His operative results had been satisfactory. The patient after operation did not limp. Nearly all of his operative cases were between the ages of six and ten years.

Dr. Townsend asked if the boy in question would walk perfectly if the adduction were overcome.

Dr. Whitman said if there were no limitation of abduction, the boy would walk almost perfectly; whatever limp persisted would depend upon the actual shortening.

Dr. Elliott wished to know what would be the prognosis if the case was left untreated.

Dr. Whitman replied that the patient would not get much worse, might get some better; as a rule, after the more acute symptoms had subsided, the patients adapted themselves to the deformity and got along very well with a greater or less degree of limping. He stated that several of the German writers were apparently opposed to either mechanical or operative treatment.

Dr. Louis A. Weigel, of Rochester, N. Y., thought apparatus might be used to advantage in the earlier stages of coxa vara for the removal of superincumbent weight, which is

an etiological factor. He believed the difference in size of the femora, as shown in the radiographs, was due to a true atrophy or arrest of development. If coxa vara is due to defective nutrition, development of the affected side would be retarded.

Fracture of the Neck of the Femur.

Dr. Townsend presented a man 19 years of age, who, in December, 1899, fell a distance of 40 feet, striking on his hip. A diagnosis of contusion was made at the hospital to which he was taken, where he remained in bed six weeks, at the end of which time he could not walk except with the aid of crutches. He came to the Hospital of Ruptured and Crippled in April, 1900, and a diagnosis of fracture of the neck of the femur was made. There was one inch of shortening, inversion of foot, crepitation at site of fracture when movements were made. Extreme pain and inability to bear weight on the limb or lift it from table when lying on his back. A long traction hip brace and a high shoe were applied and worn for six months. The man can now walk with little or no pain, and when lying on his back can raise his leg nearly as well as on the sound side. There is one inch of shortening, no crepitation at hip, and all motions are possible without pain. *Dr. Townsend* thought traumatic coxa vara could be applied to this case.

Dr. Meyers thought the case very encouraging. He had presented a similar case some time ago, where bony union had been secured after four months of non-union. In all cases of fracture of the neck of the femur an earnest attempt to get bony union should be made. In recent cases, even in old people, with proper splints, we would succeed many times. In old people, where there had been fracture without real immobilization for many months, the case was not hopeless under proper treatment.

Congenital Absence of Bones.

Dr. Weigel also presented a series of radiographs, showing congenital absence of bones in members of the same family. In the five extremities shown, some bone of the hand or arm was absent. In one case, there was a rudimentary humerus, an imperfect thumb and three fingers. The mother had no thumb, and gave a history of having borne three children, four of whom were deformed. The mother attributed her own deficiency to maternal impression, stating that her mother, while pregnant, was shocked by seeing a man at her house without a thumb.

Extensive Osteomyelitis of Tibia.

Dr. Weigel exhibited another radiograph of a case of extensive osteomyelitis involving the whole of the tibia on one side. The patient had been treated for articular rheumatism. He thought it possible, in most cases, to make the differential diagnosis between marked suppuration and thickening or eburnation. When there is pus formation in a radiograph, it is difficult to get a clear definition of bone structure on account of the osteoporotic condition usually present.

Tubercular Disease of Foot.

Dr. Weigel also exhibited a radiograph of a tubercular focus in a child's foot, together with another radiograph taken two months later, showing the reparative process already well under way. This patient was treated by fixation and rest, any radical surgical interference being contra-indicated.

Dr. Townsend asked for a differential diagnosis between sarcoma of bone and osteomyelitis.

Dr. Weigel said that such a differential X ray diagnosis might be difficult to make without an opportunity of comparing a series of cases.

Dr. Elliott showed a skiagraph of congenital dislocation of the hip, which was taken after only fifteen seconds of exposure. The shortness of time exposure was important. With restless children, long exposure was often impossible without an anæsthetic.

Cough of Grippe, etc., Just Now.

It is a matter of common observation that many cases of bronchitis will persist in spite of the continued, varied and judicious use of expectorants. The cough is exceedingly liable to recur every winter—to become a regular 'winter cough'—with its sequelæ of emphysema, asthma, and, ultimately, dilatation of the right heart. *Dr. Milner Fothergill*, of London, insisted that cough of this character is due to lack of tone, not only in the general system, but in the blood vessels of the bronchioles. It is particularly in this class of cases that Gray's Glycerine Tonic Compound has gained a most enviable reputation. This remedy is palatable, has a selective tonic and antiphlogistic action upon the respiratory mucous membrane, and removes the ever present element of systemic depression.

Book Notices.

Manual of Surgical Treatment. By W. WATSON CHEYNE, M. B., F. R. C. S., F. R. S., Professor of Surgery in King's College, London, etc., and F. F. BURG-HARD, M. D. and M. S. (London), F. R. S., Teacher of Practical Surgery in King's College, etc. *In Seven Volumes.* VOL. IV. **Treatment of Surgical Affections of the Joints (including Excisions) and the Spine.** Lea Brothers & Co., Philadelphia and New York. 1901. Cloth. 8vo. Pp. 370-xx. \$3.50 net.

Criticism, we think, has been justly passed upon the fact that a work so extensive in its range as to devote seven volumes of about the size of the present one to *Treatment* alone of surgical affections does not mention certain methods of treatment which common experience has approved. The work undertakes, according to the Preface, "to describe as fully as possible only those methods of treatment which have proved most efficient in *our* (the author's) hands."

The volume under notice, like all the other volumes, is divided into Sections. *Section I* treats of *Dislocations and Wounds of Joints.* *Section II* treats of *Diseases of Joints*, such as inflammatory affections, tuberculosis, syphilitic and nervous affections, rheumatoid arthritis, loose bodies in joints, ankylosis, hip and knee joint diseases, diseases of ankle and tarsus, of shoulder and elbow joints, and of wrist and hands. The Second Division of the Volume treats of the *Surgical Affections of the Spine*—such as injuries, spina bifida, kyphosis and scoliosis, tuberculous disease of the spine and spondylitis deformans, acute osteo-mylitis, actinomycosis, new growths of the spine, hysterical spine, sacro-coccygeal tumors.

With reference to Sayre's plaster-of Paris jacket, the authors speak of it as acting "fairly well"—but as not at all equal in value to the various forms of braces, and *should only be used when the latter cannot be obtained.* This is, indeed, a very surprising statement, coming from an authority of the present day. The general run of the book, however, makes a first rate guide for the surgeon, in that it gives methods which, for the most part, have been tested by the authors, or which they have seen tested.

Obstetric Clinic. By DENSLow LEWIS, Ph. C., M. D., Professor of Gynecology in Chicago Polyclinic; Senior Obstetrician to Lakeside Hospital, Chicago, etc. E. H. Colegrove: Chicago. 1900. Cloth. 8vo. Pp. 652. \$3

This book contains a series of thirty-nine clinical lectures on Practical Obstetrics, de-

livered to students and practitioners in Cook County Hospital, Chicago, since 1887; together with remarks on Criminal Abortion, Infanticide, Illegitimacy, the Restriction of Venereal Diseases, the Regulation of Prostitution, and other medico-sociologic topics. It has often been remarked that if "*Meig's Obstetrics*" were thoroughly up-to-date, it would be the best book in existence for the practitioner. Lewis' *Obstetric Clinic* reminds us very much of this book—except that it is nearer up-to date. Its teaching is sometimes dogmatic, but almost invariably correct. Its style is such as to invite ones reading line by line; and the impression left by each lecture is lasting. Its only objection is that it is not an absolutely complete work on Obstetrics. A most excellent Index of fourteen double column pages is added, which greatly assists reference to topics.

Essentials of Histology. By LOUIS LEROY, B. S., M. D., Professor of Histology and Pathology in Vanderbilt University; City Bacteriologist to Nashville, Tenn., etc. *Arranged with Questions following each Chapter. Seventy-two Illustrations.* Philadelphia: W. B. Saunders & Co. 1900. Cloth. 12mo. Pp. 231. \$1.

This is No. 25 of "Saunders' Question Compends"—a series of publications that has had an almost unprecedented success. Keeping to the purpose of these *Essentials*, the author has collected within a limited space, the essential facts in *Histology*—without, however, sacrificing clearness and intelligibility to brevity. Such a book is of very material value to the older practitioner who graduated before histology was taught in the colleges as at present. This little book is well written, with the purpose in view as announced in the prospectus of the *Saunders' Questions Compends*. Illustrations are freely introduced.

American Text-Book of Physiology. Edited by WILLIAM H. HOWELL, Ph. D., M. D., Professor of Physiology in Johns Hopkins University. Vol. II., royal octavo, of nearly 600 pages, fully illustrated. Cloth, \$3.00 net; sheep or half-morocco, \$3.75 net. Philadelphia and London: W. B. Saunders & Co. 1900.

The following notice we find prepared, and so well suits our purposes that we adopt it:

Even in the short time that has elapsed since the first edition of this work there has been much progress in Physiology, and in this edition the book has been thoroughly revised to keep pace with this progress. The result is that the American Text Book now represents the most modern work on Physiology. Statements and theories that have been shown to be wrong or improbable have been eliminated,

and the new facts discovered and the newer points of view have been incorporated.

The chapter upon the Central Nervous System has been entirely rewritten in the light of the latest knowledge, with the intention of rendering this important branch of the subject suitable to the needs of students and practitioners. A section on Physical Chemistry forms a valuable addition, since these views are taking a large part in current discussion in physiological and medical literature.

The first edition of this work was pronounced to be the best exposition of the present status of the science of Physiology in the English language, and in its revised form the book will doubtless remain the leading work on Physiology for students and practitioners. The subjects comprised in this volume are: Muscle and Nerves; Central Nervous System; Special Senses; Special Muscular Mechanisms, and Reproduction.

Sexual Debility in Man. By F. R. STURGIS, M. D., Formerly Clinical Professor of Venereal Diseases in Medical Department of University of City of New York, etc. New York: E. B. Treat & Co. 1900. Small 8vo. Pp. 432. Cloth. \$3.

Dr. Sturgis dedicates this book "To the Sexual Cripples of the United States whose infirmities have in part contributed to his support." His experience with this class of patients has been extensive enough to warrant him in being looked upon as an authority. Some views taken by the author are at variance with those of the majority of pseudo philanthropists who, for instance, teach that indulgence in masturbation is the necessary prelude to both physical and mental degeneration. He also strives to correct the foolish and ridiculous idea that the man afflicted with spermatorrhœa is foredoomed to impotence and sexual uselessness. The book is timely, and, if properly studied, will do a great deal of good in the teaching of sensible opinions regarding those subjects about which "sexual cripples" consult the doctor. It is a book of great value to the general practitioner. Illustrations are sufficiently introduced to give the appearance of diseased tissues and discharges.

New Orleans Polyclinic.

Physicians will find the Polyclinic an excellent means for posting themselves upon modern progress in all branches of medicine and surgery. The specialties are fully taught, particularly laboratory work. Fourteenth annual session opens November 12, 1900. For further information, address Dr. Isadore Dyer, Secretary New Orleans Polyclinic, New Orleans, La.

Editorial.

Vacancies as Assistant Surgeon, U. S. Army.

The Surgeon-General, U. S. Army has issued a circular announcing that under the new Army Bill which has passed Congress and been signed by the President, there will be about 130 vacancies as Assistant Surgeons to be filled this spring. Applicants must be graduates of regular colleges, and must have had at least one year of practical experience since graduation, and must not be over twenty nine years of age. Any one interested may obtain a circular of detailed information by addressing the Surgeon General's office, Washington, D. C.

The Tri-State Medical Association of the Carolinas and Virginia,

In session in this city February 26, 27 and 28, promises to be a great success. A number of distinguished visitors have promised attendance and papers. This journal has been promised a number of the important papers read before the Session—publication of which will begin in our next issue. The local profession will tender a banquet to the Association and its guests. Dr. C. W. Kollock, of Charleston, S C, is President, and will preside; Dr. J. N. Upshur, Richmond, Va., is Secretary.

Western Ophthalmologic and Oto-Laryngologic Association.

The Sixth Annual Session of this Association will be held in Cincinnati, Ohio, April 11 and 12, 1901. Dr. C. R. Holmes, of Cincinnati, one of the Vice Presidents of the Association, is chairman of the local committee of arrangements. A fine program has been arranged, and the medical profession is cordially invited to attend the sessions. Dr. M. A. Goldstein, of St. Louis, is the President. Dr. W. L. Ballenger, 100 State street, Chicago, Ill., is Secretary.

Ethol for Carbuncles.

According to the *Journal of the American Medical Association*, Creel has relied on ethol given internally in teaspoonful doses in cases of carbuncles, with the local application of flax seed meal poultices; then the emptying of pus, scraping out of dead tissue, and cleansing with peroxide of hydrogen. After this, a topic application of ethol on absorbent cotton is made every four to eight hours. The average duration of this treatment in these cases was ten days.

Original Communications.**INTESTINAL INDIGESTION (DYSTRYPSIA INTESTINALIS), NATURE AND CONCEPT.***

By JOHN C. HEMMETER, M. D., Philos. D., Baltimore, Md.
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By this term we understand any abnormality in the digestive processes occurring in the intestinal canal. The designation "dyspepsia," including as it does the stem of the word "pepsin," should logically only be used in reference to such difficulties of digestion in which pepsin is a factor; for instance, only in reference to gastric indigestion. The term "intestinal dyspepsia" is, therefore, not strictly correct. The most important enzyme in intestinal digestion is trypsin, and accordingly I have in former writings suggested the use of the word "*intestinal dystrypsia*" for the indigestions which are directly dependent upon disturbed activity of the intestine itself. For those cases which are due to the disturbances in the function of the liver or biliary apparatus, the designation "*hepatic dystrypsia*," and for those dependent upon disturbed function of the pancreas the designation "*pancreatic dystrypsia*" is suggested. These latter terms were first used by Lukjanow (*Allgem. Patholog. der Verdauung*) independently of the author.

It is not always an easy matter to locate the symptoms which are interpreted as intestinal dyspepsia exactly in the intestinal canal. What is frequently considered *intestinal dyspepsia* is, in fact, gastric dyspepsia, occurring in a dilated or prolapsed stomach. This makes the importance of chemical and microscopical study of the gastric contents in such cases evident. The position and size of the stomach should also be ascertained by one of the meth-

ods enumerated in the author's work on "*Diseases of the Stomach*" (2nd edition, p. 98 to 113).

Intestinal indigestion may be due to abnormalities (1) of secretion; (2) of absorption, and (3) of peristalsis. Whilst the clinical picture of this derangement may be due to disturbance of one of these functions only—for instance, there are cases where the only demonstrable abnormality is the exclusion of the bile from the intestinal canal (icterus)—in the majority of cases two or all three of these functions are pathologic.

The first question to decide is, whether the intestinal indigestion is due to an organic, anatomically demonstrable disease, or whether it is purely functional; for the latter may, for instance, occur in the abnormalities of peristalsis, and produce marked suffering from exaggerated or inhibited muscular contractions of the bowel in the total absence of any anatomical lesions.

For purposes of classification, it is not expedient to classify intestinal indigestion as due to actual anatomical changes on the one hand, or to functional (neurotic) influences on the other; nor can it practically be considered under the three types of intestinal dyspepsia, due to the disturbances of secretion, absorption or peristalsis. It is, in fact, still a matter of debate whether a definite classification of the various types of this intestinal disturbance is at all possible or practical in the present state of our knowledge of the intestinal physiology and pathology, for much is still to be learned concerning the interaction of the succus entericus, pancreatic juice and bile, and also upon the changes which occur when the complex gastric chyme mingles with the mixed duodenal secretion.

Conscious of the defects of schematization, and not wishing to attribute too much importance to the following classification, it is, nevertheless, offered as the only arrangement that suggests itself to me at present for the purpose of succinctly detailing the various forms of intestinal indigestion. This attempt is all the

* Read in part before the Session of the Tri State Medical Association of the Carolinas and Virginia, held in Richmond, Va., February 26 and 27, 1901. This paper is a Chapter in a forthcoming work by the Author on *Diseases of the Intestines*.

more justifiable because of a confusing variance of opinion concerning the factors that constitute intestinal indigestion, and the pathologic physiology affecting it, as expressed in the American literature of the last ten years. Accordingly, I would suggest arranging the various types of this abnormality in the following order:

I. Intestinal indigestion *due to pathologic anatomic alterations* in the structure of the intestinal walls, nerves, lymphatics or blood vessels. These are the dystrypsias that occur in association with the various forms of enteritis or entero colitis, intestinal ulcers, neoplasms, obstructions, stenoses, displacements, etc., etc.

II. *Absence or deficiency of the intestinal digestive secretions*, especially the bile and pancreatic juice.

III. Intestinal digestion *due to qualitative or quantitative irregularities in the diet*. Under this we may distinguish three sub-types: (a) The diet is excessive in quantity and cannot be transformed in the normal manner by the amount of digestive secretions present. (b) The diet may be normal in quantity but irregularly and unhealthily mixed; there may be too much fat, too much proteid or too much carbohydrate. (c) The diet contains abnormal or injurious substances, either in forms of toxins, the result of putrefaction and fermentation in the diet, or of chemical substances that may have been added by accident or for therapeutic reasons. (Many chemicals and medicines taken for the relief of gastro-intestinal or other diseases exert a deleterious effect upon the normal course of digestion)

IV. Intestinal indigestion *due to abnormal bacterial activity*.

V. Intestinal indigestion *due to abnormal gastric chemistry*.

Thus far the intestinal dyspepsia may be designated as such that arise from abnormalities of the contents, or the intestinal wall itself. We now come to two forms which are distinct from those hitherto enumerated.

VI. Intestinal indigestion *of nervous origin; neurasthenia intestinalis*. This should logically be classed under the neuroses, but as it is characterized by the one prominent symptom of intestinal dystrypsia, it also demands insertion in this place.

VII. Intestinal indigestion *caused by abnormal substances or irritants, reaching the intestine from the blood*. Under this heading we class the dyspepsias occurring in uremia, malaria, septicemia, croupous pneumonia, erysipelas, influenza, cholera, icterus, diabetes, gout and uric acid diathesis, the diseases of the

blood and blood-making organs, rhachitis and osteomalacia, etc.

VIII. Intestinal indigestion *due to the activity of intestinal parasites* (exclusive of bacteria) worms.

IX. Intestinal dystrypsia *due to hyperperistalsis*, or excessive motility of the bowel.

Let us now proceed to consider these various forms of intestinal indigestion in a succinct manner, and take them up in the order enumerated:

I. *Intestinal indigestion or dystrypsia due to demonstrable pathologic anatomic alterations in the structure of the intestinal walls*, lymphatics, blood vessels and nerves. This series of abnormalities of intestinal digestion has been considered in connection with each of the anatomic diseases to be described in the following chapters of this work:

II. *Absence or deficiency of intestinal digestive secretions, principally of bile and pancreatic juice*. A correct understanding of this class of intestinal indigestion necessitates a thorough knowledge of the physiology of the digestive processes of the stomach and intestines, for which the reader is referred to chapters V, VI and VII, pages 49-70, in the author's work on *Diseases of the Stomach*, second edition. Also to the chapters on the chemical processes in the intestine, the relation of gastric to duodenal digestion, and to the chapters in this work on the disturbances in the secretory functions of the intestine, pancreas and liver, and their influence in the utilization of food. Intestinal digestion may be disturbed by abnormalities in the three main secretions, the succus entericus, or intestinal juice, the bile and pancreatic juice.

Little is known of the abnormal variations in the *succus entericus*. It contains 0.5 per cent. of sodium carbonate, which Bunge regards as an important constituent for the neutralization of the gastric chyme; and if this secretion is lessened or arrested altogether, it is conceivable that the emulsion of fats will be disturbed, and perhaps also the absorption of other food materials will be lessened, because of the partial or complete absence of alkali, and failure to bring about the proper reaction of the intestine.

DISTURBANCES IN THE SECRETION OF THE BILE, POLYCHOLIA AND ACHOLIA.

The functions of the liver consist in the production of bile, urea and glycogen; it participates in the metabolism of the fats and the conversion of certain toxins into harmless substances. Probably the liver is also active

in the regulation of the blood circulation. No conservative physiologist will undertake to enlist all of the probable functions of the liver. Much new material has been published in recent years suggesting new functions, but the results are purely hypothetical. This can be said of the discussion concerning the question whether the liver is capable of influencing the coagulability of the blood after intravenous injection of peptone. This entire polemic is still undecided. The production of bile in the liver cells is under the influence of a special secretory mechanism, depending upon the composition of the food, as well as upon the conditions of the blood circulation in the liver. Direct secretory influences on the part of secretory nerves have as yet not been definitely experimentally established. It is probable that nervous influences are active and recognizable only as far as they control the condition of the lumen of the blood vessels and the rate of the blood flow. A. B. McCallum, P. Korolkow and A. V. Kolliker have described nerve branches extending to the liver cells and even to their nuclei. Contraction of the abdominal vessels from any cause reduces the secretion of the bile; the same results from any causes leading to stagnation of blood in the liver.

Anything that leads to paralysis of the hepatic vessels, causing hyperemia of the liver, at first causes an increase of secretion of bile (Afanassiew and L. Landois). It would lead me too far to repeat here all the certain and probable hepatic functions and the influence of bile on intestinal digestion. Even at the present day the part which the bile takes in the work of digestion constitutes the object of active discussion. According to one group of investigators, the bile is simply an excretion, consisting of refuse matter, which does not influence the digestive functions. According to others, bile plays a very important rôle in the digestive process. The truth is probably midway between these two extreme aspects. It has been established beyond a doubt that exclusion of bile from the intestinal canal causes such a reduction in the quantity of fats absorbed, that only one-seventh to one half of the amount of fat, which is utilized when the bile can enter the intestines, comes to absorption (Bidder-Schmidt, Voit, Rohmann, F. R. Muller, J. Munk). In *icterus* a considerable reduction of fat absorption, when there was a complete exclusion of bile, has been demonstrated with certainty. According to Rohmann and J. Munk, the relation between fatty acids and neutral fats is changed in the absence of bile,

so that the fat expelled in the feces then consists of 80-90 per cent. of fatty acids (one part of neutral fat to nine parts fatty acids); whilst under normal conditions, the feces contain only two to two and one-half parts of free fatty acids to one part of neutral fat. The cause of this increase of fatty acids is not known, unless it is due to an excessive bacterial activity in breaking down the fats, the bacteria having an easier task to accomplish this in the absence of the antiseptic action of the bile. The pancreatic juice is capable of splitting up three times as much fat when bile is present as when it is absent (M. W. Nencki). According to R. Fleischer, this is not due to any special fat-splitting ferment in the bile. There is no doubt concerning the influence of bile in increasing the peristalsis, nor concerning its antiseptic action. The hepatic secretion possesses no proteolytic activity. W. Ellenberger and Hofmeister (*Vergleichende Physiologie*, 1 Theil, s. 778), states that a mixture of bile and pancreatic juice has a marked proteolytic activity, and Rachford and Southgate (*Medical Record*, 1895, p. 878), assert that a mixture of pancreatic juice, plus bile, plus HCl can accomplish more work in proteolysis than any other known pancreatic mixture—a statement which has been denied by R. H. Chittenden (*Amer. Jour. of Physiology*, vol. 1, p. 334, on the Influence of Bile and Bile Salts on the Pancreatic Proteolysis). But B. K. Rachford, in taking up the subject once more (*Amer. Jour. of Physiology*, p. 483), concludes that a small quantity of free HCl has little or no retarding influence, but that large quantities of free HCl very materially retard the diastatic action of pancreatic juice. Acid proteids, in small quantities, slightly increase the diastatic action. Sodium bicarbonate has very destructive influence on the diastatic action of pancreatic juice. Bile slightly expedites this action. He also re asserts in this paper that bile not only influences the retarding influence which free HCl in large quantities exerts upon the diastatic action of pancreatic juice, but in the presence of free HCl, bile very materially expedites the action of the juice.

I have repeated the experiments of Rachford, according to the conditions stated in his paper, and am able to confirm them; and agree with the author in his main conclusions. In the experiments it will be seen that from four to eight minims of bile were sufficient to neutralize the retarding influence of from four to eight cu. cm. of a 0.1 per cent. solution of HCl, without destroying the acid reaction of the mixture.

It is impossible to state the rule regarding the exact amount of bile necessary to neutralize the retarding influence of a definite amount of HCl, thereby giving to a definite quantity of pancreatic juice its greatest diastatic power. But the statements of Rachford are substantially correct. In a similar manner as bile influences the retarding influence of free HCl, bile also has a marked power in diminishing the retarding influence which sodium carbonate has upon the diastatic action of pancreatic juice. If there is any free acid in the food as it is discharged from the stomach into the duodenum, the bile will neutralize this acid and thereby assist the acid proteids resulting from gastric digestion, to bring about the most favorable conditions for the diastatic action of the pancreatic juice.

Concerning the diastatic ferment in the bile itself, the opinion has been expressed that it is nothing but the ptyalin which has been absorbed from the mucosa of the stomach and duodenum, and re excreted by the liver in the bile. In view of the powerful amyolytic ferments in the pancreatic juice, the diastatic ferment in the bile cannot be credited with important digestive work.

It will be seen from the physiological factors thus far enumerated that the chemical processes in the duodenum are extremely complicated; and although by no means completely understood, and much is to be learned concerning them, it is readily seen that they may easily be disturbed. The secretion of the bile, pancreatic juice and gastric juice may vary abnormally and throw out of balance the finely adjusted chemical transformations which go on in the upper intestine, giving rise to symptoms of dystrophia, and eventuating in disturbances which we oftentimes cannot trace from the purely clinical standpoint, and for the elucidation of which we depend upon future chemical and physiological investigation.

POLYCHOLIA.

Over production of bile, together with all its constituents. The bile pigments and bile acids owe their origin to the functions of different cells (O. Hammarsten), and can be increased or diminished independently. Poisons that injure red corpuscles cause an increase in the pleio-chromatic substances (the pigments of the bile)—for instance, ether, chloroform, tolylendiamin, arsenuretted hydrogen. Under their influence the hemaglobin, becoming free from the erythrocytes, is taken up by the hepatic cells and changed into bilirubin. The

hemaglobin, as it becomes free of the erythrocytes, may pass over into the bile without becoming changed in bile pigment. Phosphorus increases the production of bile pigments (E. Stadelmann). According to M. M. Tschelzow, the extr. of chionatus virginica is a powerful cholagogue, but the importance and reliability of so-called cholagogues has been much weakened by investigations of Baldi, Paschki, Mayo Robson and Nissen.

The dietetic cholagogues deserve most confidence, and the effect of a number of foods in this respect is really beyond a doubt. S. Rosenberg, for instance, has demonstrated the fact that olive oil increases the secretion of bile, whilst the concentration diminishes.

ACHOLIA.

Diminution of the production of bile in its entirety or in its single constituents has been observed (1) while in a state of starvation or hunger; (2) during febrile diseases; (3) uremia (Lukjanow, l. c., p. 151), the bile becoming in the latter case poorer in water; (4) reduction of the size of the liver by resection. Liver of guinea pigs reacts to ligation of the common gall duct by necrosis of hepatic cells, *i. e.*, a reduction of the liver parenchyma (an analogous condition results in atrophic liver cirrhosis). Chemical agents, potassium iodide, calomel, iron, copper, atropin, toxic doses of strychnin and alcohol reduce the secretion of bile.

Less bile reaches the intestine when there is obstruction by gall stones, cholelithiasis, catarrhal icterus, neoplasms compressing the common gall duct, floating kidney.

A. V. Haller (*Elementa Physiologiæ* I, p. 615) calls attention to bile entering the intestine in its upper part in all animals, which is a sign of its special importance for digestion, and it cannot therefore be an excretion simply; if it were it would surely have been conducted outward by an outlet nearer the rectum. The common gall duct meets the pancreatic duct within the walls of the duodenum. Either a common duct is formed by the union of both, or the two ducts open into a special reseptaculum, the diverticulum of Vater; a wart-like prominence in the mucous membrane of the duodenum marks the place where this diverticulum opens. Irritation of this spot constitutes the signal for the outflow of the stored bile and pancreatic juice. This anatomical arrangement suggests that the combined action of the pancreatic juice and bile is contained in the plan of the digestive process. The doctrine of the detrimental effects of polycholia or

acholia is not based upon succinct and uncontrovertible proofs. There are many defects in the experimental and clinical logic, because affections of the liver are, under natural conditions, always complicated by diseases in other parts of the body; and clinical investigations have not succeeded in separating the results due to disturbed bile formation from the totality of symptoms, in an unobjectionable manner. I have elsewhere emphasized the interesting phenomena that in the gastro intestinal tract one digestive function may vicariously be replaced by increased function in another part of the apparatus; for instance, increased hyperacidity of the gastric juice may be counter-balanced, to a certain extent at least, by increased alkalinity of the pancreatic juice or succus entericus.

When we consider the effects of absence of bile on digestion, we must also bear in mind the systemic effects which bile intoxication may bring about under those conditions. At the present day, most pathologists assert that all forms of icterus are of hepatogenous origin; and in those diseases in which there is no stagnation of bile, the icterus is explained by presuming that the hepatic cells have lost their power of holding back the bile which consequently diffuses into the juices of the body. This form of icterus has been designated "diffusion icterus," in contradistinction to that due to obstruction of the bile ducts, which is known as "stagnation icterus." In *diffusion icterus*, we are not confronted with a poisoning of the body by bile constituents, but rather with a poisoning with those toxic substances which should have been rendered innocuous and been reconstructed in the liver—*i. e.*, in diffusion icterus, not the secretory functions, but the chemical and metabolic functions are injured. I merely emphasize these facts here in order to make plain the complex question with which we are dealing, and how difficult it is to separate the purely digestive disturbances from the systemic and metabolic disturbances.

ANTIZYMOTIC INFLUENCES OF THE BILE.

The antiseptic effect of the bile, which was first prominently emphasized by Frerichs in 1846, has since received much support from Fleischer, Maly, and Emich. The degree of intestinal putrefaction can be determined by the increase of the total ethereal sulphates in the urine (E. Baumann). In a number of causes of purely catarrhal icterus, the result of gastro duodenitis, E. Biernachy has demonstrated that the amount of the ethereal sul-

phates and the ratio to their preformed sulphuric acid increases. The important question for the clinician in this connection is, whether he can obtain any intangible indication from urinalysis which will instruct him regarding the degree of putrefaction in the intestine. On the basis of a very large experience, I am able to express the opinion that the amount of total sulphates and the amount of indican in the urine, irrespective of the ratio of the ethereal sulphates to the preformed sulphuric acid, constitutes such an available diagnostic indication. I shall later on suggest other means for obtaining information regarding abnormalities in the chemical functions of the upper intestines.

DISTURBANCES IN THE SECRETION OF PANCREATIC JUICES—SUCCORRHEA PANCREATICA, HYPOCHYLIA AND ACHYLIA PANCREATICA.

The secretion of the pancreatic juice is dependent upon the nervous system; the secretory fibres for the pancreas are, according to J. P. Pawlow, contained in the vagus. The pancreatic secretion contains four enzymes: Trypsin, amylopsin, steapsin, and a milk-curdling ferment (Hallburton and Brodie). R. Lepine assumes the existence in it of a sugar decomposing ferment.

SUCCORRHEA PANCREATICA.

We may assume a pathological increase of the pancreatic juice when the secretory innervation of the gland is exaggerated. Bernstein has recognized, after cutting the nerve—that which accompany the larger arterial branches—that the secretion continues and is even increased. There is also a so-called paralytic pancreatic secretion. There is no doubt in my mind that neuroses of the pancreas exist, in which the secretion of the gland is pathologically increased or decreased, or may be altered in its chemical composition without being either augmented or diminished. We know that the salivary glands can be influenced by diseases of remote organs, thus producing a reflex salivation. It is probable that a reflex succorrhœa pancreatica exists, for irritation of the central end of the lingual nerve, and irritation of the central end of the vagus, increases the pancreatic secretion.

In the second edition of my work on *Diseases of the Stomach*, p. 55, I have narrated the case of a female patient who had suffered from repeated attacks of biliary colic. She had passed small stones without giving her much pain. By duodenal intubation, I had aspirated a clear but viscid and sticky fluid similar to egg

albumen, containing no bile pigments nor cholesterin. It was capable of digesting fibrin and serum albumin in an alkaline solution. It also possessed amyolytic and fat decomposing properties. I concluded that it was almost pure pancreatic juice, and that the gall duct was stenosed by a small calculus sufficient to prevent the influx of the bile into the duodenum.

This experience suggests the possibility of duodenal test meals—i. e., of aspirating test-meals from the duodenum after weighed amounts of proteids, carbohydrates and fats had been given, and determining the adipolytic, amyolytic and proteolytic power of the filtrate. Duodenal test-meals have been analyzed by myself with this object in view. Before attempting the aspiration of test-meals from the duodenum (*Hemmeter-Versuche Über Intubation des Duodenum*—*Archiv. F. Verdauung krankh.*, Bd. ii, S. 85), it is necessary to obtain a knowledge of the state of the gastric chemistry; the amount of free and combined HCl and the total acidity; the amount of acid salts; the state of gastric amyolysis—for it will make a great and important difference in the total acidity of the duodenum whether an individual has hyperchloridia or achylia gastrica in his stomach.

The next most important preliminary knowledge is to know just when to intubate the duodenum (preferably by Kubin's method), i. e., how long after the completion of the gastric digestion. This can only be ascertained by several tests of the rate of gastric peristalsis in the same patient. For instance, if we have found out that the stomach is capable of expelling a meal consisting of 3½j Hamburg steak, 5j boiled rice and 3½j of bread and butter in four hours, we should make our preparations for duodenal intubation about three and one-half hours after the ingestion of the meal. Then comes the indispensable determination of the emptiness of the stomach, which is done by allowing 3viiij of warm water to run in and siphoning it out again. By this procedure we can very soon discover whether the stomach is empty. If it is empty, or nearly so, we may proceed to make the attempt to intubate the duodenum. The plan seems to be confronted with unsurmountable difficulties at present, but it is a method to which we are surely coming, for in my opinion it constitutes the only reliable means for obtaining any information regarding the chemic processes of the duodenum.

Certain chemical substances may cause increase in pancreatic secretion; for instance,

pilocarpin. There are certain diseases of the pancreas which produce an augmented secretion (Lukjanow, l. c., p. 198).

HYPOCHYLIA AND ACHYLIA PANCREATICA.

Diminution or absence of the pancreatic secretion can be caused by a variety of conditions: (1) partial or general atrophy of the gland tissue; (2) diminished secretion due to nervous influences; (3) diminished secretion in anemic conditions, sub-nutrition and general weakening of the organism; (4) diminution of pancreatic secretion due to chemical substances (atropine, toxic doses of strychnin); (5) diminished secretion due to febrile processes. The experimental diminution of pancreatic secretion produced by the artificial production of fever, are so intensely interesting that they merit a brief consideration. They were more especially studied by J. J. Stolnikow (quoted by Lukjanow, l. c., p. 200). He found after producing fever artificially in dogs, by septic infection, that the amount of pancreatic juice had increased from 50 ccm. in the hour to 70-79 ccm. per hour; it is followed by a marked diminution of the secretion, which is of long duration and very obstinate. When the fever had lasted from 2 to 10 hours, the extracts made from the secretion of the gland were much more energetic than the normal ferments. But if the fever lasted a long time they became weaker in action. Stolnikow attributes the variations in the amount of ferments to changes both in the pancreatic cells as well as in the trophic nerve apparatus. But the most interesting deduction, however, from these experiments, was that which gave evidence of the inequalities in the variation of the amounts of proteolytic, diastatic and adipolytic ferments secreted; whilst the adipolytic and diastatic were much reduced during the fever, the amount of the proteolytic ferments remained at a considerable height. In addition to this, Stolnikow could establish that the amount of the three different ferments was influenced by the kind of food which predominated in the diet. This experimental material justified Stolnikow in the conclusion that there must be three separate nerve mechanisms which control the production of three ferments of the pancreas. Our knowledge concerning the deviation and composition of the pancreatic juice is still very defective. I am here trying to narrate only the more confirmed and acknowledged physiologic and pathologic facts, by the aid of which we might interpret some of the forms of dystrypsia intestinalis.

ALKALESCENCE OF THE PANCREATIC JUICE.

According to J. P. Pawlow (Wratsch, 1893, s. 1232, Russian) a dog secretes just enough pancreatic juice in the course of a day as is necessary to neutralize the amount of gastric juice secreted. As this conclusion is more or less applicable to the human physiology, we may readily understand how intoxication with the HCl of the gastric juice may occur in those cases of stenosis of the pancreatic duct or atrophy in which no pancreatic secretion is poured into the duodenum.

SYSTEMIC OR METABOLIC EFFECTS PRODUCED BY EXPERIMENTAL OR PATHOLOGIC SUPPRESSION OF PANCREATIC JUICE.

In some animals the ligation of the pancreatic duct is tolerated comparatively well. According to Heidenhain the proteolytic ferment is reconverted into the harmless zymogen. In other animals, however, for instance pigeons, the general nutrition suffers severely. Dogs, rabbits and cats show no evil results. We may assume, therefore, that when the pancreatic duct is stenosed, the system becomes deluged with pancreatic secretion, which continues to be formed for awhile, at least, and a condition may result which can be designated, for want of a better term, as "pancreatic icterus," which is harmful in some animals, and borne well by others. Whether or not the "pancreatic icterus" is deleterious to the human organism, we are not as yet able to judge. But there are other dangerous metabolic effects which result from extirpation of the pancreatic gland. These consist in the development of a genuine diabetes mellitus, first experimentally produced by J. v. Mering and O. Minkowski. It is plain, therefore, that the pancreas, in addition to the secretion that it pours out in the intestine, has also an internal secretion amounting to the formation of a glycolytic enzyme which effects the destruction of sugar in the blood (Lepine and Barral). This can serve to explain the striking difference in the consequences of complete extirpation of the gland on the one hand, and simple ligation of the duct on the other. After the extirpation of the gland the glycolytic enzyme must naturally be wanting, and therefore the destruction of sugar cannot be effected. Later investigations of M. Arthus, and also of Minkowski and J. v. Mering, suggest that the glycolytic enzyme does not act by way of the blood.

This entire discussion illustrates the difficulty here, as well as in connection with hepatic dystyphia, of distinguishing between

the effects produced by simple absence of the special digestive secretion from the intestinal canal, and the systemic or metabolic effects produced by diseases of the bile ducts and liver on one hand, and the pancreas or pancreatic duct on the other.

What are the consequences of disturbed secretion of pancreatic juice? It is not probable that excess of pancreatic secretion, succorrrhea pancreatica, could produce any marked disturbances; but diminished pancreatic secretion, hypochylia or achylia pancreatica reduces the digestion of the fats. F. R. Muller has had opportunity to study several cases of more or less complete degeneration of the pancreas in human patients. Whilst normally 84 per cent. of the fats were transformed into glycerine and fatty acids, in these patients only 40 per cent. were transformed. The digestion of proteids was reduced but slightly, and the assimilation of carbohydrates was not diminished at all. It is probable that some of the pancreatic tissue was still preserved in Muller's patients; for in an animal, in which M. Abelmann removed the pancreas completely, the entire fat that was ingested appeared again in the feces. This seemed to be due to removal of the gland itself, for if pig's pancreas was given in the food of such animals they absorbed considerable of the fat in the diet. The same can be said when artificial emulsions of fat were given. Natural emulsion, or milk, was absorbed to the amount of 53 per cent. of the fat, after extirpation of the pancreas. The proteids are absorbable to the amount of 44 per cent., after complete extirpation, the amount absorbed being increased by the ingestion of pig's pancreas. V. Recklinghausen and Koppe Seyler have observed that the chylous vessels were filled with the white chyle in cases of almost complete degeneration of the pancreas, and the latter author assumes that the formation of soaps and the emulsification of fats is brought about by bacteria, under these conditions.

Is there any way in which we can study the alterations in the pancreatic and hepatic secretions? As far as diseases of the pancreas are concerned, they have hitherto been only of subordinate clinical interest; there is not a single symptom which could be referred to a disease of the pancreas with certainty. It is, therefore, very difficult to diagnose these diseases during life. They are also frequently complicated with other diseases. This is true especially of stenoses of the duct, for the pancreatic duct and the hepatic duct, for anatomic reasons, are frequently occluded simultaneously. It is, therefore, impossible to assign

special symptoms to the pancreas or liver from a clinical standpoint; in addition, the pancreatic functions may be vicariously supplanted and compensated by altered activity of the remaining glandular apparatus.

There are, in my opinion, but two ways in which any progress can be hoped for. One is by duodenal test meal analysis described in the preceding; and the other is by careful quantitative analysis of the stools after weighed amounts of proteids, carbohydrates and fats have been ingested, not only for the purpose of determining the residual undigested amount of each of these substances, but also for determining the amount of proteolytic, amylolytic and eventually also of adipolytic ferments present in the feces. By the same method which I utilized in determining these ferments in the human feces (Hemmeter—Ueber das Vorkomen von proteolytischen und amylolytischen Fermenten in Imhalt des menschlich en Kolons, *Pflüger's Archiv. f. d. Ges. Physiologie*, Bd. 81, p. 151), from the amount of undigested food of the various classes, and the quantitative determination of the various ferments, a fairly reliable conception of the state of pancreatic secretion should be obtained. It must be emphasized, however, that the determination of the ferments must be made under antiseptic precautions such as I applied in the article quoted (l. c.) The Boas stool sieve is a rough but quick and practical method for arriving at an approximate conclusion concerning the amount of undigested food (see article on Examination of Feces). This entire subject is of immense importance, and demands systematic and accurate methods of diagnosis for the recognition of a group of diseases, the hepatic and pancreatic dystrypsia, on which our knowledge is still in its infancy.

III. *Intestinal indigestion due to qualitative or quantitative irregularities of the diet.* The results of the three subtypes under this heading: (1) The diet too excessive for the digestive secretions to transform; (2) a diet which may perhaps be normal in quantity, but unhealthfully mixed, so that it may contain too much carbohydrate or proteid; (3) diet which already contains food in a state of putrefaction and fermentation—have already been sufficiently considered in the chapters on Diarrhœa, Enteritis and Dysentery. The chapter on Diet and prophylaxis and hygiene by diet also refer to this subject. In this connection we must emphasize the injurious effects of hasty eating, because it prevents a proper mastication and insalivation of the food, and brings the latter into the stomach in a state which will

later on set up irritation from the large size of the swallowed morsels, and also because a certain amount of amylolysis is expected to take place in the stomach, and cannot do so in the absence of proper insalivation.

Not sufficient attention is paid to the great harm that is done to the patient by medicine. Many drugs which are given for the purpose of relieving supposed indigestion and dystrypsia are actually the causes of it. Here I may mention all condiments, particularly pepper and ginger. Among the drugs that have done great harm in my experience are the bromides, salicylate of soda, all astringents, the bismuth salts, iron when not given immediately after meals, belladonna, bicarbonate of soda HCl, and pepsin. The latter drug should only be given after test meals showing either a hyperacidity which calls for alkalies, or achylia gastrica which demands HCl. Innumerable are the cases which have presented themselves to me for treatment and who were taking HCl when the stomach was already forming an excess of that acid. Among such patients I have had quite a number of physicians.

IV. *Intestinal indigestion due to abnormal bacterial activity.* This subject has already been exhaustively treated by Dr. Wm. Royal Stokes in the chapter on Intestinal Bacteria, and the essential features have been recapitulated under the various diseases in which the bacterial activity is morbidly increased. A. Czerny, P. Moser, Bednar and Henoch, in Germany, have asserted that a large number of the indigestions and diarrhœas of children depend upon fermentative and putrefactive processes in the gastro-intestinal canal, and generally without anatomical changes in the mucosa. The instructive investigations of Wm. D. Booker (*Johns Hopkins Hospital Reports*, Vol. VI), whilst recognizing that the gastro-enteritis in children is a general infectious disease, demonstrates also that there are considerable anatomic alterations in the mucosa (see Hemmeter's *Diseases of the Stomach*, 2nd edition, pp. 423-'24). The bacteria flora becomes exuberant and harmful in its activity, as a rule, only after grave errors in diet have been committed. This is true both in infants and adults. The immediate results of this state are abnormal putrefactions and fermentations, with the formation of toxic and irritating substances, which have a deleterious influence on the mucosa, and may set up enteritis and colitis. All this has already been considered in the chapters on Diarrhœa, Dysentery and Enteritis.

It was an opinion first expressed, I think,

by Pasteur, that normal intestinal digestion could not be carried on in the total absence of bacteria. In the experiments of Nuttall and Thierfelder, young guinea pigs were kept under such aseptic control from the first moments of life that the entire alimentary tract was entirely free from micro organisms, and the feces were sterile (see chapter on "Intestinal Bacteria"). It was concluded that the bacteria were not essential to the digestion and life of the animals (see also same author's *Animal Life without Bacteria in the Digestive Tract*, 3rd communication, Experiments on Hens, *Zeitsch. f. Physiol. Chemie*, Bd. XXIII, s. 231, 1897; also N. W. Mencki, Digestion without Bacteria, *Arbeiten des vereins Russischer Aerzte*, St. Petersburg, Jan. 1896.*

Similar experiments have been carried out by Schottelius (*Arch. f. Hyg.* XXXIV, p. 24), but instead of selecting the guinea pig, hens and their eggs were utilized for the experimental work. Two sets of eggs were taken, one in which the surface was made absolutely free from bacteria, the other set remaining contaminated with micro organisms. The first will be called for convenience sterilized eggs, while the other batch will be designated as non-sterile eggs. The former were introduced into a sterile incubator, while the others were not. When the chickens were hatched, those from the sterilized incubator were carefully fed on sterilized food, while those of the control experiment were given ordinary food. The feces were examined in both instances. In the so-called sterile chickens the feces were found to be absolutely free from all forms of bacterial life, while the reverse was found to be the case in the control experiment. At the end of a certain period of time the non sterile batch of chickens were found to have gained in weight much more rapidly than the sterile batch—the gain being 250 per cent. greater in those in which the bacteria gained access to the alimentary tract. All of the so-called sterile chickens died within three weeks after they had been hatched, while the control chickens lived on as usual. This suggests that the presence of a certain form of bacteria is essential to the most perfect functioning of the digestive process in the gastro-intestinal canal.

It has been suggested that the acetic acid and lactic acid fermentation might be able to increase the total acidity of the intestinal contents to a degree in which certain pathogenic microbes could not exist; and as a further reason for assuming that bacteria may be useful their ability to produce peptone and albumoses, in fact similar products as result from peptic and tryptic digestion, has been emphasized. The whole question of the normal or abnormal conditions that may accompany bacterial activity in the intestines, and what really constitutes normal and abnormal intestinal bacterial activity, is as yet undecided. The experiments of Nuttall and Thierfelder are, of course, not directly applicable to the human being; neither are those of Schottelius. In no cases were the experiments conducted sufficiently long to prove conclusively that even the animals on which they were carried out could exist indefinitely with an absolutely sterile gastro-intestinal canal. Concerning the increase in the total acidity, which could be brought about by some bacteria, and might be injurious to other pathogenic organisms, it might be wise to remember that what is injurious to pathogenic bacteria within the intestine, and sufficiently toxic to kill them, may also be injurious and toxic to the general organism of the individual, and especially to his intestinal mucosa.

In the treatment of these bacterial processes, it is not well to place too much dependence on the so-called intestinal antiseptics, but above all things to give the utmost care to the diet; let it be easily digestible, thoroughly sterilized, and moderate in quantity. Sterile milk, egg albumen, if need be, mixed with wine or brandy, and scraped beef slightly broiled or even raw, as it can be prepared perfectly sterile in that condition, would answer the purpose for the first week. Thereafter broiled Hamburg steak, sterile milk and bread will answer the demands of the organism. When the bacterial action of the intestine is excessive, it is wise to avoid egg in the diet. An extensive experience in the dietary management of this condition has led me to exclude them. The dangerous products that can be formed from egg are lecithin, and from this cholin, and the highly poisonous neurin. The possibility of the formation of these substances from eggs and lecithin is based on the work of Bokai (*Zeitsch. f. Physiol. Chemie*, Bd. 1, 157). Next to a careful diet, the most effective means for combatting bacterial activity and autointoxication are lavage of the stomach and colon. Generally nothing is needed but sterile water. If there is no HCl

* For further reference to digestion without bacteria see G. H. F. Nuttall and H. Thierfelder, *Thierisches Leben Ohne Bakterien in Verdauung's canal*; *Zeitsch. f. Physiol. Chemie*, Bd. XXI, 1895-1896, Heft 2-3, s. 100; Bd. XXII, 1896-1897, Heft 1, s. 62; *Weitere Untersuchungen uber Bakterienfreie Thiere (vorgelesen von Hrn. H. Thierfelder; Archiv von Du Bois-Reymond*, 1896, 3 u. 4 Heft, *Verhandlungen der Berl. Physiol. Gesellschaft*, s. 363.

in the secretions of the stomach, a solution of this acid, 3-1000, is advantageous. For lavage of the colon a semi-saturated solution of thymol exercises sufficient antibacterial properties, but even this is rarely necessary.

V. *Intestinal dyspepsia due to abnormal gastric chemistry.* That abnormalities in the gastric secretions may bring about intestinal dyspepsia is well known from the intestinal meteorism and disturbances of peristalsis, both hyper and hypo-peristalsis, which follow upon gastric hyperchlorhydria, and the frequent diarrhœas observed in connection with achylia gastrica. Analysis of gastric contents is indispensable if we wish to understand intestinal dyspepsia in all its phases. If we find hyperchlorhydria, sufficient of alkalis must be given to neutralize the excess. A diet should be selected according to the principles laid down in the author's work on *Diseases of the Stomach*, 2nd edition, p. 828. The amount of alkali to be given can be determined according to the principles laid down in the same work, p. 337. In all cases where there is absence of free HCl (anacidity, achylia gastrica) I have found it useful to give HCl in double gelatine capsules, immediately after the meal. Some stomachs which have not secreted HCl for a long time become so sensitive to this acid that the patients are conscious of gastric distress every time it is taken. In those cases I have begun by giving one drop of the officinal dilute acid after each meal.

IV. *Intestinal dyspepsia of nervous origin—Neurasthenia Intestinalis.*—In the various parts of this work, the prominent influence of the nervous system on the secretion of the digestive juices has been emphasized. It is, therefore, not surprising that there should exist a state of intestinal dyspepsia of purely nervous origin which cannot be logically classified under any of the other headings. Rosenheim (*Krankheiten des Darms*) considers it a combination of various intestinal neuroses, depending partly on functional weakness and partly upon exaggerated irritability of the vago-sympathetic fibres of the intestine. It generally accompanies neurasthenia gastrica. The patients complain of distension, fullness in the abdomen, pain, sometimes borborygmi, sometimes painful desire for stool, which is not followed by an act of evacuation. There are some sufferers from intestinal neurasthenia who seem to have no gastric symptoms, for they seem quite well immediately after eating and for two to three hours after meals. Then they begin to complain of distension of the abdomen, accelerated heart, sensations of heat or

cold; sometimes they find it impossible to lie down, but seek relief by moving about restlessly, rubbing their abdomen. The condition of the evacuation is variable. The majority of such patients, in my experience, suffer from constipation, associated with meteorism. But there are others in which diarrhœa is a symptom, and it generally occurs between twelve midnight and two in the morning. It is characteristic for these conditions that the distress very frequently ceases spontaneously after several hours, which is an evidence that the dyspepsia is a functional weakness. Both the constipated cases of neurasthenic dyspepsia, as well as those in which night diarrhœa is a symptom, exhibit a very capricious behavior of the intestine, for constipation and diarrhœa may alternate in the most surprising manner and without any assignable cause. The state of the bowels is independent of the nature of the diet. At times, the most indigestible food taken in large quantities are excellently digested. At other times, the most careful diet is followed by distress.

One often observes that intestinal neurasthenia occurs in patients who are habitually addicted to over-eating, but nevertheless, they remain emaciated and weak. This is not dependent on any diarrhœa. In a large majority of these types, there are evidences of intestinal autointoxication, and excessive bacterial activity, or there is a clear history of uric acid diathesis and general neurasthenia.

Diagnosis of Neurasthenia Intestinalis.—This depends, above all, upon the exclusion of demonstrable diseases associated with anatomic lesions—the symptoms of abdominal distress independent of the diet—the presence of constipation or night diarrhœa—or the most bizarre alternations of diarrhœa and constipation in the absence of enteritis or colitis. The anamnesis of general neurasthenia, hysteria, hypochondria, uric acid diathesis, and autointoxication.

Treatment.—1. The diet. In my experience, it is impossible to succeed with a radical enforcing of strict diet of any kind, but it is wise to recommend what is known as a bland diet. Above all things to study the stools, if possible, by the stool sieve, in order to discover which foods pass the intestinal tract undigested. These must, thereupon, be avoided, or given in such a finely divided state and such small quantities, that their digestion becomes easier. It is also of importance to utilize the observations which the patient has made upon himself with regard to the diet. They frequently know what causes

distress and what can be digested. The stool examination, however, will guard against deception. I make it a rule to forbid alcohol, tea, coffee and tobacco in these patients. In great exhaustion, I allow small quantities of a superior wine or whiskey, under strictest control. In some patients, a diet rich in carbohydrates; in others, one rich in proteids (beef, fowl, fish). In fact, the diet to be followed cannot be decided until a dietetic experiment is made. 2. The same holds good with regard to treatment of the constipation. Here the practitioner will have to decide whether this is due to atony or spasm of the intestinal musculature, for what will benefit one condition will harm the other. Here also, in most cases, a therapeutic experiment will be necessary before we can discover whether we are confronted with atony or spasm. The majority of these patients require exercise after meals. A few that are weak may require rest in bed. Especial attention must be paid in the selection of the food for the last meal of the day. Great moderation in the amount eaten, and digestibility, are the most important points to bear in mind. A heavy supper will often produce a restless night. 3. The treatment of the general neurasthenia will be that by electricity, hydrotherapy, massage and baths, as detailed in the chapter on gastric neurasthenia—*Diseases of the Stomach*—second edition, p. 872.

VII. *Intestinal indigestion caused by abnormal substances or irritants reaching the intestine from the blood.*—That toxins may be excreted from the blood through the wall of the intestine, has already been referred to in the chapter on Intestinal Ulcers; for this factor constitutes one of the elements in the etiology of the intestinal ulcers. We have there described their occurrence as a result of uremia, septicemia, gout, scurvy, leukemia, and in consequence of certain poisons excreted through the intestinal mucosa—mercury, for instance. The intestinal ulcers which have been observed in consequence of extensive cutaneous burns, are also explained by the passage of toxic substances through the intestinal wall (Kijanitzin, *Virchow's Archiv.*, CXXXI). Where these processes do not go far enough to cause the formation of intestinal ulcers, they may irritate the mucosa sufficiently to cause disturbances of secretion and resorption which give rise to the symptomatology of dystrypsia already described. The treatment, wherever a treatment is possible, should be directed to the underlying cause. The details can be found in the chapter on Intestinal Ulcers, whenever the etiology points in that direction.

VIII. *Dystrypsia due to the activity of intestinal parasites, worms.* This has been described in all its details, in the chapter on intestinal parasites.

IX. *Dystrypsia due to hyper- or hypoperistalsis.* The symptomatology, diagnosis and treatment of these dystrypsias have been given in the chapter on motor neuroses of the intestine.

GENERAL CONSIDERATIONS CONCERNING INTESTINAL DYSTRYPSIA.

Whenever a dystrypsia has existed for a considerable time on a purely functional basis, it may eventuate into a disease with definite anatomic alterations. One of the most common symptoms is augmented intestinal paralysis as a result of irritation by fermentative masses. A condition results in which the contents of the upper part of the bowel are hurried through the entire intestine in an unaltered condition, i. e., the stools may present the same properties as are characteristic of the contents of the jejunum. The contents of the jejunum are normally thick, but liquid and gelatinous. The stools in the dystrypsia may frequently present the same characteristics, i. e., they consist of feces mixed with unaltered food, and a large amount of glassy, frog-spawn-like mucus.

In the chapter on Enteritis I have emphasized that mucus is a sign of catarrh; therefore the practitioner is called upon to distinguish the mucus in jejunal diarrhoea from that passed in catarrhal inflammation of the bowel. The following features will serve for the differentiation. The jejunum stool is generally an acid reaction, has only a slightly fecal odor, and very rich in bile pigment, whilst the mucus in genuine catarrhal inflammation is not especially rich in bile pigments, frequently contains none at all, but contains epithelia and round cells, which are absent in the jejunal stools. The most helpful factor in the treatment is a carefully adapted diet. In adults, who are otherwise fairly well nourished, total abstinence from food for 48 hours is the most effective means of treatment in my experience. Then the diet may be resumed, and should be selected according to information given by gastric test meals, eventually duodenal test meals and examination of stools. When there is excessive bacterial activity the various intestinal antiseptics have been advocated. Personally I have been able to get along without them in the great majority of cases. I have seen very evil results follow the administration of the irritant antiseptics. Perhaps the most available are bismuth, salicylate, subgallate,

betanaphthol bismuth, thymol, menthol, salol. Creasote has, in my experience, deranged the stomach, even in small doses, in sufferers from dystrypsias. In cases in which the gastric secretion of HCl was suppressed I have made a trial with the orexin so strongly recommended by Penzoldt, and have noted in three cases an irritant diarrhœa which became manifest after the first two doses, and ceased when the remedy was discontinued.

FORMULÆ.

The following formulæ have been used in a large number of cases by the author for the special symptoms indicated with each one for intestinal dystrypsia. For the relief of constipation and diarrhœa, see the formulæ given in the respective chapters on these subjects.

The following is of great usefulness in the *putrefactive diarrhœa*, especially when associated with abdominal pain:

- Ry. Tannigen ʒj.
 Bismuth subgallate ʒij.
 Salol gr. xxiv.
 Denarcotized ext. opium.....gr. iij.

This can either be made into 12 capsules or prescribed with 6 oz. of some elixir, of which I prefer the elixir of gentian and the essence calisaya, 3 oz. each, in doses of a tablespoonful three to four times a day.

The author's favorite for *anorexia from gastric hypochylia* in intestinal dystrypsia is the following:

- Ry. Strychnin. sulphasgr. ʒ.
 Acid hydrochloric dil.....f ʒss.
 Ext. condurango flf ʒss.
 Elixir gentian f ʒvj. M.

Sig.—One half of a fluid ounce in two ounces of water, one-half hour before meals, through a glass tube.

Or,

- Ry. Tinct. nucis vomic.....f ʒiiss
 Essentiæ calisayæ (P. D. & Co.) f ʒij.
 Elixir gentian... f ʒvj. M.

Sig.—One-half of a fluid ounce thrice daily, one-half hour before meals.

When there are evidences of *anemia with the gastric hypochylia*, the following acts satisfactorily:

- Ry. Quininæ sulphatis gr. xviiij
 Strychnin sulphatis.....gr. ʒ.
 Ferri sulphatis.....gr. xij.
 Acid arseniosigr. ʒ. M.

Sig.—Fiant pil. No. xij. One pill three times daily (must be prepared fresh and not coated).

Boas uses the following powder for *anorexia*:

- Ry. Ext. strychn.....gr. ʒ.
 Bismuth carbongr. viij.
 M. f. pulv. Dent. tal. dos. xx.

Sig.—One powder three times daily.

Menche has warmly recommended resorcin sublimate, and it undeniably *improves the appetite in cases of incipient gastric and intestinal fermentation*. It has also a slight sedative action. The following is Menche's formula:

- Ry. Resorcin resublimgr. 30.5.
 Acid mur..... gr. 15.4.

(Or, if it be indicated in place of the HCl, one may order natr. bicarb., 8.0).

Aquæ destil..... f ʒvj.

Syr. simpl..... ʒiij.

M. D. et ad vitr. nigr.

Sig.—Fifteen c.c. (ʒss) every two hours.

The following formulæ are recommended by Ewald for *anorexia with fermentation*:

- Ry. Tinct. nucis vom.....f ʒvj.
 Resorcin resublim.....gr. lxxxj.
 Tinct. amar..... f ʒiij. M.

Take ten to fifteen drops every two hours.

- Ry. Ext. condurango fl.....f ʒivss.
 Resorcin resublim... ʒj. M.

Sig.—Thirty drops four times daily.

TO CUT OR CRUSH IN STONE OF THE URINARY BLADDER?*

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The question whether to cut or crush in cases of stone in the urinary bladder is no new one, as lithotomy and lithotripsy have both been practiced for over a thousand years. The opinion of the profession as to the relative value of the two methods has varied, first one and then the other gaining ascendancy.

In the first century Celsus wrote a clear description of lithotomy, and the operation was frequently performed. In the tenth century Albucasis described an instrument which could be passed along the urethra, "seize the stone, crush it, if soft, and remove it." In the seventeenth century Beaulieu, a Franciscan monk, performed several thousand perineal lithotomies, and is reported to have operated

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on thirty-eight consecutive cases in Versailles without a death.

In 1818, Civiale invented his litholabe, and some years afterwards reported seventy eight cases in which he had crushed and removed stones, with five deaths. In 1873, Gross advocated the cutting operation and reported 165 lithotomies, with fourteen deaths. In the same year, Bigelow invented his evacuator, and the possibility of doing lithotripsy at one sitting (or litholapaxy, as it was then called) created great enthusiasm. In 1884, Henry Thompson reported 116 cases of lithotripsy, with six deaths. In 1896, Hunter McGuire reported twenty-six cases of supra-pubic cystotomy for stone, with one death. In 1893, Chismore reported fifty-four cases of lithotripsy, done by a series of short sittings under cocaine, with no deaths.

Having attempted to show the curious vacillation of surgical opinion as to the relative merits of the two operations in the past, I will now try to find expression for the accepted views of the present. I believe it can be most fairly done by quoting from new and standard text books which treat the subject.

White and Martin.—"The two received methods of treatment are litholapaxy and cystotomy. Litholapaxy is in both adults and children the method of choice."

Lydston.—"The supra-pubic operation is so easy in favorable cases that it is preferable to litholapaxy, unless the surgeon is expert in its performance."

An American Text Book of Surgery.—"The possible methods of removing a given stone from the male bladder are perineal lithotomy, supra-pubic lithotomy and litholapaxy. The remarkable changes brought about by the introduction of the last named method has greatly reduced the field of the first two."

Wyeth.—"The conditions in which lithotripsy is to be preferred to lithotomy are rare."

Treves.—"Litholapaxy is now the recognized operation for all cases of vesicle calculus in males."

Moullin.—"Calculi must be removed from the bladder by crushing or cutting. The former is more common, and has, to a great extent, superseded the latter."

Wharton and Curtis.—"Lithotomy is indicated in cases not suited for crushing, although the recent improvements in supra-pubic cystotomy bid fair to make it the rival of the method by crushing in all cases."

From the extracts given it will be seen that both methods are advised, but the surgeon is taught by the majority of the authorities to perform lithotripsy as the operation of election,

and lithotomy as the operation of compulsion. In other words, that the cutting operation should only be done when the crushing operation is impossible. I believe this teaching is a survival of the pre-antiseptic era and does not accord with the practice of the modern surgeon. Twenty years ago, when the use of the knife was attended by danger to life from septicemia, or slow and complicated convalescence from suppuration, it was undoubtedly sound; but to-day, with the aseptic and antiseptic technique, and the perfection of the supra-pubic operation, it is false and misleading. From a limited personal experience with both operation, and a careful study of the literature of the subject, I believe lithotomy should be the operation most frequently performed, and lithotripsy reserved for a few carefully selected cases. The demonstration of the truth of this statement can best be made by a comparison of the advantages and disadvantages of the two operations under separate headings.

Mortality.—Figures seem to show that lithotripsy is safer than lithotomy, but in making a deduction from statistics it must be remembered that they are based largely upon work done before the introduction of antiseptics; that simple and easy cases were crushed, and difficult and complicated cases cut; and, finally, that the results of a few expert lithotritists are compared with those secured by a number of average lithotomists.

Requisite Skill and Experience.—Lithotripsy is undoubtedly a more delicate and difficult operation than lithotomy. It is blind surgery, liable to be attended by annoying complications or dangerous accidents, and should not be undertaken by one not thoroughly familiar with the manipulation of instruments in the urethra and bladder. Lithotomy, especially if done by the supra-pubic route, is one of the simplest operations in surgery, and may safely be attempted by any one of fair experience in general operative work.

Injury to the Soft Parts and Septic Sequences.—It is claimed that lithotripsy creates no breach of continuity of tissue, while lithotomy leaves a wound of considerable gravity, and therefore the former operation is followed by more rapid recovery. This is true in selected cases in the hands of expert operators, but in many instances where the stone is large and hard, and the surgeon less experienced, manipulations are prolonged and rough and there is considerable bruising and laceration of the mucous lining of the urethra and bladder. Copious hemorrhage is not uncommon, and the bleeding points are inaccessible to direct hemostasis.

There is practically no drainage, and septic sequences sometimes follow, manifested by urethral fever, urethritis, cystitis, prostatitis, epididymitis or plebitis.

In lithotomy, especially if done by the suprapubic method, there is no contusion of the mucosa of the urinary tract, but simply a clean cut incision through unimportant structures. There is practically no bleeding, and if it does occur from complications, it can be controlled by the ligation of vessels or direct tamponade of the bladder. If sepsis follows, which is unlikely, owing to the free drainage afforded, it can be combated by irrigation of the wound, bladder and urethra with antiseptic solutions. The duration of convalescence after lithotomy is uncertain. It may be shorter than lithotomy—it may be longer.

Ability to Diagnose and Treat Other Pathologic Conditions.—Stone in the bladder is usually found at the two extremes of life. In the young, it is usually uncomplicated; in the old, it is often associated with enlargement of the prostate, severe cystitis, or vesicle tumors. Lithotomy has the advantage in both instances, as it avoids the dilatation of the undeveloped penis and small urethra of the one, with the danger of incontinence and impotency; and affords direct examination of the interior of the bladder in the other, making accessible to surgical correction any co existing disease present, and affording subsequently the necessary drainage of the cavity of the viscus.

Permanency of Results.—There is certainly more liability to the recurrence of stone after lithotomy than after lithotomy. In old men with enlarged prostates it is impossible to be sure of removing all fragments after crushing, and it is also possible to overlook a small stone in cases of multiple calculi. If a single particle is retained in the bladder it will act as an exciting cause to the predisposing diathesis and result in the production of a new stone. I recall the case of an old man with a sacculated bladder who was twice crushed for stone. On his third return to the hospital I did a supra pubic lithotomy and removed five small calculi. Since then he has remained well.

Simplicity and Freedom from Mechanical Complications.—While questions of economy have no place in surgery, and the fact that lithotrites and evacuators are expensive and perishable, is no argument against lithotomy, the simplicity and freedom from dependence on the mechanical action of complicated instruments is a strong point in favor of lithotomy. Many cases are reported where surgeons had clogging, bending or breaking of the blades of

a lithotrite to occur in the bladder, and were forced to resort to the knife to complete the operation. Only recently I found myself in a predicament which would have been ludicrous if it had not been dangerous. I was crushing a soft stone of medium size in the bladder of a boy aged seventeen, who weighed nearly three hundred pounds; the operation of lithotripsy being selected on account of the patient's obesity. The stone was readily seized and crumbled at the first turn of the screw. The instrument was opened and several of the fragments caught and broken. It was then observed that the blades would not close. Every known expedient was tried to free the impaction but failed. A suprapubic cystotomy was finally done, a sticky, gummy mass cleared from the jaws of the lithotrite and the instrument closed and withdrawn. A subsequent interrogation of the boy secured the confession that sometime before his admission to the hospital he had introduced a bolus of chewing-gum into his urethra, which had slipped from his grasp and passed into the bladder, doubtless forming the nucleus of the stone.

Range of Application.—Lithotomy may be done in any case, and has no limitations other than those of general surgery. Lithotripsy is admitted by its advocates to be contra indicated in the following conditions:

1st. When the stone is hard and cannot be crushed by instruments capable of being used through the urethra.

2nd. When the stone is large and cannot be grasped by reasonable separation of the jaws of the lithotrite.

3rd. When the stone is brittle and the resulting fragments sharp and irregular.

4th. When the stone is fixed or encysted.

5th. When the stone has a foreign body as a nucleus, which cannot be crushed and removed.

6th. When the prostate is enlarged, or the bladder contracted, making it difficult to seize the stone.

7th. When there is a tight or impassable urethral stricture requiring a long operation to relieve.

8th. When there is ankylosis of the hip joint in a position embarrassing the movements of the lithotrite.

9th. When the general condition of the patient is such as to make shock dangerous and rapid work necessary.

In corroboration of the above I wish to exhibit some specimens of stone with foreign bodies as nuclei removed by my father, Dr. Hunter McGuire, by lithotomy. It is obvious



that an effort to operate by lithotripsy would have resulted in failure.

In the history of the cases on which he operated for vesicle calculi there are nine instances of stone with foreign bodies as nuclei, as follows: Four hairpins, two bullets, one piece of bone, one piece of gum catheter, and one section of a silver catheter. One of these specimens has been lost, one was destroyed by the patient, three are now in the Army and Navy Medical Museum, and the other four are herewith presented.

I also wish to report a case in which I acted as his assistant. As soon as the stone was caught in the blades of the lithotrite and subjected to pressure it flew to pieces as if it were glass. The operation of lithotripsy was at once abandoned and the bladder opened above the pubes. The fragments of the stone were gently removed with the finger and were found to have razor like edges, which would undoubtedly have seriously injured the walls of the viscus had the first operation been continued.

Conclusion.—For fear of being misunderstood permit me to repeat the views I maintain in regard to the two operations. I do not condemn the crushing operation, for I believe it is the best method to employ in certain cases. What I do condemn is the abuse of the operation by the efforts of its advocates to substitute it for the cutting operation in cases for

which it is not suited. As previously stated I believe that *lithotomy should be the operation most frequently employed, and lithotripsy reserved for a few carefully selected cases.*

HAVE WE A NEW TREATMENT FOR GENERAL SEPTIC INFECTIONS?*

By VAN TELBURG-HOFMAN, M. D., Sumpter, S. C.,

District Examiner Atlantic Coast Line; Surgeon Southern Railway; Surgeon North-Western R. R. Co., S. C.

The treatment of general septic infection, under which general head I include toxæmia (sapremia), septicæmia, and pyæmia, as laid down in the text books on surgery, gives the unfortunate physician, who has to combat this serious malady, but very little information.

Beyond prophylaxis, the thorough opening of the local source of infection, and the antiseptic management of same, bold stimulation, vigorous support of the patient, draining the pelvis of the products of infection by free catharsis, to which in the last years the administration of antistreptococcal serum, the use of nuclein and other means to promote leucocytosis and thus to fortify the patient's resistance against invading poisons has been added, there is little to be found.

* Read before the meeting of the Tri-State Medical Association, at Richmond, Va., February 26th, 1901.

When the infection has so far advanced that pyogenic organisms have entered the circulation, that metastatic abscesses are forming in different parts of the body, and frequent chills and an intermittent fever indicate pyæmia, then we are almost helpless and the prognosis cannot be but an unfavorable one.

I said "unfavorable," but the method of treatment, which I am about to propose and describe has shown and convinced me through results in more than one instance that there may be a prophylaxis for the existing disease, beside the prophylaxis and method cited above.

I will first give a brief history of the cases in which the treatment was used by me:

CASE I.—Ditney T., colored, married, forty years old, was sent to the private hospital of Dr. S. C. Baker, at Sumter, S. C., on July 5th, 1900, with a history of uterine trouble and an offensive leucorrhœa.

Her temperature at noon was 102.4°, pulse 104. An examination was made which resulted in the diagnosis of intra uterine fibroid polypi, which were sloughing. At midnight the temperature was 105°, pulse 132, and after giving the patient a green soap douche, followed by a douche of bichloride 1-2000, the uterus was curetted. Next morning the temperature was 98.6°, at noon, 103; there was abundant, very offensive discharge from the vagina. Douches of bichloride, creoline, and permanganate of potassium were continued, stimulating treatment, whiskey, strychnine, quinine, beef juice, panopepton, etc., were kept up for several days, without, however, improving her condition in the slightest.

On the ninth of July she had two distinct chills, the fever going up to 104.2°, and down to 98°. The pulse was hardly perceptible, she vomited, there was marked tympanitis, great suffering, restlessness and free perspiration. This condition, indicating septicæmia, with distinct chills twice a day, pyæmia continued till July 12th, on which day I requested Dr. Baker to allow me to try a treatment, which Dr. Fochier, of Lyons, calls "the production of an artificial suppuration," and which is produced by the hypodermic injection of oleum terebinthinæ.

A hypodermic injection of fifteen minims of the spirits of turpentine was given in the upper part of the left thigh. The result was remarkable. The temperature from an intermittent one became a steady one, although it remained high for several days. Vomiting discontinued, tympanitis disappeared, delirium gave place to a clear mind, defecations became more natural, all symptoms improved, and two days after the

injection, the patient was hungry and seemed to relish her nourishment. The stimulating treatment, as well as the creoline douches were continued, and the patient's general condition improved till on the 18th of July, when again the temperature fell from 103° to 99°, there was another chill, the fever in the evening registering as high as 103.5°.

Another injection of turpentine, minims 15, was given her. This time the point of injection was chosen in the arm, the upper left arm, and the same results as I have described above followed promptly. For a few days the temperature remained high, but steady, and gradually came down to normal and even sub-normal. The pulse improved in volume and normal frequency, and on July 23rd she went home, although against the advice of her physician.

I have seen her several times since. On August 1st the abscess on the thigh and arm was opened, and a very thick and yellow pus was found—the abscess on the thigh containing as much as two to three ounces. There was no odor to the pus except that it revealed the presence of turpentine. It was thick and creamy, of alkaline reaction. It was laudable pus. After we had removed it, the arm and thigh were bandaged, and three days later the abscess on the thigh had entirely healed, while there was still some discharge from that on the arm. This, however, healed up within one week, not requiring any surgical attention except an aseptic dressing. Our patient is now attending to her daily work, as well and hearty as she ever was in her life.

CASE II.—Mrs. N., white, 22, married. Gave birth to her first child in the early part of September, 1900, and was attended by a South Carolina nanny, with the result that there was infection, puerperal fever, septicæmia. When I saw her about one month after labor the most marked manifestation of the puerperal septicæmia was phlegmasia alba dolens in the left leg. It will take too long to give all other symptoms, and it is sufficient for my purpose to speak of this one alone. The usual treatment, elevation of the affected limb, which was wrapped up in cotton batting and covered with oil muslin, was given, but this local treatment, together with constitutional measures, as indicated in these cases, did not produce any improvement; to the contrary, the other leg, the right one, soon showed swelling, pain on pressure, etc., etc.

I gave her a hypodermic injection of oleum terebinthinæ, minims 20, in the left upper arm, and five days later the temperature was nearly

normal, the right leg was normal, while the swelling in the left had almost disappeared. So marked was the constitutional improvement in this case, that her father took her to his home ten miles in the country, where she could not get any medical attention, and the only medication she took with her was a tonic. She returned to the city in about a fortnight, came to my office, and after a good course of tonic treatment, resumed her daily work at home.

CASE III.—This case was one of phlegmasia alba dolens, following typhoid fever, in the hands of Dr. E. J. Nixon, of Wilmington, N. C., who gave his patient the treatment at my request, and reported the same results as described in Cases I and II.

This treatment, of which I became in possession through my brother, Dr. Francis Hofman, who, as assistant to Professor Troub in the Gynecological and Obstetrical Clinic, in Amsterdam, saw its beneficial effects, was first advocated by Dr. A. Fochier, Professor of Clinical Obstetrics at Lyons, Belgium, and was published by him in an article in the *Lyons Medical*. Fochier says: There are cases of puerperal fever (which disease the author has taken for example), which are rare but are by no means the exception, and in which we see a general infection improve suddenly at the same time that a local suppuration has appeared. These local suppurations are, for instance, a phlegmon of the breast, of the iliac fossa, or the subcutaneous tissue, or a monarthrititis, a slow localized peritonitis, or a salpingo-ovariitis.

Then, again, there are other cases where there are undoubted symptoms of visceral inflammations, and we see these inflammations diminish in severity without there being any improvement in the general condition of the patient. We notice that a diffuse subcutaneous phlegmon has a tendency to become circumscribed and suppurate without ever reaching this result, and often death arrives before suppuration has taken place.

It was in comparing these two types that he concluded to make use of the provocation of artificial abscesses which would be easy to treat as a therapeutic means in puerperal infections.

It would take me too long to give you here a history of the results which Dr. Fochier reports from the use of an acid solution of quinine, a strong solution of nitrate of silver, and how he finally came to the conclusion that oleum terebinthine was the best preparation.

The injection is not a more painful one than an injection of morphine, but the painful signs of inflammation appear very soon, from one to six hours later, and in some cases it may be necessary to administer an anodyne for the pain, which, however, is very little if any when the hypodermic needle is well introduced in a cushion of adipose tissue. Other signs, as redness of the skin, may appear on the third day or later, if the injection is made deeper.

There are two forms of suppurations caused by the injection of the turpentine—namely, the anthrax form, where there is a formation of acne pustules under the epidermis, and here the pus is let out through more than one channel, or there is a phlegmon that has to be opened to give the pus an outlet.

As to the frequency of making the injection one should be guided by the severity of the case. Fochier seldom made more than two injections of from 15–25 minims in one case, while Thierry not only injected every other day but kept the suppuration up by irritation of the wound.

It has been only my intention to give you the results of my *clinical* experience, which, substantiating the reports which I have found from others who have given the treatment a trial, is the cause of this short paper. I do not pretend to explain theoretically the action of this procedure. From the small amount of literature which I have been able to find on the subject, I will cite the following:

Fochier thought that the blood could be purified by the presence of a suppuration and pus-formation, and that where these did not take place the blood would remain loaded with *materia peccans* (morbid matter) which poisoned the tissues and caused death. Accepting this theory, the microbes which caused the condition should necessarily be found in the pus. Investigations by Dieulafoy have shown that such is not the case, that in only very few cases have very small amounts of staphylococci or streptococci been found, and that as a rule the abscesses were sterile. The strong antiseptic action of the turpentine may account for this.

Chantemesse explained the pus formation by a hyperleucocytosis which precedes the formation of the abscess. He says; "To increase the number of leucocytes in the blood is to bring new soldiers on the battlefield to fight the bacteria. The enemy at first victorious is overwhelmed by the phagocytes." However, later it was shown by examinations of the blood that the number of white blood corpuscles had not increased.

Mercardine believes that antitoxines are

formed in the abscesses, and that the action of these antitoxines causes the improvement. It seems to me that this last explanation is a plausible one.

As I said before, this paper has not been written with the intention to explain the treatment. I simply wish to report to you the experience which I personally derived from its use, and as you may be called upon to give your professional advice in cases of puerperal fever, where all efforts to combat the disease have been unsuccessful, and where you are willing to resort to anything that may give you the faintest hope of improvement, I say, do not hesitate to employ the provocation of the artificial abscess, and if you, by the results which are certain to follow, are convinced of the value of the harmless procedure, it may lead you on to secure it a place among the therapy for general septic infections.

UTERINE REFLEXES.*

By J. N. UPSHUR, M. D., Richmond, Va.,
President-elect of the Association, etc.

An organ of such importance as the uterus, must of necessity be endowed with elaborate nervous supply, both general and sympathetic. It is to be expected, therefore, that any condition which disorders or suspends, or exaggerates the performance of its function is liable to give rise to disturbance of the system, manifested by symptoms often obscure, and only in the most incidental way suggesting the focal point from which the diseased condition may arise.

It is a safe rule always carefully to interrogate the uterus, bearing in mind the fact that general disorders, anæmias, general nerve conditions, etc., may give rise to interference with uterine function, when there is absolutely no local derangement, and the local disturbance disappears so soon as the general system is restored to the normal standard. The vomiting of pregnancy is a common illustration of the reflex sympathy of the stomach, and I have seen forcible stretching of the cervix uteri more than once precipitate a paroxysm of nausea; in one instance it was obstinate and uncontrollable for twenty-seven hours. In a case of puerperal sepsis, in which it was necessary day after day to give the patient treatment to the cavity of the uterus, severe occipital headache was the invariable attendant

until the treatment was ended, and this was the case day after day. Another patient has her period followed by severe occipital headache, coming on with tingling in the ears, pain passing up the spine to the occiput, where it remains agonizing in character for thirty-six hours. This occurred with each period until after a curettagé, when she improved materially and headache was absent for six months. Since then it occurs at irregular intervals, and almost always is due to imprudence in the way of exercise just before or during the period, and when the character of the flow shows endometrial inflammation or excessive congestion. In another patient there was a marked paraplegia, sensation unimpaired, no trouble in moving the limbs when in the recumbent position, but total inability to stand, or co ordinate the muscles of the lower extremities when attempting to assume the erect position. This patient was found to have granular vegetative endometritis, and was entirely restored to health by a free curettagé. In another case the patient complained of confusion of mind, and inability to hold her head steady when unsupported by a pillow, it would fall about from side to side. She was confined to bed for weeks, taking all sorts of nervines and tonics. Curettagé and treatment of the uterine cavity entirely cured her.

I mention these cases as some of the varied clinical expressions which we see radiating from the uterus.

Many years ago the cavity of the non-pregnant uterus was considered forbidden ground, and to invade its domain it was supposed would bring on serious and certain illness. With the advance in gynecology the pendulum swung far in the opposite direction; and now there is nothing more common than the use of many methods for investigating the condition of the uterus, or the application of many remedies, both medicinal and operative for the cure of diseased conditions. It is the theatre upon which is exhibited the prowess of many, who fain would make for themselves reputation as champions in the relief of all the ills to which poor woman is heir, and with ruthless hand and reckless dash they invade this sacred domain; and not uncommonly have as an object lesson to these unskilled methods, the last state of that woman worse than the first.

I doubt not that this has been the experience of many of you, and it falls to the lot of skillful hands and discriminating heads to undo, if possible, these ills. To sound a note of warning is the chief object of this paper.

Some years ago in examining a patient the

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first time, I passed a probe into the cavity of the uterus to measure its depth, promptly the patient passed into a state of alarming collapse, and it was two hours before the most active treatment brought about reaction. Yet this patient was subsequently treated and cured without the occurrence of any untoward accident.

To divulge the cervix, curette the cavity of the uterus, and pack it, is considered a procedure of little moment and almost devoid of danger—so much so that even the unskilled and inexperienced attempt, and often accomplish it without any result which tends to make them cautious. The following case is a commentary in itself.

Mrs. R. L. S., æt. 36 years, fine physique, two children born prematurely, one of them being carried to the eighth month, consulted me about a uterine trouble of long standing. I found the uterus spongy, and bleeding on the slightest touch. After preparatory treatment, she was taken to the hospital, and a curettage done, a great many vegetations being scraped away. She made a prompt recovery. The uterus reduced in size, and her menses, which had been excessive, became rather scanty than otherwise, and sometimes absent. After some months there was slight return of trouble, with great sensitiveness in the posterior and lateral portion of the cervix. The curettage was repeated, being done at home. The cervix had been dilated and the curette was being applied, when suddenly, without warning, she became very palid and ceased to breathe; eyes partially open, and pupils dilated widely. She had taken less than an ounce of chloroform, and there was no symptom of narcosis. Her arms were promptly raised and artificial respiration attempted, but this method failed. Ear applied to the chest failed to elicit any respiratory or cardiac sound, and no pulsation of the heart could be felt by the hand. I applied one hand on either side about the line of the diaphragm and made an active pumping motion. My assistant, Dr. Frank Upshur, promptly administered a hypodermic of strychnin and nitro glycerin, and in a short time repeated it. She had had a hypodermic of strychnin $\frac{1}{16}$ th grain before taking the anæsthetic. My assistant said that the pulsation in the facial artery was never lost. After persistent effort for some minutes she began to breathe again, and the operation was completed. She had some temperature for a few days, and subsequently made an uneventful recovery.

Remarks.—I know that this will be considered a case of chloroform narcosis, but every

symptom of it was absent, and in the light of a similar condition having occurred in a case in which no anæsthetic was given, I think I am justified in attributing the condition, so grave and alarming, to reflex shock. The fact that such an accident may occur, and when least expected, should impress on us the truth that what may seem the simplest operative procedure on the uterine cavity may unexpectedly have a fatal result, and admonish us to exercise in all cases the greatest care and skill to avert, if possible, such a calamity.

MOOT QUESTIONS IN ABDOMINAL SURGERY.

By H. A. ROYSTER, A. B., M. D., Raleigh, N. C.

No matter how rapid the progress of surgery or how brilliant its achievements, there will always remain problems to be solved. So many uncertain agencies are involved in the surgical art that its results can never be foretold with exactness or estimated with accuracy. The local and general resisting power of the patient, the skill of the surgeon and the technique of the operation are the circumstances chiefly concerned. In former times operative technique had to do rather with the manual dexterity of the surgeon himself. Now it may be defined as the sum of events connected with the attempt to secure and to preserve perfect asepsis, beginning with the preparation of the patient a few days before the operation and ending with the closure of the wound or the final dressing. It includes the sterilization of all instruments, dressings, skin and hands previous to the operation, and constant watchfulness to keep them sterile during its progress. Personal dexterity counts for less than it did in times gone by. As the technique is, so are the results; and a surgeon of even moderate ability may succeed eminently, if only his technique is careful. How much greater the success if to this is added a resourceful skill, the gift of a surgeon born and not made! Yet if he should neglect a well-defined and well-executed technique, founded on his own experience and that of others, the modern surgeon, however great his ability, would fail to obtain the results that should be his.

The personal equation shows itself in this day in the choice of technique as it did formerly in operative skill. No two operators use precisely the same methods. There are, for illustration, as many different plans for disinfecting the hands of the surgeon as there are

surgeons, and the various uses to which the several suture materials are put testify that there are "many men of many minds" in the surgical world. And, yet, these men are working to the same end, trying to solve the same problems, endeavoring to remove the uncertainties and to perfect the possibilities of operative technique.

If these assertions are true of surgery in general, so much more do they apply to the special region of the abdomen. Abdominal surgery possesses all the uncertain features connected with surgery elsewhere, and others which are due to peculiarities of location and structure. It involves the opening of the largest serous cavity in the body and continued manipulations within its walls. Several important considerations present themselves. There is need of over careful (1) *asepsis*, for a slight slip may mean disastrous consequences, not merely delayed convalescence, but loss of life. A proper (2) *toilet of the peritoneal sac* is an essential requirement. The (3) *wound is to be closed* in a way which will afford a strong support and protection to the contents of the abdomen and be of the least subsequent annoyance to the patient. The (4) *after treatment* must be directed toward-guarding against any possible error in technique, granting the patient a comfortable convalescence and prompt restoration to health.

The object of this paper is to consider in detail the four requirements outlined above. They represent, it is thought, the leading problems in which abdominal surgeons are interested and about which there are the greatest differences of opinion. The writer hopes to introduce the subject in such a manner as to invite discussion at the hands of those who are concerned with the development of abdominal surgery. The views and practices of others working in the same field must always be of value to those who are seeking to learn the best methods. For the purpose of obtaining an approximate consensus of opinion, the following questions were asked of five prominent operators in each of our three largest cities—New York, Chicago and Philadelphia: 1. Do you employ rubber gloves in operating and would you recommend their routine use? 2. Do you irrigate the peritoneal cavity in every case of abdominal section? 3. What is your method of closing the abdominal incision? 4. Give outline of your after-treatment following celiotomy, especially with reference to securing movement of the bowels. The personal replies to these questions are

added to some remarks by the writer on each topic.

1. *The Use of Rubber Gloves.*—It is not deemed necessary to go over the numerous methods in vogue for sterilizing the hands. Of several different methods, one is as good as another, providing the surgeon's "aseptic conscience" be ever above reproach. As a matter of fact, too well known to need more than a reference, the hands of the operator and the skin of the patient cannot be rendered sterile by any present plan of disinfection. The staphylococcus epidermidis albus, innocent enough when quiescent, but mischievous if aroused, eludes and resists all measures intended for its destruction. The wearing of gloves, then, is taken as the extreme effort to prevent infection from the hands, inasmuch as the gloves can be perfectly sterilized and thus all danger from that source be removed. Rubber gloves alone are considered here, other materials having been largely discarded. It has been about five or six years since rubber gloves were first employed in clean surgical cases. They were introduced as a solution of the problem of hand disinfection and this is the one need for them in aseptic wounds. Many surgeons found, however, that when gloves were employed their results seemed no better than before, the few infections in large numbers of cases being traceable to other sources than the hands. The question then came, Are gloves necessary to secure the best results? Does the advantage of the ideally sterile hands compensate for the disadvantages—and they are many—of encasing them in rubber material? Let us see what these disadvantages are. It is obvious that the wearing of gloves dulls the sense of touch. In the case of very thin ones, usually worn by operators who employ gloves, this is less and less marked the more they are worn; and by constant use the fingers may become sensitive to outside impressions, but never with the delicacy of the bare skin. The gloves worn by assistants are frequently thick and heavy. Even when gloves are used it is necessary to have the hands aseptic, for it may happen that the gloves are punctured with a needle or torn while in the act of tying a ligature and it is so often that the gloves must be removed in order to bring the tactile sense more acutely to bear. An eminent gynecologist wears gloves during a celiotomy and then takes them off before closing the wound for the purpose of examining the whole contents of the abdominal cavity in a satisfactory manner. It would seem that he defeats his own

object and puts at naught the supposed value of his hand covering.

The thought must suggest itself further that ideal technique cannot be attained by the exclusion of danger from the hands, when it is remembered that the patient's skin, from which arise far more infections than from the hands of the surgeon, constantly presents the same condition of affairs. But while there are objections to the use of gloves, it is recognized that there exist indications for them under certain circumstances. They may be employed in operating on pus cases and infected wounds, or in making examinations of the rectum or vagina, as a protection to the surgeon himself and to subsequent patients. In the presence of positive danger of transmitting infection, the advantages outweigh the disadvantages. It can be safely asserted that the majority of American surgeons do not employ gloves at all. Some use them under the conditions just named; while only a few wear them as a routine. From thirteen replies received, only three of those addressed are found to use gloves habitually. J. B. Deaver unqualifiedly answers in the affirmative; Clark, of Philadelphia, withdraws them when breaking up adhesions deep down in the pelvis, and then again puts them on; McBurney says: "I should be as likely not to sterilize my instruments as to omit the protection for the patient against sepsis which the use of these gloves insures." Most of the others wear them in foul cases and usually require their assistants to do so in all operations: Boldt, Byford, E. C. Dudley, Keen, F. H. Martin, E. E. Montgomery, and Senn. Three operators do not wear gloves, or advise their routine use. Robt. T. Morris: "I cannot imagine a young operator becoming very expert if he uses gloves. I believe that more bacteria drop into the long exposed wound of the glove operator than are carried in by well-prepared bare hands." John B. Murphy: "I believe that if a man cannot keep his hands clean, he cannot keep gloves clean." Joseph Price: "I have never had a pair on. I do not recommend them." In Europe, where experiments were first made with different materials for covering the hands in operating, gloves are employed less than formerly. The Berlin surgeons rarely use them, and Tuffier is said to be the only glove operator in Paris.

2. *Irrigation of the Peritoneal Cavity.*—To irrigate or not to irrigate has almost superseded the question of drainage as a subject of discussion and doubt. The extremes of opinion are represented by a nearly equal division of operators—those who irrigate the peritoneal cavity

in every case of abdominal section and those who do not irrigate at all. Between these there is perhaps a larger number who employ irrigation only to wash out foreign material from the abdomen. What would be an indication for irrigation to one surgeon is not considered so by another. In general, we may say that the most imperative need for it is to cleanse the cavity of pus, blood, or tissue debris. This would seem to be a rational proceeding, getting rid of offending substances which are either infectious or likely to be; yet there are many surgeons who take an opposite view. They believe that the irrigating fluid distributes the infecting material over the whole peritoneal surface, thereby causing more danger than if it were localized, and, in the case of pus, drained out, or, in that of other foreign substances, wiped away by dry sponging. There is reason on the side of both methods. Were it possible to remove every particle of foreign matter from a certain area by means of dry gauze, this would surely be the plan to be followed in every instance. On the other hand, irrigation may serve a more useful purpose by displacing the greater part of the debris and diluting the remainder to such an extent that its virulence is distinctly lessened, and, possibly, entirely overcome. The truth is, there is no means of judging correctly the merits of these opposed methods. Results cannot decide the question, for operators habitually using one or the other of the plans are able to exhibit a long series of equally gratifying successes with excellent arguments for the faith that is in them. Irrigation has in its favor that it may bring about further desirable effects besides cleaning the peritoneal cavity. The fluid used is generally the normal salt solution, and, if a portion of this is left in the abdomen, as is frequently done, it may be relied upon to lessen thirst after the operation, cause increased action of the kidneys, combat shock, and prevent post-operative adhesions. These conditions alone might furnish sufficient grounds for irrigating in every case. However, the fancy of the operator holds mighty sway here, as it does in other branches of surgical technique.

In answer to the question, Do you irrigate the peritoneal cavity in every case of abdominal section? the following replies are noted: Clark irrigates in every case, and leaves one-half to one liter of salt solution in at least 90 per cent. of abdominal sections. Keen does so, "not in every case, but in the majority." McBurney, Price, Morris, Senn, Dudley, and Montgomery, generally prefer a dry technique, irrigating only when special indications exist.

Martin and Boldt seldom irrigate; Byford hardly ever, and Deaver answers the question in the negative. Murphy says: "I never irrigate the peritoneal cavity. By that I mean I have not used water in the peritoneal cavity for any purpose whatever except eight times since 1889. These were cases of peritoneal infection from rupture of the stomach or bowel, and the water was used for washing out the bowel- or stomach-contents that had escaped into the peritoneal cavity. In place of irrigation, I cleanse the peritoneal cavity with dry sponges, and then use numerous strands of iodoform gauze drainage, and also use glass tube drainage. No matter how much pus there is present, it is sponged out with dry sponges."

3. *The Closure of the Abdominal Wound.* Accurate apposition of the cut edges of the abdominal incision is essential to the proper healing of the wound. Since the abdominal wall is composed of several layers differing in structure, it is desirable that these be perfectly coated, that the tissues may be left as nearly as possible in their normal relations. The prevention of hernia is seen to depend much more upon primary union of these layers than upon the length of time in which the patient is confined to bed or upon any subsequent means of support. To secure this perfect union various methods have been devised by modern surgeons, some simple, others elaborate, according to theories held or results obtained. It is agreed by all that the most important factor in the prevention of hernia is the sheath of the recti muscles. Firm union of this structure will compensate for other weak points in the abdominal wall. Separate suture of the peritoneum, which is practiced by many, may be requisite for shutting off infection from the skin; but it is not instrumental in preventing hernia, for every protrusion of the intestine is covered by the peritoneum as its sac. Separate suture of the muscles seems useless. They do not appear to unite more solidly by this method than when their fascial protection is closed. The skin, of course, must be carefully apposed, in order to seal the wound and secure union by first intention. A number of operators still adhere to the en masse suture, passing through all the structures, as used by primitive abdominal surgeons, and claim satisfactory results. Probably a greater number supplement these sutures with catgut on the fascia, while others unite each layer separately—peritoneum, fascia, fat and skin. Doubtless there are very few who use exactly the same method; and, yet, each believes his own plan

is soundest in theory and most successful in practice. It may be interesting to note some of the replies to the personal communications. Price uses the "through-and-through suture, silkworm gut, long straight needle." Martin, generally, and Keen, occasionally, close the incision with through-and-through silkworm gut sutures, but sometimes employ catgut in layers. The remainder of the list employ some method of tier suture, each one with different modifications. Clark and Byford use buried silkworm gut on the aponeurosis; Murphy, the figure-of-eight silkworm gut suture, which is allowed to remain from ten to fifteen days.

4. *The After Treatment.*—Although it is true that in the majority of cases the fate of the patient is decided when the abdomen is closed, yet the duty and responsibility of the surgeon do not end after the operation is completed. Indeed, the management of the patient a few days succeeding the operation requires intelligent judgment and discriminating care, for by these convalescence is shortened and even death averted. Many a life has been lost by carelessness or neglect. It behooves the surgeon, therefore, to give a watchful eye to the after-treatment, seeking to improve and perfect his methods in this regard as he does in respect to the operative technique. That surgeon is most successful here who uses his knowledge of general medicine to the best advantage. The late Professor Ashhurst well expressed the idea when he said: "The importance, and even necessity, of a thorough knowledge of practical anatomy can, indeed, be scarcely overrated; yet it is more essential for the surgeon to be well versed in pathology and therapeutics (or, in other words, to be an accomplished physician), than it is for him to know the attachments of every muscle in the body, or all the possible variations of arterial distribution." It must not be forgotten, however, that experience teaches the abdominal surgeon many things which the medical practitioner never learns, so that the after-treatment of a celiotomy should be looked at through the eyes of the physician, but from a surgeon's point of view. Above all, the tendency to do too much is to be controlled.

The methods followed become largely matters of routine and need not be varied except to meet unusual conditions. Without reciting any particular plans in detail, mention will be made of a few features that are still open to question. Absolute quiet and rest, the withholding of everything from the stomach for twenty-four hours, liquid diet for five days—these seem to commend themselves to most

operators. By some the administration of hot water is begun immediately after the operation. The kind of liquid diet allowed the patient is a matter of some importance. Many surgeons will persist in giving sweet milk as the first food after an abdominal operation, and in claiming that it is the most digestible of all aliments, in spite of the fact that it disagrees with nine out of every ten patients. The very necessity of having to continually dilute it with lime water or prepare it in other ways is proof that its digestion is usually difficult and uncertain. In these cases milk decomposes in the bowels, causing gas and producing constipation. Strictly speaking, it cannot be regarded as a liquid food. More rational would it seem to employ, for the first day or two at least, concentrated liquid nourishment in the forms which leave little or no residue and which are digested wholly or in part by the stomach juices—such articles as beef extracts, animal broths, and albumenized drinks.

There is much dispute over the use of morphine after abdominal operations. The older operators invariably administered opiates, believing it best to relieve the pain at all hazards, and the general surgeon, more than the gynecologist at the present day, is prone to give them. Histories of the cases in which morphine had been given by former surgeons showed plainly its bad effects, and there was a time when it was practically not given at all. It is now administered by some operators in almost every case; others give it occasionally in one-sixth, one-eighth, or one-tenth grain doses; many yet do not find use for it. The records will undoubtedly prove that, all other things being equal, those cases in which it is not used get along better. The administration of small doses would appear worse than useless, for they only tease and do not relieve the suffering; while, in quantity sufficient to quiet the pain, morphine does harm, chiefly by constipating the bowels and favoring the occurrence of tympanites.

This subject of bowel movements after celiotomy deserves and has lately received special attention. In normal cases, unless direct indications should arise, the practice has been conservative. But recent writers, particularly Byford, of Chicago, and Ramsay, of Baltimore, have urged the expediency of securing evacuation of the intestines at the earliest possible moment after the operation. There are evident reasons for this activity. In a word, it succeeds in heading off the complications so apt to occur, and there are presumably no argu-

ments against it. Whether the bowels are moved early or late, it is well to have a definite plan with regard to inducing their action. The agents to be relied on are calomel, the salines, and some form of enema. These can be employed in the doses, at the times and under the conditions suitable for each case. The replies to inquiries on this question reveal some difference of opinion. Byford pays "less attention to bowel movements than to the voluntary expulsion of gas," and gives his method as follows: "1. High glycerin enema before patient is removed from table. 2. One drachm of magnesium sulphate every hour until flatus is expelled freely per rectum. 3. If flatus is not passed twelve hours after operation I give a glycerin enema every two hours (preferably high) until the flatus passes freely per rectum between enemas." Clark adheres to the principle of this method, but gives calomel in divided doses on the night of the operation, "followed the next morning by a simple soap-suds enema." Martin apparently believes in the same theory, using calomel and salines alternately and "glycerin enemas every twelve hours to keep the flatus going." Murphy covers the same ground, combining the methods of the last two with modifications. Senn moves the "bowels at the end of twenty-four hours." Robert T. Morris: "Bowel movement obtained on second day by high rectal injection of hygroscopics for osmotic effect." Boldt and McBurney have the bowels moved on the second or third day, the latter usually avoiding calomel, believing that this "generally causes at least a few hours of discomfort when given soon after operation." Joseph Price: "No hurry about moving the bowels, if the patient has been well purged and prepared. If gas is annoying, soapy water or turpentine enema rarely required." The remaining answers do not indicate any departure from common methods.

Tucker Building.

New Orleans Polyclinic.

Physicians will find the Polyclinic an excellent means for posting themselves upon modern progress in all branches of medicine and surgery. The specialties are fully taught, particularly laboratory work. Fourteenth annual session opens November 12, 1900. For further information, address Dr. Isadore Dyer, Secretary New Orleans Polyclinic, New Orleans, La.

GONORRHOEA AND CHANCRROID—THEIR MODERN TREATMENT.

By M. A. AUERBACH, M. D., New York, N. Y.

There are three separate diseases which are properly described as venereal, and which until a comparatively recent period were confused together, and the distinction between two of them is even at the present time not recognized by a large number of physicians. These diseases are gonorrhœa, chancroid, and syphilis. The first two are strictly local, while the latter is a constitutional affection. The non identity of gonorrhœa with other venereal diseases was not established until Ricord wrote his treatise on it in 1838, while the difference between chancroid and syphilis was not known, or at least not clearly shown, until 1852.

Gonorrhœa, or as it is vulgarly called "clap," is a virulent, contagious, muco-purulent inflammation, caused by a specific germ, the gonococcus, affecting the mucous membranes. It is chiefly seen in the generative organs, being usually met with in the male urethra and the vulvo vaginal canal, the lining membrane of the prepuce; the uterus and the female urethra being less often involved. It also occurs in the conjunctiva, and, although I have as yet seen no such case, it is said to have been observed in the rectum, nose, mouth, and umbilicus.

The most frequent cause of gonorrhœa is unquestionably direct infection with the gonococcus by coming in contact with the mucopus derived from a person affected with the disease. A muco-purulent discharge of gonorrhœal character, though not containing gonococci, however, may arise from contact with the vaginal secretions in cases of leucorrhœa, with the irritating menstrual fluid, or even possibly from intercourse between two healthy persons if the coitus be too violent, prolonged, or attended with unusual excitement. I have myself seen and treated such cases of this kind.

Gonorrhœa of the female generative organs is usually limited to the vulvo vaginal canal, though the urethra is occasionally affected, as are likewise the lining membranes of the uterus and the Fallopian tubes. The ovaries may be secondarily inflamed—furnishing a pathological analogy to the swelled testicles of the male—or peritonitis may ensue from the escape of gonorrhœal discharges into the peritoneal cavity. The diagnosis from leucorrhœa has been made easy by our modern advances made in microscopy and bacteriology.

The chancroid, or simple venereal ulcer (often called soft or non infecting chancre) is a strictly, as heretofore said, local infection, resulting from contact with the secretion from a similar sore in the same or another person. It is usually acquired in impure coitus, but may be indirectly transmitted by means of towels, etc. No special bacillus has as yet been isolated. Any part of the body may be the seat of chancroid, though the most usual position is, of course, the generative organs—in the male about the preputial fold, corona glandis, frenum, and urinary meatus, and in the female about the nymphæ or os uteri. It was formerly supposed that the cephalic region was insusceptible to this infection, but it is now known that the chancroid can readily be artificially inoculated upon the face.

The chancroid has no period of incubation, the varying intervals between exposure and the appearance of the sore depending upon whether the contagious matter is deposited upon an abraded, a delicate and soft, or a thick and callous surface. When artificially inoculated the first symptoms appear within a few hours, the inoculated point becoming elevated and surrounded with a red areola in the course of the second or third day. The papule thus formed in another day becomes a vesicle and subsequently a pustule, which either bursts, exposing the chancroidal ulcer, or dries into a scab, beneath which the ulceration progresses. If the chancroidal matter be deposited in an abrasion, the ulcerative state may begin at once. The fully formed chancroid is thus usually developed from four to six days after exposure, and appears as a round ulcer, from one thirty-second to a half inch, or even larger, in diameter, and adherent to the adjacent tissues. It has sharp cut edges, but not so well defined as those of the syphilitic sore, at first surrounded with a reddish areola; the surface is covered with an adherent gray slough, and furnishes pus which is auto-inoculable. It is usually multiple, eighty per cent. of affected persons having from two to six sores each. The chancroid may present at its base a slight degree of hardness, which is the result of inflammatory action, but which must not be mistaken for the induration commonly observed in the true chancre, or initial lesion of syphilis. According to several observers, microscopic examination always shows the presence of elastic fibres in chancroids, mingled with pus corpuscles and epithelial cells.

The treatment of gonorrhœa has undergone many changes in the last fifty years; but not until the discovery of its true cause, namely

the gonococcus, has a rational plan of treatment been applied. Being a strictly local trouble, a strictly local acting remedy is the only one from which a cure is to be expected. A host of preparations have been introduced for this purpose, some in the form of an injection, and others for direct application to the urethra (crayons) and vulvo-vaginal tract (pessaries). The majority of these preparations have proven to be worse than failure. The treatment which has proven most satisfactory in my hands has been a solution of protargol, a combination of silver with albumin. This substance I find the most penetrating of all the silver compounds, and another feature is its non-coagulability when in contact with the muco-pus of gonorrhœal and chancroid discharges. In the treatment of gonorrhœa I have found it of great benefit to administer a mixture of potassium carbonate, 2 drachms, tinct. hyoscyamus, 2 drachms, and water 1½ ounces, in teaspoonful doses, three times daily, to render the urine alkaline. I forbid all articles of drink containing alcohol, and all articles of food which are hard to digest. I see to my patient's bowels, and insist upon a good evacuation daily. The so much spoken of Valentine irrigation method I find useful only as a means of cleansing the urethra, and therefore use it before making the injections of protargol solution, which I prefer to perform myself. I begin with one-half per cent. solution, allowing this to remain in the urethra for five minutes. As my patient becomes more accustomed to the treatment I gradually increase the strength of the injection until I reach two per cent. In cases in which the patient is unable to present himself daily, he is allowed to make the injections himself at home, while the irrigations are given at my office every other day.

In the treatment of chancroid I find that the old method of burning very often causes a very ugly slough, whilst excision is strongly objected to by most patients. I treat the ulcer antiseptically, and dust with protargol powder, using a dry gauze dressing, repeating the application with a renewal of the dressing daily, if possible.

I have supplemented my remarks with the histories of some of the cases which I have treated. I will leave the results to speak for themselves:

CASE I.—Mr. F. F., came to my office on January 5th, 1900, suffering from a very mild attack of anterior urethritis (gonorrhœal) I at once put the patient on my *mistura alkalina*, and began injections of a solution of pro-

targol one-half per cent., with the anterior irrigations. This patient made thirteen subsequent visits, after which all symptoms disappeared and I discharged him as cured. I have since met him, and he informed me that he has had no further trouble.

CASE II.—M. K., sent to me on January 24th, suffering from an attack of acute gonorrhœal urethritis. He contemplated marriage in less than three weeks, and wanted to be cured in less than that time. He was willing to come to my office every day for treatment, so I took the case; however, not promising him a cure by that time. He made in all eighteen visits, during which the usual treatment with protargol solution and daily irrigation of permanganate solution $\frac{7}{1000}$ was carried out. At the end of this time (18 days) all symptoms ceased, and on examination of his urine I found it perfectly clear, and hence discharged him cured.

CASE III.—Mrs. M. F., called upon me at my office on January 10th, suffering from gonorrhœa of the vagina and vulvo vaginal glands. I advised rest in bed until the acute state had subsided, together with hot bichloride douches $\frac{5}{1000}$, and local application of a solution of protargol two per cent. I likewise injected some of the solution of protargol into the openings of the vulvo-vaginal glands by means of a blunt hypodermic needle. I kept up this treatment at my patient's home for the first two weeks, after which time I had her call at my office three times weekly. On March 30th, 1900, I discharged her cured of her gonorrhœa.

CASE IV.—Albert E. on February 3d, 1900, came to my office to be treated. On examination, I found two chancroids upon the anterolateral surface of the penis. Both together measured about half an inch in diameter. The patient was a sailor and readily submitted to excision. I injected subcutaneously a two per cent. solution of eucaïne, which anesthetized the surrounding tissues, thus causing an absolutely painless operation. I then dusted the cut surfaces with protargol, and dressed as any other wound. I changed the dressing and made applications of protargol every other day, and to my great satisfaction, the penis was perfectly healed at the end of two and one-half weeks.

CASE V.—Edward B., began treatment for posterior urethritis (gonorrhœal) on October 21st, 1900. I put the patient on *mistura alkalina*, one drachm, t. i. d., with daily injections of protargol, beginning with a one-half per cent. solution, increased gradually to two per cent. These injections were made through a

soft catheter attached to the syringe, being preceded by irrigations. He further called at my office for treatment on October 25th, 28th, 31st, November 4th, 11th, 21st, and on November 29th, finding all symptoms gone and perfectly clear urine, I discharged him cured.

CASE VI.—W. N., came to me on October 3rd for the treatment of gonorrhœa. I put him on the usual drugs, and began the one-half per cent. protargol injection. I made injections and irrigations on October 6th, 9th, 12th, 18th, 20th, 26th, 31st, November 3rd, 12th, 23rd, 27th, and on December 4th I discharged him cured.

CASE VII.—J. E. R. Q., came to me for treatment on October 23rd, 1900, suffering with a very mild attack of gonorrhœa. I gave him *mistura alkalina* and injections of protargol, beginning with a one per cent. solution. I irrigated and injected the urethra on October 25th, 29th, 31st, November 5th, 10th, 13, 16th, and on November 20th discharged him perfectly cured.

CASE VIII.—I was called to see patient on October 30th, and found her suffering from two very small chancroids of the left labia majora. I advised thorough antiseptics, and left a prescription for protargol, which was to be dusted over the sore daily. I made subsequent visits on November 19th, 26th, December 17th, and on the 24th found everything nicely healed and discharged the case.

CASE IX.—Grace P., suffering from gonorrhœa of the vagina and vulvo vaginal glands, made her first visit on November 7th, for treatment. I placed the patient in bed, and applied hot bichloride douches twice daily. On the 12th I began local application of protargol solution, two per cent., and continued the same on the 13th, 16th, 17th, 19th, 20th, 27th, 28th, December 3rd, 10th, 11th, 17th, and on the 26th, there being no further signs of the disease, discharged her cured.

CASE X.—John F., was sent to me by a friend whom I had previously treated for a like complaint, namely, gonorrhœa and chancroids. He made his first visit on November 8th, and upon examination, found six small chancroids surrounding the glans penis and a gonorrhœal urethritis. I prescribed *mistura alkalina*, and injections of a one half per cent. protargol was used as a dusting powder. He came to my office for irrigation, injection, and a renewal of the dressing for the chancroids on the following dates; November 10th, 12th, 14th, 19th, 21st, 24th, 26th, 28th, December 1st, 3rd, 5th, 8th, 10th, 13th, and on the 15th the chan-

croids had all healed. He continued his visits on the 17th, 20th, 23rd, 26th, and 28th, and on the 31st he was discharged cured.

In all the above cases the diet was carried out to the letter.

82 Madison Street.

Book Notices.

Treatment of Fractures By W. L. ESTES, A. M., M. D., Director and Physician and Surgeon in Chief St. Luke's Hospital, South Bethlehem, Pa. *With Numerous Original Illustrations.* New York: International Journal of Surgery Co. 1900. Small 8vo. Pp. 220. Cloth, \$2.

Fifteen or more years of experience as a railroad and a mining surgeon which brings him cases of fracture in an unusual number, has suggested to the author a number of original and useful methods of practice. The owner of the book may turn almost to any page and derive therefrom valuable instruction to guide him in his next case. The book is lacking the usual pages given to a table of contents. Such omission is to be regretted, both as affecting the appearance of the book and as disappointing the owner who seeks the order of the chapters. A good Index, however, assists ready references. While the author has liberally consulted the current authorities, he has written the book chiefly for the general practitioner. He has written in a plain, easily intelligible style for the non specialist in surgery and medicine—away, in great part, from the opportunities of consultations, etc. A review of the pages of this work will satisfy any of its great value. It is a book that teaches plain, practical truths in a pleasant way. It is a book for the practitioner—not as a specialist. The book treats of nearly all the fractures that are apt to occur; and the directions given are valuable as guides as to how to proceed.

Sanity of Mind. *A Study of its Conditions, and of the Means to its Development and Preservation.* By DAVID F. LINCOLN, M. D., author of "School and Industrial Hygiene," etc. G. P. Putnam's Sons. New York and London. 1900. Cloth, 12mo. Pp. 177.

This is a book of popular as well as medical interest. It discusses the nature of mental derangement, in which is controverted the common opinion that intermarriage of near blood relations of sound stock causes insanity in the

children. Degeneracy is next discussed. Education in its bearings, both as preventive and causative of insanity, is a very striking chapter. The chapter on our social and civic duties is one that contains some appalling statistics relating to the increase of insanity. We had hoped to find some discussion of the race question in its relation to the increase of insanity. Before the Confederate War, insanity in the negro race in the Southern States was relatively rare. Now it is rapidly on the increase—out of proportion to the increase of insanity among the whites. From start to finish, this book is full of interest, and well repays for its careful reading and study.

Disinfection and Disinfectants. By H. M. BRACKEN, M. D., Professor of Materia Medica and Therapeutics, University of Minnesota; Secretary and Executive Officer Minnesota State Board of Health. Published by the Trade Periodical Co., Chicago, Ill. 1900. Square 12mo. Pp. 91.

This volume is especially intended as a book of instructions to one who has to do disinfection of houses, etc.; as also to one who is attending a patient with an infectious disease. The chapter concerning infectious diseases is of special interest to physicians and nurses, as well as the patient himself. In short, this book is a "treatise upon the best known disinfectants, their use in destruction of disease germs, with special instructions for their application in the commonly recognized infectious and contagious diseases." Formaldehyde is considered as undoubtedly "the most important disinfectant in use at the present time. The book is a valuable one for the doctor, as well as for embalmers, nurses, and as general information for the laity of the educated class.

Progressive Medicine. *A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences.* Edited by HOBART AMORY HARE, M. D., Professor of Therapeutics and Materia Medica, Jefferson Medical College of Philadelphia, etc. Assisted by H. R. M. LANDIS, M. D., Assistant Physician to the Out-Patient Department of the Jefferson Medical College Hospital. VOLUME IV—December, 1900. Lea Brothers & Co., Philadelphia and New York: 1900. Cloth, 8vo. Pp. 428.

This is an important volume to the practitioner. It is taken up with Diseases of the Digestive Tract and Allied Organs—the Liver, Pancreas and Peritoneum; Genito Urinary Diseases and Syphilis; Fractures, Dislocations, Amputations, Surgery of the Extremities, and Orthopedics; Diseases of the Kidneys; Physi-

ology; Hygiene; Practical Therapeutic Referendum. These quarterly issues of *Progressive Medicine* should be added to every doctor's library of standard text-books. The series was so highly esteemed during the Paris Exposition of 1900 as to be awarded the "Grand Prize."

Editorial.

Tri-State Medical Association of the Carolinas and Virginia.

The Third Annual Session of this body was held in one of the halls of the Jefferson Hotel, February 26 and 27, 1901, and was a marked success in every respect. The President, Dr. Chas. W. Kollock, of Charleston, S. C., presided with a cleverness that forced universal compliment. Dr. J. N. Upshur, Richmond, Secretary, was untiring in his duties.

In the *President's Address*, Dr. Kollock favored the abolition of the President's Address, as the time could be put to more valuable use. As regards the educational requirements of the practitioner, he thought that a high standard should be required of both teacher and pupil, and that particular attention should be paid to the ethical instruction received by the pupil, while the standard is maintained by the teacher. The method used in the selection of college faculties are often lax—very frequently the selection becoming more or less of a family affair. When a vacancy occurs, it should be widely advertised, and the candidates be made to undergo a most thorough test. Then men less pretentious, though more meritorious, could be secured—men whose fault is lack of pull. With reference to State Medical Examining Board, the speaker does not think the methods now in vogue are productive of the best results. An oral examination and a demonstration of ability in actual practice should be made to supersede the written examination, in which latter method opportunities for cheating are afforded. He also advocated uniformity of requirements among the States, and the adoption of a plan whereby the successful examination of one State Board would be accepted by other State boards. He suggested that this Association, representing three States, should take up this matter, and that a committee having this end in view be appointed. Dr. Kollock also advocated the medical inspection of schools, and improvements in their sanitary conditions. He also made a strong appeal for united action on the part of physicians to fight the spread of tuberculosis,

declaring that there were more deaths from consumption than from typhoid fever, scarlatina, and diphtheria combined. Legislation should prevent the marriage of persons or a person suffering from tuberculosis—citing statistics to show its rapid spread by such marriages.

The general views of Dr. Kollock met with a hearty response from all sections. It is a great oversight on the part of medical colleges claiming to be "regular" that no instruction is given the students as to what is expected of them when they go out to practice their profession. Many a doctor in joining standard medical societies avows the allegiance to the code of ethics without ever having read a line of it, or heard it expounded. The profession at large is equally interested in the matters referred to regarding State Medical Examining Boards, and the suggestions thrown out by Dr. Kollock are deserving of careful consideration. It is a hardship that the profession does not demand that the doctor who moves from one State to another should be compelled again to undergo an examination by a board, as if he were fresh from college walls. The question of selecting professors to fill vacant chairs in colleges is a hard one to meet—especially in this day when remunerative salaries can hardly be offered for the newcomer.

A number of papers presented at this session appear in this issue. Others will appear in subsequent issues. One who reads them will be satisfied of their high order of merit. Perhaps the paper which will be of most interest to the general run of our readers is the one by Prof. Hemmeter, of Baltimore, on "Intestinal Indigestion." There are, however, a number of surgical papers that will prove of equal value to surgeons.

The Fourth Annual Session will be held in 1902, at Asheville, N. C. Hereafter there will be a Chairman in each of the three States, for the Sections on Medicine, Surgery, Gynecology and Obstetrics.

The following officers were unanimously elected for the incoming term:—*President*, Dr. John N. Uphur, Richmond, Va.; *Vice Presidents*, Drs. J. W. Long, Salisbury, N. C., S. C. Baker, Sumter, S. C., Hugh M. Taylor, Richmond, Va.; *Secretary and Treasurer*, Dr. H. A. Royster, Raleigh, N. C. *To fill vacancies in the Executive Committee*:—*South Carolina*—Drs. W. P. Timmermann, of Timmermann, S. C., three years, and Manning Simons, Charleston, one year; *North Carolina*—Dr. J. W. Marsh, Fayette, two years; *Virginia*—Drs. Southgate Leigh,

Norfolk, two years, and J. S. Wellford, Richmond, three years. Dr. J. C. Hemmeter, Baltimore, was elected Honorary Member. *Subject Selected for Special Discussion during Session of February, 1902, Tuberculosis*—Dr. J. A. Burroughs, Asheville, N. C., *Leader*.

The Richmond Committee on Entertainments, etc., provided reserved seats at the Bijou Theatre for Tuesday Night, after which the members of the Association were invited to a sociable at Westmoreland Club. On Wednesday night, a more formal sociable was provided at the Commonwealth Club. There were no speeches. Besides refreshments for the inner man, a quartette of colored men sang old plantation songs.

Old Dominion Hospital,

Of this city, connected with the Medical College of Virginia, is about to be enlarged so as to accommodate forty more patients.

The University College of Medicine Hospital,

Adjoining the Virginia Hospital, of this city, is nearly completed. It will have a capacity of some sixty or more patients. Its clinical amphitheatre is built on the most approved plans, having all the convenient arrangements for demonstrations, etc.

Obituary Record.

Dr. W. F. Aiken,

A leading specialist of Savannah, Ga., committed suicide February 27, 1901, by shooting himself through the brain. He had just killed his wife by also shooting her through the head. Mental aberration, due to morphine and the inveterate cigarette habit, are believed by some to have been the cause of his horrible act. Dr. Aiken was born in New York about thirty-eight years ago. He graduated from Yale when about twenty years old. He then served a number of years in the Health Department of New York city. He then took up the specialty of the eye and ear, and settled in the South. The remains of both himself and wife were removed to Massachusetts for interment.

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\$2.00 a Year.
10 Cents a Copy.**Original Communications.****SO-CALLED "CONSERVATIVE" TREATMENT OF APPENDICITIS*.**

By I. S. STONE, M. D., Washington, D. C.

Sometimes we use the word "conservative" with the idea of restriction, of checking abuses or excessive use of radical measures. If the word "conservative" or "conservatism" has any place in surgery it is at least doubtful if it can be applied to the treatment of appendicitis, if by this term we include its results, or "peritonitis." The conservatives can console themselves that "appendicitis" is a proper disease to treat, to watch, to poultice, to freeze with ice-bags, to paint with iodine, or to treat medically with drugs, but here we draw the line, for "appendicitis" rarely kills, while its result, "peritonitis" or septicæmia, does kill, and so-called conservatism has no honorable place in connection therewith.

Cases of appendicular colic, or any of the forms which simulate appendicitis, or even catarrhal appendicitis itself, do get well frequently, as every medical man knows, but the numerous deaths resulting from "appendicitis" show how difficult it is to decide when a case of appendicitis becomes one of acute peritonitis. It is extremely edifying to hear some men say that their cases of appendicitis treated medically get well while those operated upon die.

Cases are even quoted in contrast to show that "conservative treatment" is the best—*i. e.*, those cases treated by other means than by surgery recover—while those operated upon, as a rule, die. Let us consider for a moment such a proposition. If the two methods are to be compared, let the treatment be either medical or else all surgical. If the conservative practitioner reluctantly consents to operation in a given case, it is because medical treatment

(so called) has not benefitted his patient. He confesses in such a case a failure of his treatment, else he is not honest if he urges operation. If operation discloses extensive gangrene of the bowel, diffuse peritonitis, or other conditions unfavorable to recovery, does the conservative man credit the hopeless condition of the patient to his failure or to the failure of treatment, or does he (banish the thought) set down this failure to the operative treatment?

It would be possible for surgeons to make a very excellent showing if they could operate upon all cases in the very first stage of the disease. Leaving out of consideration for the present the possibility of a mistaken diagnosis, or rather an underestimate of the actual condition of the appendix bowel and peritoneum (a mistake made quite as often by the physician as the surgeon) we do not hesitate to assert that surgery will save many more lives than can be otherwise saved by any other treatment known at the present time. The whole subject should be discussed along these lines, for it is obviously unfair for surgery to be charged with the failures which strictly belong to the other side. It was not my intention to consider statistics in this paper. Enough has been said, and very clearly and well said, which ought to satisfy every one that more patients are saved by surgery to day than in those dark and gloomy times when patients died of "peritonitis," the cause of which the physician knew very little. It is perhaps ten or eleven years since surgeons began operating for appendicitis, and McBurney reported seven of eight cases operated upon as cured. It is quite probable that McBurney's cases were real cases of peritonitis, due to and caused by appendicitis, and were not even the mild or recurrent variety.

Would our conservative friends turn back the hands of the clock? Would they consent to say that the sum total of results of these ten years is "failure," and would they be glad to erase from medical history the work of McBurney and Stimson and their followers?

* Read at meeting of Medical and Surgical Society, D. C., February 7, 1901.

A very fair estimate of the mortality due to appendicitis, whether treated medically or surgically, taking the cases as we see them in practice, would be about 12 per cent. Many surgeons obtain less than this, or perhaps 9 per cent. If they exclude the delayed cases of those having acute diffuse general peritonitis, the mortality would be exceedingly low, in fact, insignificant. Not only would this be true, but a competent surgeon should be able to successfully operate upon a large class of cases of the mild or recurrent variety without mortality. He would, as nearly all believe, clearly distance his conservative friends, and have a much better showing, not only as to mortality, but in a permanent relief from all former painful, persistent, not to say dangerous, symptoms. But surgeons do not ask for this opportunity, they do not want to operate in all cases; and in spite of assertions to the contrary, reluctantly admit that a resort to the knife is a necessity, not always a preference, even though a confession of the failure of less heroic measures. The cases of simple appendicitis furnish the conservative man with perhaps an experience of a dozen cases, his opportunity to write or speak favorably of his "splendid results," and to wage war against surgical treatment, while, if he would only read of the experience of other men in position to see many more cases, he would undoubtedly see how absurd his deductions appear in the light of accumulated results of those in a wider field. Treves is generally considered a good authority, and the writer mentions him because he believes him eminently "conservative" in his statements, at least, although not one whit better surgeon than a score of those in America.

Treves says of mild cases of appendicitis, or perityphlitis, 99 in 100 recover (after operation). Of appendicitis with localized suppuration, 27 cases recovered and 2 died. Of diffuse peritonitis from appendicitis, 3 recovered and 20 died; three without operation. Relapsing cases, 42 in number, 37 operated and recovered, 5 recovered without operation, 5 complicated with other conditions, 2 recovered and 3 died.

Another reporter, Hawkins, says out of 264 cases 59 had recurrence. That if all had been operated upon during or just after the first attack, 7 lives would have been saved and 52 other individuals would have been spared a more or less severe illness, provided the operations had resulted favorably. As stated above, the generally accepted mortality of all cases seen by surgeons or received in hospitals for

operation is not far from 12 per cent. This class of cases (those admitted into hospitals) furnishes the mortality, and it seems almost useless to discuss any other than surgical treatment for their relief. Surgery alone can offer a chance for cure in such cases, although occasionally an exception does occur as when an abscess fortunately discharges into the bowel. But we protest against the use of statistical tables made up of mild cases, as furnishing any sufficient argument against the surgical treatment of properly selected cases, and claim that medical treatment is not only useless in the majority of instances but worse than this, it apparently justified the loss of precious time. The "conservative" man to prove his position that unnecessary operations are performed, must either show that "mild" or "early" cases operated upon are injured, or infected, and die in larger numbers than those treated medically (*i. e.*, for whom nothing is done), or else he has the difficult task before him of showing how the delayed cases, or those with acute peritonitis, or suppurative disease, or gangrene of appendix or bowel, may recover with medical, *i. e.*, "conservative treatment." Some physician has a few mild cases, some of which are treated with hot poultices or with cold applications, which recover, or at least do not die, then he has one, two, or perhaps three cases which resist his "medical treatment," and after perhaps from 4 to 14 days, has a surgeon operate; they may all die, and if they do, *surgery is at fault in his estimation.*

Again, it is very often found that our mild cases do not fully recover, but continue to have "symptoms" which clearly indicate a very serious injury to the appendix, or bowel, as often shown when the abdomen is opened for this or perhaps other reasons. It is the experience of all abdominal surgeons that the appendix is frequently the seat of acute or chronic disease when entirely unsuspected by the patient or physician. We have, in some instances, saved a life which would have been lost had the appendix not been sought for and removed in the course of an operation begun for other purposes.

Our conservative friends have one advantage over those who are called radical. The conservative man who cures his cases by medical means can always point to the final termination of the cases treated surgically; as a rule, they either die, or recover promptly and permanently. But those treated medically are reported "*cured*," because when the report is made up the patients are at least alive, although many of them have subsequent attacks. Good

authority places the percentage of relapses at from 30 per cent. to 50 per cent., hence the words of Hawkins appear apropos here: "Suppose, for an instant, that it is only 50 per cent., the case then stands thus: Taking 100 cases, such as are usually admitted into hospitals, 28 will suffer local suppuration, or diffuse peritonitis, and be operated upon. Of the remaining 72 cases, 36 patients, or more than one-third of the whole, will suffer from one or more relapses, in each of which they will incur the same risk again, and each of which will lay them in bed for an average period of 25 days. It seems to me to require some hardihood to assure a patient, at the beginning of an illness, of which the course and termination are entirely uninfluenced by medical treatment, that an operation is unnecessary, when, even if he gets off with his life, the chances of his making a perfect recovery, without operation, are little better than one in three."

Any one reading reports of a large number of cases will see how utterly impossible it is to be guided correctly by a report of a few cases of any kind. Let us read the papers of Deaver, of Morris, or Murphy, and many others. Fowler reports 127 cases, 83 per cent. of whom recovered after early operation (first three days), 60 per cent. of those on fourth day, 58 per cent. of those on seventh and eighth days, and only 33 per cent. of those on ninth and tenth days. Murphy says half of all cases who have recovered by operation would die if we wait until the sixth day.

Good results from the operative treatment of appendicitis are not only obtained in hospitals, for, if my memory is not seriously at fault, but one case has died after operation in ten years where the operation was done in the country.

It is now impossible for me to enumerate the cases, but many operations have been performed upon patients in the District of Columbia and adjoining States of Virginia and Maryland. All kinds of complications have been encountered, and quite as difficult surgery has been successfully done in farm houses and in cabins as may be seen in hospitals anywhere. In short, my experience would almost go to show that there is greater success in these cases done in the country than in the city. We do not want this opportunity to pass without saying how often we find the physician in charge to have made every preparation for the coming of the surgeon and for the expected operation. It is but fair to remark in passing that every case is not found in a condition to bear operation, for we do occasionally reach the patient

when the golden moment has passed, and death has claimed its victim.

DISCUSSION.

Dr. Bovée: Apropos of Dr. Stone's paper, Dr. Bovée presented a specimen removed from a young lady in her fourth attack of appendicitis. Last July, just before leaving for his vacation, he had seen the patient in consultation in her second attack, and had advised prompt surgical operation, which had not been accepted. In November, another physician called him to see her in the fourth attack for the purpose of an operation, the patient now believing it necessary. She was accordingly operated on in the presence of Drs. Walsh and Neff. When the abdomen was opened, an abscess connecting with the tip of the perforated appendix and walled in by adhesions between loops of intestine and the abdominal wall, was encountered. It was cleaned without spilling pus, appendix removed, and all adhesions separated. A mass of omentum, riddled with pus, was removed as well. The wound was closed without drainage, and she made an excellent recovery, the wound healing perfectly.

He said, in his abdominal work, he removes the appendix in nearly all cases in which the abdomen is opened for other conditions, provided it shows any evidence of disease, such as varicosities of its peritoneal coat, adhesions, however slight, or the presence of enteroliths in its cavity. The shock incident to the extra work is almost *nil*. He finds in nearly all of these specimens removed at least a mild catarrhal condition of the mucosa. If appendectomy were done early in appendicitis—in the first few hours—the mortality would be almost nothing, and drainage would rarely be needed. The recovery would be prompt, and the danger of ventral hernia, so common after drainage of these cases, almost dissipated. As it is, in a large percentage of appendicitis (chronic) work, drainage can be avoided by a very careful technique.

He highly commended Dr. Stone's paper for the general practitioner's careful study.

Dr. Neff said: Appendicitis is a surgical disease, and should be treated surgically from its inception. The time to operate is as soon as the diagnosis is made, *provided it is made early*, and no complications exist which would render it unjustifiable, and the environments are such that the operation can be made with proper regard to surgical cleanliness. The ideal treatment would be to operate on every

case within the first twelve hours. If this were done, the mortality would not be 1 per cent. Many recover from a first attack, and it is put down as a therapeutic triumph. Subsequent attacks are sure to follow, and are more severe than the first. Waiting for an interval to operate is dangerous; it may never occur, and when it does, patients seldom avail themselves of it.

I am, myself, an illustration of what up-to-date surgery can accomplish. While in the army during the Spanish War, I was operated on for appendicitis at Fort McPherson, Ga. The operation was made within thirty-six hours. The appendix was filled with pus; there were two perforations at the caput coli, pus in the pelvis behind the bladder, and a localized peritonitis that would soon have become general—a condition which is certainly a most forcible argument in favor of early surgical intervention. There are no two cases alike, and the mildness or severity of the symptoms is not a positive indication of the pathological condition that exists. Medical trifling and procrastination are to be avoided.

Dr. Carr is in favor now of operating on all well-marked cases of appendicitis as soon as the diagnosis is made. Severe lesions with pus may remain after apparent recovery from severe attacks, and occasionally after slight attacks, and may give rise to no severe symptoms until sudden rupture of an abscess occurs.

Most of the "fulminating" cases are of this variety. They are cases where masked appendicitis has existed for a long time, and where the appendix or an abscess has suddenly ruptured.

Never operated for appendicitis and found the operation unnecessary, but found the lesion slighter in one or two cases than he expected to find it. More often has found it worse. In one case, found an ovarian tumor with twisted pedicle where he expected to find an appendiceal abscess.

Dr. Hickling: Appendicitis is altogether a surgical disease. The symptoms cannot always be taken as a criterion. The operation should be done early.

Dr. Stone, closing: Had never opened an abdomen, and found it unnecessary. Once seen a gangrenous appendix, which was causing but little trouble. The lining of the appendix may slough and a catarrhal condition remain, threatening subsequent attacks. Always examine the appendix in every case when the abdomen is opened for any purpose, and remove it when necessary. He is not yet ready to take the position claimed by *Dr. Bovée*.

There were many reasons why he did not favor removing every appendix in the course of every abdominal section.

A CASE OF PAPILLOMATOUS CYST IN A CHILD FOUR YEARS AND NINE MONTHS OLD.*

By MANNING SIMONS, M. D., Charleston, S. C.

L. H. White, aged four years and nine months, was brought to me from a neighboring town because of failing health. It was stated that she had been in good health up to June last, when she complained of vague, transitory pains in the stomach. A swelling of the abdomen was observed in August last, and had gradually increased, becoming more and more prominent on the left side.

During the last two months, however, the symptoms have been more rapidly developed. She lost her appetite, and has fallen off very much in flesh. The abdomen has become more and more distended and prominent. There was daily a slight rise of temperature, and on the morning of admission to the Infirmary, it reached 100° F. Her parents are uncertain, however, as to the exact time at which the swelling of the abdomen commenced. Icterus has gradually developed during the past two months.

The condition of the child when I first saw her was that of rapidly failing health; she was anæmic, her appearance cachectic, and her skin of the yellow, muddy color, indicative of profound malarial poisoning, although the sclerotics did not show the characteristic yellow tinge.

On examination, her abdomen was found very much distended, the enlargement extending well up to the diaphragm, down to the pelvis, but not apparently dipping into it, and well out to the lumbar region on either side. On palpation, the abdomen was found to be full of fluid, but a solid mass was discovered, most prominent at the umbilical region, and pressing out toward the right side.

There was dullness on percussion in every direction, so that it was impossible to distinguish clearly the outlines of the tumor. Because of the great distension and tension of the abdomen, it was not possible to trace the tumor to its connections.

The fact that the tumor did not appear to

*Read before the Tri-State Medical and Surgical Association of the Carolinas and Virginia during its session held in Richmond, Va., February 26 and 27, 1901.

dip down into the pelvis seemed to exclude disease of the pelvic organs, and as it could not be traced up under the ribs to the region of the gall-bladder and liver, these organs were excluded. As, however, the growth seemed to press backwards to the region of the kidney, and especially to that of the right side, the diagnosis appeared by exclusion to be a tumor of the kidney.

The well marked cachexia in the case, and the comparatively uncommon occurrence of sarcoma of the kidney in children, induced the provisional diagnosis of malignant disease of that organ. An exploratory laparotomy was advised, and accepted by the parents of the child, as it was evident to them the assurance that medical treatment promised no benefit, was correct.

The child was admitted to the Riverside Infirmary on January 27th, and the operation was done on the following day.

When anæsthesia was obtained with chloroform, another careful examination of the abdomen was made, and it was discovered that the tumor occupied almost the whole abdominal cavity from the brim of the pelvis to the diaphragm. Its surface was more or less irregular, and on palpation it was semi-solid in consistence. It was then that the real condition of the case was suspected.

A median incision was made, a quantity of ascitic fluid escaping, and it was found that the anterior surface of the tumor was adherent to the abdominal wall.

Exploration of the cavity discovered the omentum closely adherent to the anterior surface of the tumor, but elsewhere the adhesions were few and slight. It was learned, moreover, by this exploration that the tumor had its attachment below. It was determined to undertake its removal, and to this end the incision was enlarged upward, it being borne in mind that the bladder from its high abdominal situation would be endangered by extending the opening downward, although this direction would have given greater facility. By manipulation the long axis of the tumor was engaged in the opening, and it was finally delivered from the abdomen.

The tumor was attached by a thin pedicle about three inches in width to the right lateral wall of the pelvis. It was clamped, and the tumor removed; the pedicle was tied with chromicized cat gut, in a number of sections, each section being cut after having been tied.

After having been cleansed, the abdomen was closed by suturing the peritoneum with a continuous stitch of chromicized cat-gut, and

the skin, muscular and tendinous structures with silk worm gut. The tumor was of the size of the adult head, consisting of a very friable cyst wall, the cavity of the cyst being filled to its utmost capacity by papillary growth, presenting a cauliflower appearance.

Whence this tumor sprang, and in what tissues it had its inception, I am unable to say. The authorities on this subject seem to have various theories and opinions. I am satisfied, however, that its only attachments were by its pedicle to the right side of the pelvis, and by adventitious adhesions to the omentum and the anterior abdominal wall. It seems to me certain that it had its origin in the broad ligament of the right side.

The little patient reacted well from the shock of the operation, and has had an uneventful recovery. The temperature did not rise beyond 99 F., although on the date of admission to the Infirmary it reached 100° F.

The stitches were removed on the fourteenth day, the wound having healed throughout. Since the operation the child's complexion has cleared up, her expression is bright and cheerful, a great contrast to her previous condition, and her appetite is so good as to need restraint.

The tumor was sent to the laboratory of the Medical College of the State of South Carolina, and the report of the Pathologist, Dr. B. E. Baker, is as follows:

"The specimen of tumor from the abdomen of child four years of age which you submitted to me not long since, belongs to the variety known as the *teratomata*. These tumors are usually cystic in nature, congenital, and very complex as to their histological structure. The one under consideration was probably congenital, and took its origin from the ovary and broad ligament. Histologically, it consisted of papillomatous cysts, containing mucoid material; the stroma is mixed, both adult and embryonic connective tissue being present, also bundles of unstriped muscle, and plates of cartilage. This stroma at certain places looks decidedly sarcomatous. Altogether, I consider the tumor malignant and apt to recur."

Whether this tumor will recur is a question that time only will solve. I am induced to report this case for the reason that it is the only one of its kind in a patient so young that has occurred in my work.

Reference to the literature on the subject confirms me in the opinion that such cases are actually rare, and the correctness of this statement is to be found in the fact that most of the treatises on gynecology to which I have had access make but little or no reference to such

tumors in early childhood. The information that I have been able to obtain has been derived chiefly from an article by Dr. Howard A. Kelly, entitled "Diseases of the Ovaries and Fallopian Tubes," published in the *Cyclopædia of the Diseases of Children*," edited by Keating, and the article by J. Bland Sutton, F. R. C. S., published in his book on the "*Surgical Diseases of the Ovaries and Fallopian Tubes*."

It seems to be admitted that diseases of the internal genital organs, the uterus, uterine tubes and ovaries, for the most part, arise during the period of sexual activity, and the cases occurring later in life are, as a rule, due to the further development of diseases that have already started in middle life.

Whilst this is generally true, it is stated by Kelly that a careful search of the literature shows that pelvic affections during childhood are of more frequent occurrence than is usually supposed. What is known of this subject has not so far been systematically arranged, and is distributed through isolated reports of cases. Whilst other articles have probably been published, the only two that I have been able to reach in the short time at my disposal for the preparation of this report, are the articles of Sutton and Kelly.

Dr. Kelly, in alluding to the small number of articles on this subject, and recognizing the "extreme importance from both a diagnostic and operative standpoint," suggests "that it would be well for future writers, when reporting cases of pelvic diseases in children, to record carefully every detail in the clinical history, the operation, and also what is much neglected, the later history of the patients."

Almost all forms of diseases of the tubes and ovaries found in adults have been observed in childhood; from the tables furnished by Kelly and Sutton, however, dermoids and sarcomata seem to predominate in children under three years of age.

Both tables contain instances of cysts, and multilocular cysts. Kelly reports in his table a cyst in a child of four months, and one of a multilocular cyst at the age of three years; Sutton's table also contains one instance of multilocular cyst at the age of three years. Sutton quotes a case reported by Doran (also mentioned by Kelly) of the largest ovarian tumor in a fetus on record.

A fetus of seven months was born with its abdomen distended and the veins prominent. It survived the birth only two minutes. On opening the abdomen, ascitic fluid escaped, and an ovarian tumor was discovered on each side.

Probably the largest cyst observed during childhood is said to be the case successfully operated on by Dr. W. W. Keen, of Philadelphia. The writer of this report operated on a case of multilocular cyst of very great size in a girl of sixteen years; and also removed a papillomatous cyst nearly the size of the adult head from a child thirteen years of age. This last mentioned child menstruated for the first time one year after the operation.

Dr. John L. Dawson, of Charleston, S. C., operated on a child eight years old and removed a papillomatous cyst of large size. This child fell from a swing and struck on the stomach, and it was only during the examination of this injury that the tumor was discovered. The operation was performed four weeks after the discovery of the tumor. The growth was of the size of the head, and was attached by the broad ligament on the right side. The capsule of the tumor was found to have ruptured and its contents had become diffused in the abdominal cavity, giving origin to secondary growths throughout the peritoneum in great number. The child survived the operation one week.

These tumors, however, in girls at, or later than the period of puberty are not uncommon as compared with those cases at an earlier age, before functional activity of the organs involved has become developed. Kelly, in his article quoted above, gives a table of ovariectomies in children of fifteen years and younger, in which it is shown that such operations on children under four years of age are attended by a mortality of more than one-half of the cases; but on the other hand, in the cases of older children are remarkably favorable.

It is also noted that the high mortality in the former class is apparently uninfluenced by the character of the tumor, whilst in the latter, an analysis of the cases makes it evident that the prognosis largely depends on the benignity or otherwise of the growth.

The table contains an analysis of one hundred and twenty-six cases. It is given in the words of Dr. Kelly, "To put before the reader all the available material relating to this important subject, as well as to furnish a satisfactory basis for further additions and analysis."

The cases contained in the table comprise:

Cysts	55 cases.....	4 Deaths.
Dermoids.....	47 "	10 " "
Solid Tumors.....	24 "	8 " "

In this list of one hundred and twenty-six

cases there are only fourteen in patients of four years or under.

Sutton gives a table of sixty cases of ovarian cysts and tumors occurring before the fifteenth year, which he has collected and briefly analysed. In this table there are only eight cases in children of four years of age or younger, the youngest being one year.

As to the prognosis in relation to the probable recurrence in these cases, presumed to be malignant at the time of operation, we are yet lacking in information. Sutton remarks: "It is very instructive to notice in looking through the tables, that in all the instances where no operation was performed, the patient died at intervals of a few months, or one to four years from the time they came under observation."

"It is also necessary to point out that in only a few instances have the tumors been submitted to a microscopical examination.

The study of these cases points to three very practical observations:

First, The extremely insidious invasion of these tumors, and the very rapid growth and development they seem to attain after they have been discovered.

Second, The tendency to rupture of the retaining cyst wall, either by pressure from within exercised by the rapidly developing papillary growths, or by injury from without, the diffusion of the papillary contents in the peritoneal cavity, and the formation of multiple secondary tumors.

Third, The importance of immediate operation after the discovery of the existence of the tumor.

EXTRA-UTERINE PREGNANCY, WITH REPORT OF A CASE OF SIMULTANEOUS PREGNANCY IN BOTH TUBES*.

By C. R. ROHNS, M. D., Richmond, Va.,

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Extra-uterine pregnancy is a subject which demands the attention of every doctor who is responsible for the life and health of women. There is no woman who may become pregnant who is not liable to become the victim of this accident. It is at times so insidious in its development that its existence is not even suspected; and it may be so fatal that death may ensue before it is possible, with the greatest promptness, to render the necessary surgical

aid. It undoubtedly occurs much more frequently than statistics can ever show, because, on the one hand, many cases recover without the trouble ever having been recognized, and on the other, many cases die that are never brought to the care of the surgeon. This paper is a simple résumé of the subject, with the report of an interesting case.

Varieties.—While it has been claimed by eminent authorities that all cases of extra-uterine pregnancy are primarily tubal, this view is no longer held, and the following primary forms are generally admitted: (1.) *Interstitial*, occurring in that portion of the tube which passes through the horn of the uterus. (2.) *Tubal proper*. (3.) *Tubo ovarian*, occurring between the tube and ovary. (4.) *Ovarian*, occurring in the Graafian follicle. (5.) *Abdominal*, occurring in the abdominal cavity. By far the most common form, however, is that occurring in the tube proper; and our purposes to-night will be best served by discussing this, with a casual mention of the others.

Pathology.—When the fecundated ovum becomes implanted in the tube, the tube undergoes a process of thickening which, however, is not due to a hyperplasia of the elements of the tube, but to a vascularization. The thickening is not uniform, but there occur certain thin spots, due to a stretching of the tissues, which mark the sight of future rupture.

In interstitial pregnancy, rupture usually occurs into the free abdominal cavity. Rupture into the uterine cavity is possible, as is also rupture into and growth between the layers of the broad ligament. In tubo-ovarian pregnancy, rupture into the abdominal cavity usually takes place; but growth may occur inward between the layers of the broad ligament. It is possible for the fetus to develop to maturity. Ovarian pregnancy is exceedingly rare, and only a few cases have been reported. One of these went to term. Primary abdominal pregnancy is also exceedingly rare. The conditions favor the progress of pregnancy to term. Tubal abortion is a term applied to extrusion of the ovum through the abdominal end of the tube.

If the fetus survives these accidents, it may go on to term. In this case, the woman will be taken with pains simulating normal parturition, accompanied by a discharge of blood and decidual shreds. This continues from a few hours to several days, when the pains cease and the tumor decreases in size, due to absorption of the fluids.

The hold which the ovum has on the walls

* Read before the Richmond Academy of Medicine and Surgery, February 12, 1901.

of the tube is very precarious, and in a certain percentage of cases separation occurs, accompanied by hemorrhage, resulting in the formation of a tubal mole. This mole may be sufficient to rupture the tube with the same results, which will be mentioned later. If the ovum continues to grow, rupture of the tube usually occurs primarily between eight and twelve weeks. If rupture occurs upward into the free abdominal cavity, it is usually associated with free and finally fatal hemorrhage. In cases, however, where the placental site is downward it is possible for the embryo alone to escape with only a moderate amount of hemorrhage; for a new sac to be formed from the peritoneal adhesions, and for the embryo to continue to derive its nourishment from the placenta attached to the walls of the tube. If death of the embryo occurs previous to two months, it is possible for it to become absorbed. It is possible also for hemorrhage to be limited by the formation of peritoneal adhesions.

If rupture occurs downward between the layers of the broad ligament, the hemorrhage is usually limited by the formation of a hematoma. If death of the embryo occurs, it is possible for the entire product to become absorbed. If the ovum continues to grow, subsequent rupture may occur, which may open up into the abdominal cavity. There is liability for secondary rupture and hemorrhage to occur even after the death of the embryo. After the second month the dead embryo cannot be absorbed, and it undergoes either mummification, or calcification, or decomposes.

At the time that these changes are taking place in the tube the same changes that occur in normal pregnancy are taking place in the uterus—the formation of a decidual membrane and enlargement of the organ. The membrane becomes separated and is extruded between eight and twelve months usually, at the time of the death of the embryo or rupture of the sac. It is from $\frac{3}{8}$ to $\frac{1}{2}$ of an inch in thickness, is not very friable, is extruded in large pieces or as a complete cast of the uterine cavity, and the uterine surface is covered with a thick, shaggy, villous coat which becomes apparent on being floated in water.

Symptoms should be divided into those occurring previous and subsequent to rupture. (1.) *Previous to rupture.* This malady usually occurs in women who have never born children, or who have not born a child for a protracted period. There is also usually a history of uterine disorder. Such a woman having been menstruating with regularity misses one or two periods. This is associated with the sub-

jective signs of normal pregnancy. There is increase in the areola about the nipple; Montgomery's glands and the breasts become enlarged; gastric disturbances—*anorexia*, nausea and vomiting occur; there is the usual purplish tinge about the vagina; the cervix is softened, and the os filled with a mucous plug. The woman often says she is pregnant. Associated with these normal changes there is pain which is characteristic, although in some cases it is absent. It may be dull and aching, but is usually sharp and lancinating, and occurs in paroxysms. It is described by the patient as being of the most violent character, and may commence at any time, from a few days to several months after a normal menstruation. The paroxysms are separated by intervals free from suffering. The pain may be situated on one side, or may be indefinitely located in the lower abdomen. It may radiate down one leg or upward into the epigastrium. Sometimes it is so violent as to cause nausea, cold sweating, fainting and every evidence of severe shock. The temperature is almost always elevated, and may be quite high. The pain is usually accompanied by a return of a flow of blood which may contain some shreds of decidua, and which continues irregularly for months. Instead of the usual amenorrhœa, there may be irregular bleeding from the first, and in some cases there is a marked metrorrhagia.

(2.) *Subsequent to rupture.*—Rupture is accompanied by characteristic symptoms. The patient is seized with an agonizing, lancinating pain in the abdomen. It may come on at any hour of the night, and is not dependent upon any undue cause. This pain is rapidly succeeded by signs of hemorrhage which, if extensive, may cause the patient to fall unconscious to the floor; the pulse, at first rapid, becomes almost or quite imperceptible; the face loses all of its color; the body breaks out in a cold sweat; the extremities become cold, and the breathing sighing, and finally jerky. Further symptoms depend on whether the bleeding continues or is limited. In the first instance, death follows in from a few hours to several days. If the rupture is confined within the tube or takes place between the layers of the broad ligament, or is confined by peritoneal adhesions, the patient gradually improves; but all of the symptoms may return or be intensified by a subsequent hemorrhage.

Diagnosis.—In a certain proportion of cases, there are absolutely no indications until rupture occurs. In others, the symptoms given in the foregoing occur with more or less distinctness. Those which should always excite sus-

pion are the characteristic pains associated with the signs of pregnancy, and irregular bleeding. Irregular bleeding, occurring in a woman who has previously menstruated regularly, should always excite our suspicions even if not associated with other symptoms. When the characteristic pains occur, our suspicions should be thoroughly aroused.

Upon making a bi-manual examination, the tube on the affected side is found enlarged and quite tender. If the enlargement is of sufficient size, the uterus is pushed to the other side. The tumor usually lies to one side of the uterus and curls around it posteriorly. A well marked sulcus can be made out between it and the uterus. A sign that is mentioned, readily felt through the vagina, and which I have found well marked in two cases, is an accentuated pulsation in the ovarian artery of the affected side. After rupture, the diagnosis, from a consideration of the symptoms and bi-manual examination, should be comparatively easy.

Treatment.—The treatment of extra uterine pregnancy should invariably be surgical. When the diagnosis is made before rupture, operation consists of the removal of the affected parts by abdominal section. In a proportion of cases, where the symptoms are carefully considered, it is possible to make a diagnosis before rupture. In cases seen at the time of rupture, if the constitutional symptoms are not urgent and there is a disposition for the patient to recuperate, and a well defined mass can be made out in one or the other broad ligament, it is advisable to defer operation until it can be accomplished after due preparation, and the patient has sufficiently recovered to enable her to better withstand the shock.

Where rupture occurs in the broad ligament prior to the completion of the second month, some authorities advise against operating at all, as the mass will probably be absorbed. The difficulty, in the first place, lies in ascertaining if the embryo is dead. Growth may continue with secondary rupture. Secondary and fatal rupture may take place after death of the fetus. Again, the woman will be left with a diseased appendage which will probably be the source of continued ill health. Suppuration may occur also. It is safer, in all cases, to operate.

The operation may be either vaginal or abdominal. The vaginal operation should be limited to those cases in which the rupture is undoubtedly intraligamentary and confined, and where the tumor is accessible to the vaginal finger for the complete removal of clots and membrane. Even then, it is open to the

objection of the difficulty of securing satisfactory drainage, and the probability of leaving the patient, as mentioned before, with diseased appendages that will require a subsequent operation. Also, uncontrollable hemorrhage and other complications may arise, rendering abdominal section necessary after the already prolonged anesthesia and exhaustion of the patient.

Abdominal section must be undertaken in all cases where the bleeding is unlimited. The utmost expedition must be employed, as the delay of an hour may be fatal. In such cases, the patient continues to grow worse, and examination reveals no defined tumor, but a boginess may be felt in Douglas' *cul de sac*, due to the free blood in the abdominal cavity. After opening the cavity as rapidly as possible, every effort is directed toward securing the bleeding point and controlling hemorrhage. The hand is boldly plunged into the cavity, no attention being given to the accumulated blood, and the point of rupture is felt for and then compressed with the fingers until it can be secured with forceps. The blood and membranes are then removed, the cavity irrigated with hot saline solution, the affected parts ligated in the usual manner and removed, and the abdomen closed.

In those cases where the fetus goes to term, it is better to wait until its death before resorting to operation. 'Such a child is always poorly developed, and there is small chance of being able to prolong its life beyond a few days. There is, therefore, hardly any compensation for the additional risk to the mother of endeavoring to deliver a living child. After the death of the fetus, the placenta can be delivered with much less danger of hemorrhage or sepsis.

I wish to report the following case, it being, I believe, one of some rarity, and illustrating some of the conditions before described: I was called in consultation to see Mrs. X., who gave the following history: Age, 35 years; white; married; father died at about 33 years of consumption; mother living and healthy, aged 58 years; lost one brother by accident, at 8 years. Her health in childhood was very good; she began menstruating at 16 years, from the beginning suffering very much for the first two days of each period, and usually spending the first day in bed. The periods were regular, rather free, and lasted about six days. She was married at 23, and has had three children, now aged 10, 8 and 4 years, respectively. Last April she had a miscarriage at the sixth week, and since then has never been real strong, and has suffered somewhat with leucorrhœa.

The last regular period occurred in the last part of July, missing in August. On September 9, there was marked nausea (which came on suddenly at six A. M.) attended by such great faintness and severe pain throughout the abdomen that she was compelled to lie down. On the next day she was attacked in the same manner while at the dinner table. On September 16, at about six weeks' term, and that night also, she passed some membrane and clots. This was unattended with pain, she being unaware of anything until she discovered the clots. Then followed considerable uterine bleeding, but she got up on the third day. Irregular bleeding continued until September 30. On this day she ate freely of watermelon and other fruit, and that night was taken with violent nausea, vomiting, and pain in the epigastrium and chest, and a stifling feeling in the throat. She became pallid and blind, and felt as though she were going to die. These symptoms were not relieved by vomiting, and continued throughout the night. Her physician thought she was suffering from an attack of acute indigestion.

The next day the pain and soreness was felt all through the lower abdomen. The irregular bleeding continued, the patient was very weak, and though the pain in the epigastrium had ceased, that in the lower abdomen was such as to prevent her from standing upright, and necessitated her remaining in bed four days.

I was not called to see the case until some weeks after the above occurrences, and my first examination was unsatisfactory, owing to extreme tenderness and rigidity of the abdominal muscles. I advised administration of an anesthetic, which was done several days later, when an enlarged tube of the mass of a moderate size sweet potato could be outlined on the left side, curling back behind the uterus. The case was diagnosed as one of extra-uterine pregnancy, which was confirmed by Dr. George Ben Johnston, and operation was advised.

I operated on the patient on November 15, 1900. Section was made in the median line, and the enlarged tube on the left side, distended by blood clot and bound down by adhesions, was revealed. The tube and ovary on this side were removed, and the other side explored. In Douglas' *cul-de-sac*, behind the right tube, there was discovered a round ball about a half-inch in diameter and of a yellowish color, adherent to the peritoneum. The tube itself was in a thickened condition; and at about its central portion was a round perforation partially healed. The ovary on this

side was in a condition of cystic degeneration.

The tube and part of the ovary were removed, and the abdominal wound closed without drainage.

Examination of the left tube showed that rupture had not taken place, but the upper aspect was thinned to less than the thickness of tissue paper, and in the event of any subsequent hemorrhage, would surely have ruptured into the abdominal cavity. The distension was caused by blood which had become organized and undergone the changes due to the formation of a tubal mole.

Examination of the right tube showed that the perforation communicated with its interior; and the ball found in the free peritoneal cavity was a mole which had ruptured through the tube. It was not possible to determine the quantity of blood which accompanied this rupture, as it, if any, had all been absorbed.

This was undoubtedly a case of simultaneous pregnancy in both tubes, with formation of tubal moles in both, and rupture of one tube. The woman made an uneventful recovery.

17 North Fifth Street.

DISCUSSION.

Dr. Jacob Michaux said that the chief interest in this condition was the question of diagnosis; and he congratulated Dr. Robins upon the lucidity of his paper in this respect. So far as he was aware, diagnosing the condition before rupture was, in this city, uncommon. He had seen but one case, and at the time, bones were being passed by way of the rectum. The great difficulty in diagnosis consisted of the liability of confusing the condition with other maladies affecting the organs involved. The passage of shreds of membrane with blood, for instance, was liable to be mistaken for membranous dysmenorrhœa; and it required a careful study of these fragments to make the diagnosis. In extra-uterine pregnancy, they were much thicker, and usually came away in small pieces, though sometimes as a whole. Another feature was that one woman might have a uterine miscarriage in which the fœtus, unknowingly, and the membrane escaped; and another, before rupture, might have a mass on one or the other side, due to a variety of causes, *e. g.*, pyosalpinx, displacing the uterus, or not, according to its size. The difficulty of making an exact diagnosis was extreme, and, under some conditions, impossible, and so when it was made, as in the case reported, the gentleman was to be congratulated.

The question of operation was chiefly interesting regarding the treatment of the placenta.

Its removal, especially when attached outside, and to the walls of the abdomen and intestines, was a serious matter, and so much so, that the best writers advised its being left intact after cutting the cord close.

Dr. George Ben Johnston said that for a long time he had been interested, in common with others doing abdominal work, in this subject; and he was convinced from his own observations and experience, that a number of cases escaped detection and died from a curable malady. If practitioners were as faithful in the search for this trouble as for appendicitis, more cases would be met with, and those that had ruptured treated successfully. He disagreed with Dr. Michaux regarding the difficulty of diagnosis, for besides the casting of membranes there were other indications. It occurred after a skip or failure of menstruation in the sterile or one not pregnant for a long time. Very often the other signs of pregnancy were absent. Examination should be insisted upon, it might reveal an unruptured tube, or an abnormal condition of tube or ovary. It would satisfy, and was not only necessary but imperative. If the malady should turn out to be not extra-uterine pregnancy, but hydrosalpinx, pyosalpinx, etc., the tube could be removed. In any case, therefore, the matter was a surgical one, pain in the region of the pregnant tube, the condition of the cervix and vagina, and finally, a distinct tumor, usually pulsating, aided in the diagnosis.

He was able to recall six cases in which diagnosis was made before rupture occurred, and five, including Dr. Robins', were successfully operated upon. The sixth case was seen in consultation, and operation was advised; but the physician in attendance agreed neither in the diagnosis nor advice. The case was submitted to the husband of the patient who sided with the physician. Three days after, he was called hastily, and found the patient in profound collapse and ready to expire. The family physician had arrived in the meantime, and a few minutes later, the woman died with all the symptoms of a virulent, rapid hemorrhage. Post-mortem examination revealed a torrent of blood, the tube on the suspected side torn, and an escaped fœtus.

Dr. Johnston thought that every case in which there was hemorrhage called for operation. Of course, those in which rupture had occurred into the abdominal cavity demanded promptest attention. These often died before the surgeon could reach them; but even those apparently hopeless should be operated upon, for the patient might not be dangerously ex-

sanguinated. Where rupture occurred into the broad ligament, much might be done, the proper route being the abdominal, not vaginal. He had several times extracted clots through the vaginal opening only to be obliged later to go through the abdomen in order to stop a hemorrhage that could not be controlled otherwise. One case of peculiar interest that was diagnosed was hemorrhage into the broad ligament followed by rupture of this into the abdominal cavity. He had operated in several cases in which hemorrhage had occurred into the broad ligament, the after clot being large enough to occlude the opening. These cases did extremely well.

Dr. J. W. Henson reported the following case seen in consultation. The patient, at the time, had been pregnant eleven or twelve months. At about eight months, movements ceased, and soon after the size of the abdomen begun to decrease. Ectopic pregnancy with death of the fœtus was diagnosed. Upon opening the abdomen, it was found that rupture had occurred into the broad ligament, between the folds of which the embryo had developed, and that the head was in the floor of the pelvis with the feet almost touching the liver. The sac was tense and almost ruptured from pressure of the feet. A good part of the sac was removed, the lower part, however, being allowed to remain as it was so vascular and investing all of the neighboring viscera, that any attempt at removal would have entailed dangerous hemorrhage. The remains of the sac were sutured to the peritoneum and a drainage tube inserted. The abdominal wound was then closed, except at its lower angle, where a second drainage tube was inserted. The patient recovered.

DIETETIC HEMATURIA,

With Some Remarks upon Oxaluria as a Cause.*

By JOHN D. THOMAS, M. D., Washington, D. C.

I wish to report to the Society a case which is somewhat rare, especially in its severity, and showing some points of interest at least in the train of causes which led up to it, and which have excited my interest to the extent of bringing it before you for discussion. Nothing new or original is attempted in the line of theory or practice; only a re-statement of old theories and facts, with a partial *résumé* of the recent

*Read at a meeting of the Medical and Surgical Society of the District of Columbia, February 7, 1901.

work on the subject, so that a very common clinical fact may be more often observed and taken into consideration in our daily rounds.

The case is as follows:

Mr. G., age about forty; married; teacher. Previous history good. Always healthy until two years ago, when he had a nervous break down from overwork. Has been treated for this for a year and much improved, but not well. May 4, 1900, he brought me a bottle of his urine, saying he had noticed that day that it had suddenly become very dark. On close questioning, no history of any pain or trouble anywhere in urinary tract, except a little heavy feeling in the back in region of kidneys. No drugs were taken; no exercise; no blow or injury; no former occurrence of this condition of urine.

Examination of urine showed color very dark, smoky red, with thick, heavy black sediment. Reaction very acid; sp. gr., 1028. Phosphates increased; albumen present in large amount; no sugar. Microscopic examination showed sediment almost entirely of red blood cells, with a great number of very large oxalate of lime crystals, as well as small ones. One blood cast.

Upon closer questioning as to his diet, I found he had been eating very freely of spring vegetables, especially asparagus, spinach, rhubarb, tomatoes, etc. This diet was restricted, and in two days his urine was free of blood and only a few oxalate of lime crystals present. Has had no recurrence.

It was, indeed, a case of dietetic hematuria. But the question presented itself, to my mind, Would the excessive amount of oxalate of lime crystals have been formed if the patient had been in good health?

With the well-known fact of the presence of oxalate of lime in excess in most cases of a neurasthenic condition, should not the urine be more systematically examined in these cases, with the idea of regulating the diet more carefully when the oxalic acid diathesis is prominent, to prevent not only the rarer cases of hematuria, but the more common ones of calculus and the general irritation of the kidney tubules by the excretion of the crystals—causing symptoms simulating very closely Bright's disease?

These queries lead one on to the more interesting unsettled points as to the exact mode of formation of the oxalate in the body; the connection of the amount excreted with that taken in; and the bearing of other substances on its formation.

Oxalic acid exists in normal healthy urine; about 0.02 grammes being excreted daily.

Bird, in 1857, in a very elaborate and probably the first comprehensive article written on the subject, held that oxalate of lime in minutest crystals remains held in suspension in normal urine for days, and will be deposited when anything constituting a nucleus is present.

It is generally held now that the crystals of oxalate of lime *may be found* in the urine of those who present no pathological lesion. But if they are in abundance or continually found, then it is conceded as evidence that there is a pathologic state.

Bartley, in his *Medical Chemistry*, says "that besides the usual vegetables, which contain oxalic acid, the source of the ingredient in urine is to be found in incomplete oxidation of carbohydrates and proteids—retrograde decomposition products. Frequently excessive in fermentative disturbances in intestinal canal and in certain nervous disorders."

Helen Baldwin, in some recent experiments upon the source of oxalates which appear in the urine, showed that while oxalic acid may be present in the urine without its having been ingested as food, it only appears in small quantities. But in two cases in which nervous troubles, nervous prostration, etc., were present, the excretion of oxalic acid was above normal, although a strict non-oxalate diet was enforced.

And it was also proved by experiments upon dogs, where the entire and absolute exclusion of any substance containing oxalic acid could be regulated, that oxalic acid is formed in the animal body, and could be formed from the carbohydrates, as some of the dogs were kept on a sugar diet for six weeks and presented oxalates in the urine.

Her conclusions were, that—

1st. As oxalate of lime may be held in solution, the crystals found in the urine are not reliable as to the amount present.

2d. That in health, no oxalic acid, or only a trace, is formed in the body, but that present in the urine has been ingested with the food.

3d. That in some cases, the formation in the organism was connected with fermentative activity in the alimentary canal, with free hydrochloric acid absent from the gastric juice.

4th. That symptoms attributed to oxalic acid diathesis, except those due to local irritation of the genito urinary tract, are not due to oxalic acid in the system, but more likely depend upon other products of fermentation and putrefaction.

W. H. Dickenson, in *Renal and Urinary Affections*, published in 1885, makes the remark that "Practically the development of the salt (oxalate of lime) is a question more of *lime* than oxalic acid." "Given an excess of lime in the urine, oxalic acid, come it from whence it may, is seldom wanting."

"If the urine contains an excess of lime and is normally acid, much of the lime will appear as oxalate. If slightly acid, neutral or alkaline, the lime appears in other forms."

This is again emphasized lately by Fenwick, who makes the same statement in regard to the oxalate depending more on the lime present than the oxalic acid.

For this reason the prevalence of calculi in regions where limestone water is used for drinking purposes is accounted for to a great extent, and in regulating the diet of a patient with calculus or oxaluria, this very important point should not be disregarded. In this connection I would like to give the results of some observations made by myself in the last two or three years as to the amount of phosphates present in urines which contained crystals of oxalate of lime.

In 23 cases with oxalate crystals present, 2 had hematuria—one profusely and one slightly; 13 had phosphates increased; 4 had phosphates normal; 5 had phosphates, not given (4 were neurasthenic, and it is probable that phosphates were increased); 1 had phosphates diminished.

It is a well known fact that phosphates appear in excess in the urines of those who have mental worries and brain troubles; and in this way, I think, if we accept the statements in regard to the part played by lime, the oxalate crystals are so often found in the urine of neurasthenics, which always show an excess of phosphates.

O'Neil reports in *Lancet*, July 5, '90, numerous cases of hematuria, caused by eating rhubarb tarts and drinking limestone water.

It is stated by Fenwick that the insoluble oxalate of lime, when introduced into the stomach, passes into the urine. It is not hard to believe that the *oxalic acid* may be dissolved and pass into the urine from the stomach, but the more insoluble oxalate must at least have some difficulty passing into the circulation through the mucous membrane of the intestinal tract and the walls of the capillaries, and passing out again and through the epithelium of the uriniferous tubules of the kidneys.

Though in support of the latter belief Bird says Garrod showed him oxalate of lime crystals he had procured from the blood of an albu-

minuric patient. And Baldwin, in her experiments in giving oxalates in excess, found the uriniferous tubules blocked with the crystals in one case.

Dr. Williams, of Richmond, in an article upon "Oxaluria, its Clinical Significance," holds the view that the oxalates ingested are absorbed as *small* crystals, and remain so in the blood, and are excreted in the kidneys as same.

This view I think untenable, because of the histological structure of the parts, as stated above, and because of the lack of evidence so far of these crystals existing in the blood (Garrod's statement to the contrary notwithstanding). The fact of leucocytes passing through the kidney structure cannot be used as an example, because the leucocyte is a living organism and passes through the structure by means of its amoeboid movements; and if the insoluble oxalate of lime crystals, when given by mouth and reaching the intestine, can be *broken up* into such *minute* crystals as would justify the above theory, why is it not *very much more probable* that some chemical solution occurs, as is proven in all other food stuffs eaten and excreted through the kidneys?

Other observers and experimenters, as Wohlers and Piotrowsky, have proved that oxalic acid, given by mouth, will appear in urine, but as oxalate of lime.

And there can be no doubt of the fact that the passage of these crystals through the tubules of the kidney and over the remainder of the urinary tract will cause irritation of varying degree, according to the size of the crystals and the condition of the parts. Bloom reports a number of cases of urethritis which he holds were caused by the irritating discharge of oxalate of lime crystals.

And Williams reports three cases which presented many of the symptoms of Bright's disease—two very marked—with albumen and casts, which disappeared under treatment for the oxaluria, or the causes of it.

In my cases of oxaluria there were nine with casts present, but albumen in only one—the case of profuse hematuria. In the literature on the subject a good many cases are reported with albuminuria present.

There is a statement made by Dickenson that in the hematuria of malaria, crystals of oxalate of lime almost invariably abound in the urine. This is again made by Foulerton in the *Lancet*, October 4, 1890, where he reports several cases of hematuria from oxalate crystals. He also draws attention to the same condition in Reynaud's disease. He thinks these hematurias to be more or less dependent upon an excess

of oxalic acid in the blood which is excreted through the kidney. It might seem probable from the fact that especially in malaria the red cells, the oxygen-carriers of the system, are more or less destroyed, and hence one of the most prominent causes of the formation of oxalic acid is present—*want of proper oxygenation*. This is an interesting point for future observation in these cases. Treatment, of course, depends upon the condition existing which causes the formation of the oxalate.

In the hematurias, regulation of diet and administration of nitrohydrochloric acid are usually sufficient to effect an early cure.

1603 Nineteenth Street.

DISCUSSION.

Dr. Kober congratulated *Dr. Thomas* and the Society for the presentation of an interesting and practical subject, showing what may be accomplished by exact and scientific methods in diagnosis. He had himself seen cases of urethritis, spermatorrhœa, and even hyaline casts, produced by the passage of crystals of oxalate of lime, especially when they are octahedral or double quadrangular pyramids united base to base, and sees no reason why, if the irritation is sufficiently intense and prolonged, it should not produce hæmaturia, and as shown in *Dr. Thomas' paper*, the successful treatment of such cases depends upon the recognition and removal of the cause.

In a monograph, in 1874, he had pointed out that the use of frothy, sparkling beer or wine, sugar in excess, asparagus, sorrel, rhubarb plants, and even turnips, parsnips, carrots and cauliflower may cause a temporary oxaluria, and thus aggravate and prolong cases of gonorrhœa, spermatorrhœa and catarrhal conditions of the urinary passages.

Dr. Hickling: Discussion had recalled a case where large quantities of blood were passed, the oxalates were not looked for, the malarial fillaria were not found. The treatment was of little avail.

Dr. Carr: If limestone water causes oxaluria, we should be careful about prescribing many of the mineral waters now on the market. Many of them contain sulphate of lime as well as the carbonate in large quantity. Could see no excuse for using a mineral water containing a large amount of plaster-of-Paris. Recently had a severe case of hæmaturia in which a few oxalate crystals were found. Large quantities of blood had been passed constantly for nine months, when it came under his treatment. Recovery took place, under rest, milk diet, and free use of Buffalo Lithia Water.

Dr. Stone: When the bladder is not involved, pure water is the best treatment. The diet should be strict but *not* absolute. Recited cases when under such treatment the oxaluria had disappeared.

INFANT FEEDING.*

By J. EDWARD TOMPKINS, B. A., M. D., Fredericksburg, Va.

During the past decade the profession has witnessed many advances in medicine and in surgery, yet the mortality of artificially fed infants remains alarmingly high.

The ideal nourishment for a child is, of course, woman's milk, but unfortunately, by reason of disease and the dictates of fashion, this mode of feeding is denied many, and we have to rely upon some substitute. And the best substitute for woman's milk is cow's milk so modified as to suit the various demands of the growing child.

During the past few years I have obtained quite satisfactory results from percentage feeding, which, as you know, consists of a modification of cow's milk by the addition of cream, water and sugar of milk. By comparing the composition of woman's milk with cow's milk we see:

	Woman's milk, per cent.	Cow's milk, per cent.
Fat.....	4.00	3.50
Sugar.....	7.00	4.50
Proteids.....	1.50	4.00
Salts.....	0.20	0.70
Water.....	87.30	87.50

But for the high percentage of proteids, or curd forming elements, cow's milk would make a very satisfactory infant food without any modification, and the doctor or nurse would be saved a great deal of trouble. But a child under one year old is rarely able to digest whole-milk.

A child during the first week should have a food containing about .60 per cent. proteids, 2 per cent. fat, and 6 per cent. sugar. During the first month, .80 per cent. proteids, 2.50 per cent. fat, 6 per cent. sugar. From the first to the third month, proteids 1 per cent., fat 3 per cent., sugar 6 per cent. From the third to the sixth month, 1.50 per cent. proteids, 3.50 per cent. fat, and 6 per cent. sugar. From nine to twelve months, 2.50 to 3 per cent. proteids, 4 per cent. fat, 5 per cent. sugar, and so on up to the fifteenth month, when the child can be

* Paper read before the Tri-State Medical Association of the Carolinas and Virginia, at the Third Annual Session, held in Richmond, Va., February 26th, 1901.

given whole milk. These figures are not intended to be exact, but merely to serve as a working basis. Two different children at the same age may require an entirely different food. Thus a healthy child at three months, with a good digestion, may be able to take the same food required by one of five months, but with feebler digestion.

At first blush it may be considered a difficult matter to modify milk, but even at home the various percentages of cream may be easily obtained.

Ordinary cream twelve hours old contains 16 per cent. fat. By using two parts of 16 per cent. cream and one part of plain milk we obtain 12 per cent. of cream; or 12 per cent. cream may be obtained by removing the upper six ounces of one quart of milk which has been standing six hours. Eight per cent. cream may be obtained by removing the upper ten ounces from a quart of milk which has stood four or five hours. Twenty per cent. cream, or centrifugal, is the kind usually furnished by dairies. By mixing together equal parts of 20 per cent. cream and plain milk, 12 per cent. cream may be obtained.

Suppose we desire to order a food for a child six months old: it should be able to digest 2 per cent. proteids, 4 per cent. fat, and 7 per cent. sugar. This may be obtained by diluting 8 per cent. cream with an equal quantity of water containing 10 per cent. sugar of milk. For the convenience of the nurse, it is well to order the exact quantities of the different ingredients, *e. g.*:

8 per cent. cream.....	5	xviii
Water.....	3	xviiij
Sugar of milk.....	5	xiv

Mix, and divide into six bottles.

For a child two months old, we should order proteids 1 per cent., fat 3 per cent., sugar of milk 6 per cent. This may be obtained by diluting 12 per cent. cream three times with a 7 per cent. sugar solution, *e. g.*:

12 per cent. cream.....	5	viii
Water.....	5	xxiv
Sugar of milk.....	5	iss

Mix, and divide into eight bottles.

It is well to bear in mind that while woman's milk is alkaline or neutral, cow's milk is acid, and that it is frequently necessary to add lime water to the latter in the proportion of tablespoonful to 3 x, especially when the stools indicate an acid condition of the digestive tract.

In order to obtain success from percentage feeding, it is necessary to have a good, clean milk to begin with. It must come from a dairy where cleanliness is the rule, and every

article with which it comes in contact must be scrupulously clean.

There are about three months of the year in this climate—June, July and August—when percentage feeding is not feasible with dairy milk, though it may be carried on at any time when there is no question as to the purity of the milk.

Cream does not stand being sterilized. The heat breaks up the oil globules and renders it indigestible. If the milk is of such a nature, and the temperature such that sterilizing or pasteurizing is necessary, it is better to dispense with the cream and dilute the milk with water or with a decoction of one of the cereals.

During the summer months I am quite fond of giving milk diluted with barley water. It is suitable at any age, although the salivary glands of the very young infant are but poorly developed. The barley water acts mechanically upon the casein, rendering it more flocculent and thus more easily digested.

I am not in favor of sterilized milk as a food to be continued for any length of time. The heat destroys its nutritive value to a certain extent, and we meet with cases of scurvy and malnutrition from its continued use.

While condensed milk, for various reasons, is an unsuitable food for continued use, still when good, pure milk is unobtainable, or during the excessively hot weather, it serves an admirable purpose, and for me has tided many a little sufferer over an attack of enterocolitis. Its advantages are that it is sterile and that it will keep in any temperature.

The various proprietary foods I have tried and abandoned. With possibly one or two exceptions, they are all unreliable as constant foods.

There are times, as during an attack of enterocolitis or cholera infantum, when milk in any form seems to act as a poison. It is vomited and passed as curds. In these conditions, nothing else has served me so well as albumin water, made by beating the white of one egg slightly, adding it to three ounces of water, straining and adding a pinch of salt. This is given cold, and the child nurses it with avidity, and it usually agrees. This may be continued for several days, or until the child can take milk. For the same purpose barley water, mutton broth, rice water or whey act nicely.

In regard to bottles and nipples, a word suffices. The plainer the two the better. I do not know who invented the nursing bottle with the long rubber tube, but whoever he was, he deserves the opprobrium of the entire profession.

EPIDERMIC MEDICATION—VEL UBI IRRITATIO IBI FLUXUS*

By A. B. BROOKING, M. D., Bartow, Fla.

It not infrequently occurs in the practice of medicine to treat superficial neuroses, either acute or chronic, by other means than the administration of medicine *per orem*, or hypodermatically. The least objectionable process probably in most cases is the last one here suggested. But unless the operator be extremely careful to observe strictly aseptic measures, it may become highly dangerous by causing abscess, gangrene, and other evidences of toxicity. Some surgeons seem carelessly indifferent in regard to the hygienic condition of their patients before beginning an operation.

Now, it seems perfectly in accordance with sound treatment to cure these neuralgias, myalgias, intercostals, cephalgias and other algias without medicine of any kind. Then you are taking no chances of septicæmia; you are curing your patients without nauseous remedies. We formerly applied a fly blister to the skin; then dressed with cabbage leaves procured by sending a negro on a mule—less the forty acres—over the neighborhood for them, and, after removing the cuticle, applied the blissful, euthanastic morphia. After a while we dispensed with both mule, negro and cabbage leaves, and used the hypodermic for better or for worse. How many thousands of morphine fiends have been made, some of whom to day are under my treatment, and I am curing them, too! The country and towns and cities are full of them. They fill our sanitariums, "Keely cures" and "Keely kills" all over the land. Who are responsible—*Los Medicos*? Armed with morphia and the shooter, they sally forth "to take life easily," as saith the wag. Have we not a better way? Let us see.

Dr. Thomas D. Mitchell, Professor of Materia Medica and Therapeutics in the Jefferson Medical College, and author of the classic work on *Materia Medica and Therapeutics*, tells us that Dr. Corrigan, in 1846, then an English surgeon in the British army, described in the *Dublin Hospital Gazette* an instrument with which he used to cure pain in an agreeable, easy, quick and effectual way, including rheumatism, neuralgia, sciatica, sprains, cephalgia, wry neck, all intercostal pains, cramps in feet, legs, arms, hands, etc. Again, Prof. Mitchell states from his personal experience:

"The remedy has been used in all varieties

of rheumatism and in arsenical palsy with most happy results. We regard this as one of the very best counter irritants known to the profession. A quarter of a minute is sufficient for the instrument, and it is then ready for use. The disk is just tipped against the skin from spot to spot as often as it may be deemed necessary. A hundred applications may be made to the limb in a few moments. In the course of a quarter of an hour, and often in a few minutes, the whole skin becomes a bright red and the patient feels a glow of heat over the part. The next day you may observe some circular red marks, but the cuticle is not raised at all, and, if needed, the disk might be re-applied to the same spot."

Surgeon Corrigan says: "I employed it in the case of a medical friend, who could not guess what the application was. He knew that he felt a soothing sensation suddenly inflicted, but did not suspect the source till he saw the instrument. Some of our resident clinical doctors have preferred it in their own cases when suffering under local rheumatism to any other kind of counter-irritation, as being the least troublesome, the least painful, and the most effective.

"A gentleman, in leaping from a railway carriage, strained the muscles of his loins, and for two or three days he used liniments and a warm bath. He could not sit down without inconvenience; to rise from the chair was a labor of torture. While conversing with him and drawing off his attention, we procured the disk and applied it over his loins; he was instantly well."

My clinical notes of cases in hospital and civil practice for nearly half a century give corroborative results, and so will yours a score of years onward.

I very well remember long years ago, in 1855, while reading medicine under a German preceptor, in a work on "*Diseases of Old Age*," which I found, rummaging through his library, I saw a description of the instrument here mentioned, used and recommended by Prof. Mitchell in his lectures and writings, that an Irish doctor by the name of McCormac, in a Dublin hospital, was highly pleased with the results reached by the application of the disk, and became highly enthusiastic in his hospital practice by the flexibility of its use.

He always administered the night following the old and obsolete sulphur and cream of tartar. It is always ready to respond to any exigency of pain day or night, requires no winding up, no acid, no battery to burn your hands. Nothing about it or in it, above or

* Read before the Tri-State Medical Society, 1901.

below, to cut, bruise, or rend the most delicate dermic tissue; no solution of organic continuity following its administration.

It can be carried in your vest pocket or in your pocket case. The improvements I have made over the original formula as used by Drs. McCormac, Corrigan, Mitchell and others, described in *Braithwaite's Retrospect*, *London Lancet*, *Dublin Hospital Reports*, and other works, permit of detachment of parts, is easier applied, and I think more effectual.

Book Notices.

Manual of Syphilis and the Venereal Diseases.

By JAMES NEVIN HYDE, A. M., M. D., Professor of Skin, Genito-Urinary and Venereal Diseases, Rush Medical College, Chicago, etc., and FRANK HUGH MONTGOMERY, M. D., Associate Professor of Skin, Genito-Urinary and Venereal Diseases, Rush Medical College, Chicago, etc. *Second Edition, Revised and Enlarged. With 58 Illustrations in the Text, and 19 Full-Page Lithographic Plates.* Philadelphia: W. B. Saunders & Co. 1900. Svo. Pp. 594. \$4 net.

This is a standard work, and one that the general practitioner can ill afford to be without. With the revised and enlarged chapter on gonorrhœa—a chapter practically re-written for this edition, and brought well up-to-date—the doctor who owns this book is thoroughly equipped, so far as his books are concerned, to go ahead in the treatment of the venereal diseases. The re-written chapter on gonorrhœa furnishes the facts needed for the care of the patient. About 300 pages are given to syphilis and chancroids, and nearly 250 pages are occupied with gonorrhœa, and then comes a chapter on stricture of the urethra. The publishers have done their part well—having chosen a clear face type, fine paper, and appended a good index.

Text-Book of Diseases of Women.

By HENRY J. GARRIGUES, A. M., M. D., Gynecologist to St. Marks Hospital, New York City, etc. *With 367 Illustrations. Third Edition, Thoroughly Revised.* Philadelphia: W. B. Saunders & Co. 1900. Cloth. Svo. Pp. 756. Cloth \$4.50 net; Sheep or Half Morocco \$5.50.

Dr. Garrigues has well established his right to eminent authorship. The rapid exhaustion of two former editions of this work prove the popularity of his book. He has availed himself of the opportunity given in the demand for a third edition to make it a thoroughly revised text-book for students as well as practitioners. The present edition devotes about 270 pages to such subjects as development of

the female genitals, anatomy of the pelvic organs and their physiology, etiology in general, examination in general, treatment in general, abnormal menstruation and metrorrhagia, and leucorrhœa. Then follows the special division which considers the various diseases peculiar to female organs of generation, etc. In surgical description and recommendation as to treatment, the author of this text book has kept an eye to the practical details of operations, etc. We cannot say more than that he who attentively reads this book will learn a great deal, and whoever adopts the author's advice as to questions of diagnosis and treatment will follow the most approved methods of to day.

Compend of Diseases of Skin.

By JAY F. SCHAMBERG, A. B., M. D., Professor of Diseases of Skin, Philadelphia Polyclinic, etc. *Second Edition, Revised and Enlarged. With 105 Illustrations.* Philadelphia: P. Blakiston's Son & Co. 1900. Cloth. 12mo. Pp. 291. Price, 80 cents.

Nearly every disease of the skin of practical importance to physicians is tersely described in this little book, which also contains over a hundred illustrations—many of which are full-page. It is the hasty reference book for the doctor, as it is a most excellent help to the college student in following lectures on dermatology, as also for preparation for examination day. The present edition has been thoroughly revised and the book notably enlarged. The prescriptions put at end of each section have been mostly those tested by experience, and can be commended.

Bacteriology and Surgical Technique for Nurses.

By EMILY M. A. STONEY, Superintendent of the Training School for Nurses, St. Anthony's Hospital, Rock Island, Ill., etc. *Illustrated.* Philadelphia: W. B. Saunders & Co. 1900. Small Svo. Pp. 190. Cloth. \$1.25 net.

This is a book well suited for the teaching of the nurse, and is a most excellent book for the doctor to get just those items of information which he seeks at the time he most needs it. Thus, Chapters IV and V on Antiseptics, Disinfectants and Deodorants are useful as containing in brief space a long list of such agents, with a statement of their relative values, and of the methods of their use. For the nurse, it is a text-book that leads gradually from the elements to the proper application of the principles laid down; and this is done so cleverly as not to appear difficult to comprehend. It is a book that will prove generally useful for the purposes indicated.

Text-Book on Practical Obstetrics By EGBERT H. GRANDIN, M. D., Gynecologist to the Columbus Hospital, Late Consulting Obstetric and Obstetric Surgeon of the New York Maternity Hospital, etc. *With the Collaboration of* GEORGE W. JARMAN, M. D., Gynecologist to the Cancer Hospital, Late Obstetric Surgeon of the New York Maternity Hospital, etc. *Third Edition, Revised and Enlarged. Illustrated with 52 Full-Page Photographic Plates and 105 Illustrations in the Text.* 6½ x 9½ inches. Pp. xiv-511. Extra Cloth, \$4 net; Sheep, \$4.75 net. F. A. Davis Company, Publishers, Philadelphia. 1900.

This book has established for itself a high position in the list of authorities on obstetrics. This third edition possesses the advantage over former editions in having a chapter on the anatomy of the female organs of generation and a section on embryology. There has been no occasion to make more than slight verbal changes in other parts of the book. The profusion of illustrations make this third edition serve almost the purpose of so many clinical demonstrations. This "Text Book" is so well and favorably known that it is only necessary to call attention to the issue of this new edition.

Text-Book of Pharmacology and Therapeutics. By ARTHUR R. CUSHNY, M. A., M. D., Aberd., Professor of Materia Medica and Therapeutics in University of Michigan, etc. *Second Edition, Revised and Enlarged. Illustrated with 47 Engravings.* Lea Brothers & Co., Philadelphia and New York. 1901. Cloth. 8vo. Pp. 732. \$3.75 net.

There was a demand for the first edition of this book, as shown by the fact that the second was called for in little over a year—a very rare tribute to its worth. It undertakes to explain the reason for "the action of drugs in health and disease"—a matter which interests every student of medicine. But the question of what is useful in this or that morbid condition is of more importance to the practitioner—with or without explanation of the *modus operandi*. Dr. Cushny goes fully into such matters—pointing out the uses and contra indications for resort to this or that drug. Most of the newer remedies (which have been rapidly multiplying during the past few years) are described in this edition. Beside the addition of the newer remedies, just referred to, modifications have been made in the Sections on alcohol, salt action, etc., in keeping with advances made since the issue of the first edition. This is a standard work, and will long be valuable as authority in matters pertaining to Pharmacology and Therapeutics.

Editorial.

Close of Annual Volume V.

This number completes the fifth annual volume of this *Semi-Monthly*. It is only necessary to refer to the list of contributors to this volume, in the Index, which forms a part of this issue, to show the general favor with which the journal has been received. The preparation of the Index of Subjects has delayed the issue of this number a day or two.

In this connection, yielding to the suggestion of a number of our patrons, we are contemplating a return to the issue of a *Monthly* journal instead of a *Semi-Monthly*. Oftentimes our pages have been so crowded as to leave no room for Analyses, Selections, etc. We will decide on this matter in a short while, and will make announcement of the fact.

After Illegal Practitioners in Virginia.

The Committee of the Medical Examining Board of Virginia are at work inquiring into the status of a number of persons presumed to be practicing medicine and surgery in the State since January 1, 1884, without having passed examination before that Board. In Newport News an indictment has been filed. The Medical Society of Virginia has a Committee at work on that matter, and the President, Dr. J. R. Gildersleeve, Tazewell, Va., is urging the members to action. The Richmond Academy of Medicine and Surgery has recently appointed a Committee to pursue the matter, and it will cause certain irregulars to be inquired into at the next term of the grand jury. We trust that the spirit inspired by the addresses during the last Session of the Medical Society of Virginia will spread over this State and other States, and make test cases of the "irregulars" in their several communities.

New Orleans Polyclinic.

Physicians will find the Polyclinic an excellent means for posting themselves upon modern progress in all branches of medicine and surgery. The specialties are fully taught, particularly laboratory work. Fourteenth annual session opens November 12, 1900. For further information, address Dr. Isadore Dyer, Secretary New Orleans Polyclinic, New Orleans, La.

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